



**Native OData App Development**

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**SAP Mobile Platform 3.0**

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# Contents

# Native OData App Development

Use SAP® Mobile Platform OData SDK to create OData (Open Data Protocol) applications for iOS and Android devices. The target audience is advanced developers who may be new to SAP Mobile Platform.

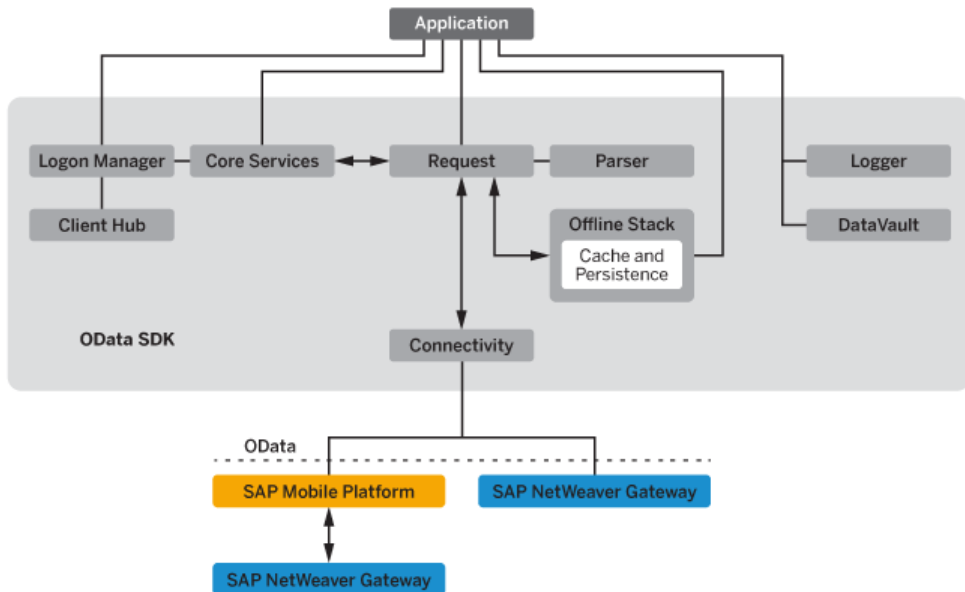
## OData Framework Overview

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The OData SDK provides an open and flexible framework for native OData application development for both online and offline applications. OData SDK components, each of which can be used independently, are implemented as static runtime libraries.

Use the OData SDK, which consists of a collection of runtime libraries and classes, to build native mobile applications. The OData SDK supports Android and iOS platforms, and is based on the native device SDKs of the platforms. There is a separate implementation for each platform. Native applications that are installed on the devices allow the client application to leverage the support provided by the platform, including:

- Adapting to each device's form factor (for example, automatic layout)
- Exploiting different input methods (for example, touch screen, keyboard or trackball)
- Caching data in native device data stores for better performance
- Tightly integrating with the features of the device

**Figure 1: Main Components of the OData SDK**

### *Logon Manager*

The Mobile Application Framework (MAF) Logon Manager component manages common logon-related tasks, such as registering and deleting users, updating configuration, locking and unlocking applications, changing application passcodes, and securely handling passwords. It is based on reusable controls, and includes a default skinnable UI. MAF Logon Manager supports user onboarding, and its components include **MAFLogonUING** and **MAFLogonManagerNG**.

### *Client Hub*

The Client Hub, which is integrated with Logon Manager, simplifies user onboarding and configuration to enable easier and faster strategic enterprise-wide deployments. The Client Hub simplifies end-user password management for mobile applications, and improves the user experience. The Client Hub:

- Manages the single sign-on (SSO) vault on the device.
- Enables co-signed business applications with the same security configuration to securely share credentials on the device.
- Supports multiple security configurations per device.

### *Core Services*

The Core Services layer enables consumption of SAP Mobile Platform REST services with pure HTTP or HTTPS, (which is, by default, in on-premise connectivity). It provides simplified APIs for registration, exchanging settings between client and server, end-to-end tracing, and native push notifications. Functionalities supported by Core Services include:

- Client connection initialization
- User on-boarding or registration
- Application connection setting exchange
- Customization resource bundle
- Security configurations - Basic authentication, SSO certificate authentication, anonymous access, network edge (SiteMinder authentication - always asynchronous), non-network edge, single SSL and mutual SSL authentication
- Native notification support for iOS and Android platforms
- CAPTCHA support for both synchronous and asynchronous requests. Asynchronous request is recommended for on-boarding using CAPTCHA in a productive scenario.
- Non network edge authentication support for iOS and Android platforms. In Network edge (siteminder) scenario, reverse proxy is configured. User needs to get authenticated, and moves for authentication to server, and then to backend.

### *Request*

The Request library provides the interfaces for handling both online and offline OData requests, and processes data transfer from the server to devices, and devices to the server. It supports offline capabilities, where OData requests (POST, PUT, DELETE) are persisted if there is no network connectivity, and invoked when a network becomes available. You can use the online and offline capabilities for applications that have direct connectivity with Gateway, and for applications that register the users on SAP Mobile Platform Server. Functionalities supported by Request include:

- Synchronous and asynchronous request handling
- OData request batch processing
- Delta token support
- Offline request queueing
- XSRF support

### *Parser*

The Parser library parses OData feeds, service document and metadata and converts them to native objects, saving application developer from having to work with low-level details of OData semantics. The Parser library helps the application developers to generate OData feeds from native objects. Functionalities supported by Parser include:

- Parsing OData XML or JSON structures to native OData objects
- Validating OData XML or JSON during parsing by checking the existence of mandatory fields and structures
- Providing easy access to all OData fields and structures via the objects resulting from the parsing
- Building OData XML or JSON structures from native OData objects

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**Note:** SAP recommends that, for better performance, you use JSON parser as your parser component.

---

### *Cache Management and Persistence*

The runtime cache stores and accesses OData-related objects in memory, and also stores data on device for easy access. The cache enables mobile applications to access the locally stored data even in offline mode. Functionalities supported by these components include:

- Storing or accessing OData objects (both metadata and application data)
- Searching for OData entries using their searchable fields
- Support for encrypted persistence store

### *Logger*

The Logger component implements logging and error handling to enable supportability from client to back-end. Functionalities supported by Logger include:

- Common exception and error handling
- Event logging

### *Connectivity*

The connectivity layer handles all connectivity-related tasks, hides the complexity of the communication at the transport level, and provides easy-to-use APIs. Productive enterprise applications must use SAP Mobile Platform for connectivity. Functionalities supported by Connectivity include:

- Synchronous and asynchronous HTTP request handling
- Supported authentication methods include:
  - X509 certification
  - SSO token/cookie
  - Basic authentication (user/password)
- Timeout handling
- Compressed payload handling
- Request types as supported by OData Protocol
- Connection pools for optimal performance

### *DataVault*

The DataVault component provides encrypted storage of certificates, database encryption keys, passwords, and other sensitive items. Functionalities supported by DataVault include:

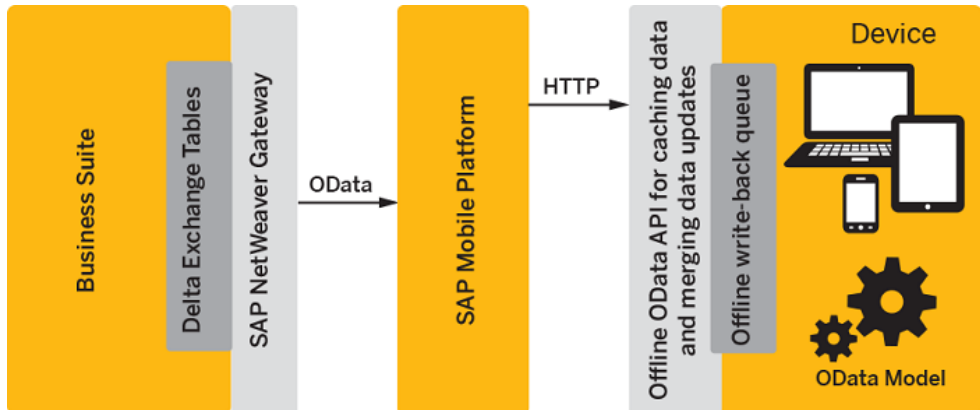
- Create a vault
- Set a vault's properties
- Store objects in a vault
- Retrieve objects from a vault
- Change the password used to access a vault
- Control access to a vault that is shared by multiple iOS applications.



## Offline OData Support

SAP Mobile Platform device users can access and modify enterprise data when disconnected from their corporate network. The device users can easily retrieve and modify the data when a connection is re-established. The OData offline APIs are used to seamlessly cache data and merge the delta updates.

### Offline OData Overview



Offline OData provides the following features:

- No state in middle tier – allows for scalability to large number of users.
- Request-response based – a simple programming model helps in predicting the load on the backend.
- OData is the programming model – helps in unifying disparate back-ends.
- OData delta supported – a standard way for representing back end changes and exposing them to clients.
- Client libraries provide a secure document cache – useful for data protection.

### OData Cache

The OData Cache is used to store service documents, metadata documents, and entities.

### Delta Query Support

Delta Queries return a list of entities that have changed since you last queried the collection. So whatever has been created, updated and deleted since your last visit, these changes can then be merged into your local result set. SAP NetWeaver Gateway SP07 supports Delta Queries. Delta Queries work with the Cache object.

## **Configuring the Application in the Management Cockpit**

Configure the application settings in the Management Cockpit. These settings enable you to monitor and manage your applications.

### **Prerequisites**

- Make sure SAP Mobile Platform Server is installed.
- Make sure the server is started.
- Launch the Management Cockpit.

### **Task**

## **Defining Applications**

Create a new native, hybrid, or Agentry application definition. The definition enables you to manage the application using Management Cockpit.

1. In Management Cockpit, select **Applications**, and click **New**.
2. In the New Application window, enter:

Field	Value
ID	<p>Unique identifier for the application in reverse domain notation. This is the application or bundle identifier that is defined or generated during application development. Reverse domain notation is the practice of reversing a registered domain name; for example, the reverse domain notation for an object in <code>sap.com</code> might be <code>MyApp.sap.com</code>). The application identifier:</p> <ul style="list-style-type: none"> <li>• Must be unique.</li> <li>• Must start with an alphabetic character.</li> <li>• Can contain only alphanumeric characters, underscores (<code>_</code>), and periods (<code>.</code>).</li> <li>• Must not include spaces.</li> <li>• Can be up to 64 characters long.</li> </ul> <p>Formatting guidelines:</p> <ul style="list-style-type: none"> <li>• SAP recommends that application IDs contain a minimum of two dots (<code>."</code>). For example, this ID is valid: <code>com.sap.mobile.appl</code>.</li> <li>• Application IDs should not start with a dot (<code>."</code>). For example, this ID is invalid: <code>.com.sap.mobile.appl</code>.</li> <li>• Application IDs should not include two consecutive dots (<code>."</code>). For example, this ID is invalid: <code>com..sap.mobile.appl</code>.</li> </ul>
Name	<p>Application name. The name:</p> <ul style="list-style-type: none"> <li>• Can contain only alphanumeric characters, spaces, underscores (<code>_</code>), and periods (<code>.</code>).</li> <li>• Can be up to 80 characters long.</li> </ul>
Vendor	<p>(Optional) Vendor who developed the application. The vendor name:</p> <ul style="list-style-type: none"> <li>• Can contain only alphanumeric characters, spaces, underscores (<code>_</code>), and periods (<code>.</code>).</li> <li>• Can be up to 255 characters long.</li> </ul>
Type	<p>Application type.</p> <ul style="list-style-type: none"> <li>• Native – native iOS and Android applications.</li> <li>• Hybrid – container-based applications, such as Kapsel.</li> <li>• Agentry – metadata-driven application.</li> </ul> <p><b>Note:</b> You can configure only one Agentry application per SAP Mobile Platform Server. Once configured, Agentry no longer appears as an option.</p>

Field	Value
Description	(Optional) Short description of the application. The description: <ul style="list-style-type: none"> <li>• Can contain alphanumeric characters.</li> <li>• Can contain most special characters, except for percent signs (%) and ampersands (&amp;).</li> <li>• Can be up to 255 characters long.</li> </ul>

3. Click **Save**. Application-related tabs appear, such as Back End, Authentication, Push, and so forth. You are ready to configure the application, based on the application type.

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**Note:** These tabs appear in Management Cockpit only after you define or select an application. The tabs used differ by application type.

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## Defining Back-end Connections for Native and Hybrid Apps

Define back-end connections for the selected native or hybrid application.

1. From Management Cockpit, select **Applications > Back End**, and enter values for the selected application.

Field	Value
Connection Name <hr/> <b>Note:</b> Appears only when adding a connection under Back-End Connections.	Identifies the back-end connection by name. The connection name: <ul style="list-style-type: none"> <li>• Must be unique.</li> <li>• Must start with an alphabetic character.</li> <li>• Can contain only alphanumeric characters, underscores (_), and periods (.).</li> <li>• Must not include spaces.</li> </ul>
Endpoint	The back-end connection URL, or service document URL the application uses to access business data on the back-end system or service. The service document URL is the document destination you assigned to the service in Gateway Management Cockpit. Typical format: <pre>http://host:port/gateway/odata/namespace/Connection_or_ServiceName...</pre> Examples: <pre>http://testapp:65908/help/abc/app1/opg/sdata/TESTFLIGHT</pre> <pre>http://vmw3815.wdf.sap.corp:50009/sap/opu/odata/rwnd/RMTSAMPLE</pre>

Field	Value
Use System Proxy	(Optional) Whether to use system proxy settings in the SAP Mobile Platform <code>props.ini</code> file to access the back-end system. This setting is typically disabled, because most back-end systems can be accessed on the intranet without a proxy. The setting should only be enabled in unusual cases, where proxy settings are needed to access a remote back-end system outside of the network. When enabled, this particular connection is routed via the settings in <code>props.ini</code> file.
Rewrite URL	(Optional) Whether to mask the back-end URL with the equivalent SAP Mobile Platform Server URL. This is necessary to ensure the client makes all requests via SAP Mobile Platform Server and directly to the back end. Rewriting the URL also ensures that client applications need not do any additional steps to make requests to the back end via SAP Mobile Platform Server. If enabled, the back-end URL is rewritten with the SAP Mobile Platform Server URL. By default, the property is enabled.
Allow anonymous connections	<p>(Optional) Whether to enable anonymous access. This means the application user can access the application without entering a user name and password. However, the back-end system still requires log on credentials to access the data, whether it is a read-only user, or a back-end user with specific roles. If enabled, enter the log on credential values used to access the back-end system:</p> <ul style="list-style-type: none"> <li>• <b>User name</b> – supply the user name for the back-end system.</li> <li>• <b>Password</b> – supply the password for the back-end system.</li> </ul> <p>If disabled, you do not need to provide these credentials. By default, the property is disabled.</p> <hr/> <p><b>Note:</b> If you use Allow Anonymous Connections for a native OData application, do not assign the No Authentication Challenge security profile to the application, or the anonymous OData requests will not be sent (Status code: 401 is reported).</p>
Maximum Connections	<p>The number of back-end connections that are available for connection pooling for this application. The larger the pool, the larger the number of possible parallel connections to this specific connection. The default is 500 connections. Factors to consider when resetting this property:</p> <ul style="list-style-type: none"> <li>• The expected number of concurrent users of the application.</li> <li>• The load acceptable to the back-end system.</li> <li>• The load that the underlying hardware and network can handle.</li> </ul> <hr/> <p><b>Note:</b> The maximum connections can be increased only if SAP Mobile Platform Server hardware can support the additional parallel connections, and if the underlying hardware and network infrastructure can handle it.</p>

Field	Value
Certificate Alias	The name under which the administrator has imported the certificate key-pair in the <code>smp_keystore</code> file. The alias must be set when the back-end URL is <code>https://</code> , and the back-end server requires mutual authentication. There are conditions when <code>https</code> is used but the server does not require a client certificate. This certificate alias is required when the back end requires mutual SSL connectivity. Use the alias of a certificate stored in the SAP Mobile Platform Server keystore. SAP recommends that the CN value of the generated certificate be the fully qualified domain name of SAP Mobile Platform Server.

2. (Optional) Under Back-end Connections, view additional connections, or add new connections.
  - a) Click **New**, to add additional back-end connections in the server.
  - b) Enter values for the new back-end connection, using the values shown above.
  - c) Click **Save**. The new connection is added to the list.

Administrator maintains a list of server-level back-end connections (it includes all the connections in the SAP Mobile Platform Server) and application specific back-end connections. Application specific back-end connections are the connections enabled for an application. Users registered to an application can access only these back-end connections. Request-response to a back end connection that is not enabled for an application is not allowed (throws 403, "Forbidden" error).

By default, these additional back-end connections are enabled for an application.

Back-end connection is displayed in the list.

3. Select the **Application-specific Connections** from the drop-down to show the back-end connections that are enabled for a particular application.

You can view the **Server-level Connections** and enable the connections for this application using the checkbox.

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**Note:** Multiple back ends can be authenticated using various options of authenticating requests available in security configuration.

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## Defining Application Authentication

Assign a security profile to the selected application. The security profile defines parameters for how the server authenticates the user during onboarding, and request-response interactions.

### Prerequisites

You must configure security profiles for application authentication before you can complete this step.

**Task**

1. From Management Cockpit, select **Applications > Authentication**.
2. Click **Existing Profile**.

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**Note:** You can also create a new profile.

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3. In Name, select a security profile name from the list. The name appears under Security Profile Properties, and one or more security providers appear under Authentication Providers.
4. Under Security Profile Properties, enter values.

Field	Value
Name	A unique name for the application authentication profile.
Check Impersonation	(Optional) In token-based authentication, whether to allow authentication to succeed when the user name presented cannot be matched against any of the user names validated in the login modules. To prevent the user authentication from succeeding in this scenario, the property is enabled by default.

5. Under Authentication Providers, you can select a security profile URL to view its settings. To change its settings, you must modify it through **Settings > Security Profiles**.

**OData Security Matrix**

Use one of the supported security configurations to secure your applications.

The below table provides a brief configuration procedure for the supported security configuration in Native OData applications. For more information, refer *Administration* in *SAP Mobile Platform Server*.

Security Configuration	Implemented Using	Security Provider	Configuration Steps (in brief)
Basic authentication with HTTP	OData SDK, Client Hub	HTTP/HTTPS Authentication	Set the back end credentials. <hr/> <b>Note:</b> For anonymous user, set the back end to allow anonymous connections.

Security Configuration	Implemented Using	Security Provider	Configuration Steps (in brief)
Basic authentication with HTTPS	OData SDK, Client Hub	HTTP/HTTPS Authentication	<ol style="list-style-type: none"> <li>1. Set the back end credentials. <b>Note:</b> For anonymous user, set the back end to allow anonymous connections.</li> <li>2. Connect with HTTPS port. For example, 8081.</li> <li>3. Make sure the server certificate is installed in the device trust store. <ul style="list-style-type: none"> <li>• For iOS, use the iPhone Configuration Utility.</li> <li>• For Android, install the certificate from the SD card.</li> </ul> </li> </ol>
Mutual authentication with HTTPS using a certificate	OData SDK, Afaria	X.509 User Certificate	<ol style="list-style-type: none"> <li>1. Connect with HTTPS port. For example, 8082.</li> <li>2. Make sure the server certificate is installed in the device trust store. <ul style="list-style-type: none"> <li>• For iOS, use the iPhone Configuration Utility.</li> <li>• For Android, install the certificate from the SD card.</li> </ul> </li> <li>3. Ensure the client certificate is available on the device.</li> </ol>
SiteMinder (non-network edge)	OData SDK	HTTP/HTTPS Authentication	Connect with SiteMinder backend using HTTPS.
SiteMinder network edge (reverse proxy)	OData SDK	Populate JAAS Subject From Client, HTTP/HTTPS Authentication	<ol style="list-style-type: none"> <li>1. Create a security profile using Populate JAAS Subject From Client authentication provider.</li> <li>2. Create a security profile using HTTP/HTTPS Authentication authentication provider.</li> </ol>



Security Configuration	Implemented Using	Security Provider	Configuration Steps (in brief)
SSO2 token (HTTP and HTTPS)	OData SDK	HTTP/HTTPS Authentication	<ol style="list-style-type: none"> <li>1. Create a new security profile and indicate the SSO cookie name in the security profile.</li> <li>2. Make sure the server certificate is installed in the device trust store. <ul style="list-style-type: none"> <li>• For iOS, use the iPhone Configuration Utility.</li> <li>• For Android, install the certificate from the SD card.</li> </ul> </li> </ol>
Basic authentication with LDAP back end	OData SDK	Directory Service (LDAP/AD)	Create security profile.

## Configuring Push on SAP Mobile Platform Server

You must explicitly register the application connection using the Management Cockpit.

1. Start the Management Cockpit.
2. Select **Applications**, and click **New**.
3. In the **New Application** window, enter values.

Field	Value
ID	Unique identifier for the application in reverse domain notation.
Name	Application name.
Vendor	(Optional) Vendor who developed the application.
Version	Application version. Currently, only version 1.0 is supported.
Type	Application type. <ul style="list-style-type: none"> <li>• Native – native iOS and Android applications.</li> <li>• Hybrid – container-based applications, such as Kapsel.</li> <li>• Agentry – metadata-driven applications, such as Agentry.</li> </ul> Application configuration options differ depending on your selection.
Description	(Optional) Short description of the application.

4. Click the **Backend** tab and configure the endpoint information.
5. Click the **Push** tab to configure the push settings.

For Android GCM, see *Android Push Notifications*.

For Apple APNS, see *Apple Push Notifications*

6. In the settings for your device, enable the app to receive push notifications.

### **Android Push Notifications**

Configure Android push notifications for the selected application, to enable client applications to receive Google Cloud Messaging (GCM) notifications.

1. From Management Cockpit, select **Applications > Push**.
2. Under Android, enter the access key for API key. This is the access key you obtained for your Google API project (<http://developer.android.com/google/gcm/gs.html>).
3. Enter a value for Sender ID. This is the project identifier.
4. (Optional) Configure push notifications for each device type supported.

### **Apple Push Notifications**

Configure Apple Push Notifications for the selected application, to enable client applications to receive APNS notifications.

1. From Management Cockpit, select **Applications > Push**.
2. Under Apple, select **APNS endpoint**. "None" is the default endpoint value for all the applications.
3. Select **Sandbox** to configure APNS in a development and testing environment, or **Production** to configure APNS in a production environment.
  - a) Click **Browse** to navigate to the certificate file.
  - b) Select the file, and click **Open**.
  - c) Enter a valid password.

---

**Note:** The default URL is for a production environment; for a development and testing environment, change the URL to [gateway.sandbox.push.apple.com](http://gateway.sandbox.push.apple.com).

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4. (Optional) Configure push notifications for each device type supported.

## **Developing Applications Using OData SDK**

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Develop Android or iOS applications using OData SDK.

### **Developing Android Applications**

The OData SDK is used to develop a device application for the Android platform. An application consists of reusable building blocks, which a developer can use to start the application and perform functions needed for the application. The target audience is advanced developers who are familiar working with APIs, but who may be new to SAP Mobile Platform.

#### *Prerequisites*

Before using OData SDK for developing an Android application:

- Verify that SAP Mobile Platform 3.0 server is installed so you can access it from your Android device.
- Set up a gateway OData service to access the business data from the backend.
- Ensure that you configure the gateway on SAP Mobile Platform Server as a back end by using Management Cockpit.

### **Setting Up the Development Environment**

Complete the prerequisites for setting up the development environment and then develop an application for the Android device.

#### **Prerequisites:**

- Download the Java Standard Edition (6 Update 24 and above versions) Development Kit (JDK) from <http://developer.android.com/sdk/index.html>.
- Download the Android Developer Tool (ADT) Bundle from <http://developer.android.com/sdk/index.html>. With the single download of the ADT Bundle, you can get all the essential Android SDK components and Eclipse IDE installed. For more information on supported Google Android development environment in SAP Mobile Platform 3.0, see <http://service.sap.com/pam>.

### **Creating a Project and Importing the OData Libraries**

Create a new Android project in the eclipse workspace. Add library resources to the project and set other application properties.

#### *Creating an Android Project*

1. Start the Eclipse workspace.
2. Select **File > New > Project**.
3. Select **Android > Android Application Project**, then **Next**.
4. In the Creates a new Android Application page of the New Android Application wizard, enter the appropriate values.
5. Click **Next**.
6. In the Configure Launcher Icon window, accept the default settings and click **Next**.
7. In the Create Activity window, select **Create Activity**, then select **BlankActivity**, and click **Next**.
8. In the New Blank Activity window, use the appropriate values and click **Finish**.

#### *Setting Up the Android SDK Library in the Plug in*

Set up the Android SDK in the ADT Plugin.

1. In the Eclipse environment, from the Window menu, select **Preferences**.
2. In the left navigation pane, select the **Android** node.
3. Click **Browse** to search for the location where you have stored the Android SDK.
4. Click **Apply** and **OK**.

### *Adding User Permissions in Android Manifest File*

1. In the Eclipse project, open the Android manifest file.
2. Add the user permissions in the AndroidManifest.xml file.

To use the applications offline, AndroidManifest.xml should have permission for accessing network state along with registered broadcast receiver.

```
:  
<! -- adding Permission to access network state -->  
  <uses-permission  
    android:name="android.permission.INTERNET"></uses-permission>  
  <! -- adding Permission to access network state -->  
  <uses-permission  
    android:name="android.permission.ACCESS_NETWORK_STATE" ></uses-  
    permission>
```

#### **(Optional) For Offline-Capability**

```
<application  
  .  
  .  
  .  
  .  
>  
  <receiver  
    android:name="com.sap.mobile.lib.request.NetworkStateListener"  
    android:label="NetworkStateListener">  
    <intent-filter>  
      <action  
        android:name="android.net.conn.CONNECTIVITY_CHANGE"/>  
    </intent-filter>  
  </receiver>  
  <activity  
    . . . . .  
  </activity>  
  .  
  .  
  .  
</application>
```

### *Importing Libraries to your Android Application Project*

1. Download the OData SDK library files from <SMP\_HOME>\MobileSDK3\NativeSDK\ODataFramework\Android\ to a <Parent directory> in your host development system.

(Online capability), Download the following libraries:

- CoreServices
- Connectivity
- Common
- DataVaultLib

- gson
- Parser
- perflib
- Request
- Sap-e2etrace

(To use Applications offline) Download the following libraries along with the above mentioned libraries:

- Cache
- Persistence
- sqlcipher-android-2.1.1
- commons-codec-1.3
- guava-r09
- libs/armeabi (includes libdatabase\_sqlcipher.so, libsqlcipher\_android.so and libstlport\_shared.so)
- icudt46l.zip file from assets folder

---

**Note:** Since the X86 SQL Cipher 2.1.1 libraries are not packaged with OData SDK, SAP recommends you download and use these libraries from: <https://s3.amazonaws.com/sqlcipher/SQLCipher%20for%20Android%202.1.1.zip>. Copy x86 folder into libs folder, to ensure offline cache works seamlessly on Intel Atom x86 emulator.

---

2. (Optional) If you did not use the project wizard to create your project, create a new folder, named libs, in your Eclipse/Android project.
3. Right-click the libs folder and choose **Import > General > File System**, then click **Next**.
4. Browse the file system to find the library's parent directory (where you have downloaded it).

---

**Note:** If you use AfariaSSL.jar to provision configuration data and certificates for your SAP Mobile Platform client application, ensure to remove libcrypto.jar and libssl.jar, as AfariaSSL internally has these two libraries.

---

5. (Optional) Click **OK**, then click the directory name (not the checkbox) in the left pane and select the relevant JAR in the right pane from AndroidODataSDK-3.0.0-CIAT-SNAPSHOT-bin[1].zip\Android\libraries. This step physically places the library into your project.
6. (Optional) Right-click your project, choose **Build Path > Configure Build Path**, click the **Libraries** tab, then click **Add JARs**.
7. (Optional) Navigate to the JAR in the libs directory and add it. (This step converts JAR for use on Android.)

This procedure includes a Dalvik-converted JAR in your Android project and makes Java definitions available to Eclipse in order to find the third-party classes when compiling your project's source code.

8. Add the files from assets folder into your application assets folder.

### 9. Build the application.

#### **Initializing an Application**

Initialize the application when it starts the first time and subsequently.

##### *Creating and Initializing the Client Connection*

Create and initialize the `ClientConnection` class, which is part of `Core Services` library. The `ClientConnection` class declares the programmatic interface for an object that manages connection settings required for registering the user and fetching application settings from the server. You must initialize a `ClientConnection` object and set connection properties for it before you can perform user registration or fetch any application settings from the server. Initialize the application using the following example code, which returns an instance of `ClientConnection` class.

A `ClientConnection` object is required to set the parameters required for the registration or request-response with SAP Mobile Platform.

```
public class ClientConnectionUtility{
    public static Logger logger;
    public static Preferences pref;
    public static ConnectivityParameters param;
    public static RequestManager reqManagerObject;
    public static ClientConnection clientConnection;

    public ClientConnectionUtility( Context context){
        logger = new Logger();
        pref = new Preferences(context, logger);
        param = new ConnectivityParameters();
        param.setUsername(<username>);
        param.setUserPassword(<password>);
        reqManagerObject = new RequestManager(logger, pref, param,
1);

        clientConnection = new ClientConnection(context,
<application ID>, <domain>, <security configuration>,
reqManagerObject);
        clientConnection.setConnectionProfile(<host:port>);

clientConnection.setApplicationConnectionID(<ApplicationConnectionID>); //optional, it registers client with the server using this
application connection ID.
    }

    public static ClientConnection getClientConnection(){
        return clientConnection;
    }
}
```

##### *Registering the User*

Register the user to the SAP Mobile Platform by invoking `registerUser(boolean isSynchronous)` method of `UserManager` class. The boolean parameter

isSynchronous specifies whether the registration is synchronous or asynchronous. If asynchronous, implement and register `SMPCClientListeners.ISMPUserRegistrationListener` to get a call back.

---

**Note:** The user name and password and other connectivity parameters should be set on `ConnectivityParameter` instance before calling `registerUser` method.

Alternately, register and implement

`HttpChannelListeners.IAuthenticationChallengeListner` to get a callback upon authentication challenge from the server.

---

#### For Asynchronous Registration

```

        public class SampleApplication extends Activity implements
ISMPUserRegistrationListener
        {
            UserManager um;
            public void onCreate(Bundle savedInstanceState) {
                super.onCreate(savedInstanceState);
                setContentView(<Your Layout>);
                um = new UserManager(clientConnection); //use the
clientConnection initialized in the previous topic
                um.setUserRegistrationListener(SampleApplication.this);
                um.registerUser(false);
            }

            @Override
            public void onAsyncRegistrationResult(State registrationState,
ClientConnection conn, int errCode, String errMsg) {
                if(registrationState == State.SUCCESS)
                {
                    Log.i("RegistrationState Success",conn.getApplicationID());
                    try
                    {
                        Log.i("RegistrationState Success","APPCID" +
um.getApplicationConnectionId());
                    } catch (SMPEException e)
                    {
                        e.printStackTrace();
                    }
                }
                if(registrationState == State.FAILURE)
                {
                    Log.i("Registration State Failure",errCode+errMsg);
                }
            }
        }

```

#### For Synchronous Registration

```

public class SampleApplication extends Activity
{
    public void onCreate(Bundle savedInstanceState)
    {

```

```
try
{
    UserManager userManager = new
UserManager(clientConnection); //use the clientConnection
initialized in the previous section
    userManager.registerUser(true);
    String appCID = userManager.getApplicationConnectionId();
}
catch (SMPEException e){
    e.printStackTrace();
}
}
```

### *Handling Encryption Key*

(Applicable to applications in offline mode) In offline mode, the application data can be encrypted and securely stored using `EncryptionManager` class. Hence, you must use `getEncryptionKey` and `SetEncryptionKey` APIs to generate and set the encryption key. The application must set the encryption key each time, it comes to foreground or is started.

Example to illustrate the usage of encryption key by the application:

```
String cipherKey = null;
/*fetch the cipherKey from Secure store like dataVault or android
applications shared Preference.*/
if(<CipherKey is found in SecureStore>)

/*Should be set every time application is loaded*/
    EncryptionKeyManager.setEncryptionKey(cipherKey,getContext());
/*Store the cipherKey in Secure store like dataVault or android
applications shared Preference.*/
else(<Cipher Key is not yet generated>)
    cipherKey= EncryptionKeyManager.getEncryptionKey(getContext());
```

### *Enabling Single and Mutual SSL Authentication*

In a single SSL connection, the client must trust the server certificate. You can set this up in one of these ways:

- Install the CA certificate on the device trustStore that application uses while connecting to the HTTPS URL.
- If the application does not provide the certificate, implement the `ISSSLChallengeListener`. The application receives a callback to the `isServerTrusted` method. When the application receives the server certificate, it can choose to trust the certificate or not. Based on that, it returns the Boolean value as true or false.
- Bundle the CA certificate in the application and invoke the `setServerCertificate` method to provide the certificate. SAP recommends using one of the other methods, as this one is available only for backward compatibility with Android versions earlier than 4.0.

In mutual SSL connection, the server must trust the client certificate. The application must implement `IMutualSSLChallengeListener`, and invoke the



getClientCertificate callback to request the client certificate. The client returns an X.509 certificate, and a private key, which together form an HttpClientCertInfo object.

Implement listeners for SSL callbacks.

```
public class LaunchActivity extends Activity implements
    ISSLChallengeListener, IMutualSSLChallengeListener {

    RequestManager srm;
    ILogger logger;
    IConnectivityParameters params;
    IPreferences prefer;
    String url="<Gateway URL>";

    public void mreg(View v){
        ClientConnection clientConnection;
        UserManager userManager;
        logger=new Logger();
        prefer=new Preferences(this, logger);
        params=new ConnectivityParameters();
        params.setLanguage("en");
        params.setUserName(<username>);
        params.setUserPassword(<password>);

        Context c = getApplicationContext();
        try{ InputStream certStream =
c.getResources().openRawResource(<certificate>);
CertificateFactory cf = CertificateFactory.getInstance("X509");
Certificate cer= cf.generateCertificate(certStream);

        param.setServerCertificate(cer); //to place certificate in
the devices less than 4.0

        Log.i("tag", "In Set Server certificate API");

        }catch(Exception e){
            Log.i("tag", "set certificate from file failed" +
e.getMessage());
            e.printStackTrace();
        }
        srm=new RequestManager(logger,prefer,params,1);
        /**
        * The set methods which should be called to register the
listeners to the request manager
        *
        */
        srm.setSSLChallengeListener(this);
        srm.setMutualSSLChallengeListener(this);
        ClientConnection.initInstance(getApplicationContext(),
"<application>", "<domain>", "<security configuration>", <request
manager>);
        try {
```

```
        j=ClientConnection.getInstance();
        j.setConnectionProfile("<connection url>");
        UserManager.registerUser(true);
    }
    catch (SMPEException e) {
        // TODO Auto-generated catch block
        e.printStackTrace();
    }
}
```

Send X.509 certificate and private key to the client as an `HttpClientCertInfo` object.

```
public HttpClientCertInfo getClientCertificate()
{
    InputStream inStream;
    String cert="<p12 certificate location>";
    Context context=this.getApplicationContext();
    try {

        inStream = context.getResources().openRawResource(cert);

        /*following code loads the key store, and retrieves
        The alias under which it is loaded. */

        KeyStore ks = KeyStore.getInstance("PKCS12");
        ks.load(inStream, "mobile".toCharArray());
        Enumeration aliases=ks.aliases();
        String keyname=(String)aliases.nextElement();

        /* using the alias stored in the variable "keyname"
        We get the Private Key and the X509 Certificate
        Which we use to return HttpClientCertInfo object.*/

        PrivateKey
pk=(PrivateKey)ks.getKey(keyname,"mobile".toCharArray());
        X509Certificate xcer=(X509Certificate)
        (ks.getCertificate(keyname));

        return new HttpClientCertInfo(xcer,pk);}

    catch(Exception e){
        return null;
    }

}
/*
 * This is the callback which is invoked if
 * 1) SSL is enabled,
 * 2) The correct certificate is not installed on the device,in
which case it is required of the application to verify the server
certificate.
```

```

    */
@Override
    public boolean isServerTrusted(X509Certificate[]
paramArrayOfX509Certificate) {
        // TODO Auto-generated method stub

        return true;
    }
}

```

### ***Setting the Password Policy Using DataVault***

(Optional) Use the `DVPasswordPolicy` (as defined in `com.sybase.persistence.DataVault`) which holds the information of the Password Policy.

(Applicable to On-Premise only) To make the password policy editable in the SAP Mobile Platform Server, set the application connection property "CapabilitiesPasswordPolicy" to true in the client application. To set the password policy, use the following example code:

```

AppSettings appSettings = new AppSettings(clientConnection); //use
the clientConnection object initialized in the "Creating and
Initializing the Client Connection" section.
DVPasswordPolicy passwordPolicy = appSettings.getPasswordPolicy();

```

### ***(Optional) Initializing an Application Using Logon Manager***

To initialize an application using Logon manager, see *MAF Logon Task Flow* on page 2050.

### **Invoking a Request**

Send an asynchronous data request to the backend through the SAP Mobile Platform Server. With the offline capability, Request library requests are queued in a persistent database, if there is no network connectivity, and invoked when the network becomes available. You can use the Request library to develop applications that have direct connectivity to Gateway or to register users on Management Cockpit.

### ***Creating a Request***

The package structure for the Request library is `com.sap.mobile.lib.request`.

---

**Note:** Once the listener is set on the `RequestManager` class, all POST, PUT, DELETE (except GET) responses are received only on this listener. For GET requests, the listener can be set on corresponding request object itself.

---

1. To enable offline capability, set the response listeners using the following code, before invoking the request:

```

/* Setting the listener */
public class SampleActivity extends Activity implements
INetListener {
@Override

```

```
public void onError(IRequest arg0, IResponse arg1,
IRequestStateElement arg2) {}

@Override
public void onSuccess(IRequest arg0, IResponse arg1) {}
}
.
.
// setting the listener to current class
RequestManager reqMan = new RequestManager(logger, pref, param,
1);
reqMan.setListener(listener);
```

- Set the listener only once per application.
  - For all GET requests, the listener is always set on the request object.
  - If offline capability is disabled, then for POST, PUT, and DELETE requests also, the listener is set on corresponding request.
2. For all GET requests the listener is always set on request object. If offline capability is not enabled, then for POST, PUT, and DELETE requests also, listener is set on corresponding request.

Proceed with the following code to set response listener on request object:

```
public class SampleActivity extends Activity implements
INetListener {
@Override
public void onError(IRequest arg0, IResponse arg1,
IRequestStateElement arg2) {}

@Override
public void onSuccess(IRequest arg0, IResponse arg1) {}
.
.

getrequest.setListener(this);
}
```

3. Proceed with the following code to create the request asynchronously:

```
/*Enable XCSRF handling for OData requests*/
param.enableXsrf(true);
BaseRequest getEntry = new BaseRequest();
/*Initialize the Requesting class with the endpoint URL after
successful registration and set the headers */
Map<String, String> headers = new HashMap<String, String>();
headers.put("Content-Type", "application/atom+xml");
getrequest.setHeaders(headers);
getrequest.setRequestUrl("<Service doc URL>");
getEntry.setRequestMethod(<Request-Method>);
/*Set user name */
param.setUserName(<UserName>);
/*Set password */
param.setUserPassword(<Password>);
/*Set the listener to receive the response */
getrequest.setListener(this);
```

### *Creating a Batch Request*

Batch processing allows you to send multiple requests in a single batch request to the Gateway. The batch request is a multipart POST request that contains one or more changesets comprising of other POST, PUT, or DELETE requests. The batch request can also contain GET-based retrieval requests. The Gateway processes the batch request, and the responses to the various requests that make up the batch request are combined into a single response and sent back to the user as a single response.

#### 1. Initialize the batch request:

```
public BatchRequest batch;
batch = new BatchRequest(<Service doc URL>/$batch);
```

#### 2. Add a retrieve request to the batch request:

```
public BaseRequest get1 = new BaseRequest();
get1.setRequestMethod(BaseRequest.REQUEST_METHOD_GET);
get1.setRequestUrl("<collection name>");
batch.addRetrieveRequestToBatch(get1);
```

#### 3. Add request to a changeset:

```
public BaseRequest post1 = new BaseRequest();
post1.setRequestMethod(BaseRequest.REQUEST_METHOD_POST);
Map<String, String> headers1 = new HashMap<String, String>();
    headers1.put("Content-Type", "application/atom+xml");
post1.setHeaders(headers1);
post1.setRequestUrl("TravelagencyCollection");

//For single request
IODataEntry entry = new ODataEntry(metaDataDocument);
entry.setCollectionId(<collectionId>);
    Iterator<IODataProperty> entryPropIter =
entry.getPropertiesData().iterator();
    IODataProperty entryProp;
    entry.putPropertyValue("agencynum", "agency001");
    entry.putPropertyValue("NAME", "travelagency001");
    String postBody = parser.buildODataEntryRequestBody(entry,
collectionId, metaDataDocument, 1);

    post1.setData(postBody.getBytes());
    batch = new BatchRequest(<Service doc URL>);
    batch.addRequestToChangeset(post1);
```

---

#### **Note:**

- The POST URL should be relative to the batch URL.
  - Change sets are update requests. For the change set to be successfully processed, first do a GET operation on the URL to fetch the XSRF token. Then, after handling of XSRF token is done by the SDK implicitly.
- 

### *Making a Request*

Initialize the RequestManager and make a request.

```
//To initialise the Request manager
import com.sap.mobile.lib.request.Logger;
```

```
import com.sap.mobile.lib.request.Preferences;
import com.sap.mobile.lib.request.RequestManager;
import com.sap.mobile.lib.request.ConnectivityParameters;

....

Logger logger = null;
Preferences pref = null;
ConnectivityParameters param = null;
RequestManager requestManager= null;

logger = new Logger();
//
pref = new Preferences(this.getApplicationContext(), logger);
try {
pref.setBooleanPreference(IPreferences.PERSISTENCE_SECUREMODE,
false);
pref.setIntPreference(IPreferences.CONNECTIVITY_HTTPS_PORT, 443);
pref.setIntPreference(IPreferences.CONNECTIVITY_CONNTIMEOUT, 7000);
pref.setIntPreference(IPreferences.CONNECTIVITY_SCONNTIMEOUT,
7000);

} catch (PreferencesException e) {
logger.e("preferences", e.getMessage(), e);
e.printStackTrace();
}

param = new ConnectivityParameters();
param.setUsername("username");
param.setUserPassword("password");
param.enableXsrf(true);
requestManager = new RequestManager(logger, pref, param, 1);
//To make a request
requestManager.makeRequest(getrequest);
```

### **Parsing the Data**

Parse the response from the backend to the device.

#### *Retrieving the Response from Backend*

Based on the data request sent to the backend, retrieve the data as a response to the device.

```
public void onSuccess(IRequest mRequest, IResponse mResponse) {
    /* Parses the service document */
    IODataServiceDocument serviceDocument =
parser.parseODataServiceDocument(EntityUtils.toString(mResponse.getEntity()));
    /*parses response meta data*/
    IODataSchema metaDataDocument =
parser.parseODataSchema(EntityUtils.toString(mResponse.getEntity()),
serviceDocument);

    /*Parses a feed or an entry and returns List of IOdataEntry.*/
    List<IOdataEntry> Entries=
parser.parseODataEntries(EntityUtils.toString(mResponse.getEntity())
```

```

), collectionID, metaDataDocument);
    /*Parses a feed or an entry and returns IODataFeed.*/
    IODataFeed Odatafeed =
parser.parseODataFeed(EntityUtils.toString(mResponse.getEntity()),
collectionID, schema);
}

```

### *Accessing Properties of IODataEntry or IODataFeed*

This section explains how to access properties of IODataEntry or IODataFeed.

```

List<IODataEntry> Entries = Odatafeed.getEntries();
    for(IODataEntry entry:Entries)
    {
        entry.getValues("content", "properties", "Name");
    }

```

### *Features of JSON Parser*

This section lists unique features of JSON parser.

### **Caching the Data**

(Optional, offline mode only) Caching is an important part of getting an application to work in offline mode. Use the Cache API to cache and persist data, when the mobile device is out of the network range and process the data later when the device within the range of the network.

---

#### **Note:**

- Due to limitation on the emulator, you cannot determine the network connection state. For more information on other limitations, see **Emulator Limitations** in *Using the Emulator* at the Android Developer web site.
  - The delete tombstones for delta query support is not available on OData JSON format.
- 

The Cache API is divided into two parts, one that stores a copy of the entries that you receive from the server called as "server copy" and the other is locally modified entries called as "local copy". You can also use this procedure for online scenarios.

### *Prerequisites*

Use the Caching interface, which is implemented by the Cache class, to create an object to work with.

### *Initialize the Cache*

To initialize all the elements required for a cache to work, use the initializeCache method:

```

try{
    ILogger logger = new Logger();
    ICache cache =new Cache(getApplicationContext(), logger);
    cache.initializeCache();
}
catch(CacheException e){

```

```
Log.e("", e.getMessage());
}
```

Cache can be used in persistable mode (database) and non-persistable mode (memory). By default, cache is persistable.

If you do not want to persist cache to the database, use the following API:

```
cache.setIsPersistable(false);
```

### *Merge to Cache*

To incrementally update the cache for server entries with the latest state of server objects, use the `mergeEntries` method. Every online HTTP GET operation on a URL should be followed by a `MergeEntries` method to enable the server cache to be in-sync with the backend service. It is important to instantiate a server cache using the `MergeEntries` method for all operations to work after a successful online GET request for a URL at the initial stage. It is recommended to optimize GET operation with Delta support to avoid redundancies.

```
try{
    ILogger logger = new Logger();
    Parser parser = new Parser(pref, logger);
    ICache cache =new Cache(getApplicationContext(), logger);
    cache.initializeCache();
    IODataFeed feed = parser.parseODataFeed(entriesdoc, collectionID,
    schema);
    cache.MergeEntries(feed, EntryURL);parameters.
}
catch(CacheException e){
    Log.e("", e.getMessage());
}
```

---

**Note:** There is no overhead with the cache capabilities, when the parsed content is delivered for presentation, even before merging on to the cache, and when the merging operation is invoked on another thread. So, there is no wait time until the cache is being written.

---

### *Read Entry from Cache*

You can read entries from the cache method either locally, or from the server.

- **Server entry** – All server entries are stored against a URL key, which is the end-point that returns all the entries you want to cache. Use the `readEntriesServer` method to read server entries.
- **Local entry** – Read the locally created, deleted, or modified entries based on the entity type (collection to which entry belongs to) and entry ID. Use the `readEntriesLocal` method to read local entries. Entity type and entry ID are optional parameters, but at least one parameter must be given. Passing null to entry ID retrieves all the entries for a specified entity type. Passing null to entry type and passing entry Id will retrieve specific entry from cache.

The `ODataEntry` class of the parser has two member properties. The `getIsLocal()` property checks if the particular entry is local, and `getCacheState()` checks if the



local entry is created, updated, or deleted on the client. The cache states are represented by the `cacheState{Updated, Deleted, Inserted}` enum.

You need to combine the server and local entries to display the latest version of data on your application.

```

/*Read entry from server.*/
try{
    ILogger logger = new Logger();
    ICache cache =new Cache(getApplicationContext(),logger);
    cache.initializeCache();
    List<IODataEntry> entries = cache.ReadEntriesServer(urlKey); //
return all entries respective to the parameter.
    }
catch(CacheException e){
    Log.e("",e.getMessage());
}

/*Read entry from local*/
try{
    ILogger logger = new Logger();
    ICache cache =new Cache(getApplicationContext(),logger);
    cache.initializeCache();
    List<IODataEntry> entries =
cache.ReadEntriesLocal(CollectionID,EntryID); // return all entries
respective to either of the parameters.
    }
catch(CacheException e){
    Log.e("",e.getMessage());
}

```

### *Managing Locally Modified Entries in Cache*

- **Add Entry to Cache** – Use the `addEntry()` method to create a new entry in the local cache. With Request library, perform an HTTP POST request on the backend to create an entry in backend. After POST is successful, perform an HTTP GET request to fetch the latest server state optimized with delta, and merge the result with server cache on the device. The `addEntry()` method adds an entry into the local cache. Since the entry ID is generated by the back end in most of the cases, creating a local entry generates a temporary entry ID with which you can manage the cache entry.

```

try{
    //Invoke the HTTP POST request
    ODataEntry entry = new ODataEntry();
    entry.putPropertyValue("<property_name>",
"<property_value>");
    String postbody = Parser.buildODataEntryRequestBody(entry,
"<collection_ID>", schema, IParser.FORMAT_XML);

    ILogger logger = new Logger();
    ICache cache =new Cache(getApplicationContext(),logger);
    String generated_id =cache.addEntry(entry);
    //Invoke the HTTP POST request
    BaseRequest post = new BaseRequest();

```

```
post.setRequestMethod(BaseRequest.REQUEST_METHOD_POST);
    post.setData(postbody.getBytes());
    reqMan.makeRequest(post);
}
catch(CacheException e){
    Log.e("",e.getMessage());
}
```

- **Update Entry to Cache** – When you make changes that is stored locally on your device in offline mode, it must be cached and persisted locally to be updated in the backend when connectivity returns. This ensures the OData entries are cached to build an application that works with seamless offline-online experience. Use the `updateEntry` method to create a local copy of the updated entry in cache. With connectivity, perform an update on the back end using an HTTP PUT request. After the updates is successful, perform a HTTP GET request to fetch the latest server state optimized with delta, and merge the result with server cache on the device. The `updateEntry` method does not generate any temporary ID, as the entry is already associated with the ID generated by the back end.

```
try{
    ILogger logger = new Logger();
    ICache cache =new Cache(getApplicationContext(),logger);
    cache.initializeCache();
        cache.updateEntry(entry);
}
catch(CacheException e){
    Log.e("",e.getMessage());
}
```

- **Delete Entry from Cache** – Use the `deleteEntry` method to delete a new entry with its ID in the local cache. With connectivity, perform a HTTP DELETE request on the backend to deleted the entry in back end. Post a successful delete on the backend, perform a HTTP GET request to fetch the latest server state optimized with delta, and merge the result with server cache on the device. The SDK reads the entry from the server cache, based on the entry ID, and updates the entry in the local cache by marking it as a local copy to be deleted. The `deleteEntry` method does not generate any temporary ID, as the entry is already associated with the ID generated by the back end.

```
try{
    ILogger logger = new Logger();
    ICache cache =new Cache(getApplicationContext(),logger);
        cache.initializeCache();
        cache.deleteEntry(EntryID);
}
catch(CacheException e){
    Log.e("",e.getMessage());
}
```

- **Co-relating Requests with Local Cache Entries** – Each of the operations like add, update, and delete local cache entries are associated with entry IDs that are unique. These operations are also associated with requests. For example: Add corresponds to a POST request. To co-relate which request corresponds to which cached entry, there is a provision

provided in the Request object interface to tag each of these requests with their respective entry IDs.

In case of request to a single endpoint, each request is associated with single cache entry ID.

- **Clearing Specific Data from the Local Cache** – To clear locally created entries when all the cache instances are updated with the server version of the entry on which modifications were made, use the `clearLocalEntryForEntryId` method.

---

**Note:** Since the local cache is specific to the entry ID, the changes made to an entry from one of the cache instances (for example, URL1 + top 10) should be reflected on all cache instances in which the entry is present (for example URL1 + top 20). Do not delete the local entry until you have refreshed all caches that are relevant for this entry.

---

```
try{
    ILogger logger = new Logger();
    ICache cache =new Cache(getApplicationContext(),logger);
    cache.initializeCache();
    cache.clearLocalEntry(<EntryID>);

}
catch(CacheException e){
    Log.e("",e.getMessage());
}
```

### *Store Document in Cache*

To cache the service and metadata document (schema) for a particular service URL, use the `storeDocument` method . You can also define your own enum type and store the data for that enum type. The service document must be stored only after the metadata document is parsed.

```
//Service document
try{
    ILogger logger = new Logger();
    ICache cache =new Cache(getApplicationContext(),logger);
    cache.initializeCache();
    cache.storeDocument(serviceDocumentObject,
    DocumentType.ServiceDocument, serviceDocUrl);
}
catch(CacheException e){
    Log.e("",e.getMessage());
}

//MetaData Document
try{
    ILogger logger = new Logger();
    ICache cache =new Cache(getApplicationContext(),logger);
    cache.initializeCache();
    cache.storeDocument(serviceDocumentObject,
    DocumentType.MetaDocument, serviceDocUrl);
}
catch(CacheException e){
    Log.e("",e.getMessage());
}
```

### *Read Document from Cache*

To read the service and metadata documents from cache, use the `readDocumentForUrlKey` method. This method returns the stored document in the cache. The application should pass the document type and the URL for which the document is relevant.

```
try{
    ILogger logger = new Logger();
    ICache cache =new Cache(getApplicationContext(),logger);
    cache.initializeCache();
    IODataServiceDocument serviceDocumentObject =
    (IODataServiceDocument )cache.readDocument(DocumentType.ServiceDocu
    ment, serviceDocUrl);
    IODataSchema metadata =
    (IODataSchema) cache.readDocument(DocumentType.MetaDocument,
    serviceDocUrl);
}
catch (CacheException e){
    Log.e("",e.getMessage());
}
```

### *Clearing the Cache*

Use the `clearCache` method to clear the cache and persistence of all the entries based on URL key. This method also deletes the delta token of any document stored against this URL. Hence it is recommended that you use this method only when the application does not support delta queries.

```
try{
    ILogger logger = new Logger();
    ICache cache =new Cache(getApplicationContext(),logger);
    cache.initializeCache();
    cache.clearCache(URLKey);
}
catch (CacheException e){
    Log.e("",e.getMessage());
}
```

### *Using Delta Link*

The delta link retrieves the delta changes to a particular URL, since the last time URL was called.

---

**Note:** You must pass the complete request URL as `urlKey`. For example, `cache().mergeEntries(list, aRequest.getRequestUrl())`.

---

The default option in cache is to get the delta link if OData entry supports delta link. In this case, once `mergeEntries` API of cache is called to save server entries into cache, the next GET the application fires, will internally be fired for delta link for the OData entry. So only delta changes will be available as the response and the application developer can call `mergeEntries` to merge the entries in the cache.

The application developer can disable default delta link handling by calling the following API:

```
requestObject.disableDeltaHandling(true);
```

### **Changing Settings at Runtime**

(Optional) Update application settings (client and the SAP Mobile Platform Server) using OData SDK.

#### *Download Customization Resource Bundles*

(Optional) Download customization resource bundles as defined in SAP Mobile Platform Server using the following example code:

```
//use the clientConnection object initialized in the "Initializing An
Application -> Creating and Initializing the Client Connection"
section.
AppSettings appSettings = new AppSettings(clientConnection);
byte[] customizationResourceBundle =
appSettings.getCustomizationResourceBundle("<resourcebundlename>:<v
ersion>");
```

#### *Retrieve Push Endpoint*

(Optional) Retrieve the push endpoint URL to register for push notification using the following example code:

```
String pushEndPoint = appSettings.getPushEndPoint();
```

### **Enabling GCM Push Notifications**

(Optional) Subscribe to get GCM (Google Cloud Messaging) push notifications.

To enable GCM push notification for an Android application:

1. Enable the GCM service in Google, see Android developer Web site at: <http://developer.android.com/google/gcm/gs.html#gcm-service>.
2. Configure Management Cockpit for server-side configuration to receive GCM push notification.
3. Obtain the sender ID, configured in the Management Cockpit from the client application.

```
//use the clientConnection object initialized in the "Initializing
An Application -> Creating and Initializing the Client Connection"
section.
AppSettings appSettings = new AppSettings(clientConnection);
String senderID = (String)
appSettings.getConfigProperty("d:AndroidGcmSenderId");
```

4. Use the sender ID to register with the GCM server and obtain the registration ID. For more information on how to build GCM enabled application, see <http://developer.android.com/google/gcm/client.html>.
5. Send the registration ID obtained from the GCM server to the SAP Mobile Platform Server.

```
HashMap<String, String> registrationSetting = new HashMap<String,
String>();
```

```
registrationSetting.put("d:AndroidGcmRegistrationId",
registrationId); //registrationId obtained from the previous
step.

appSettings.setConfigProperty(registrationSetting);
```

### Next

Configuration is complete and now the client application can obtain the push notifications.

Obtain the SAP Mobile Platform push end-point by using the `AppSettings.getPushEndPoint()`. This endpoint can be used to subscribe for push notifications from the back end.

### API Reference

Use the API reference as the primary reference for all API listings and error code information.

#### SAP Mobile Platform 3.0 OData SDK for Android

Use the OData SDK API reference as the primary source for API usage and error code information.

Refer to the OData SDK API reference for each available package.

### *AppSettings class*

#### *Syntax*

```
public class AppSettings extends ISDMNetListener,
INetListener
```

#### *Members*

All members of `AppSettings`, including inherited members. **Constructors**

Modifier and Type	Constructor	Description
public	<i>AppSettings(ClientConnec- tion)</i> on page 35	Initialize the <code>AppSettings</code> .

#### **Methods**

Modifier and Type	Method	Description
public String	<i>getApplicationEndPoint()</i> on page 35	Return the application end- point value.
public Object	<i>getConfigProperty(String)</i> on page 36	Return the value of the property for the provided key.

Modifier and Type	Method	Description
public HashMap< String, String >	<i>getConfigPropertyMap()</i> on page 36	Return a hash map of key and value pairs of properties.
public byte[]	<i>getCustomizationResourceBundle(String)</i> on page 37	Retrieve the customization resource bundle for the given resource name.
public com.sybase.persistence.DataVault.DVPasswordPolicy	<i>getPasswordPolicy()</i> on page 37	Return the DVPasswordPolicy (as defined in com.sybase.persistence.DataVault) which stores the information of the Password Policy.
public String	<i>getPushEndPoint()</i> on page 38	Return the Push end-point value.
public void	<i>setConfigProperty(HashMap&lt;String, String &gt;)</i> on page 38	Set the value(s) of properties sent as hash map of key and value pairs.

### *AppSettings(ClientConnection) constructor*

Initialize the AppSettings.

#### *Syntax*

```
public AppSettings ( ClientConnection clientCon )
```

#### *Parameters*

- **clientCon** – ClientConnection

```
AppSettings appSettings = new AppSettings(clientConnection);
```

### *getApplicationEndPoint() method*

Return the application end-point value.

#### *Syntax*

```
public String getApplicationEndPoint () throws SMPException
```

#### *Exceptions*

- **SMPException class** –

```
try {
    AppSettings appSettings = new AppSettings(clientConnection);
    String appEndPoint = appSettings.getApplicationEndPoint();
} catch (SMPException e) {
```

```
e.printStackTrace();  
}
```

### *getConfigProperty(String) method*

Return the value of the property for the provided key.

#### *Syntax*

```
public Object getConfigProperty (String key) throws  
SMPEException
```

#### *Parameters*

- **key** – Name of the property.

#### *Exceptions*

- **SMPEException class** –

```
try {  
    AppSettings appSettings = new AppSettings(clientConnection);  
    String property = (String) appSettings  
        .getConfigProperty("d:AndroidGcmRegistrationId");  
} catch (SMPEException e) {  
    e.printStackTrace();  
}
```

### *getConfigPropertyMap() method*

Return a hash map of key and value pairs of properties.

#### *Syntax*

```
public HashMap<String, String> getConfigPropertyMap () throws  
SMPEException
```

#### *Exceptions*

- **SMPEException class** –

```
try {  
    AppSettings appSettings = new AppSettings(clientConnection);  
    HashMap<String, String> property =  
appSettings.getConfigPropertyMap();  
} catch (SMPEException e) {  
    e.printStackTrace();  
}
```



*getCustomizationResourceBundle(String) method*

Retrieve the customization resource bundle for the given resource name.

*Syntax*

```
public byte[] getCustomizationResourceBundle ( String
CustomResource ) throws SMPException
```

*Parameters*

- **CustomResource** – Name of the customization resource bundle.

*Exceptions*

- **SMPException class** –

```
try {
    AppSettings appSettings = new AppSettings(clientConnection);
    byte[] cust =
appSettings.getCustomizationResourceBundle("MC1:1.1");
} catch (SMPException e) {
    e.printStackTrace();
}
```

*getPasswordPolicy() method*

Return the DVPasswordPolicy (as defined in com.sybase.persistence.DataVault) which stores the information of the Password Policy.

*Syntax*

```
public com.sybase.persistence.DataVault.DVPasswordPolicy
getPasswordPolicy () throws SMPException
```

*Exceptions*

- **SMPException class** –

```
try {
    AppSettings appSettings = new AppSettings(clientConnection);
    DVPasswordPolicy passwordPolicy =
appSettings.getPasswordPolicy();
} catch (SMPException e) {
    e.printStackTrace();
}
```

*Usage*

The application uses it to enforce the composition of the Password.

### *getPushEndPoint()* method

Return the Push end-point value.

#### *Syntax*

```
public String getPushEndPoint () throws SMPException
```

#### *Exceptions*

- **SMPException** class –

```
try {
    AppSettings appSettings = new AppSettings(clientConnection);
    String pushEndPoint = appSettings.getPushEndPoint();
} catch (SMPException e) {
    e.printStackTrace();
}
```

### *setConfigProperty(HashMap< String, String >) method*

Set the value(s) of properties sent as hash map of key and value pairs.

#### *Syntax*

```
public void setConfigProperty (HashMap< String, String > list)
throws SMPException
```

#### *Exceptions*

- **SMPException** class –

```
try {
    AppSettings appSettings = new AppSettings(clientConnection);
    HashMap<String, String> property = new HashMap<String, String>();
    property.put("d:AndroidGcmRegistrationId", "1234565");
    appSettings.setConfigurationProperty(property);
} catch (SMPException e) {
    e.printStackTrace();
}
```

### *BaseRequest class*

Consists of the methods used to make Create,Read,Update, and Delete operations on HTTP backend.

#### *Syntax*

```
public class BaseRequest extends IRequest
```

#### *Derived classes*

- *BatchRequest* on page 50

### Members

All members of BaseRequest, including inherited members. **Variables**

Modifier and Type	Variable	Description
protected HashMap< String, String >	<i>eTagMap</i> on page 49	
protected static String	<i>HostURL</i> on page 49	
protected static boolean	<i>isStreamEnabled</i> on page 49	
protected byte[]	<i>mData</i> on page 49	
protected Map< String, String >	<i>mHeaders</i> on page 50	
protected transient INetListener	<i>mListener</i> on page 50	
protected int	<i>mPriority</i> on page 50	
protected int	<i>mRequestMethod</i> on page 50	
protected String	<i>mUrl</i> on page 50	
protected static ArrayList< String >	<i>setCookie</i> on page 50	
protected static String	<i>xsrftoken</i> on page 50	

### Methods

Modifier and Type	Method	Description
public void	<i>disableDeltaHandling(boolean)</i> on page 42	Disables delta query handling.
public byte[]	<i>getData()</i> on page 42	If the request method is POST, this method is called from the network library.
public InputStream	<i>getDataStream()</i> on page 43	If the request method is POST, this method is called from the network library.
public Map< String, String >	<i>getHeaders()</i> on page 43	Returns the request headers set.

Modifier and Type	Method	Description
public INetListener	<i>getListener()</i> on page 43	Returns the listener to be used by the connectivity library to notify the registered listener about a successful or failed request operation.
public int	<i>getPriority()</i> on page 44	Returns the priority of the request.
public int	<i>getRequestMethod()</i> on page 44	Returns the request method.
public String	<i>getRequestUrl()</i> on page 44	Returns the URL where the request must be fired.
public boolean	<i>isDeltaHandlingDisabled()</i> on page 45	internal
public boolean	<i>isStreamEnabled()</i> on page 45	Specifies if the data streaming is enabled for this request.
public void	<i>setData(byte[])</i> on page 45	Set the request data in case of POST request.
public void	<i>setDataStream(InputStream)</i> on page 46	Set the request data stream in case of POST request.
public void	<i>setETag(String, int)</i> on page 46	sets the Etag for the request
public void	<i>setHeaders(Map&lt;String, String&gt;)</i> on page 46	Set the request headers.
public void	<i>setListener(INetListener)</i> on page 47	Client can register listeners to be used by the connectivity layer to notify the implementation about the result of the request.
public void	<i>setPriority(int)</i> on page 47	Sets the priority of the request.
public void	<i>setRequestMethod(int)</i> on page 48	Sets the request method.
public void	<i>setRequestUrl(String)</i> on page 48	Sets the URL for the request.

Modifier and Type	Method	Description
public void	<i>setStreamEnabled(boolea</i> n) on page 48	Used to enable streaming of data when the size of the data to be fetched is greater than 200KB.
public boolean	<i>useCookies()</i> on page 49	This method is used by the network library to check whether it has to send cookies to the server when the current request is performed.

### Inherited members from IRequest

Modifier and Type	Member	Description
public static final int	<i>ETAG_IF_MATCH</i> on page 411	etag "if-match"
public static final int	<i>ETAG_IF_NONE_MATCH</i> on page 411	etag "if-none-match"
public static final int	<i>ETAG_IF_RANGE</i> on page 411	etag "if-range"
public static final int	<i>PRIORITY_HIGH</i> on page 411	High priority.
public static final int	<i>PRIORITY_NORMAL</i> on page 412	Normal priority.
public static final int	<i>REQUEST_METHOD_DELETE</i> on page 412	HTTP DELETE method.
public static final int	<i>REQUEST_METHOD_GET</i> on page 412	HTTP GET method.
public static final int	<i>REQUEST_METHOD_POST</i> on page 412	HTTP POST method.
public static final int	<i>REQUEST_METHOD_PUT</i> on page 412	HTTP PUT method.
public void	<i>setListener(fina</i> l <i>INetListener</i> ) on page 409	Client can register listeners to be used by the connectivity layer to notify the implementation about the result of the request.

Modifier and Type	Member	Description
public void	<i>setPriority</i> (final int) on page 409	Sets the priority of the request.
public void	<i>setRequestMethod</i> (final int) on page 410	Sets the type of HTTP request method.
public void	<i>setRequestUrl</i> (final String) on page 410	Sets the URL for the request.

*disableDeltaHandling*(boolean) method

Disables delta query handling.

*Syntax*

```
public void disableDeltaHandling ( boolean disable )
```

*Parameters*

- **disable** – If set to true it disables delta handling

*Returns*

None

*Usage*

By default delta handling is enabled.

*getData*() method

If the request method is POST, this method is called from the network library.

*Syntax*

```
public byte[] getData ()
```

*Parameters*

- **none** –

*Returns*

the content data

```
BaseRequest getrequest = new BaseRequest(); byte[] data = getrequest.getData();
```

*Usage*

This method will return with the content to be sent to the server.

*getDataStream() method*

If the request method is POST, this method is called from the network library.

*Syntax*

```
public InputStream getDataStream ()
```

*Parameters*

- **none** –

*Returns*

the content data stream.

```
BaseRequest request = new BaseRequest(); InputStream in = request.getDataStream();
```

*Usage*

This method must return with the content stream to be sent to the server.

*getHeaders() method*

Returns the request headers set.

*Syntax*

```
public Map< String, String > getHeaders ()
```

*Parameters*

- **none** –

*Returns*

the request headers

```
BaseRequest getrequest = new BaseRequest(); Map<String, String> headers =
getrequest.getHeaders();
```

*getListener() method*

Returns the listener to be used by the connectivity library to notify the registered listener about a successful or failed request operation.

*Syntax*

```
public INetListener getListener ()
```

*Parameters*

- **none** –

### *Returns*

the listener or null.

```
class example implements INetListener{ .... public void makeGetRequest(...) throws  
Exception { .... BaseRequest getrequest = new BaseRequest();  
getrequest.getListener(); } ... }
```

### *Usage*

Method will return null if there is no registered listener.

### *getPriority() method*

Returns the priority of the request.

### *Syntax*

```
public int getPriority ()
```

### *Parameters*

- **none** –

### *Returns*

the priority i.e. int value

```
BaseRequest getrequest = new BaseRequest(); int priority = getrequest.getPriority();
```

### *getRequestMethod() method*

Returns the request method.

### *Syntax*

```
public int getRequestMethod ()
```

### *Parameters*

- **none** –

### *Returns*

the request method, with a value of IRequest.REQUEST\_METHOD\_\* constants.

```
BaseRequest getrequest = new BaseRequest(); int method = getrequest.getRequestMethod();
```

### *getRequestUrl() method*

Returns the URL where the request must be fired.

### *Syntax*

```
public String getRequestUrl ()
```



*Parameters*

- **None** –

*Returns*

the URL.

```
BaseRequest getrequest = new BaseRequest(); String url = getrequest.getRequestUrl();
```

*isDeltaHandlingDisabled() method*

internal

*Syntax*

```
public boolean isDeltaHandlingDisabled ()
```

*isStreamEnabled() method*

Specifies if the data streaming is enabled for this request.

*Syntax*

```
public boolean isStreamEnabled ()
```

*Parameters*

- **none** –

*Returns*

use of data Streaming in the network library

```
BaseRequest request = new BaseRequest(); boolean isStreamUsed =
request.isStreamEnabled();
```

*setData(byte[]) method*

Set the request data in case of POST request.

*Syntax*

```
public void setData (byte[] data )
```

*Parameters*

- **data** – the request data to set

*Returns*

none

```
BaseRequest getrequest = new BaseRequest(); String postBody= "<atom:entry xmlns:atom=
'http://www.w3.org/2005/Atom'">" + "<atom:content type='application/xml'">" +
"<m:properties xmlns:m='http://schemas.microsoft.com/ado/2007/08/dataservices/
```

```
metadata" *xmlns:d=" http://schemas.microsoft.com/ado/2007/08/dataservices">" +
"<d:agencynum>09964571</d:agencynum>" + "<d:NAME ><d:NAME>" +
"<d:STREET />" + "<d:POSTBOX />" + * "<d:POSTCODE />" + "<d:CITY />" +
"<d:COUNTRY />" + "<d:REGION />" + "<d:TELEPHONE>+9945007007</
d:TELEPHONE>" + "<d:URL />" + "<d:LANGU />" + "<d:CURRENCY />" +
"<d:mimeType>text/html</d:mimeType>" + "</m:properties>" + "</atom:content>" + "</
atom:entry>"; post1.setData(postBody.getBytes());
```

### *setDataStream(InputStream) method*

Set the request data stream in case of POST request.

#### *Syntax*

```
public void setDataStream ( InputStream inputStream )
```

#### *Parameters*

- **InputStream** – the request data stream to set

#### *Returns*

none

```
BaseRequest request = new BaseRequest(); InputStream in = new
InputStream(); ....request.setDataStream(in);
```

### *setETag(String, int) method*

sets the Etag for the request

#### *Syntax*

```
public void setETag ( String tag , int i ) throws
IllegalArgumentException
```

#### *Parameters*

- **tag** – etag header value
- **i** – etag header name

#### *Returns*

none

```
BaseRequest getrequest = new BaseRequest(); getrequest.setETag("tag String",1);
```

### *setHeaders(Map< String, String >) method*

Set the request headers.

#### *Syntax*

```
public void setHeaders ( Map< String, String > headers )
```

*Parameters*

- **headers** – the request headers to set none

```
Map<String, String> headers1 = new HashMap<String, String>(); headers1.put("Content-Type", "application/atom+xml"); BaseRequest getrequest = new BaseRequest(); getrequest.setHeaders(headers1);
```

*setListener(INetListener) method*

Client can register listeners to be used by the connectivity layer to notify the implementation about the result of the request.

*Syntax*

```
public void setListener ( INetListener listener )
```

*Parameters*

- **listener** – the listener to set.

*Returns*

none

```
class example implements INetListener{ .... public void makeGetRequest(...) throws Exception { .... BaseRequest getrequest = new BaseRequest(); getrequest.setListener(this); } ... }
```

*Usage*

By default, the BaseRequest object included in the connectivity layer will contain no registered listeners.

Setting this object is not mandatory. However, it can be used to handle incidental errors.

*setPriority(int) method*

Sets the priority of the request.

*Syntax*

```
public void setPriority ( int value )
```

*Parameters*

- **value** – the priority of the request to set.

*Returns*

none

```
BaseRequest getrequest = new BaseRequest(); getrequest.setPriority(1);
```

### *Usage*

Allowed values: `IRequest.PRIORITY_HIGH` and `IRequest.PRIORITY_NORMAL`. In case of a different value, the default `IRequest.PRIORITY_NORMAL` will be used by the network. If the network layer finds an `IRequest` with `IRequest.PRIORITY_HIGH` priority in the queue, that request will be executed first. If there are more than one `IRequests` with `IRequest.PRIORITY_HIGH` priority, the network layer will choose an execution order. If the priority is not one of the predefined values, the priority will be set by default to `IRequest.PRIORITY_NORMAL`.

### *setRequestMethod(int) method*

Sets the request method.

### *Syntax*

```
public void setRequestMethod ( int requestMethod )
```

### *Parameters*

- **requestMethod** – one of the `IRequest.REQUEST_METHOD_*` constants.

### *Returns*

none

```
BaseRequest getrequest = new BaseRequest();  
getrequest.setRequestMethod(IRequest.REQUEST_METHOD_GET);
```

### *setRequestUrl(String) method*

Sets the URL for the request.

### *Syntax*

```
public void setRequestUrl ( String aUrl )
```

### *Parameters*

- **aUrl** – the URL to set.

### *Returns*

none

```
BaseRequest getrequest = new BaseRequest(); getrequest.setRequestUrl("http://abc.com/  
resource");
```

### *setStreamEnabled(boolean) method*

Used to enable streaming of data when the size of the data to be fetched is greater than 200KB.

### *Syntax*

```
public void setStreamEnabled ( boolean streamEnabled )
```

*Parameters*

- **streamEnabled** –

*Returns*

none

```
BaseRequest request = new BaseRequest(); request.setStreamEnabled(true);
```

*useCookies() method*

This method is used by the network library to check whether it has to send cookies to the server when the current request is performed.

*Syntax*

```
public boolean useCookies ()
```

*Parameters*

- **none** – the use of cookies in the network library

```
BaseRequest getRequest = new BaseRequest(); boolean usecookie = getRequest.useCookies();
```

*Usage*

Some requests may deny sending any cookies to the server, in this case this method can be used by the request to signal to the network library. The default value for this is false in the BaseRequest implementation.

*eTagMap variable**Syntax*

```
protected HashMap< String, String > eTagMap
```

*HostURL variable**Syntax*

```
protected static String HostURL
```

*isStreamEnabled variable**Syntax*

```
protected static boolean isStreamEnabled
```

*mData variable**Syntax*

```
protected byte[] mData
```

### *mHeaders variable*

#### *Syntax*

```
protected Map< String, String > mHeaders
```

### *mListener variable*

#### *Syntax*

```
protected transient INetListener mListener
```

### *mPriority variable*

#### *Syntax*

```
protected int mPriority
```

### *mRequestMethod variable*

#### *Syntax*

```
protected int mRequestMethod
```

### *mUrl variable*

#### *Syntax*

```
protected String mUrl
```

### *setCookie variable*

#### *Syntax*

```
protected static ArrayList< String > setCookie
```

### *xsrftoken variable*

#### *Syntax*

```
protected static String xsrfToken
```

### *BatchRequest class*

#### *Syntax*

```
public class BatchRequest extends BaseRequest
```

#### *Members*

All members of BatchRequest, including inherited members. **Variables**

Modifier and Type	Variable	Description
protected ArrayList< Object >	<i>batchRequestList</i> on page 56	
protected String	<i>batchRequestURL</i> on page 56	

### Constructors

Modifier and Type	Constructor	Description
public	<i>BatchRequest(String)</i> on page 54	Initializes the BatchRequest by providing the request URL.

### Methods

Modifier and Type	Method	Description
public void	<i>addRequestToChangeset(IRequest)</i> on page 55	Adds a modify request such as HTTP POST/PUT/DELETE request to the change set.
public void	<i>addRetrieveRequestToBatch(IRequest)</i> on page 55	Adds a retrieve request to the batch.
public void	<i>closeExistingChangeSet()</i> on page 56	Closes the existing change set and adds the subsequent modify requests to a different change set.

### Inherited members from BaseRequest

Modifier and Type	Member	Description
public void	<i>disableDeltaHandling(boolean)</i> on page 42	Disables delta query handling.
protected HashMap< String, String >	<i>eTagMap</i> on page 49	
public byte[]	<i>getData()</i> on page 42	If the request method is POST, this method is called from the network library.
public InputStream	<i>getDataStream()</i> on page 43	If the request method is POST, this method is called from the network library.
public Map< String, String >	<i>getHeaders()</i> on page 43	Returns the request headers set.

Modifier and Type	Member	Description
public INetListener	<i>getListener()</i> on page 43	Returns the listener to be used by the connectivity library to notify the registered listener about a successful or failed request operation.
public int	<i>getPriority()</i> on page 44	Returns the priority of the request.
public int	<i>getRequestMethod()</i> on page 44	Returns the request method.
public String	<i>getRequestUrl()</i> on page 44	Returns the URL where the request must be fired.
protected static String	<i>HostURL</i> on page 49	
public boolean	<i>isDeltaHandlingDisabled()</i> on page 45	internal
protected static boolean	<i>isStreamEnabled</i> on page 49	
public boolean	<i>isStreamEnabled()</i> on page 45	Specifies if the data streaming is enabled for this request.
protected byte[]	<i>mData</i> on page 49	
protected Map<String, String>	<i>mHeaders</i> on page 50	
protected transient INetListener	<i>mListener</i> on page 50	
protected int	<i>mPriority</i> on page 50	
protected int	<i>mRequestMethod</i> on page 50	
protected String	<i>mUrl</i> on page 50	
protected static ArrayList<String>	<i>setCookie</i> on page 50	
public void	<i>setData(byte[])</i> on page 45	Set the request data in case of POST request.
public void	<i>setDataStream(InputStream)</i> on page 46	Set the request data stream in case of POST request.
public void	<i>setETag(String, int)</i> on page 46	sets the Etag for the request



Modifier and Type	Member	Description
public void	<i>setHeaders(Map&lt;String, String&gt;)</i> on page 46	Set the request headers.
public void	<i>setListener(INetListener)</i> on page 47	Client can register listeners to be used by the connectivity layer to notify the implementation about the result of the request.
public void	<i>setPriority(int)</i> on page 47	Sets the priority of the request.
public void	<i>setRequestMethod(int)</i> on page 48	Sets the request method.
public void	<i>setRequestUrl(String)</i> on page 48	Sets the URL for the request.
public void	<i>setStreamEnabled(boolean)</i> on page 48	Used to enable streaming of data when the size of the data to be fetched is greater than 200KB.
public boolean	<i>useCookies()</i> on page 49	This method is used by the network library to check whether it has to send cookies to the server when the current request is performed.
protected static String	<i>xsrftoken</i> on page 50	

#### Inherited members from IRequest

Modifier and Type	Member	Description
public static final int	<i>ETAG_IF_MATCH</i> on page 411	etag "if-match"
public static final int	<i>ETAG_IF_NONE_MATCH</i> on page 411	etag "if-none-match"
public static final int	<i>ETAG_IF_RANGE</i> on page 411	etag "if-range"
public static final int	<i>PRIORITY_HIGH</i> on page 411	High priority.
public static final int	<i>PRIORITY_NORMAL</i> on page 412	Normal priority.

Modifier and Type	Member	Description
public static final int	<i>REQUEST_METHOD_DELETE</i> on page 412	HTTP DELETE method.
public static final int	<i>REQUEST_METHOD_GET</i> on page 412	HTTP GET method.
public static final int	<i>REQUEST_METHOD_POST</i> on page 412	HTTP POST method.
public static final int	<i>REQUEST_METHOD_PUT</i> on page 412	HTTP PUT method.
public void	<i>setListener(final INetListener)</i> on page 409	Client can register listeners to be used by the connectivity layer to notify the implementation about the result of the request.
public void	<i>setPriority(final int)</i> on page 409	Sets the priority of the request.
public void	<i>setRequestMethod(final int)</i> on page 410	Sets the type of HTTP request method.
public void	<i>setRequestUrl(final String)</i> on page 410	Sets the URL for the request.

### *BatchRequest(String) constructor*

Initializes the BatchRequest by providing the request URL.

### *Syntax*

```
public BatchRequest ( String url )
```

### *Parameters*

- **url** – URL with which the Batch Request needs to be initialized.

### *Returns*

Object of Batch Request.

```
BatchRequest batch = new
```

```
BatchRequest(Utils.appSettings.getApplicationEndPoint().toString()+"$batch");
```

*addRequestToChangeset(IRequest) method*

Adds a modify request such as HTTP POST/PUT/DELETE request to the change set.

*Syntax*

```
public void addRequestToChangeset ( IRequest modifyRequest ) throws
ConnectivityException
```

*Parameters*

- **modifyRequest** – Request such as HTTP POST/PUT/DELETE.

*Returns*

None

*Exceptions*

- **ConnectivityException class** –

```
deleteRequest.setRequestMethod(SDMPBaseRequest.REQUEST_METHOD_DELETE);
deleteRequest.setUrl("TravelagencyCollection('09964571')");
batch.addRequestToChangeset(deleteRequest);
```

*addRetrieveRequestToBatch(IRequest) method*

Adds a retrieve request to the batch.

*Syntax*

```
public void addRetrieveRequestToBatch ( IRequest getRequest ) throws
ConnectivityException
```

*Parameters*

- **getRequest** – Retrieve request to be added to the batch.

*Returns*

None

*Exceptions*

- **ConnectivityException class** –

```
batch.addRetrieveRequestToBatch(getrequest);
```

### *closeExistingChangeSet()* method

Closes the existing change set and adds the subsequent modify requests to a different change set.

#### *Syntax*

```
public void closeExistingChangeSet () throws  
ConnectivityException
```

#### *Parameters*

- **None** –

#### *Returns*

None

#### *Exceptions*

- **ConnectivityException class** –

```
batch.addRetrieveRequestToBatch(get1); batch.addRequestToChangeset(post1);  
batch.addRequestToChangeset(put1); batch.closeExistingChangeSet(); // To close this  
change set and separate the subsequent requests to a different change set
```

```
batch.addRequestToChangeset(delete1); batch.closeExistingChangeSet();
```

#### *batchRequestList* variable

#### *Syntax*

```
protected ArrayList< Object > batchRequestList
```

#### *batchRequestURL* variable

#### *Syntax*

```
protected String batchRequestURL
```

#### *BundleRequest* class

#### *Syntax*

```
public class BundleRequest extends IBundleRequest
```

#### *Members*

All members of BundleRequest, including inherited members. **Variables**

Modifier and Type	Variable	Description
boolean	<i>isPersistRequest</i> on page 58	

### Constructors

Modifier and Type	Constructor	Description
public	<i>BundleRequest()</i> on page 57	

### Methods

Modifier and Type	Method	Description
public void	<i>addRequest(final IRequest)</i> on page 57	
public void	<i>clearRequests()</i> on page 58	Cleans out the request storage.
public IRequest[]	<i>getRequests()</i> on page 58	Returns all the requests from the storage.
public void	<i>removeRequest(final IRequest)</i> on page 58	

### Inherited members from **IBundleRequest**

Modifier and Type	Member	Description
public void	<i>addRequest(IRequest)</i> on page 107	Adds a request to the storage.
public void	<i>removeRequest(IRequest)</i> on page 108	Removes the specific request from the storage.

#### *BundleRequest()* constructor

##### *Syntax*

```
public BundleRequest ()
```

#### *addRequest(final IRequest)* method

##### *Syntax*

```
public void addRequest ( final IRequest request )
```

### *clearRequests() method*

Cleans out the request storage.

#### *Syntax*

```
public void clearRequests ()
```

#### *Parameters*

- **None** –

#### *Returns*

None

```
BundleRequest bundleRequest = new BundleRequest(); ... bundleRequest.clearRequests();
```

### *getRequests() method*

Returns all the requests from the storage.

#### *Syntax*

```
public IRequest[] getRequests ()
```

#### *Parameters*

- **None** –

#### *Returns*

the array of requests.

```
BundleRequest bundleRequest = new BundleRequest();... BaseRequest[] requests=  
bundleRequest.getRequests();
```

### *removeRequest(final IRequest) method*

#### *Syntax*

```
public void removeRequest ( final IRequest request )
```

### *isPersistRequest variable*

#### *Syntax*

```
boolean isPersistRequest
```

### *Cache class*

Consists of the methods related to Cache.

#### *Syntax*

```
public class Cache extends ICache
```

## Members

All members of Cache, including inherited members. **Variables**

Modifier and Type	Variable	Description
Context	<i>ctx</i> on page 71	
Map< String, DeltaLinkSchema >	<i>deltaCacheMap</i> on page 71	
Map< String, MetaDocumentSchema >	<i>documentMap</i> on page 71	
boolean	<i>isPersistable</i> on page 71	
Map< String, ODataEntryLocal >	<i>LocalCacheMap</i> on page 71	
ILogger	<i>logger</i> on page 71	
PersistenceManagerImpl	<i>manager</i> on page 71	
Map< String, ODataEntryServer >	<i>ServerCacheMap</i> on page 71	
cacheState	<i>state</i> on page 72	
String	<i>temp_key</i> on page 72	

## Constructors

Modifier and Type	Constructor	Description
public	<i>Cache(Context, ILogger)</i> on page 61	

## Methods

Modifier and Type	Method	Description
public String	<i>addEntry(IODataEntry)</i> on page 61	A new cache entry will be added into the local Cache using this particular method.
protected void	<i>addtoDelta(String, String)</i> on page 62	
protected void	<i>addtoLocal(IODataEntry, String)</i> on page 62	

Modifier and Type	Method	Description
protected void	<i>addtoServer(ODataEntryServer, String, boolean)</i> on page 62	
public void	<i>clearCache(String)</i> on page 63	This API will clear entries for the URLkey passed from all the cache except the Local cache.
public void	<i>clearLocalEntry(String)</i> on page 63	This API will clear entry from Local Cache.
public void	<i>deleteEntry(String)</i> on page 64	This API will cache Entry associated with HTTP DELETE which deletes the existing resource of a collection this entry will be marked as 'Deleted' in Local Cache.
protected void	<i>deleteFromServercache(String)</i> on page 64	
protected Object	<i>deserialize(byte[])</i> on page 64	
public String	<i>getDeltaLink(String)</i> on page 65	This should return the delta token/delta link for the URL key passed.
public void	<i>initializeCache()</i> on page 65	
public void	<i>mergeEntries(ODataFeed, String)</i> on page 65	Merge APIs are to be invoked after doing a HTTP GET after modification or a set of modifications.
public Object	<i>readDocument(int, String)</i> on page 66	This API returns the service document or the meta data document depending on the DocumentType and for the specified URLKey.
protected List< IODataEntry >	<i>readEntriesFromServer(String, String)</i> on page 67	
public List< IODataEntry >	<i>readEntriesLocal(String, String)</i> on page 67	Gets the Entries from the Local cache based on the EntityType and the EntryID.



Modifier and Type	Method	Description
public List< IODataEntry >	<i>readEntries.Server(String)</i> on page 68	Returns an array of ODataEntry Objects stored for the given URL key in the server Cache The return type will be an array of Entries.
protected byte[]	<i>serialize(Object)</i> on page 68	
public void	<i>setCacheListener(ICacheUpdateListener)</i> on page 68	Sets the listener for any update on Server cache and call backs upon merging Cache.
public void	<i>setIsPersistable(boolean)</i> on page 69	This API sets the isPersistable property of the cache which is used to check if the cache is implicitly persistable.
public void	<i>storeDocument(Object, int, String)</i> on page 69	This API Caches the service document or the meta data document depending on the DocumentType and against specified URLKey.
public void	<i>updateEntry(IODataEntry)</i> on page 70	This API is will cache Entry associated with HTTP PUT which modifies the existing resource of a collection this entry will be marked as 'Updated' in Local Cache.

### *Cache(Context, ILogger) constructor*

#### *Syntax*

```
public Cache ( Context context , ILogger logger )
```

### *addEntry(IODataEntry) method*

A new cache entry will be added into the local Cache using this particular method.

#### *Syntax*

```
public String addEntry ( IODataEntry entry ) throws CacheException
```

#### *Parameters*

- **Entry** – object which is built for a new HTTP POST.

### Exceptions

- **CacheException class** –

```
Try{
//Fire a HTTP POST
IODataEntry entry = buildPostEntry();
ILogger logger = new Logger();
ICache cache =new Cache(getApplicationContext(),logger);
String generated_id =cache.addEntry(entry);
PerformPostrequest(entry)//Fire HTTP POST request
}
Catch(CacheException e){
}. public void onSuccess(I Request arg0, I Response aResponse) {

ClearLocalEntry(generated_id)//on success of POST
request ,application developer clears this entry after all the Cache
instances related to this entry (filter/query all matching) are
updated from the server
}
```

### Usage

This method will be mostly called when the application is trying to create entries in the backend via a HTTP POST.

### *addtoDelta(String, String) method*

#### Syntax

```
protected void addToDelta (String urlKey , String deltaLink) throws
PersistenceException
```

### *addtoLocal(IODataEntry, String) method*

#### Syntax

```
protected void addToLocal (IODataEntry entry , String Id) throws
PersistenceException
```

### *addtoServer(ODataEntryServer, String, boolean) method*

#### Syntax

```
protected void addToServer (ODataEntryServer odataEntryServer ,
String urlKey , boolean isUpdate) throws PersistenceException
```

***clearCache(String) method***

This API will clear entries for the URL key passed from all the cache except the Local cache.

***Syntax***

```
public void clearCache ( String URLKey ) throws CacheException
```

***Parameters***

- **URLKey** – : will clear cache for the URL key specified.

***Exceptions***

- **CacheException class** –

```
Try{
    ILogger logger = new Logger();
    ICache cache =new Cache(getApplicationContext(), logger);
    cache.clearCache(URLKey);
}
Catch(CacheException e){
}
```

***clearLocalEntry(String) method***

This API will clear entry from Local Cache.

***Syntax***

```
public void clearLocalEntry ( String entryID ) throws
CacheException
```

***Parameters***

- **EntryID** – from server Cache will be marked as "Deleted" and will be added in Local Cache

***Exceptions***

- **CacheException class** –

```
Try{
    ILogger logger = new Logger();
    ICache cache =new Cache(getApplicationContext(), logger);
    cache.ClearLocalEntry(EntryID);
}
```

```
}  
Catch (CacheException e) {  
}
```

### *deleteEntry(String) method*

This API is will cache Entry associated with HTTP DELETE which deletes the existing resource of a collection this entry will be marked as 'Deleted' in Local Cache.

#### *Syntax*

```
public void deleteEntry ( String entryID ) throws CacheException
```

#### *Parameters*

- **EntryID** – from server Cache will marked as "Deleted" and will be added in Local Cache

#### *Exceptions*

- **CacheException class** –

```
Try{  
  
ILogger logger = new Logger();  
ICache cache =new Cache(getApplicationContext(), logger);;  
cache.deleteEntry(EntryID);  
  
}  
Catch (CacheException e) {  
}
```

### *deleteFromServercache(String) method*

#### *Syntax*

```
protected void deleteFromServercache ( String Id ) throws  
PersistenceException
```

### *deserialize(byte[]) method*

#### *Syntax*

```
protected Object deserialize ( byte[] rawData )
```

***getDeltaLink(String) method***

This should return the delta token/delta link for the URL key passed.

***Syntax***

```
public String getDeltaLink (String URLKey) throws
CacheException
```

***Parameters***

- **URLKey** – : will return the delta token/delta link for the URL key.

***Exceptions***

- **CacheException class** –

```
Try{
    ILogger logger = new Logger();
    ICache cache =new Cache(getApplicationContext(),logger);
    cache.getDeltaLink(URLKey);
}
Catch(CacheException e){
}
```

***initializeCache() method******Syntax***

```
public void initializeCache ()
```

***mergeEntries(IODataFeed, String) method***

Merge APIS are to be invoked after doing a HTTP GET after modification or a set of modifications.

***Syntax***

```
public void mergeEntries (IODataFeed Feed , String URLKey) throws
CacheException
```

***Parameters***

- **Entries** – list of entries which will be merged into server Cache.
- **URLKey** – : Cache returns cached entries for this urlKey.

### *Exceptions*

- **CacheException class** –

```
Try{  
  
ILogger logger = new Logger();  
ICache cache =new Cache(getApplicationContext(), logger);  
IODataFeed feed = parser.parseODataFeed(responseEntity,  
collectionID, schema);  
cache.mergeEntries(feed, EntryURL);  
  
}  
Catch(CacheException e){  
  
}
```

### *Usage*

Merge all the entries provided into the Server cache for the respective urlkey.

### *readDocument(int, String) method*

This API returns the service document or the meta data document depending on the DocumentType and for the specified URLKey.

### *Syntax*

```
public Object readDocument ( int documentType , String URLKey )  
throws CacheException
```

### *Parameters*

- **DocumentType** – : will return specified type of document
- **UrlKey** – : will fetch document for specified urlkey.

### *Exceptions*

- **CacheException class** –

```
Try{  
  
ILogger logger = new Logger();  
ICache cache =new Cache(getApplicationContext(), logger);  
IODataServiceDocument serviceDocumentObject =  
(IODataServiceDocument) cache.ReadDocument (documentType.ServiceDocum  
ent, serviceDocUrl);  
IODataSchema metadata =  
(IODataSchema) cache.readDocument (documentType.MetaDocument,  
serviceDocUrl);
```

```

}
Catch (CacheException e) {
}

```

### *readEntriesFromServer(String, String) method*

#### **Syntax**

protected List< IODataEntry > readEntriesFromServer (String *urlkey* , String *EntryId*) throws PersistenceException, CacheException

### *readEntriesLocal(String, String) method*

Gets the Entries from the Local cache based on the EntityType and the EntryID.

#### **Syntax**

public List< IODataEntry > readEntriesLocal (String *entityType* , String *entryID*) throws CacheException

#### **Parameters**

- **EntityType** – is the type which represents collection in ODATA.
- **EntryId** – get entries based on this entry ID.

#### **Exceptions**

- **CacheException class** –

```

Try{
ILogger logger = new Logger();
ICache cache =new Cache(getApplicationContext(),logger);
List<I ODataEntry> entries =
cache.readEntriesLocal("SomeCollection", "EntryID"); // return all
entries respective to either of the parameters.
}
Catch (CacheException e) {
}

```

#### **Usage**

The return type will be an array of Entries

### *readEntriesServer(String) method*

Returns an array of ODataEntry Objects stored for the given URL key in the server Cache The return type will be an array of Entries.

#### *Syntax*

```
public List< IODataEntry > readEntriesServer ( String URLKey )  
throws CacheException
```

#### *Parameters*

- **urlkey** – :Returns cached entries for this urlKey.

#### *Exceptions*

- **CacheException class** –

```
Try{  
  
ILogger logger = new Logger();  
ICache cache =new Cache(getApplicationContext(), logger);  
List<IODataEntry> entries = cache.readEntriesServer(urlkey);  
IODataEntry entry = entries.get(0);  
String Name =entry.getPropertyValue("NAME");  
  
}  
Catch(CacheException e){  
}
```

### *serialize(Object) method*

#### *Syntax*

```
protected byte[] serialize ( Object obj ) throws IOException
```

### *setCacheListener(ICacheUpdateListener) method*

Sets the listener for any update on Server cache and call backs upon merging Cache.

#### *Syntax*

```
public void setCacheListener ( ICacheUpdateListener  
cacheUpdateListener )
```

#### *Parameters*

- **listener** – The listener to be set for call backs upon merge cache.

```
Class CacheupdateListener implements ICacheUpdateListener {
```



```

        public void OnCacheUpadte(String URLKEY, List<IODataEntry>
Entries) {
            Log.i("OnCacheUpdate", URLKEY);
        }
    }
    cacheupdateListener cacheUpdateListener = new
cacheupdateListener();
cache.setCacheListener(cacheUpdateListener);

```

### *setIsPersistable(boolean) method*

This API sets the `isPersistable` property of the cache which is used to check if the cache is implicitly persistable.

### *Syntax*

```
public void setIsPersistable (boolean value) throws
CacheException
```

### *Parameters*

- **value** – this will persist cache in db or In-Memory, Default is in DB Store

### *Exceptions*

- **CacheException class** –

```

Try{
    ILogger logger = new Logger();
    ICache cache =new Cache(getApplicationContext(),logger);
    cache.setIsPersistable(true);
}
Catch (CacheException e){
}

```

### *storeDocument(Object, int, String) method*

This API Caches the service document or the meta data document depending on the `DocumentType` and against specified `URLKey`.

### *Syntax*

```
public void storeDocument (Object Document , int documentType ,
String URLKey) throws CacheException
```

### *Parameters*

- **document** – : will return the delta token/delta link for the URL key.
- **documentType** – specify the type of document to be cached.
- **urlKey** – Cache against this urlKey

### *Exceptions*

- **CacheException class** –

```
Try{  
  
ILogger logger = new Logger();  
ICache cache =new Cache(getApplicationContext(),logger);  
cache.storeDocument(serviceDocumentObject,  
documentType.ServiceDocument, serviceDocUrl);  
  
}  
Catch(CacheException e){  
}
```

### *updateEntry(IODataEntry) method*

This API is will cache Entry associated with HTTP PUT which modifies the existing resource of a collection this entry will be marked as 'Updated' in Local Cache.

### *Syntax*

```
public void updateEntry ( IODataEntry entry ) throws  
CacheException
```

### *Parameters*

- **Entry** – will be marked as 'Updated' in Local cache.

### *Exceptions*

- **CacheException class** –

```
Try{  
  
ILogger logger = new Logger();  
ICache cache =new Cache(getApplicationContext(),logger);  
cache.updateEntry(OdataEntries, URLKEY);  
  
}  
Catch(CacheException e){
```

```
}
```

### *ctx variable*

#### **Syntax**

```
Context ctx
```

### *deltaCacheMap variable*

#### **Syntax**

```
Map< String, DeltaLinkSchema > deltaCacheMap
```

### *documentMap variable*

#### **Syntax**

```
Map< String, MetaDocumentSchema > documentMap
```

### *isPersistable variable*

#### **Syntax**

```
boolean isPersistable
```

### *LocalCacheMap variable*

#### **Syntax**

```
Map< String, ODataEntryLocal > LocalCacheMap
```

### *logger variable*

#### **Syntax**

```
ILogger logger
```

### *manager variable*

#### **Syntax**

```
PersistenceManagerImpl manager
```

### *ServerCacheMap variable*

#### **Syntax**

```
Map< String, ODataEntryServer > ServerCacheMap
```

*state variable**Syntax*

```
cacheState state
```

*temp\_key variable**Syntax*

```
String temp_key
```

*CacheException class*

This Class represents the exception thrown by the SMP REST library.

*Syntax*

```
public class CacheException extends Exception
```

*Members*

All members of CacheException, including inherited members. **Variables**

Modifier and Type	Variable	Description
public static final int	<i>ANY_INPUT_FIELD_NULL</i> on page 75	Any of the input fields passed is null.
public static final int	<i>APPLICATION_ID_NULL</i> on page 75	Application is not initialized.
public static final int	<i>APPLICATION_USER_ALREADY_REGISTERED</i> on page 75	Attempt to register an application user which is already registered.
public static final int	<i>APPLICATION_USER_NOT_REGISTERED</i> on page 75	Attempt to delete the user which has not been registered.
public static final int	<i>AUTHENTICATION_ERROR</i> on page 76	Error while authenticating user.
public static final int	<i>BTX_UPLOAD_ERROR</i> on page 76	E2E BTX upload error.
public static final int	<i>CacheGenericErrorCode</i> on page 76	Asynchronous user registration listener not registered with UserManager.

Modifier and Type	Variable	Description
public static final int	<i>CAPTCHA_LISTENER_NULL</i> on page 76	Captcha listener is null.
public static final int	<i>CLASS_INITIALIZATION_FAILED</i> on page 76	Class initialization failed.
public static final int	<i>E2E_NOT_STARTED</i> on page 76	E2E Not started.
public static final int	<i>EMPTY_RESPONSE_FROM_SERVER</i> on page 76	Empty response string received from server.
public static final int	<i>HTTP_ERROR</i> on page 77	HTTP error.
public static final int	<i>INVALID_MODULE_ID</i> on page 77	Invalid module handle ID.
public static final int	<i>JSON_PARSING_FAILED</i> on page 77	Internal error, JSON parsing has failed.
public static final int	<i>NETWORK_ERROR</i> on page 77	Network error: Obtained when the URL is unreachable.
public static final int	<i>PARSE_ERROR</i> on page 77	Parse error.
public static final int	<i>REGISTRATION_FAILED_UNKNOWN_ERROR</i> on page 77	User registration timed out.
public static final int	<i>SINGLETON_INITIALIZATION_FAILED</i> on page 78	singleton Initialization failed
public static final int	<i>SUP_INTERNAL_PARSING_ERROR</i> on page 78	SUP Internal Parsing Error.
public static final int	<i>UPDATE_SETTINGS_CONTAINS_READONLY_FIELDS</i> on page 78	Update Settings consists of one or more read only fields.

### Constructors

Modifier and Type	Constructor	Description
public	<i>CacheException(int)</i> on page 74	Constructs a SMPException with specified error code.

Modifier and Type	Constructor	Description
public	<i>CacheException(String)</i> on page 74	Constructs a SMPEException with specified error message.
public	<i>CacheException(int, String)</i> on page 74	Constructs a SMPEException with specified error code and error message.

### Methods

Modifier and Type	Method	Description
public int	<i>getErrorCode()</i> on page 75	Returns the error code of this SMPEException.
public String	<i>toString()</i> on page 75	Returns the complete error description of this SMPEException.

#### *CacheException(int) constructor*

Constructs a SMPEException with specified error code.

#### *Syntax*

```
public CacheException ( int errorCode )
```

#### *Parameters*

- **errorCode** –

#### *CacheException(String) constructor*

Constructs a SMPEException with specified error message.

#### *Syntax*

```
public CacheException ( String message )
```

#### *Parameters*

- **message** – - error message

#### *CacheException(int, String) constructor*

Constructs a SMPEException with specified error code and error message.

#### *Syntax*

```
public CacheException ( int errorCode , String message )
```

*Parameters*

- **errorCode** –
- **message** – - error message

*getErrorCode() method*

Returns the error code of this SMPEXception.

*Syntax*

```
public int getErrorCode ()
```

*toString() method*

Returns the complete error description of this SMPEXception.

*Syntax*

```
public String toString ()
```

*ANY\_INPUT\_FIELD\_NULL variable*

Any of the input fields passed is null.

*Syntax*

```
public static final int ANY_INPUT_FIELD_NULL
```

*APPLICATION\_ID\_NULL variable*

Application is not initialized.

*Syntax*

```
public static final int APPLICATION_ID_NULL
```

*APPLICATION\_USER\_ALREADY\_REGISTERED variable*

Attempt to register an application user which is already registered.

*Syntax*

```
public static final int APPLICATION_USER_ALREADY_REGISTERED
```

*APPLICATION\_USER\_NOT\_REGISTERED variable*

Attempt to delete the user which has not been registered.

*Syntax*

```
public static final int APPLICATION_USER_NOT_REGISTERED
```

*AUTHENTICATION\_ERROR variable*

Error while authenticating user.

*Syntax*

```
public static final int AUTHENTICATION_ERROR
```

*BTX\_UPLOAD\_ERROR variable*

E2E BTX upload error.

*Syntax*

```
public static final int BTX_UPLOAD_ERROR
```

*CacheGenericErrorCode variable*

Asynchronous user registration listener not registered with UserManager.

*Syntax*

```
public static final int CacheGenericErrorCode
```

*CAPTCHA\_LISTENER\_NULL variable*

Captcha listener is null.

*Syntax*

```
public static final int CAPTCHA_LISTENER_NULL
```

*CLASS\_INITIALIZATION\_FAILED variable*

Class initialization failed.

*Syntax*

```
public static final int CLASS_INITIALIZATION_FAILED
```

*E2E\_NOT\_STARTED variable*

E2E Not started.

*Syntax*

```
public static final int E2E_NOT_STARTED
```

*EMPTY\_RESPONSE\_FROM\_SERVER variable*

Empty response string received from server.

*Syntax*

```
public static final int EMPTY_RESPONSE_FROM_SERVER
```



*HTTP\_ERROR variable*

HTTP error.

*Syntax*

```
public static final int HTTP_ERROR
```

*INVALID\_MODULE\_ID variable*

Invalid module handle ID.

*Syntax*

```
public static final int INVALID_MODULE_ID
```

*JSON\_PARSING\_FAILED variable*

Internal error, JSON parsing has failed.

*Syntax*

```
public static final int JSON_PARSING_FAILED
```

*NETWORK\_ERROR variable*

Network error: Obtained when the URL is unreachable.

*Syntax*

```
public static final int NETWORK_ERROR
```

*Usage*

Check AndroidManifest.xml if it has proper permissions.

*PARSE\_ERROR variable*

Parse error.

*Syntax*

```
public static final int PARSE_ERROR
```

*REGISTRATION\_FAILED\_UNKNOWN\_ERROR variable*

User registration timed out.

*Syntax*

```
public static final int REGISTRATION_FAILED_UNKNOWN_ERROR
```

*SINGLETON\_INITIALIZATION\_FAILED* variable  
 singleton Initialization failed

**Syntax**

```
public static final int SINGLETON_INITIALIZATION_FAILED
```

*SUP\_INTERNAL\_PARSING\_ERROR* variable  
 SUP Internal Parsing Error.

**Syntax**

```
public static final int SUP_INTERNAL_PARSING_ERROR
```

*UPDATE\_SETTINGS\_CONTAINS\_READONLY\_FIELDS* variable  
 Update Settings consists of one or more read only fields.

**Syntax**

```
public static final int  

UPDATE_SETTINGS_CONTAINS_READONLY_FIELDS
```

*CacheUpdateListener* class

**Syntax**

```
public class CacheUpdateListener
```

**Members**

All members of CacheUpdateListener, including inherited members. **Nested interfaces**

Modifier and Type	Interface	Description
public interface	<i>ICacheUpdateListener</i> on page 78	Interface to get the any updates on Server Cache.

*CacheUpdateListener.ICacheUpdateListener* interface  
 Interface to get the any updates on Server Cache.

**Syntax**

```
public interface ICacheUpdateListener
```

**Members**

All members of ICacheUpdateListener, including inherited members. **Methods**

Modifier and Type	Method	Description
public void	<i>OnCacheUpdate(String, List&lt; IODataEntry &gt;)</i> on page 79	Call back method upon update on Server cache after Merge Cache.

### *OnCacheUpdate(String, List< IODataEntry >)* method

Call back method upon update on Server cache after Merge Cache.

#### Syntax

```
public void OnCacheUpdate (String URLKEY, List< IODataEntry >
Entries )
```

#### Parameters

- **URLKey** – Call back for the respective URLKey on which the merge was initiated.
- **Entries** – This returns null,(Required for future references)

```
Class CacheupdateListener implements ICacheUpdateListener {
    public void OnCacheUpadte(String URLKEY, List<IODataEntry>
Entries) {
        Log.i("OnCacheUpdate", URLKEY);
    }
}
cacheupdateListener cacheUpdateListener = new
cacheupdateListener();
cache.setCacheListener(cacheUpdateListener);
```

### *ClientConnection class*

#### Syntax

```
public class ClientConnection extends ISDMNetListener,
INetListener
```

#### Members

All members of ClientConnection, including inherited members. **Constructors**

Modifier and Type	Constructor	Description
public	<i>ClientConnection(Context, String, String, String, SDMRequestManager)</i> on page 81	Initialize the client connection with application context, application name, domain,security configuration and request manager.

Modifier and Type	Constructor	Description
public	<i>ClientConnection(Context, String, String, String, RequestManager)</i> on page 82	Initialize the client connection with application context, application name, domain, security configuration and request manager.

### Methods

Modifier and Type	Method	Description
public String	<i>getApplicationID()</i> on page 83	Return Application ID.
public RequestManager	<i>getDefaultRequestManager()</i> on page 83	
public String	<i>getDomain()</i> on page 83	Return Domain.
public SDMRequestManager	<i>getRequestManager()</i> on page 83	Return Request Manager object.
public String	<i>getSecurityConfig()</i> on page 83	Return Security Configuration.
public String	<i>getServerHost()</i> on page 84	Return Server host.
public void	<i>onError(IRequest, IResponse, IRequestStateElement)</i> on page 84	Request library uses this method in case of error/failure scenario during a request operation.
public void	<i>onSuccess(IRequest, IResponse)</i> on page 84	Request library uses this method in case of successful request.
public void	<i>setApplicationConnectionID(String)</i> on page 85	Set the application connection ID.
public void	<i>setConnectionProfile(String)</i> on page 85	Set the URL of the server.
public void	<i>setConnectionProfile(boolean, String, String, String, String)</i> on page 86	Set the value of host and port for the connection.
public void	<i>setDefaultRequestManager(RequestManager)</i> on page 86	

Modifier and Type	Method	Description
public void	<i>setTraceLevel(int)</i> on page 86	Set the end to end trace level.
public void	<i>startTrace()</i> on page 87	Start the end to end tracing.
public void	<i>stopTrace()</i> on page 87	Stop the end to end tracing.
public void	<i>uploadTrace()</i> on page 87	Upload the BTX file to solution manager for end to end tracing.

*ClientConnection(Context, String, String, String, SDMRequestManager) constructor*  
Initialize the client connection with application context, application name, domain, security configuration and request manager.

### Syntax

```
public ClientConnection (Context context , String appID , String
Domain , String securityConfig , SDMRequestManager requestManager )
```

### Parameters

- **context** – Application context.
- **appID** – Application ID.
- **Domain** – Domain name.
- **securityConfig** – Security configuration of the application.
- **requestManager** – Instance of SDMRequestManager.

```

        public static SDMLogger logger;
        public static SDMPreferences pref;
        public static SDMConnectivityParameters param;
        public static SDMRequestManager reqMan;
        logger = new SDMLogger();
        pref = new SDMPreferences (getApplicationContext,
logger);
pref.setBooleanPreference (ISDMPreferences.SDM_PERSISTENCE_SECUREMOD
E, false);
pref.setIntPreference (ISDMPreferences.SDM_CONNECTIVITY_HTTPS_PORT,
443);
pref.setIntPreference (ISDMPreferences.SDM_CONNECTIVITY_CONNTIMEOUT,
70000);
pref.setIntPreference (ISDMPreferences.SDM_CONNECTIVITY_SCONNTIMEOUT
, 70000);
        param = new
SDMConnectivityParameters ();
        param.setUserName (<username>);
        param.setUserPassword (<password>);
```

```
        reqMan = new SDMRequestManager(logger, pref,
param, 1);

        ClientConnection clientConnection = new
ClientConnection(getApplicationContext(), <Application id>="",
<Domain>, <SecurityConfig>, <RequestManager object>="");
```

### Usage

Note: Setting username and password in requestManager as part of param is mandatory.

### *ClientConnection(Context, String, String, String, RequestManager) constructor*

Initialize the client connection with application context, application name, domain, security configuration and request manager.

### Syntax

```
public ClientConnection (Context context , String appID , String
Domain , String securityConfig , RequestManager requestManager )
```

### Parameters

- **context** – Application context.
- **appID** – Application ID.
- **Domain** – Domain name.
- **securityConfig** – Security configuration of the application.
- **requestManager** – Instance of RequestManager.

```
        public static Logger logger;
        public static Preferences pref;
        public static ConnectivityParameters param;
        public static RequestManager reqMan;
        logger = new Logger();
        pref = new Preferences(getApplicationContext,
logger);

        pref.setBooleanPreference(IPreferences.PERSISTENCE_SECUREMODE,
false);

        pref.setIntPreference(IPreferences.CONNECTIVITY_HTTPS_PORT, 443);

        pref.setIntPreference(IPreferences.CONNECTIVITY_CONNTIMEOUT,
70000);

        pref.setIntPreference(IPreferences.CONNECTIVITY_SCONNTIMEOUT,
70000);

        param = new ConnectivityParameters();
        param.setUserName(<username>);
        param.setUserPassword(<password>);
        reqMan = new RequestManager(logger, pref, param,
1);

        ClientConnection clientConnection = new
```

```
ClientConnection(getApplicationContext(), <Application id>="",
<Domain>, <SecurityConfig>, <RequestManager object>="");
```

### Usage

Note: Setting username and password in requestManager as part of param is mandatory.

### *getApplicationID() method*

Return Application ID.

### Syntax

```
public String getApplicationID ()
```

```
clientConnection.getApplicationID();
```

### *getDefaultRequestManager() method*

### Syntax

```
public RequestManager getDefaultRequestManager ()
```

### *getDomain() method*

Return Domain.

### Syntax

```
public String getDomain ()
```

```
clientConnection.getDomain();
```

### *getRequestManager() method*

Return Request Manager object.

### Syntax

```
public SDMRequestManager getRequestManager ()
```

```
clientConnection.getRequestManager();
```

### *getSecurityConfig() method*

Return Security Configuration.

### Syntax

```
public String getSecurityConfig ()
```

```
clientConnection.getSecurityConfig();
```

### *getServerHost() method*

Return Server host.

#### *Syntax*

```
public String getServerHost ()  
clientConnection.getServerHost ();
```

### *onError(IRequest, IResponse, IRequestStateElement) method*

Request library uses this method in case of error/failure scenario during a request operation.

#### *Syntax*

```
public void onError ( IRequest aRequest , IResponse aResponse ,  
IRequestStateElement aRequestStateElement )
```

#### *Parameters*

- **aRequest** – the request object.
- **aResponse** – the response object.
- **aRequestStateElement** – the RequestStateElement object.

#### *Returns*

None

```
public class Activity implements INetListener { ... public void onError(IRequest arg0,  
IResponse arg1, IRequestStateElement arg2) {  
arg1.getStatusLine().toString()  
arg2.getErrorCode(); } ...}
```

#### *Usage*

The listener registered for the request receives the request object, the HttpResponseMessage object which contains the details about the server response, and a RequestStateElement object which provides more details about the occurred error. In case, the error occurs before sending any request to the server, the HttpResponseMessage object will be null.

### *onSuccess(IRequest, IResponse) method*

Request library uses this method in case of successful request.

#### *Syntax*

```
public void onSuccess ( IRequest aRequest , IResponse aResponse )
```

#### *Parameters*

- **aRequest** – the request object.



- **aResponse** – the response object.

### Returns

None

```
public class Activity implements INetListener { .... public void onSuccess(IRequest arg0,
IResponse arg1) {
HttpEntity resp = arg1.getEntity();
String response="";
response = EntityUtils.toString(resp); //process the response }...}
```

### Usage

The listener receives the request in form of parameter and an HttpResponse object containing all the details about the server response.

### *setApplicationConnectionID(String) method*

Set the application connection ID.

### Syntax

```
public void setApplicationConnectionID (String appConID)
```

### Parameters

- **appConID** – Application connection ID.

```
clientConnection.setApplicationConnectionID ("myAppConID");
```

### Usage

If it is set before invoking userManager.register() interface, the user is registered using this application connection ID.

### *setConnectionProfile(String) method*

Set the URL of the server.

### Syntax

```
public void setConnectionProfile (String url)
```

### Parameters

- **url** – URL of the server.

```
clientConnection.setConnectionProfile ("http://
<Host> : <port> &quot;);
```

### *setConnectionProfile(boolean, String, String, String, String) method*

Set the value of host and port for the connection.

#### *Syntax*

```
public void setConnectionProfile (boolean isHttpRequest , String host , String port , String relayserverURLTemplate , String farmID )
```

#### *Parameters*

- **isHttpRequest** –
  - whether HTTP or HTTPS
- **host** –
  - host of the server
- **port** –
  - port of the server
- **relayserverURLTemplate** – URL Template of Relay server
- **farmID** – Farm ID of the relay server

```
clientConnection.setConnectionProfile(true,<Host>,<port>, <Relay server URL template>, <Relay server Farm Id>);
```

### *setDefaultRequestManager(RequestManager) method*

#### *Syntax*

```
public void setDefaultRequestManager ( RequestManager defaultRequestManager )
```

### *setTraceLevel(int) method*

Set the end to end trace level.

#### *Syntax*

```
public void setTraceLevel ( int level )
```

#### *Parameters*

- **level** – Trace level defined in PropertyID class. It includes: TrcLvl\_HIGH, TrcLvl\_MEDIUM, TrcLvl\_LOW and TrcLvl\_NONE.

```
clientConnection.setTraceLevel (PropertyID.TrcLvl_HIGH);
```

***startTrace() method***

Start the end to end tracing.

***Syntax***

```
public void startTrace ()
clientConnection.startTrace();
```

***stopTrace() method***

Stop the end to end tracing.

***Syntax***

```
public void stopTrace () throws SMPEXception
```

SMPEXception class

```
clientConnection.stopTrace();
```

***uploadTrace() method***

Upload the BTX file to solution manager for end to end tracing.

***Syntax***

```
public void uploadTrace () throws SMPEXception
```

***Exceptions***

- **SMPEXception class** –

```
clientConnection.uploadTrace();
```

***ConnectivityParameters class******Syntax***

```
public class ConnectivityParameters extends
IConnectivityParameters
```

***Members***

All members of ConnectivityParameters, including inherited members. **Variables**

Modifier and Type	Variable	Description
public static boolean	<i>autoredirectenabled</i> on page 93	
Certificate	<i>certificate</i> on page 93	
public static Boolean	<i>isXcsrfEnabled</i> on page 93	

**Methods**

Modifier and Type	Method	Description
public void	<i>enableXsrf(Boolean)</i> on page 89	Sets the XSRFEnabled flag.
public String	<i>getBaseUrl()</i> on page 89	Returns the base URL for the requests.
public Certificate[]	<i>getCertificate()</i> on page 89	
public String	<i>getLanguage()</i> on page 90	Returns the language setting.
public final TrustManager[]	<i>getTrustManagers()</i> on page 90	Returns an array of TrustManager instances.
public String	<i>getUserName()</i> on page 90	Returns the username.
public String	<i>getUserPassword()</i> on page 91	Returns the password.
public boolean	<i>isAutoRedirectEnabled()</i> on page 91	Returns whether auto redirect is enabled.
public void	<i>setAutoRedirectEnabled(boolean)</i> on page 91	Enables or disables auto redirect.
public void	<i>setBaseUrl(String)</i> on page 91	Sets the base URL for requests.
public void	<i>setCertificate(Certificate[])</i> on page 92	
public void	<i>setLanguage(final String)</i> on page 92	
public void	<i>setServerCertificate(Certificate[])</i> on page 92	
public void	<i>setServerCertificate(Certificate)</i> on page 92	
public void	<i>setUserName(String)</i> on page 92	Sets the username which must be used during authentication.
public void	<i>setUserPassword(String)</i> on page 92	Sets the password.

### Inherited members from IConnectivityParameters

Modifier and Type	Member	Description
public void	<i>setLanguage(String)</i> on page 123	Sets the language used in connection.
public void	<i>setServerCertificate(final Certificate[])</i> on page 123	Sets the server certificate array.
public void	<i>setServerCertificate(final Certificate)</i> on page 124	Sets a single server certificate.

***enableXsrf(Boolean) method***

Sets the XSRFEnabled flag.

***Syntax***

```
public void enableXsrf ( Boolean isXsrfEnabled )
```

***Parameters***

- **isXsrfEnabled** – the boolean to set.

***Returns***

None

```
ConnectivityParameters param = new ConnectivityParameters();
param.enableXsrf(isXsrfEnabled);
```

***getBaseUrl() method***

Returns the base URL for the requests.

***Syntax***

```
public String getBaseUrl ()
```

***Parameters***

- **None** –

***Returns***

the base URL for the requests.

```
ConnectivityParameters param = new ConnectivityParameters(); param.getBaseUrl();
```

***getCertificate() method******Syntax***

```
public Certificate[] getCertificate ()
```

### *getLanguage() method*

Returns the language setting.

#### *Syntax*

```
public String getLanguage ()
```

#### *Parameters*

- **None** –

#### *Returns*

the language setting

```
ConnectivityParameters param = new ConnectivityParameters(); param.getLanguage();
```

### *getTrustManagers() method*

Returns an array of TrustManager instances.

#### *Syntax*

```
public final TrustManager[] getTrustManagers ()
```

#### *Parameters*

- **None** –

#### *Returns*

the array

```
ConnectivityParameters param = new ConnectivityParameters(); param.getTrustManagers();
```

### *getUserName() method*

Returns the username.

#### *Syntax*

```
public String getUserName ()
```

#### *Parameters*

- **None** –

#### *Returns*

the user name.

```
ConnectivityParameters param = new ConnectivityParameters(); param.getUserName();
```

*getUserPassword() method*

Returns the password.

*Syntax*

```
public String getUserPassword ()
```

*Parameters*

- **None** –

*Returns*

the password.

```
ConnectivityParameters param = new ConnectivityParameters(); param.getUserPassword();
```

*isAutoRedirectEnabled() method*

Returns whether auto redirect is enabled.

*Syntax*

```
public boolean isAutoRedirectEnabled ()
```

*setAutoRedirectEnabled(boolean) method*

Enables or disables auto redirect.

*Syntax*

```
public void setAutoRedirectEnabled ( boolean paramboolean )
```

*Parameters*

- **paramboolean** – the boolean to set

*setBaseUrl(String) method*

Sets the base URL for requests.

*Syntax*

```
public void setBaseUrl ( String baseUrl )
```

*Parameters*

- **baseUrl** – The base URL for the requests.

*Returns*

None

```
ConnectivityParameters param = new ConnectivityParameters();
param.setBaseUrl(baseUrl);
```

### *setCertificate(Certificate[]) method*

#### *Syntax*

```
public void setCertificate ( Certificate[] certificate )
```

### *setLanguage(final String) method*

#### *Syntax*

```
public void setLanguage ( final String language )
```

### *setServerCertificate(Certificate[]) method*

#### *Syntax*

```
public void setServerCertificate ( Certificate[] certificate ) throws  
KeyStoreException
```

### *setServerCertificate(Certificate) method*

#### *Syntax*

```
public void setServerCertificate ( Certificate arg0 )
```

### *setUserName(String) method*

Sets the username which must be used during authentication.

#### *Syntax*

```
public void setUserName ( String aUserName )
```

#### *Parameters*

- **aUserName** – the user name to set.

#### *Returns*

None

```
ConnectivityParameters param = new ConnectivityParameters();  
param.setUserName(aUserName);
```

### *setUserPassword(String) method*

Sets the password.

#### *Syntax*

```
public void setUserPassword ( String aPassword )
```



*Parameters*

- **aPassword** – the password to set.

*Returns*

None

```
ConnectivityParameters param = new ConnectivityParameters();
param.setUserPassword(aPassword);
```

*autoredirectenabled variable**Syntax*

```
public static boolean autoredirectenabled
```

*certificate variable**Syntax*

```
Certificate certificate
```

*isXcsrfEnabled variable**Syntax*

```
public static Boolean isXcsrfEnabled
```

*Constants interface**Syntax*

```
public interface Constants
```

*Derived classes*

- *Preferences* on page 969

*Members*

All members of Constants, including inherited members. **Variables**

Modifier and Type	Variable	Description
public static final boolean	<i>DEFAULT_BUSINESS_TRANSACTION_ENABLED</i> on page 95	SAP Business Transaction XML enablement default setting.
public static final String	<i>DEFAULT_CIPHER_TRANSFORMATION</i> on page 95	Default cipher transformation.

Modifier and Type	Variable	Description
public static final int	<i>DEFAULT_CONNECTION_TIMEOUT</i> on page 95	Default connection timeout.
public static final String	<i>DEFAULT_HANDLER_CLASS_NAME</i> on page 96	Default handler class.
public static final int	<i>DEFAULT_HTTP_PORT</i> on page 96	Default HTTP port.
public static final int	<i>DEFAULT_HTTPS_PORT</i> on page 96	Default HTTPS port.
public static final int	<i>DEFAULT_LOG_LEVEL</i> on page 96	Default log level.
public static final boolean	<i>DEFAULT_PERSISTENCE_BOOLEAN_SECUREMODE</i> on page 96	Default security mode.
public static final int	<i>DEFAULT_PERSISTENCE_BYTE_BUFFER_SIZE</i> on page 96	Default buffer size.
public static final String	<i>DEFAULT_PROXY_HOST</i> on page 96	Default proxy host.
public static final int	<i>DEFAULT_PROXY_PORT</i> on page 97	Default proxy port.
public static final String	<i>DEFAULT_SAP_APPLICATIONID_HEADER_VALUE</i> on page 97	Default application ID.
public static final boolean	<i>DEFAULT_SAPPASSPORT_ENABLED</i> on page 97	SAP Passport enablement default setting.
public static final int	<i>DEFAULT_SEARCH_LIMIT</i> on page 97	Default for maximum search results retrieved from cache.
public static final int	<i>DEFAULT_SOCKET_CONNECTION_TIMEOUT</i> on page 97	Default socket connection timeout.

Modifier and Type	Variable	Description
public static final int	<i>DEFAULT_STORE_CAPACITY</i> on page 97	Default cache capacity.
public static final String	<i>HTTP_HANDLER_CLASS</i> on page 97	Socket Connection handler class.
public static final String	<i>IMO_HANDLER_CLASS</i> on page 98	IMO Connection handler class.
public static final int	<i>MAX_PERSISTENCE_BYTE_BUFFER_SIZE</i> on page 98	Maximum buffer size.
public static final int	<i>MAXIMUM_STORE_CAPACITY</i> on page 98	Maximum cache capacity.
public static final int	<i>MIN_PERSISTENCE_BYTE_BUFFER_SIZE</i> on page 98	Minimum buffer size.
public static final String	<i>SHARED_PREFERENCES</i> on page 98	Shared preferences.

*DEFAULT\_BUSINESSTRANSACTION\_ENABLED* variable  
SAP Business Transaction XML enablement default setting.

**Syntax**

```
public static final boolean
DEFAULT_BUSINESSTRANSACTION_ENABLED
```

*DEFAULT\_CIPHER\_TRANSFORMATION* variable  
Default cipher transformation.

**Syntax**

```
public static final String DEFAULT_CIPHER_TRANSFORMATION
```

*DEFAULT\_CONNECTION\_TIMEOUT* variable  
Default connection timeout.

**Syntax**

```
public static final int DEFAULT_CONNECTION_TIMEOUT
```

*DEFAULT\_HANDLER\_CLASS\_NAME variable*

Default handler class.

*Syntax*

```
public static final String DEFAULT_HANDLER_CLASS_NAME
```

*DEFAULT\_HTTP\_PORT variable*

Default HTTP port.

*Syntax*

```
public static final int DEFAULT_HTTP_PORT
```

*DEFAULT\_HTTPS\_PORT variable*

Default HTTPS port.

*Syntax*

```
public static final int DEFAULT_HTTPS_PORT
```

*DEFAULT\_LOG\_LEVEL variable*

Default log level.

*Syntax*

```
public static final int DEFAULT_LOG_LEVEL
```

*DEFAULT\_PERSISTENCE\_BOOLEAN\_SECUREMODE variable*

Default security mode.

*Syntax*

```
public static final boolean  
DEFAULT_PERSISTENCE_BOOLEAN_SECUREMODE
```

*DEFAULT\_PERSISTENCE\_BYTE\_BUFFER\_SIZE variable*

Default buffer size.

*Syntax*

```
public static final int DEFAULT_PERSISTENCE_BYTE_BUFFER_SIZE
```

*DEFAULT\_PROXY\_HOST variable*

Default proxy host.

*Syntax*

```
public static final String DEFAULT_PROXY_HOST
```

***DEFAULT\_PROXY\_PORT variable***

Default proxy port.

***Syntax***

```
public static final int DEFAULT_PROXY_PORT
```

***DEFAULT\_SAP\_APPLICATIONID\_HEADER\_VALUE variable***

Default application ID.

***Syntax***

```
public static final String
DEFAULT_SAP_APPLICATIONID_HEADER_VALUE
```

***DEFAULT\_SAPPASSPORT\_ENABLED variable***

SAP Passport enablement default setting.

***Syntax***

```
public static final boolean DEFAULT_SAPPASSPORT_ENABLED
```

***DEFAULT\_SEARCH\_LIMIT variable***

Default for maximum search results retrieved from cache.

***Syntax***

```
public static final int DEFAULT_SEARCH_LIMIT
```

***DEFAULT\_SOCKET\_CONNECTION\_TIMEOUT variable***

Default socket connection timeout.

***Syntax***

```
public static final int DEFAULT_SOCKET_CONNECTION_TIMEOUT
```

***DEFAULT\_STORE\_CAPACITY variable***

Default cache capacity.

***Syntax***

```
public static final int DEFAULT_STORE_CAPACITY
```

***HTTP\_HANDLER\_CLASS variable***

Socket Connection handler class.

***Syntax***

```
public static final String HTTP_HANDLER_CLASS
```

*IMO\_HANDLER\_CLASS* variable

IMO Connection handler class.

*Syntax*

```
public static final String IMO_HANDLER_CLASS
```

*MAX\_PERSISTENCE\_BYTE\_BUFFER\_SIZE* variable

Maximum buffer size.

*Syntax*

```
public static final int MAX_PERSISTENCE_BYTE_BUFFER_SIZE
```

*MAXIMUM\_STORE\_CAPACITY* variable

Maximum cache capacity.

*Syntax*

```
public static final int MAXIMUM_STORE_CAPACITY
```

*MIN\_PERSISTENCE\_BYTE\_BUFFER\_SIZE* variable

Minimum buffer size.

*Syntax*

```
public static final int MIN_PERSISTENCE_BYTE_BUFFER_SIZE
```

*SHARED\_PREFERENCES* variable

Shared preferences.

*Syntax*

```
public static final String SHARED_PREFERENCES
```

*DeltaLinkHandler* class

*Syntax*

```
public class DeltaLinkHandler
```

*Members*

All members of DeltaLinkHandler, including inherited members. **Methods**

Modifier and Type	Method	Description
public static void	<i>handle(IRequest, ILogger, IPreferences)</i> on page 99	

*handle(IRequest, ILogger, IPreferences) method*

**Syntax**

```
public static void handle ( IRequest request , ILogger mLogger ,
IPreferences mPreferences )
```

**EncryptionKeyManager class**

Consists of the methods related to Encryptoin key required for SQL Cipher Encryption.

**Syntax**

```
public class EncryptionKeyManager
```

**Members**

All members of EncryptionKeyManager, including inherited members. **Variables**

Modifier and Type	Variable	Description
protected static String	<i>encryptionKey</i> on page 101	

**Methods**

Modifier and Type	Method	Description
public static String	<i>getEncryptionKey(Context)</i> on page 99	Returns the Encryption key,Generates unique 128 bit encryption for first time,and subsequent call returns the key set by setEncryptionKey API .
public static String	<i>resetEncryptionKey(Context)</i> on page 100	This API reset the encryption key along with clearing all the cache and Queued offline requests and returns the new generated unique 128 bit key.
public static void	<i>setEncryptionKey(String, Context)</i> on page 100	Set the Encryption key,Expected to be set to null before Application goes to background.

**getEncryptionKey(Context) method**

Returns the Encryption key,Generates unique 128 bit encryption for first time,and subsequent call returns the key set by setEncryptionKey API .

**Syntax**

```
public static String getEncryptionKey ( Context context ) throws
PersistenceException
```

### *Parameters*

- **Context:** – Application Context.

### *Returns*

key: returns the Encryption key,Generates unique 128 bit encryption.

```
EncryptionKeyManager.getEncryptionKey(getApplicaitonContext());
```

### *Usage*

Application if not using MAFLogonComponent is expected to securely persist this key across application Life Cycle using data vault.

### *resetEncryptionKey(Context) method*

This API reset the encryption key along with clearing all the cache and Queued offline requests and returns the new generated unique 128 bit key.

### *Syntax*

```
public static String resetEncryptionKey ( Context context ) throws PersistenceException
```

### *Parameters*

- **Context:** – Application Context.

### *Returns*

key: returns the Encryption key,Generates unique 128 bit encryption.

```
EncryptionKeyManager.resetEncryptionKey(getApplicaitonContext());
```

### *setEncryptionKey(String, Context) method*

Set the Encryption key,Expected to be set to null before Application goes to background.

### *Syntax*

```
public static void setEncryptionKey ( String Key , Context context ) throws PersistenceException
```

### *Parameters*

- **key:** – This is the key which is generated by getEncryptionKey and same key must be set every time application is opened or brought to foreground.
- **Context:** – Application Context.

```
EncryptionKeyManager.setEncryptionKey("encryptionkey",getApplicaitonContext());
```



*Usage*

And must be set with Key which is generated using `getEncryptionkey` on Application.

*encryptionKey variable**Syntax*

```
protected static String encryptionKey
```

*HttpChannelListeners class**Syntax*

```
public class HttpChannelListeners
```

*Members*

All members of `HttpChannelListeners`, including inherited members. **Nested classes**

Modifier and Type	Class	Description
public class	<i>Authenticationschema</i> on page 101	
public class	<i>BasicCredetials</i> on page 103	
public class	<i>CookieCredetials</i> on page 104	

**Nested interfaces**

Modifier and Type	Interface	Description
public interface	<i>IAuthenticationChallengeList-</i> <i>ner</i> on page 104	
public interface	<i>ICredential</i> on page 105	
public interface	<i>IMutualSSLChallengeListener</i> on page 105	
public interface	<i>ISSLChallengeListener</i> on page 106	

*HttpChannelListeners.Authenticationschema class**Syntax*

```
public class Authenticationschema
```

*Members*

All members of `Authenticationschema`, including inherited members. **Variables**

Modifier and Type	Variable	Description
public String	<i>realm</i> on page 102	
public String	<i>schemaName</i> on page 102	

**Methods**

Modifier and Type	Method	Description
public String	<i>getRealm()</i> on page 102	
public String	<i>getSchemeName()</i> on page 102	
public void	<i>processChallenge(ICredential, IRequest)</i> on page 102	

*getRealm() method***Syntax**

```
public String getRealm ()
```

*getSchemeName() method***Syntax**

```
public String getSchemeName ()
```

*processChallenge(ICredential, IRequest) method***Syntax**

```
public void processChallenge ( ICredential credentials , IRequest request )
```

*realm variable***Syntax**

```
public String realm
```

*schemaName variable***Syntax**

```
public String schemaName
```

*HttpChannelListeners.BasicCredetials class***Syntax**

```
public class BasicCredetials extends ICredential
```

**Members**

All members of **BasicCredetials**, including inherited members. **Variables**

Modifier and Type	Variable	Description
public static String	<i>passwd</i> on page 103	
public static String	<i>uName</i> on page 103	

**Constructors**

Modifier and Type	Constructor	Description
public	<i>BasicCredetials(String, String)</i> on page 103	

**Methods**

Modifier and Type	Method	Description
public Map< String, Object >	<i>getAuthHeader()</i> on page 103	

*BasicCredetials(String, String) constructor***Syntax**

```
public BasicCredetials (String username , String pwd)
```

*getAuthHeader() method***Syntax**

```
public Map< String, Object > getAuthHeader ()
```

*passwd variable***Syntax**

```
public static String passwd
```

*uName variable***Syntax**

```
public static String uName
```

*HttpChannelListeners.CookieCredetials class**Syntax*

```
public class CookieCredetials extends ICredential
```

*Members*

All members of *CookieCredetials*, including inherited members. **Variables**

Modifier and Type	Variable	Description
protected static Cookie	<i>cookieValue</i> on page 104	

**Constructors**

Modifier and Type	Constructor	Description
public	<i>CookieCredetials(Cookie)</i> on page 104	

**Methods**

Modifier and Type	Method	Description
public Map< String, Object >	<i>getAuthHeader()</i> on page 104	

*CookieCredetials(Cookie) constructor**Syntax*

```
public CookieCredetials ( Cookie cookie )
```

*getAuthHeader() method**Syntax*

```
public Map< String, Object > getAuthHeader ()
```

*cookieValue variable**Syntax*

```
protected static Cookie cookieValue
```

*HttpChannelListeners.IAuthenticationChallengeListner interface**Syntax*

```
public interface IAuthenticationChallengeListner
```

*Derived classes*

- *AuthenticationChallengeListener* on page 996

*Members*

All members of *IAuthenticationChallengeListner*, including inherited members. **Methods**

Modifier and Type	Method	Description
public ICredential	<i>OnAuthenticationFailed(Authenticationschema, HttpResponse)</i> on page 105	

*OnAuthenticationFailed(Authenticationschema, HttpResponse)* method

*Syntax*

```
public ICredential OnAuthenticationFailed
( Authenticationschema authScheme , HttpResponse response )
```

*HttpChannelListeners.ICredential interface**Syntax*

```
public interface ICredential
```

*Derived classes*

- *BasicCredetials* on page 103
- *CookieCredetials* on page 104

*Members*

All members of *ICredential*, including inherited members. **Methods**

Modifier and Type	Method	Description
public Map< String, Object >	<i>getAuthHeader()</i> on page 105	

*getAuthHeader()* method

*Syntax*

```
public Map< String, Object > getAuthHeader ()
```

*HttpChannelListeners.IMutualSSLChallengeListener interface**Syntax*

```
public interface IMutualSSLChallengeListener
```

*Members*

All members of `IMutualSSLChallengeListener`, including inherited members. **Methods**

Modifier and Type	Method	Description
public <code>HttpClientCertInfo</code>	<i>getClientCertificate()</i> on page 106	

*getClientCertificate() method**Syntax*

```
public HttpClientCertInfo getClientCertificate ()
```

*HttpChannelListeners.ISSLChallengeListener interface**Syntax*

```
public interface ISSLChallengeListener
```

*Members*

All members of `ISSLChallengeListener`, including inherited members. **Methods**

Modifier and Type	Method	Description
public boolean	<i>isServerTrusted(X509Certificate[])</i> on page 106	

*isServerTrusted(X509Certificate[]) method**Syntax*

```
public boolean isServerTrusted ( X509Certificate[]
paramArrayOfX509Certificate )
```

*IBundleRequest interface*

Consists of interface for request bundle.

*Syntax*

```
public interface IBundleRequest
```

*Derived classes*

- *BundleRequest* on page 56

*Members*

All members of `IBundleRequest`, including inherited members. **Methods**

Modifier and Type	Method	Description
public void	<i>addRequest(IRequest)</i> on page 107	Adds a request to the storage.
public void	<i>clearRequests()</i> on page 107	Cleans out the request storage.
public IRequest[]	<i>getRequests()</i> on page 108	Returns all the requests from the storage.
public void	<i>removeRequest(IRequest)</i> on page 108	Removes the specific request from the storage.

### *addRequest(IRequest) method*

Adds a request to the storage.

#### *Syntax*

```
public void addRequest ( IRequest request )
```

#### *Parameters*

- **request** – the request to be added.

#### *Returns*

None

```
BundleRequest bundleRequest = new BundleRequest(); BaseRequest request1 = new
BaseRequest(); BaseRequest request2 = new BaseRequest();
bundleRequest.addRequest(request1); bundleRequest.addRequest(request2);
```

#### *Usage*

NOTE! Request priority

( `com.sap.mobile.com.sap.mobile.lib.request.Request.IRequest#setPriority(int)` ) is ignored during request processing! Because requests are processed in the order they are added to the bundle, the order is considered to handle the priority.

### *clearRequests() method*

Cleans out the request storage.

#### *Syntax*

```
public void clearRequests ()
```

#### *Parameters*

- **None** –

### *Returns*

None

```
BundleRequest bundleRequest = new BundleRequest(); ... bundleRequest.clearRequests();
```

### *getRequests() method*

Returns all the requests from the storage.

### *Syntax*

```
public IRequest[] getRequests ()
```

### *Parameters*

- **None** –

### *Returns*

the array of requests.

```
BundleRequest bundleRequest = new BundleRequest();... BaseRequest[] requests=  
bundleRequest.getRequests();
```

### *removeRequest(IRequest) method*

Removes the specific request from the storage.

### *Syntax*

```
public void removeRequest ( IRequest request )
```

### *Parameters*

- **request** – the request to be removed.

### *Returns*

None

```
BundleRequest bundleRequest = new BundleRequest(); BaseRequest request1 = new  
BaseRequest(); ... bundleRequest.removeRequest(request1);
```

### *ICache interface*

### *Syntax*

```
public interface ICache
```

### *Derived classes*

- *Cache* on page 58



*Members*All members of ICache, including inherited members. **Nested classes**

Modifier and Type	Class	Description
public class	<i>DocumentType</i> on page 110	Document Format type for caching.

**Methods**

Modifier and Type	Method	Description
public String	<i>addEntry(IODataEntry)</i> on page 111	A new cache entry will be added into the local Cache using this particular method.
public void	<i>clearCache(String)</i> on page 112	This API will clear entries for the URLkey passed from all the cache except the Local cache.
public void	<i>clearLocalEntry(String)</i> on page 112	This API will clear entry from Local Cache.
public void	<i>deleteEntry(String)</i> on page 113	This API will cache Entry associated with HTTP DELETE which deletes the existing resource of a collection this entry will be marked as 'Deleted' in Local Cache.
public String	<i>getDeltaLink(String)</i> on page 113	This should return the delta token/delta link for the URL key passed.
public void	<i>initializeCache()</i> on page 114	
public void	<i>mergeEntries(IODataFeed, String)</i> on page 114	Merge APIs are to be invoked after doing a HTTP GET after modification or a set of modifications.
public Object	<i>readDocument(int, String)</i> on page 115	This API returns the service document or the meta data document depending on the DocumentType and for the specified URLKey.

Modifier and Type	Method	Description
public List< IODataEntry >	<i>readEntriesLocal(String, String)</i> on page 115	Gets the Entries from the Local cache based on the EntityType and the EntryID.
public List< IODataEntry >	<i>readEntriesServer(String)</i> on page 116	Returns an array of ODataEntry Objects stored for the given URL key in the server Cache The return type will be an array of Entries.
public void	<i>setCacheListener(ICacheUpdateListener)</i> on page 117	Sets the listener for any update on Server cache and call backs upon merging Cache.
public void	<i>setIsPersistable(boolean)</i> on page 117	This API sets the isPersistable property of the cache which is used to check if the cache is implicitly persistable.
public void	<i>storeDocument(Object, int, String)</i> on page 118	This API Caches the service document or the meta data document depending on the DocumentType and against specified URLKey.
public void	<i>updateEntry(IODataEntry)</i> on page 118	This API is will cache Entry associated with HTTP PUT which modifies the existing resource of a collection this entry will be marked as 'Updated' in Local Cache.

*ICache.DocumentType class*

Document Format type for caching.

*Syntax*

```
public class DocumentType
```

*Members*

All members of DocumentType, including inherited members. **Variables**

Modifier and Type	Variable	Description
public static final int	<i>MetaDocument</i> on page 111	

Modifier and Type	Variable	Description
public static final int	<i>ServiceDocument</i> on page 111	

### *MetaDocument variable*

#### *Syntax*

```
public static final int MetaDocument
```

### *ServiceDocument variable*

#### *Syntax*

```
public static final int ServiceDocument
```

### *addEntry(IODataEntry) method*

A new cache entry will be added into the local Cache using this particular method.

#### *Syntax*

```
public String addEntry ( IODataEntry entry ) throws CacheException
```

### *Parameters*

- **Entry** – object which is built for a new HTTP POST.

### *Exceptions*

- **CacheException class** –

```
Try{
//Fire a HTTP POST
IODataEntry entry = buildPostEntry();
ILogger logger = new Logger();
ICache cache =new Cache(getApplicationContext(),logger);
String generated_id =cache.addEntry(entry);
PerformPostrequest(entry)//Fire HTTP POST request
}
Catch(CacheException e){
}. public void onSuccess(I Request arg0, I Response aResponse) {

ClearLocalEntry(generated_id)//on success of POST
request ,application developer clears this entry after all the Cache
instances related to this entry (filter/query all matching) are
updated from the server
}
```

### *Usage*

This method will be mostly called when the application is trying to create entries in the backend via a HTTP POST.

### *clearCache(String) method*

This API will clear entries for the URLKey passed from all the cache except the Local cache.

### *Syntax*

```
public void clearCache (String URLKey) throws CacheException
```

### *Parameters*

- **URLKey** – : will clear cache for the URL key specified.

### *Exceptions*

- **CacheException class** –

```
Try{  
  
ILogger logger = new Logger();  
ICache cache =new Cache(getApplicationContext(), logger);  
cache.clearCache(URLKey);  
  
}  
Catch(CacheException e){  
}
```

### *clearLocalEntry(String) method*

This API will clear entry from Local Cache.

### *Syntax*

```
public void clearLocalEntry (String entryID) throws  
CacheException
```

### *Parameters*

- **EntryID** – from server Cache will be marked as "Deleted" and will be added in Local Cache

### *Exceptions*

- **CacheException class** –

```
Try{
```

```

ILogger logger = new Logger();
ICache cache =new Cache(getApplicationContext(),logger);
cache.ClearLocalEntry(EntryID);

}
Catch(CacheException e){
}

```

### *deleteEntry(String) method*

This API will cache Entry associated with HTTP DELETE which deletes the existing resource of a collection this entry will be marked as 'Deleted' in Local Cache.

### *Syntax*

```
public void deleteEntry (String entryID) throws CacheException
```

### *Parameters*

- **EntryID** – from server Cache will marked as "Deleted" and will be added in Local Cache

### *Exceptions*

- **CacheException class** –

```

Try{
ILogger logger = new Logger();
ICache cache =new Cache(getApplicationContext(),logger);;
cache.deleteEntry(EntryID);

}
Catch(CacheException e){
}

```

### *getDeltaLink(String) method*

This should return the delta token/delta link for the URL key passed.

### *Syntax*

```
public String getDeltaLink (String URLKey) throws
CacheException
```

### *Parameters*

- **URLKey** – : will return the delta token/delta link for the URL key.

### *Exceptions*

- **CacheException class** –

```
Try{  
  
ILogger logger = new Logger();  
ICache cache =new Cache(getApplicationContext(),logger);  
cache.getDeltaLink(URLKey);  
  
}  
Catch(CacheException e){  
}
```

### *initializeCache() method*

#### *Syntax*

```
public void initializeCache ()
```

### *mergeEntries(IODataFeed, String) method*

Merge APIS are to be invoked after doing a HTTP GET after modification or a set of modifications.

#### *Syntax*

```
public void mergeEntries ( IODataFeed Feed , String URLKey) throws  
CacheException
```

#### *Parameters*

- **Entries** – list of entries which will be merged into server Cache.
- **URLKey** – : Cache returns cached entries for this urlKey.

### *Exceptions*

- **CacheException class** –

```
Try{  
  
ILogger logger = new Logger();  
ICache cache =new Cache(getApplicationContext(),logger);  
IODataFeed feed = parser.parseODataFeed(responseEntity,  
collectionID, schema);  
cache.mergeEntries(feed, EntryURL);  
  
}
```

```
Catch (CacheException e) {
}
```

### Usage

Merge all the entries provided into the Server cache for the respective urlkey.

### *readDocument(int, String) method*

This API returns the service document or the meta data document depending on the DocumentType and for the specified URLKey.

### Syntax

```
public Object readDocument ( int documentType , String URLKey )
throws CacheException
```

### Parameters

- **ICache.DocumentType class** – : will return specified type of document
- **UrlKey** – : will fetch document for specified urlkey.

### Exceptions

- **CacheException class** –

```
Try{
ILogger logger = new Logger();
ICache cache =new Cache(getApplicationContext(), logger);
IODataServiceDocument serviceDocumentObject =
(IODataServiceDocument) cache.ReadDocument (documentType.ServiceDocum
ent, serviceDocUrl);
IODataSchema metadata =
(IODataSchema) cache.readDocument (documentType.MetaDocument,
serviceDocUrl);
}
Catch (CacheException e) {
}
```

### *readEntriesLocal(String, String) method*

Gets the Entries from the Local cache based on the EntityType and the EntryID.

### Syntax

```
public List< IODataEntry > readEntriesLocal ( String entityType ,
String entryID ) throws CacheException
```

### Parameters

- **EntityType** – is the type which represents collection in ODATA.
- **EntryId** – get entries based on this entry ID.

### Exceptions

- **CacheException class** –

```
Try{  
  
ILogger logger = new Logger();  
ICache cache =new Cache(getApplicationContext(),logger);  
List<I ODataEntry> entries =  
cache.readEntriesLocal("SomeCollection", "EntryID"); // return all  
entries respective to either of the parameters.  
  
}  
Catch(CacheException e){  
}
```

### Usage

The return type will be an array of Entries

### *readEntriesServer(String) method*

Returns an array of ODataEntry Objects stored for the given URL key in the server Cache The return type will be an array of Entries.

### Syntax

```
public List< IODataEntry > readEntriesServer (String URLKey)  
throws CacheException
```

### Parameters

- **urlkey** – :Returns cached entries for this urlKey.

### Exceptions

- **CacheException class** –

```
Try{  
  
ILogger logger = new Logger();  
ICache cache =new Cache(getApplicationContext(),logger);  
List<IODataEntry> entries = cache.readEntriesServer(urlkey);  
IODataEntry entry = entries.get(0);
```



```
String Name =entry.getPropertyValue("NAME");
}
Catch(CacheException e){
}
```

### *setCacheListener(ICacheUpdateListener) method*

Sets the listener for any update on Server cache and call backs upon merging Cache.

#### *Syntax*

```
public void setCacheListener ( ICacheUpdateListener
cacheUpdateListener )
```

#### *Parameters*

- **listener** – The listener to be set for call backs upon merge cache.

```
Class CacheupdateListener implements ICacheUpdateListener {
    public void OnCacheUpadte(String URLKEY, List<IODataEntry>
Entries) {
        Log.i("OnCacheUpdate", URLKEY);
    }
}
cacheupdateListener cacheUpdateListener = new
cacheupdateListener();
cache.setCacheListener(cacheUpdateListener);
```

### *setIsPersistable(boolean) method*

This API sets the isPersistable property of the cache which is used to check if the cache is implicitly persistable.

#### *Syntax*

```
public void setIsPersistable ( boolean value ) throws
CacheException
```

#### *Parameters*

- **value** – this will persist cache in db or In-Memory, Default is in DB Store

#### *Exceptions*

- **CacheException class** –

```
Try{
    ILogger logger = new Logger();
```

```
        ICache cache =new Cache(getApplicationContext(),logger);
        cache.setIsPersistable(true);

    }
    Catch (CacheException e) {
    }
```

### *storeDocument(Object, int, String) method*

This API Caches the service document or the meta data document depending on the `DocumentType` and against specified `URLKey`.

### *Syntax*

```
public void storeDocument ( Object Document , int documentType ,
String URLKey ) throws CacheException
```

### *Parameters*

- **document** – : will return the delta token/delta link for the URL key.
- **documentType** – specify the type of document to be cached.
- **urlKey** – Cache against this urlKey

### *Exceptions*

- **CacheException class** –

```
Try{

ILogger logger = new Logger();
ICache cache =new Cache(getApplicationContext(),logger);
cache.storeDocument(serviceDocumentObject,
documentType.ServiceDocument, serviceDocUrl);

}
Catch (CacheException e) {
}
```

### *updateEntry(IODataEntry) method*

This API is will cache Entry associated with HTTP PUT which modifies the existing resource of a collection this entry will be marked as 'Updated' in Local Cache.

### *Syntax*

```
public void updateEntry ( IODataEntry entry ) throws
CacheException
```

### Parameters

- **Entry** – will be marked as 'Updated' in Local cache.

### Exceptions

- **CacheException class** –

```

Try{
    ILogger logger = new Logger();
    ICache cache =new Cache(getApplicationContext(),logger);
    cache.updateEntry(OdataEntries, URLKEY);
}
Catch(CacheException e){
}

```

### *IConnectivityParameters interface*

Consists of interface used to store connectivity properties like username, password etc.

### Syntax

```
public interface IConnectivityParameters extends Serializable
```

### Derived classes

- *ConnectivityParameters* on page 87

### Members

All members of IConnectivityParameters, including inherited members. **Methods**

Modifier and Type	Method	Description
public void	<i>enableXsrf(Boolean)</i> on page 120	Sets the XSRFEnabled flag.
public String	<i>getBaseUrl()</i> on page 121	Returns the base URL for the requests.
public String	<i>getLanguage()</i> on page 121	Returns the language setting.
public TrustManager[]	<i>getTrustManagers()</i> on page 121	Returns an array of TrustManager instances.
public String	<i>getUserName()</i> on page 122	Returns the username.

Modifier and Type	Method	Description
public String	<i>getUserPassword()</i> on page 122	Returns the password.
public boolean	<i>isAutoRedirectEnabled()</i> on page 122	Returns whether auto redirect is enabled.
public void	<i>setAutoRedirectEnabled(boolean)</i> on page 122	Enables or disables auto redirect.
public void	<i>setBaseUrl(String)</i> on page 123	Sets the base URL for requests.
public void	<i>setLanguage(String)</i> on page 123	Sets the language used in connection.
public void	<i>setServerCertificate(final Certificate[])</i> on page 123	Sets the server certificate array.
public void	<i>setServerCertificate(final Certificate)</i> on page 124	Sets a single server certificate.
public void	<i>setUserName(String)</i> on page 124	Sets the username which must be used during authentication.
public void	<i>setUserPassword(String)</i> on page 124	Sets the password.

#### *enableXsrf(Boolean) method*

Sets the XSRFEnabled flag.

#### *Syntax*

```
public void enableXsrf ( Boolean isXsrfEnabled )
```

#### *Parameters*

- **isXsrfEnabled** – the boolean to set.

#### *Returns*

None

```
ConnectivityParameters param = new ConnectivityParameters();
param.enableXsrf(isXsrfEnabled);
```

*getBaseUrl() method*

Returns the base URL for the requests.

*Syntax*

```
public String getBaseUrl ()
```

*Parameters*

- **None** –

*Returns*

the base URL for the requests.

```
ConnectivityParameters param = new ConnectivityParameters(); param.getBaseUrl();
```

*getLanguage() method*

Returns the language setting.

*Syntax*

```
public String getLanguage ()
```

*Parameters*

- **None** –

*Returns*

the language setting

```
ConnectivityParameters param = new ConnectivityParameters(); param.getLanguage();
```

*getTrustManagers() method*

Returns an array of TrustManager instances.

*Syntax*

```
public TrustManager[] getTrustManagers ()
```

*Parameters*

- **None** –

*Returns*

the array

```
ConnectivityParameters param = new ConnectivityParameters(); param.getTrustManagers();
```

### *getUserName() method*

Returns the username.

#### *Syntax*

```
public String getUserName ()
```

#### *Parameters*

- **None** –

#### *Returns*

the user name.

```
ConnectivityParameters param = new ConnectivityParameters(); param.getUserName();
```

### *getUserPassword() method*

Returns the password.

#### *Syntax*

```
public String getUserPassword ()
```

#### *Parameters*

- **None** –

#### *Returns*

the password.

```
ConnectivityParameters param = new ConnectivityParameters(); param.getUserPassword();
```

### *isAutoRedirectEnabled() method*

Returns whether auto redirect is enabled.

#### *Syntax*

```
public boolean isAutoRedirectEnabled ()
```

### *setAutoRedirectEnabled(boolean) method*

Enables or disables auto redirect.

#### *Syntax*

```
public void setAutoRedirectEnabled (boolean paramboolean )
```

#### *Parameters*

- **paramboolean** – the boolean to set

*setBaseUrl(String) method*

Sets the base URL for requests.

*Syntax*

```
public void setBaseUrl ( String baseUrl )
```

*Parameters*

- **baseUrl** – The base URL for the requests.

*Returns*

None

```
ConnectivityParameters param = new ConnectivityParameters();
param.setBaseUrl(baseUrl);
```

*setLanguage(String) method*

Sets the language used in connection.

*Syntax*

```
public void setLanguage ( String language )
```

*Parameters*

- **language** – to set

*Returns*

None

```
ConnectivityParameters param = new ConnectivityParameters();
param.setLanguage(alanguage);
```

*setServerCertificate(final Certificate[]) method*

Sets the server certificate array.

*Syntax*

```
public void setServerCertificate ( final Certificate[] certificate )
throws KeyStoreException
```

*Parameters*

- **certificate** – array to set.

*Returns*

None

### *Exceptions*

- **KeyStoreException** –

```
ConnectivityParameters param = new ConnectivityParameters(); param.  
setServerCertificate(aCertificate[]);
```

### *setServerCertificate(final Certificate) method*

Sets a single server certificate.

### *Syntax*

```
public void setServerCertificate ( final Certificate certificate )
```

### *Parameters*

- **certificate** – to set

### *setUserName(String) method*

Sets the username which must be used during authentication.

### *Syntax*

```
public void setUsername ( String aUserName )
```

### *Parameters*

- **aUserName** – the user name to set.

### *Returns*

None

```
ConnectivityParameters param = new ConnectivityParameters();  
param.setUsername(aUserName);
```

### *setUserPassword(String) method*

Sets the password.

### *Syntax*

```
public void setUserPassword ( String aPassword )
```

### *Parameters*

- **aPassword** – the password to set.

### *Returns*

None



```
ConnectivityParameters param = new ConnectivityParameters();
param.setUserPassword(aPassword);
```

### *ILocalSchema interface*

#### *Syntax*

```
public interface ILocalSchema
```

#### *Derived classes*

- *ODataReturnSchema* on page 778

### *ILogger interface*

#### *Syntax*

```
public interface ILogger
```

#### *Derived classes*

- *Logger* on page 426

### *Members*

All members of ILogger, including inherited members. **Variables**

Modifier and Type	Variable	Description
public static final int	<i>ASSERT</i> on page 138	Log level ASSERT.
public static final int	<i>DEBUG</i> on page 139	Log level DEBUG.
public static final int	<i>ERROR</i> on page 139	Log level ERROR.
public static final int	<i>FATAL</i> on page 139	Log level FATAL.
public static final int	<i>INFO</i> on page 139	Log level INFO.
public static final int	<i>PERFORMANCE</i> on page 139	Log level PERFORMANCE.
public static final int	<i>VERBOSE</i> on page 139	Log level VERBOSE.
public static final int	<i>WARN</i> on page 139	Log level WARN.

### **Methods**

Modifier and Type	Method	Description
public boolean	<i>canLog()</i> on page 128	Implementer should override this method!

Modifier and Type	Method	Description
public void	<i>d(final String, final String)</i> on page 128	Sends a DEBUG log message.
public void	<i>d(final String, final String, final String)</i> on page 128	Sends a DEBUG log message.
public void	<i>d(final String, final String, final Throwable)</i> on page 129	Sends a DEBUG log message and logs the exception.
public void	<i>d(final String, final String, final Throwable, final String)</i> on page 129	Sends a DEBUG log message and logs the exception.
public void	<i>e(final String, final String)</i> on page 129	Sends an ERROR log message.
public void	<i>e(final String, final String, final String)</i> on page 130	Sends an ERROR log message.
public void	<i>e(final String, final String, final Throwable)</i> on page 130	Sends an ERROR log message and logs the exception.
public void	<i>e(final String, final String, final Throwable, final String)</i> on page 131	Sends an ERROR log message and logs the exception.
public int	<i>getLogLevel()</i> on page 131	Returns the log level.
public void	<i>i(final String, final String)</i> on page 131	Sends an INFO log message.
public void	<i>i(final String, final String, final String)</i> on page 132	Sends an INFO log message.
public void	<i>i(final String, final String, final Throwable)</i> on page 132	Sends a INFO log message and logs the exception.
public void	<i>i(final String, final String, final Throwable, final String)</i> on page 132	Sends a INFO log message and logs the exception.
public void	<i>logFullLocation(boolean)</i> on page 133	Setting to control log full location (class-path and method name).

Modifier and Type	Method	Description
public boolean	<i>logsFullLocation()</i> on page 133	To get the setting which controls log output should contain full location (class and method name) or not.
public void	<i>p(final String, final String)</i> on page 133	Sends a PERFORMANCE log message.
public void	<i>p(final String, final String, final String)</i> on page 134	Sends a PERFORMANCE log message.
public void	<i>setHeaderData(final String, final String, final String, final String, final String, final String, final String, final String)</i> on page 134	Sets the log header fields.
public void	<i>setLogLevel(final int)</i> on page 135	Set the log level.
public void	<i>v(final String, final String)</i> on page 135	Sends a VERBOSE log message.
public void	<i>v(final String, final String, final String)</i> on page 135	Sends a VERBOSE log message.
public void	<i>v(final String, final String, final Throwable)</i> on page 136	Sends a VERBOSE log message and logs the exception.
public void	<i>v(final String, final String, final Throwable, final String)</i> on page 136	Sends a VERBOSE log message and logs the exception.
public void	<i>w(final String, final Throwable)</i> on page 136	Sends a WARN log message and logs the exception.
public void	<i>w(final String, final Throwable, final String)</i> on page 137	Sends a WARN log message and logs the exception.
public void	<i>w(final String, final String, final Throwable)</i> on page 137	Sends a WARN log message and logs the exception.
public void	<i>w(final String, final String, final Throwable, final String)</i> on page 137	Sends a WARN log message and logs the exception.

Modifier and Type	Method	Description
public void	<i>w</i> (final String, final String) on page 138	Sends a WARN log message.
public void	<i>w</i> (final String, final String, final String) on page 138	Sends a WARN log message.

***canLog()* method**

Implementer should override this method!

***Syntax***

```
public boolean canLog ()
```

***Returns***

State of ability to log.

***d*(final String, final String) method**

Sends a DEBUG log message.

***Syntax***

```
public void d ( final String tag , final String msg )
```

***Parameters***

- **tag** – Used to identify the source of a log message. It usually identifies the class or activity where the log call occurs.
- **msg** – The message you would like to be logged.

***Usage***

Logger implementation is able to identify the source of the log message at the price of performance penalty. See `Logger#d(String,String,String)`

***d*(final String, final String, final String) method**

Sends a DEBUG log message.

***Syntax***

```
public void d ( final String tag , final String msg , final String location )
```

***Parameters***

- **tag** – Used to identify the source of a log message. It usually identifies the class or activity where the log call occurs.

- **msg** – The message you would like to be logged.
- **location** – The line-level location of the log source (full class name of the class).

*d(final String, final String, final Throwable) method*

Sends a DEBUG log message and logs the exception.

*Syntax*

```
public void d ( final String tag , final String msg , final
Throwable tr )
```

*Parameters*

- **tag** – Used to identify the source of a log message. It usually identifies the class or activity where the log call occurs.
- **msg** – The message you would like to be logged.
- **tr** – An exception to log

*Usage*

Logger implementation is able to identify the source of the log message at the price of performance penalty. See `Logger#d(String,String,Throwable,String)`

*d(final String, final String, final Throwable, final String) method*

Sends a DEBUG log message and logs the exception.

*Syntax*

```
public void d ( final String tag , final String msg , final
Throwable tr , final String location )
```

*Parameters*

- **tag** – Used to identify the source of a log message. It usually identifies the class or activity where the log call occurs.
- **msg** – The message you would like to be logged.
- **tr** – An exception to log
- **location** – The line-level location of the log source (full class name of the class).

*e(final String, final String) method*

Sends an ERROR log message.

*Syntax*

```
public void e ( final String tag , final String msg )
```

### *Parameters*

- **tag** – Used to identify the source of a log message. It usually identifies the class or activity where the log call occurs.
- **msg** – The message you would like to be logged.

### *Usage*

Logger implementation is able to identify the source of the log message at the price of performance penalty. See `Logger#e(String,String,String)`

### *e(final String, final String, final String) method*

Sends an ERROR log message.

### *Syntax*

```
public void e ( final String tag , final String msg , final String location )
```

### *Parameters*

- **tag** – Used to identify the source of a log message. It usually identifies the class or activity where the log call occurs.
- **msg** – The message you would like to be logged.
- **location** – The line-level location of the log source (full class name of the class).

### *e(final String, final String, final Throwable) method*

Sends an ERROR log message and logs the exception.

### *Syntax*

```
public void e ( final String tag , final String msg , final Throwable tr )
```

### *Parameters*

- **tag** – Used to identify the source of a log message. It usually identifies the class or activity where the log call occurs.
- **msg** – The message you would like to be logged.
- **tr** – An exception to log

### *Usage*

Logger implementation is able to identify the source of the log message at the price of performance penalty. See `Logger#e(String,String,Throwable,String)`

*e(final String, final String, final Throwable, final String) method*

Sends an ERROR log message and logs the exception.

*Syntax*

```
public void e ( final String tag , final String msg , final
Throwable tr , final String location )
```

*Parameters*

- **tag** – Used to identify the source of a log message. It usually identifies the class or activity where the log call occurs.
- **msg** – The message you would like to be logged.
- **tr** – An exception to log
- **location** – The line-level location of the log source (full class name of the class).

*getLogLevel() method*

Returns the log level.

*Syntax*

```
public int getLogLevel ()
```

*Returns*

the log level.

*i(final String, final String) method*

Sends an INFO log message.

*Syntax*

```
public void i ( final String tag , final String msg )
```

*Parameters*

- **tag** – Used to identify the source of a log message. It usually identifies the class or activity where the log call occurs.
- **msg** – The message you would like to be logged.

*Usage*

Logger implementation is able to identify the source of the log message at the price of performance penalty. See `Logger#i(String,String,String)`

### *i(final String, final String, final String) method*

Sends an INFO log message.

#### *Syntax*

```
public void i ( final String tag , final String msg , final String location )
```

#### *Parameters*

- **tag** – Used to identify the source of a log message. It usually identifies the class or activity where the log call occurs.
- **msg** – The message you would like to be logged.
- **location** – The line-level location of the log source (full class name of the class).

### *i(final String, final String, final Throwable) method*

Sends a INFO log message and logs the exception.

#### *Syntax*

```
public void i ( final String tag , final String msg , final Throwable tr )
```

#### *Parameters*

- **tag** – Used to identify the source of a log message. It usually identifies the class or activity where the log call occurs.
- **msg** – The message you would like to be logged.
- **tr** – An exception to log

#### *Usage*

Logger implementation is able to identify the source of the log message at the price of performance penalty. See `Logger#i(String,String,Throwable,String)`

### *i(final String, final String, final Throwable, final String) method*

Sends a INFO log message and logs the exception.

#### *Syntax*

```
public void i ( final String tag , final String msg , final Throwable tr , final String location )
```

#### *Parameters*

- **tag** – Used to identify the source of a log message. It usually identifies the class or activity where the log call occurs.



- **msg** – The message you would like to be logged.
- **tr** – An exception to log
- **location** – The line-level location of the log source (full class name of the class).

#### *logFullLocation(boolean) method*

Setting to control log full location (class-path and method name).

#### *Syntax*

```
public void logFullLocation ( boolean logFullLocation )
```

#### *Parameters*

- **logFullLocation** – log i or do not log it.

#### *logsFullLocation() method*

To get the setting which controls log output should contain full location (class and method name) or not.

#### *Syntax*

```
public boolean logsFullLocation ()
```

#### *Returns*

logging with full location or not.

#### *p(final String, final String) method*

Sends a PERFORMANCE log message.

#### *Syntax*

```
public void p ( final String tag , final String msg )
```

#### *Parameters*

- **tag** – Used to identify the source of a log message. It usually identifies the class or activity where the log call occurs.
- **msg** – The message you would like to be logged.

#### *Usage*

Logger implementation is able to identify the source of the log message at the price of performance penalty. See `Logger#p(String,String,String)`

*p(final String, final String, final String) method*

Sends a PERFORMANCE log message.

### Syntax

```
public void p (final String tag , final String msg , final String location )
```

### Parameters

- **tag** – Used to identify the source of a log message. It usually identifies the class or activity where the log call occurs.
- **msg** – The message you would like to be logged.
- **location** – The line-level location of the log source (full class name of the class).

*setHeaderData(final String, final String, final String, final String, final String, final String, final String, final String) method*

Sets the log header fields.

### Syntax

```
public void setHeaderData (final String osVersion , final String appName , final String appVersion , final String thirdParty , final String hwVersion , final String user , final String timezone , final String language , final String baseUrl )
```

### Parameters

- **osVersion** – the Operating System version
- **appName** – the Application name
- **appVersion** – the version of the Application
- **thirdParty** – 3rd-party product versions (e.g. SQLite)
- **hwVersion** – the Hardware version
- **user** – the user name used in Connectivity (Connectivity sets it)
- **timezone** – the time zone
- **language** – the language used in connectivity (Connectivity sets it)
- **baseUrl** – the URL used in Connectivity (connectivity sets it)

### Usage

A header field is set only if it is not *null*. Also, it is set only once; subsequent calls will not overwrite the first write.

*setLogLevel(final int) method*

Set the log level.

*Syntax*

```
public void setLogLevel ( final int level )
```

*Parameters*

- **level** – the log level

*v(final String, final String) method*

Sends a VERBOSE log message.

*Syntax*

```
public void v ( final String tag , final String msg )
```

*Parameters*

- **tag** – Used to identify the source of a log message. It usually identifies the class or activity where the log call occurs.
- **msg** – The message you would like to be logged.

*Usage*

Logger implementation is able to identify the source of the log message at the price of performance penalty. See `Logger#v(String,String,String)`

*v(final String, final String, final String) method*

Sends a VERBOSE log message.

*Syntax*

```
public void v ( final String tag , final String msg , final String location )
```

*Parameters*

- **tag** – Used to identify the source of a log message. It usually identifies the class or activity where the log call occurs.
- **msg** – The message you would like to be logged.
- **location** – The line-level location of the log source (full class name of the class).

### *v(final String, final String, final Throwable) method*

Sends a VERBOSE log message and logs the exception.

#### *Syntax*

```
public void v ( final String tag , final String msg , final  
Throwable tr )
```

#### *Parameters*

- **tag** – Used to identify the source of a log message. It usually identifies the class or activity where the log call occurs.
- **msg** – The message you would like to be logged.
- **tr** – An exception to log

#### *Usage*

Logger implementation is able to identify the source of the log message at the price of performance penalty. See `Logger#v(String,String,Throwable,String)`

### *v(final String, final String, final Throwable, final String) method*

Sends a VERBOSE log message and logs the exception.

#### *Syntax*

```
public void v ( final String tag , final String msg , final  
Throwable tr , final String location )
```

#### *Parameters*

- **tag** – Used to identify the source of a log message. It usually identifies the class or activity where the log call occurs.
- **msg** – The message you would like to be logged.
- **tr** – An exception to log
- **location** – The line-level location of the log source (full class name of the class).

### *w(final String, final Throwable) method*

Sends a WARN log message and logs the exception.

#### *Syntax*

```
public void w ( final String tag , final Throwable tr )
```

#### *Parameters*

- **tag** – Used to identify the source of a log message. It usually identifies the class or activity where the log call occurs.

- **tr** – An exception to log

### *Usage*

Logger implementation is able to identify the source of the log message at the price of performance penalty. See `Logger#w(String,Throwable,String)`

### *w(final String, final Throwable, final String) method*

Sends a WARN log message and logs the exception.

### *Syntax*

```
public void w ( final String tag , final Throwable tr , final
String location )
```

### *Parameters*

- **tag** – Used to identify the source of a log message. It usually identifies the class or activity where the log call occurs.
- **tr** – An exception to log
- **location** – The line-level location of the log source (full class name of the class).

### *w(final String, final String, final Throwable) method*

Sends a WARN log message and logs the exception.

### *Syntax*

```
public void w ( final String tag , final String msg , final
Throwable tr )
```

### *Parameters*

- **tag** – Used to identify the source of a log message. It usually identifies the class or activity where the log call occurs.
- **msg** – The message you would like to be logged.
- **tr** – An exception to log

### *Usage*

Logger implementation is able to identify the source of the log message at the price of performance penalty. See `Logger#w(String,String,Throwable,String)`

### *w(final String, final String, final Throwable, final String) method*

Sends a WARN log message and logs the exception.

### *Syntax*

```
public void w ( final String tag , final String msg , final
Throwable tr , final String location )
```

### *Parameters*

- **tag** – Used to identify the source of a log message. It usually identifies the class or activity where the log call occurs.
- **msg** – The message you would like to be logged.
- **tr** – An exception to log
- **location** – The line-level location of the log source (full class name of the class).

### *w(final String, final String) method*

Sends a WARN log message.

### *Syntax*

```
public void w ( final String tag , final String msg )
```

### *Parameters*

- **tag** – Used to identify the source of a log message. It usually identifies the class or activity where the log call occurs.
- **msg** – The message you would like to be logged.

### *Usage*

Logger implementation is able to identify the source of the log message at the price of performance penalty. See `Logger#w(String,String,String)`

### *w(final String, final String, final String) method*

Sends a WARN log message.

### *Syntax*

```
public void w ( final String tag , final String msg , final String location )
```

### *Parameters*

- **tag** – Used to identify the source of a log message. It usually identifies the class or activity where the log call occurs.
- **msg** – The message you would like to be logged.
- **location** – The line-level location of the log source (full class name of the class).

### *ASSERT variable*

Log level ASSERT.

### *Syntax*

```
public static final int ASSERT
```

***DEBUG variable***

Log level DEBUG.

***Syntax***

```
public static final int DEBUG
```

***ERROR variable***

Log level ERROR.

***Syntax***

```
public static final int ERROR
```

***FATAL variable***

Log level FATAL.

***Syntax***

```
public static final int FATAL
```

***INFO variable***

Log level INFO.

***Syntax***

```
public static final int INFO
```

***PERFORMANCE variable***

Log level PERFORMANCE.

***Syntax***

```
public static final int PERFORMANCE
```

***VERBOSE variable***

Log level VERBOSE.

***Syntax***

```
public static final int VERBOSE
```

***WARN variable***

Log level WARN.

***Syntax***

```
public static final int WARN
```

*INetListener interface*

Consists of interface for request listener.

*Syntax*

```
public interface INetListener
```

*Derived classes*

- *AppSettings* on page 34
- *ClientConnection* on page 79
- *UserManager* on page 1023

*Members*

All members of INetListener, including inherited members. **Methods**

Modifier and Type	Method	Description
public void	<i>onError(IRequest, IResponse, IRequestStateElement)</i> on page 140	Request library uses this method in case of error/failure scenario during a request operation.
public void	<i>onSuccess(IRequest, IResponse)</i> on page 141	Request library uses this method in case of successful request.

*Usage*

This interface must be implemented to get success/failure call backs for each request.

*onError(IRequest, IResponse, IRequestStateElement) method*

Request library uses this method in case of error/failure scenario during a request operation.

*Syntax*

```
public void onError ( IRequest aRequest , IResponse aResponse ,
IRequestStateElement aRequestStateElement )
```

*Parameters*

- **aRequest** – the request object.
- **aResponse** – the response object.
- **aRequestStateElement** – the RequestStateElement object.

*Returns*

None

```
public class Activity implements INetListener { ... public void onError(IRequest arg0,
IResponse arg1, IRequestStateElement arg2) {
```



```
arg1.getStatusLine().toString()
arg2.getErrorCode()); } ...}
```

### *Usage*

The listener registered for the request receives the request object, the `HttpResponse` object which contains the details about the server response, and a `RequestStateElement` object which provides more details about the occurred error. In case, the error occurs before sending any request to the server, the `HttpResponse` object will be null.

### *onSuccess(IRequest, IResponse) method*

Request library uses this method in case of successful request.

### *Syntax*

```
public void onSuccess ( IRequest aRequest , IResponse aResponse )
```

### *Parameters*

- **aRequest** – the request object.
- **aResponse** – the response object.

### *Returns*

None

```
public class Activity implements INetListener { .... public void onSuccess(IRequest arg0,
IResponse arg1) {
HttpEntity resp = arg1.getEntity();
String response="";
response = EntityUtils.toString(resp); //process the response }...}
```

### *Usage*

The listener receives the request in form of parameter and an `HttpResponse` object containing all the details about the server response.

### *IODataAssociation interface*

Represents the appropriate OData element.

### *Syntax*

```
public abstract interface IODataAssociation extends
IParserDocument
```

### *Derived classes*

- *IODataAssociationSet* on page 151

- *IODataAssociation* on page 447

### Members

All members of *IODataAssociation*, including inherited members. **Nested interfaces**

Modifier and Type	Interface	Description
public abstract interface	<i>IODataAssociationEnd</i> on page 147	Represents the appropriate OData element.

### Variables

Modifier and Type	Variable	Description
public static final String	<i>ATTRIBUTE_ASSOCIATION</i> on page 151	Name of the appropriate OData attribute.
public static final String	<i>ATTRIBUTE_NAME</i> on page 151	Name of the appropriate OData attribute.
public static final String	<i>ELEMENT_ASSOCIATION</i> on page 151	Name of the appropriate OData element.
public static final String	<i>ELEMENT_ASSOCIATIONEND</i> on page 151	Name of the appropriate OData element.

### Methods

Modifier and Type	Method	Description
public abstract <i>IODataAssociationEnd</i>	<i>getAssociationEnd(String)</i> on page 150	Returns the value of the appropriate Association End OData element with the given role.
public abstract List< <i>IODataAssociationEnd</i> >	<i>getAssociationEnds()</i> on page 150	Returns list of the appropriate OData elements.
public abstract String	<i>getName()</i> on page 151	Returns the value of the appropriate OData attribute.

### Inherited members from *IParserDocument*

Modifier and Type	Member	Description
public static final String	<i>ATTRIBUTE_ETAG</i> on page 386	Name of the appropriate OData element.
public static final String	<i>ATTRIBUTE_VALUEPREFIX_EDMTYPE</i> on page 386	Value prefix for EDM Type type values.

Modifier and Type	Member	Description
public abstract IParserDocument	<i>clone()</i> on page 374	Creates a copy of this object.
public static Map< String, String >	<i>DEFAULT_PREFIXMAP-PING</i> on page 386	The default XML Namespace-to-Prefix mapping used for building XMLS.
public static final String[]	<i>EDMDATETIME_PATTERNS</i> on page 386	Possible EDM DateTime patterns Note: Some pattern are not supported by OData specification but still widely used.
public static final String[]	<i>EDMDATETIMEOFFSET_PATTERNS</i> on page 386	Possible EDM TimeOffset patterns Note: Some pattern are not supported by OData specification but still widely used.
public static final String	<i>EDMTIME_PATTERN</i> on page 386	EDM Time pattern.
public static String	<i>ELEMENT_FEED</i> on page 386	Name of the appropriate OData element.
public static final String	<i>ELEMENT_ID</i> on page 387	Name of the appropriate OData element.
public abstract String	<i>getAttribute(String...)</i> on page 374	Returns the value of the first attribute with the given route.
public abstract List< String >	<i>getAttributes(String...)</i> on page 374	Returns all the values of attributes with the given route.
public abstract Map< String, String >	<i>getChildAttribute-Map(String...)</i> on page 375	Returns all the name-value pairs of attributes contained by the element with the given route.
public abstract List< String >	<i>getChildAttributes(String...)</i> on page 375	Returns all the values of attributes contained by the element with the given route.
public abstract List< IParserDocument >	<i>getChildDocuments(String...)</i> on page 375	Returns the elements contained by the element with the given route.

Modifier and Type	Member	Description
public abstract List<IParserDocument >	<i>getChildDocumentsWithAttribute(String, String, String...)</i> on page 376	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public abstract List<IParserDocument >	<i>getChildDocumentsWithAttribute(String, String, boolean, String...)</i> on page 376	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public abstract IParserDocument	<i>getDocument(String...)</i> on page 377	Returns the first element with the given route.
public abstract List<IParserDocument >	<i>getDocuments(String...)</i> on page 377	Returns all the elements with the given route.
public abstract List<IParserDocument >	<i>getDocumentsWithAttribute(String, String, String...)</i> on page 378	Returns the elements with the given route that contains the given attribute with the given value.
public abstract List<IParserDocument >	<i>getDocumentsWithAttribute(String, String, boolean, String...)</i> on page 378	Returns the elements with the given route that contains the given attribute with the given value.
public abstract IParserDocument	<i>getDocumentWithAttribute(String, String, String...)</i> on page 379	Returns the first element with the given route that contains the given attribute with the given value.
public abstract IParserDocument	<i>getDocumentWithAttribute(String, String, boolean, String...)</i> on page 379	Returns the first element with the given route that contains the given attribute with the given value.
public abstract String	<i>getElementName()</i> on page 380	Returns The name of the root element of this document.
public abstract String	<i>getFunctionImportComplexPropertyValue(String...)</i> on page 380	
public abstract String	<i>getPrefixForUri(String)</i> on page 380	Returns the appropriate namespace prefix for the given XML name-space URI.

Modifier and Type	Member	Description
public abstract String[]	<i>getStrings()</i> on page 381	Returns all the string values contained by this document.
public abstract String	<i>getValue(String...)</i> on page 381	Returns the value of the first element with the given route.
public abstract List< String >	<i>getValues(String...)</i> on page 381	Returns all the values of elements with the given route.
public abstract void	<i>putAttribute(String, String...)</i> on page 382	Sets the value of the attribute with the given route If attribute does not exist it will be created as well as all other non existing elements in the route.
public abstract void	<i>putDocument(IParserDocument, String...)</i> on page 382	Insert the document under the element with the given route inserted document will be placed before already existing documents with the same route name under All missing elements from the route will be created.
public abstract void	<i>putValue(String, String...)</i> on page 382	Sets the value of the first element with the given route.
public abstract boolean	<i>removeAttribute(String...)</i> on page 383	Removes first element with the given route.
public abstract boolean	<i>removeAttributes(String...)</i> on page 383	Removes all the attribute with the given route.
public abstract boolean	<i>removeDocument(String...)</i> on page 383	Removes first element with the given route For removing multiple element use setDocuemtns with null arguments.
public static final String	<i>ROOT_DOCUMENT_NAME</i> on page 387	The default root element name for a new document.

Modifier and Type	Member	Description
public abstract void	<i>setAttributes(List&lt; String &gt;, String...)</i> on page 384	Sets all the values of the attributes with the given route Values will be paired to attributes in order Attributes with greater or equals index than size of new values will be untouched Attributes paired with null values will be removed.
public abstract void	<i>setDocuments(List&lt; IParser-Document &gt;, String...)</i> on page 384	Replaces all the elements with the given route Documents will be paired to elements in order Elements with greater or equals index than size of new elements will be untouched Element paired with null will be removed.
public abstract void	<i>setElementName(String, String...)</i> on page 385	Sets the name of the root element with the given route Use empty route for setting root name of this document.
public abstract void	<i>setValues(List&lt; String &gt;, String...)</i> on page 385	Sets all the values of the elements with the given rout Values will be paired to elements in order Elements with greater or equals index than size of new values will be untouched Null values will be treated as empty strings.
public abstract String	<i>toXMLString()</i> on page 385	Returns the XML string representation of this object.
public static final String	<i>XMLNS_APPLICATION_URI</i> on page 387	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/08/dataservices">http://schemas.microsoft.com/ado/2007/08/dataservices</a> .
public static final String	<i>XMLNS_ATOM_URI</i> on page 387	Constant for XMLNS URI: <a href="http://www.w3.org/2005/Atom">http://www.w3.org/2005/Atom</a> .

Modifier and Type	Member	Description
public static final String	<i>XMLNS_DATASERVICES_URI</i> on page 387	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/08/dataservices">http://schemas.microsoft.com/ado/2007/08/dataservices</a> .
public static final String	<i>XMLNS_EDM_URI</i> on page 387	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/05/edm">http://schemas.microsoft.com/ado/2007/05/edm</a> .
public static final String	<i>XMLNS_EDMX_URI</i> on page 387	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/06/edmx">http://schemas.microsoft.com/ado/2007/06/edmx</a> .
public static final String	<i>XMLNS_GENERICPLAYER_URI</i> on page 388	Constant for XMLNS URI: <a href="http://www.sap.com/Protocols/SAPData/GenericPlayer">http://www.sap.com/Protocols/SAPData/GenericPlayer</a> .
public static final String	<i>XMLNS_METADATA_URI</i> on page 388	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/08/dataservices/metadata">http://schemas.microsoft.com/ado/2007/08/dataservices/metadata</a> .
public static final String	<i>XMLNS_SAP_URI</i> on page 388	Constant for XMLNS URI: <a href="http://www.sap.com/Protocols/SAPData">http://www.sap.com/Protocols/SAPData</a> .

#### Inherited members from IPersistable

Modifier and Type	Member	Description
public void	<i>read(BufferedReader)</i> on page 389	
public void	<i>write(BufferedWriter)</i> on page 389	

#### *IODataAssociation.IODataAssociationEnd* interface

Represents the appropriate OData element.

#### Syntax

```
public abstract interface IODataAssociationEnd
```

#### Derived classes

- *IODataAssociationEnd* on page 462

*Members*

All members of `IODataAssociationEnd`, including inherited members. **Variables**

Modifier and Type	Variable	Description
public static final String	<i>ATTRIBUTE_ENTITYSET</i> on page 149	Name of the appropriate OData attribute.
public static final String	<i>ATTRIBUTE_MULTIPLICITY</i> on page 150	Name of the appropriate OData attribute.
public static final String	<i>ATTRIBUTE_ROLE</i> on page 150	Name of the appropriate OData attribute.
public static final String	<i>ATTRIBUTE_TYPE</i> on page 150	Name of the appropriate OData attribute.

**Methods**

Modifier and Type	Method	Description
public abstract String	<i>getCollectionId()</i> on page 148	Returns the value of the appropriate EntitySet OData attribute.
public abstract String	<i>getEntitySet()</i> on page 149	Returns the value of the appropriate OData attribute.
public abstract String	<i>getMultiplicity()</i> on page 149	Returns the value of the appropriate OData attribute.
public abstract String	<i>getRole()</i> on page 149	Returns the value of the appropriate OData attribute.
public abstract String	<i>getType()</i> on page 149	Returns the value of the appropriate OData attribute.

*getCollectionId() method*

Returns the value of the appropriate EntitySet OData attribute.

*Syntax*

```
public abstract String getCollectionId ()
```

*Returns*

the value of the appropriate EntitySet OData attribute



*getEntitySet() method*

Returns the value of the appropriate OData attribute.

*Syntax*

```
public abstract String getEntitySet ()
```

*Returns*

the value of the appropriate OData attribute

*getMultiplicity() method*

Returns the value of the appropriate OData attribute.

*Syntax*

```
public abstract String getMultiplicity ()
```

*Returns*

the value of the appropriate OData attribute

*getRole() method*

Returns the value of the appropriate OData attribute.

*Syntax*

```
public abstract String getRole ()
```

*Returns*

the value of the appropriate OData attribute

*getType() method*

Returns the value of the appropriate OData attribute.

*Syntax*

```
public abstract String getType ()
```

*Returns*

the value of the appropriate OData attribute

*ATTRIBUTE\_ENTITYSET variable*

Name of the appropriate OData attribute.

*Syntax*

```
public static final String ATTRIBUTE_ENTITYSET
```

### *ATTRIBUTE\_MULTIPLICITY* variable

Name of the appropriate OData attribute.

#### *Syntax*

```
public static final String ATTRIBUTE_MULTIPLICITY
```

### *ATTRIBUTE\_ROLE* variable

Name of the appropriate OData attribute.

#### *Syntax*

```
public static final String ATTRIBUTE_ROLE
```

### *ATTRIBUTE\_TYPE* variable

Name of the appropriate OData attribute.

#### *Syntax*

```
public static final String ATTRIBUTE_TYPE
```

### *getAssociationEnd(String)* method

Returns the value of the appropriate Association End OData element with the given role.

#### *Syntax*

```
public abstract IODataAssociationEnd getAssociationEnd  
( String role )
```

#### *Parameters*

- **role** – The expected value of the appropriate OData attribute

#### *Returns*

the value of the appropriate Association End OData element

### *getAssociationEnds()* method

Returns list of the appropriate OData elements.

#### *Syntax*

```
public abstract List< IODataAssociationEnd >  
getAssociationEnds ( )
```

#### *Returns*

list of the appropriate OData elements

***getName() method***

Returns the value of the appropriate OData attribute.

***Syntax***

```
public abstract String getName ()
```

***Returns***

the value of the appropriate OData attribute

***ATTRIBUTE\_ASSOCIATION variable***

Name of the appropriate OData attribute.

***Syntax***

```
public static final String ATTRIBUTE_ASSOCIATION
```

***ATTRIBUTE\_NAME variable***

Name of the appropriate OData attribute.

***Syntax***

```
public static final String ATTRIBUTE_NAME
```

***ELEMENT\_ASSOCIATION variable***

Name of the appropriate OData element.

***Syntax***

```
public static final String ELEMENT_ASSOCIATION
```

***ELEMENT\_ASSOCIATIONEND variable***

Name of the appropriate OData element.

***Syntax***

```
public static final String ELEMENT_ASSOCIATIONEND
```

***IODataAssociationSet interface***

Represents the appropriate OData element.

***Syntax***

```
public abstract interface IODataAssociationSet extends
IODataAssociation
```

***Derived classes***

- *IODataAssociationSet* on page 474

*Members*

All members of `IODataAssociationSet`, including inherited members. **Variables**

Modifier and Type	Variable	Description
public static final String	<i>ELEMENT_ASSOCIATION-SET</i> on page 158	Name of the appropriate OData element.

**Methods**

Modifier and Type	Method	Description
public abstract String	<i>getAssociation()</i> on page 157	Returns the value of appropriate OData element.

**Inherited members from IODataAssociation**

Modifier and Type	Member	Description
public static final String	<i>ATTRIBUTE_ASSOCIATION</i> on page 151	Name of the appropriate OData attribute.
public static final String	<i>ATTRIBUTE_NAME</i> on page 151	Name of the appropriate OData attribute.
public static final String	<i>ELEMENT_ASSOCIATION</i> on page 151	Name of the appropriate OData element.
public static final String	<i>ELEMENT_ASSOCIATION-END</i> on page 151	Name of the appropriate OData element.
public abstract IODataAssociationEnd	<i>getAssociationEnd(String)</i> on page 150	Returns the value of the appropriate Association End OData element with the given role.
public abstract List<IODataAssociationEnd >	<i>getAssociationEnds()</i> on page 150	Returns list of the appropriate OData elements.
public abstract String	<i>getName()</i> on page 151	Returns the value of the appropriate OData attribute.

**Inherited members from IParserDocument**

Modifier and Type	Member	Description
public static final String	<i>ATTRIBUTE_ETAG</i> on page 386	Name of the appropriate OData element.

Modifier and Type	Member	Description
public static final String	<i>ATTRIBUTE_VALUEPREFIX_EDMTYPE</i> on page 386	Value prefix for EDM Type type values.
public abstract IParserDocument	<i>clone()</i> on page 374	Creates a copy of this object.
public static Map< String, String >	<i>DEFAULT_PREFIXMAPPING</i> on page 386	The default XML Namespace-to-Prefix mapping used for building XMLS.
public static final String[]	<i>EDMDATETIME_PATTERNS</i> on page 386	Possible EDM DateTime patterns Note: Some pattern are not supported by OData specification but still widely used.
public static final String[]	<i>EDMDATETIMEOFFSET_PATTERNS</i> on page 386	Possible EDM TimeOffset patterns Note: Some pattern are not supported by OData specification but still widely used.
public static final String	<i>EDMTIME_PATTERN</i> on page 386	EDM Time pattern.
public static String	<i>ELEMENT_FEED</i> on page 386	Name of the appropriate OData element.
public static final String	<i>ELEMENT_ID</i> on page 387	Name of the appropriate OData element.
public abstract String	<i>getAttribute(String...)</i> on page 374	Returns the value of the first attribute with the given route.
public abstract List< String >	<i>getAttributes(String...)</i> on page 374	Returns all the values of attributes with the given route.
public abstract Map< String, String >	<i>getChildAttributeMap(String...)</i> on page 375	Returns all the name-value pairs of attributes contained by the element with the given route.
public abstract List< String >	<i>getChildAttributes(String...)</i> on page 375	Returns all the values of attributes contained by the element with the given route.
public abstract List< IParserDocument >	<i>getChildDocuments(String...)</i> on page 375	Returns the elements contained by the element with the given route.

Modifier and Type	Member	Description
public abstract List<IParserDocument >	<i>getChildDocumentsWithAttribute(String, String, String...)</i> on page 376	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public abstract List<IParserDocument >	<i>getChildDocumentsWithAttribute(String, String, boolean, String...)</i> on page 376	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public abstract IParserDocument	<i>getDocument(String...)</i> on page 377	Returns the first element with the given route.
public abstract List<IParserDocument >	<i>getDocuments(String...)</i> on page 377	Returns all the elements with the given route.
public abstract List<IParserDocument >	<i>getDocumentsWithAttribute(String, String, String...)</i> on page 378	Returns the elements with the given route that contains the given attribute with the given value.
public abstract List<IParserDocument >	<i>getDocumentsWithAttribute(String, String, boolean, String...)</i> on page 378	Returns the elements with the given route that contains the given attribute with the given value.
public abstract IParserDocument	<i>getDocumentWithAttribute(String, String, String...)</i> on page 379	Returns the first element with the given route that contains the given attribute with the given value.
public abstract IParserDocument	<i>getDocumentWithAttribute(String, String, boolean, String...)</i> on page 379	Returns the first element with the given route that contains the given attribute with the given value.
public abstract String	<i>getElementName()</i> on page 380	Returns The name of the root element of this document.
public abstract String	<i>getFunctionImportComplexPropertyValue(String...)</i> on page 380	
public abstract String	<i>getPrefixForUri(String)</i> on page 380	Returns the appropriate namespace prefix for the given XML name-space URI.

Modifier and Type	Member	Description
public abstract String[]	<i>getStrings()</i> on page 381	Returns all the string values contained by this document.
public abstract String	<i>getValue(String...)</i> on page 381	Returns the value of the first element with the given route.
public abstract List< String >	<i>getValues(String...)</i> on page 381	Returns all the values of elements with the given route.
public abstract void	<i>putAttribute(String, String...)</i> on page 382	Sets the value of the attribute with the given route If attribute does not exist it will be created as well as all other non existing elements in the route.
public abstract void	<i>putDocument(IParserDocument, String...)</i> on page 382	Insert the document under the element with the given route inserted document will be placed before already existing documents with the same route name under All missing elements from the route will be created.
public abstract void	<i>putValue(String, String...)</i> on page 382	Sets the value of the first element with the given route.
public abstract boolean	<i>removeAttribute(String...)</i> on page 383	Removes first element with the given route.
public abstract boolean	<i>removeAttributes(String...)</i> on page 383	Removes all the attribute with the given route.
public abstract boolean	<i>removeDocument(String...)</i> on page 383	Removes first element with the given route For removing multiple element use setDocuemtns with null arguments.
public static final String	<i>ROOT_DOCUMENT_NAME</i> on page 387	The default root element name for a new document.

Modifier and Type	Member	Description
public abstract void	<i>setAttributes(List&lt; String &gt;, String...)</i> on page 384	Sets all the values of the attributes with the given route Values will be paired to attributes in order Attributes with greater or equals index than size of new values will be untouched Attributes paired with null values will be removed.
public abstract void	<i>setDocuments(List&lt; IParser-Document &gt;, String...)</i> on page 384	Replaces all the elements with the given route Documents will be paired to elements in order Elements with greater or equals index than size of new elements will be untouched Element paired with null will be removed.
public abstract void	<i>setElementName(String, String...)</i> on page 385	Sets the name of the root element with the given route Use empty route for setting root name of this document.
public abstract void	<i>setValues(List&lt; String &gt;, String...)</i> on page 385	Sets all the values of the elements with the given rout Values will be paired to elements in order Elements with greater or equals index than size of new values will be untouched Null values will be treated as empty strings.
public abstract String	<i>toXMLString()</i> on page 385	Returns the XML string representation of this object.
public static final String	<i>XMLNS_APPLICATION_URI</i> on page 387	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/08/dataservices">http://schemas.microsoft.com/ado/2007/08/dataservices</a> .
public static final String	<i>XMLNS_ATOM_URI</i> on page 387	Constant for XMLNS URI: <a href="http://www.w3.org/2005/Atom">http://www.w3.org/2005/Atom</a> .



Modifier and Type	Member	Description
public static final String	<i>XMLNS_DATASERVICES_URI</i> on page 387	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/08/dataservices">http://schemas.microsoft.com/ado/2007/08/dataservices</a> .
public static final String	<i>XMLNS_EDM_URI</i> on page 387	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/05/edm">http://schemas.microsoft.com/ado/2007/05/edm</a> .
public static final String	<i>XMLNS_EDMX_URI</i> on page 387	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/06/edmx">http://schemas.microsoft.com/ado/2007/06/edmx</a> .
public static final String	<i>XMLNS_GENERICPLAYER_URI</i> on page 388	Constant for XMLNS URI: <a href="http://www.sap.com/Protocols/SAPData/GenericPlayer">http://www.sap.com/Protocols/SAPData/GenericPlayer</a> .
public static final String	<i>XMLNS_METADATA_URI</i> on page 388	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/08/dataservices/metadata">http://schemas.microsoft.com/ado/2007/08/dataservices/metadata</a> .
public static final String	<i>XMLNS_SAP_URI</i> on page 388	Constant for XMLNS URI: <a href="http://www.sap.com/Protocols/SAPData">http://www.sap.com/Protocols/SAPData</a> .

#### Inherited members from IPersistable

Modifier and Type	Member	Description
public void	<i>read(BufferedReader)</i> on page 389	
public void	<i>write(BufferedWriter)</i> on page 389	

#### *getAssociation()* method

Returns the value of appropriate OData element.

#### Syntax

```
public abstract String getAssociation ()
```

#### Returns

the value of appropriate OData element

*ELEMENT\_ASSOCIATIONSET* variable

Name of the appropriate OData element.

*Syntax*

```
public static final String ELEMENT_ASSOCIATIONSET
```

*IODataCollection* interface

Represents the 'Collection' element of the OData Service Document.

*Syntax*

```
public abstract interface IODataCollection extends
  IParserDocument
```

*Derived classes*

- *ODataCollection* on page 494

*Members*

All members of IODataCollection, including inherited members. **Variables**

Modifier and Type	Variable	Description
public static final String	<i>ATTRIBUTE_CREATABLE</i> on page 169	Name of the appropriate OData attribute.
public static final String	<i>ATTRIBUTE_DELETABLE</i> on page 169	Name of the appropriate OData attribute.
public static final String	<i>ATTRIBUTE_DISPLAYORDER</i> on page 169	Name of the appropriate OData extension attribute.
public static final String	<i>ATTRIBUTE_FILTERABLE</i> on page 169	Name of the appropriate OData attribute.
public static final String	<i>ATTRIBUTE_HREF</i> on page 170	Name of the appropriate OData attribute.
public static final String	<i>ATTRIBUTE_SEARCHABLE</i> on page 170	Name of the appropriate OData attribute.
public static final String	<i>ATTRIBUTE_SEMANTICS</i> on page 170	Name of the appropriate OData attribute.
public static final String	<i>ATTRIBUTE_UPDATABLE</i> on page 170	Name of the appropriate OData attribute.

Modifier and Type	Variable	Description
public static final String	<i>ATTRIBUTE_VALUE_REL_SEARCH</i> on page 170	Possible value of the appropriate OData attribute.
public static final String	<i>ELEMENT_COLLECTION</i> on page 170	Name of the appropriate OData element.
public static final String	<i>ELEMENT_LINK</i> on page 170	Name of the appropriate OData element.
public static final String	<i>ELEMENT_MEMBERTITLE</i> on page 171	Name of the appropriate OData element.
public static final String	<i>ELEMENT_TITLE</i> on page 171	Name of the appropriate OData element.

### Methods

Modifier and Type	Method	Description
public abstract int	<i>getDisplayOrder()</i> on page 165	Returns the value of the appropriate OData extension attribute.
public abstract String	<i>getHref()</i> on page 165	Returns the value of the 'href' OData attribute.
public abstract List< IODataIcon >	<i>getIcons()</i> on page 166	Returns list of the appropriate OData elements.
public abstract String	<i>getId()</i> on page 166	Returns the value of the 'href' OData attribute as a relative href (matchable with appropriate entitySet)
public abstract List< IODataLink >	<i>getLinks()</i> on page 166	Returns the value of the appropriate OData elements.
public abstract String	<i>getMemberTitle()</i> on page 166	Returns the value of the appropriate OData element.
public abstract IODataLink	<i>getSearchLink()</i> on page 166	Returns OData Link object that should be used for retrieving Open Search Description XML.
public abstract String	<i>getSemantics()</i> on page 167	Returns the value of the appropriate OData attribute.

Modifier and Type	Method	Description
public abstract IODataLink	<i>getSubscriptionLink()</i> on page 167	Returns OData Link object that should be used for subscription or null if there is no subscription link defined.
public abstract String	<i>getTitle()</i> on page 167	Returns the value of the appropriate OData element.
public abstract String	<i>getUrl()</i> on page 167	Returns OData Link object that should be used for self related operations.
public abstract boolean	<i>isCreatable()</i> on page 168	Returns the value of the appropriate OData attribute.
public abstract boolean	<i>isDeletable()</i> on page 168	Returns the value of the appropriate OData attribute.
public abstract boolean	<i>isFilterable()</i> on page 168	Returns the value of the appropriate OData attribute.
public abstract boolean	<i>isSearchable()</i> on page 168	Returns the value of the appropriate OData attribute.
public abstract boolean	<i>isUpdatable()</i> on page 168	Returns the value of the appropriate OData attribute.
public abstract void	<i>setEntitySet(IODataEntitySet)</i> on page 169	Sets the data held by the appropriate element of the OData Schema.

#### Inherited members from IParserDocument

Modifier and Type	Member	Description
public static final String	<i>ATTRIBUTE_ETAG</i> on page 386	Name of the appropriate OData element.
public static final String	<i>ATTRIBUTE_VALUEPREFIX_EDMTYPE</i> on page 386	Value prefix for EDM Type type values.
public abstract IParserDocument	<i>clone()</i> on page 374	Creates a copy of this object.
public static Map< String, String >	<i>DEFAULT_PREFIXMAPPING</i> on page 386	The default XML Namespace-to-Prefix mapping used for building XMLS.

Modifier and Type	Member	Description
public static final String[]	<i>EDMDATETIME_PATTERNS</i> on page 386	Possible EDM DateTime patterns Note: Some pattern are not supported by OData specification but still widely used.
public static final String[]	<i>EDMDATETIMEOFFSET_PATTERNS</i> on page 386	Possible EDM TimeOffset patterns Note: Some pattern are not supported by OData specification but still widely used.
public static final String	<i>EDMTIME_PATTERN</i> on page 386	EDM Time pattern.
public static String	<i>ELEMENT_FEED</i> on page 386	Name of the appropriate OData element.
public static final String	<i>ELEMENT_ID</i> on page 387	Name of the appropriate OData element.
public abstract String	<i>getAttribute(String...)</i> on page 374	Returns the value of the first attribute with the given route.
public abstract List< String >	<i>getAttributes(String...)</i> on page 374	Returns all the values of attributes with the given route.
public abstract Map< String, String >	<i>getChildAttributeMap(String...)</i> on page 375	Returns all the name-value pairs of attributes contained by the element with the given route.
public abstract List< String >	<i>getChildAttributes(String...)</i> on page 375	Returns all the values of attributes contained by the element with the given route.
public abstract List< IParseDocument >	<i>getChildDocuments(String...)</i> on page 375	Returns the elements contained by the element with the given route.
public abstract List< IParseDocument >	<i>getChildDocumentsWithAttribute(String, String, String...)</i> on page 376	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public abstract List< IParseDocument >	<i>getChildDocumentsWithAttribute(String, String, boolean, String...)</i> on page 376	Returns the elements contained by the element with the given route and having the given attribute with the given value.

Modifier and Type	Member	Description
public abstract IParserDocument	<i>getDocument(String...)</i> on page 377	Returns the first element with the given route.
public abstract List<IParserDocument >	<i>getDocuments(String...)</i> on page 377	Returns all the elements with the given route.
public abstract List<IParserDocument >	<i>getDocumentsWithAttribute(String, String, String...)</i> on page 378	Returns the elements with the given route that contains the given attribute with the given value.
public abstract List<IParserDocument >	<i>getDocumentsWithAttribute(String, String, boolean, String...)</i> on page 378	Returns the elements with the given route that contains the given attribute with the given value.
public abstract IParserDocument	<i>getDocumentWithAttribute(String, String, String...)</i> on page 379	Returns the first element with the given route that contains the given attribute with the given value.
public abstract IParserDocument	<i>getDocumentWithAttribute(String, String, boolean, String...)</i> on page 379	Returns the first element with the given route that contains the given attribute with the given value.
public abstract String	<i>getElementName()</i> on page 380	Returns The name of the root element of this document.
public abstract String	<i>getFunctionImportComplexPropertyValue(String...)</i> on page 380	
public abstract String	<i>getPrefixForUri(String)</i> on page 380	Returns the appropriate name-space prefix for the given XML name-space URI.
public abstract String[]	<i>getStrings()</i> on page 381	Returns all the string values contained by this document.
public abstract String	<i>getValue(String...)</i> on page 381	Returns the value of the first element with the given route.
public abstract List<String >	<i>getValues(String...)</i> on page 381	Returns all the values of elements with the given route.

Modifier and Type	Member	Description
public abstract void	<i>putAttribute(String, String...)</i> on page 382	Sets the value of the attribute with the given route. If attribute does not exist it will be created as well as all other non existing elements in the route.
public abstract void	<i>putDocument(IParserDocument, String...)</i> on page 382	Insert the document under the element with the given route. Inserted document will be placed before already existing documents with the same route name. All missing elements from the route will be created.
public abstract void	<i>putValue(String, String...)</i> on page 382	Sets the value of the first element with the given route.
public abstract boolean	<i>removeAttribute(String...)</i> on page 383	Removes first element with the given route.
public abstract boolean	<i>removeAttributes(String...)</i> on page 383	Removes all the attribute with the given route.
public abstract boolean	<i>removeDocument(String...)</i> on page 383	Removes first element with the given route. For removing multiple element use <code>setDocuments</code> with null arguments.
public static final String	<i>ROOT_DOCUMENT_NAME</i> on page 387	The default root element name for a new document.
public abstract void	<i>setAttributes(List&lt;String&gt;, String...)</i> on page 384	Sets all the values of the attributes with the given route. Values will be paired to attributes in order. Attributes with greater or equals index than size of new values will be untouched. Attributes paired with null values will be removed.

Modifier and Type	Member	Description
public abstract void	<i>setDocuments(List&lt; IParser-Document &gt;, String...)</i> on page 384	Replaces all the elements with the given route Documents will be paired to elements in order Elements with greater or equals index than size of new elements will be untouched Element paired with null will be removed.
public abstract void	<i>setElementName(String, String...)</i> on page 385	Sets the name of the root element with the given route Use empty route for setting root name of this document.
public abstract void	<i>setValues(List&lt; String &gt;, String...)</i> on page 385	Sets all the values of the elements with the given route Values will be paired to elements in order Elements with greater or equals index than size of new values will be untouched Null values will be treated as empty strings.
public abstract String	<i>toXMLString()</i> on page 385	Returns the XML string representation of this object.
public static final String	<i>XMLNS_APPLICATION_URI</i> on page 387	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/08/dataservices">http://schemas.microsoft.com/ado/2007/08/dataservices</a> .
public static final String	<i>XMLNS_ATOM_URI</i> on page 387	Constant for XMLNS URI: <a href="http://www.w3.org/2005/Atom">http://www.w3.org/2005/Atom</a> .
public static final String	<i>XMLNS_DATASERVICES_URI</i> on page 387	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/08/dataservices">http://schemas.microsoft.com/ado/2007/08/dataservices</a> .
public static final String	<i>XMLNS_EDM_URI</i> on page 387	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/05/edm">http://schemas.microsoft.com/ado/2007/05/edm</a> .
public static final String	<i>XMLNS_EDMX_URI</i> on page 387	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/06/edmx">http://schemas.microsoft.com/ado/2007/06/edmx</a> .



Modifier and Type	Member	Description
public static final String	<i>XMLNS_GENERICPLAYER_URI</i> on page 388	Constant for XMLNS URI: <a href="http://www.sap.com/Protocols/SAPData/GenericPlayer">http://www.sap.com/Protocols/SAPData/GenericPlayer</a> .
public static final String	<i>XMLNS_METADATA_URI</i> on page 388	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/08/dataservices/metadata">http://schemas.microsoft.com/ado/2007/08/dataservices/metadata</a> .
public static final String	<i>XMLNS_SAP_URI</i> on page 388	Constant for XMLNS URI: <a href="http://www.sap.com/Protocols/SAPData">http://www.sap.com/Protocols/SAPData</a> .

#### Inherited members from IPersistable

Modifier and Type	Member	Description
public void	<i>read(BufferedReader)</i> on page 389	
public void	<i>write(BufferedWriter)</i> on page 389	

#### *getDisplayOrder()* method

Returns the value of the appropriate OData extension attribute.

#### *Syntax*

```
public abstract int getDisplayOrder ()
```

#### *Returns*

The value of the appropriate OData extension attribute

#### *getHref()* method

Returns the value of the 'href' OData attribute.

#### *Syntax*

```
public abstract String getHref ()
```

#### *Returns*

The value of the 'href' OData attribute

### *getIcons() method*

Returns list of the appropriate OData elements.

#### *Syntax*

```
public abstract List< IODataIcon > getIcons ()
```

#### *Returns*

list of the appropriate OData elements

### *getId() method*

Returns the value of the 'href' OData attribute as a relative href (matchable with appropriate entitySet)

#### *Syntax*

```
public abstract String getId ()
```

#### *Returns*

The value of the 'href' OData attribute

### *getLinks() method*

Returns the value of the appropriate OData elements.

#### *Syntax*

```
public abstract List< IODataLink > getLinks ()
```

#### *Returns*

The value of the appropriate OData elements

### *getMemberTitle() method*

Returns the value of the appropriate OData element.

#### *Syntax*

```
public abstract String getMemberTitle ()
```

#### *Returns*

The value of the appropriate OData element

### *getSearchLink() method*

Returns OData Link object that should be used for retrieving Open Search Description XML.

#### *Syntax*

```
public abstract IODataLink getSearchLink ()
```

*Returns*

OData Link for search

*getSemantics() method*

Returns the value of the appropriate OData attribute.

*Syntax*

```
public abstract String getSemantics ()
```

*Returns*

The value of the appropriate OData attribute

*getSubscriptionLink() method*

Returns OData Link object that should be used for subscription or null if there is no subscription link defined.

*Syntax*

```
public abstract IODataLink getSubscriptionLink ()
```

*Returns*

OData Link for subscribe

*getTitle() method*

Returns the value of the appropriate OData element.

*Syntax*

```
public abstract String getTitle ()
```

*Returns*

The value of the appropriate OData element

*getUrl() method*

Returns OData Link object that should be used for self related operations.

*Syntax*

```
public abstract String getUrl ()
```

*Returns*

OData Link for self Returns the full URL of the collectionThe full URL of the collection

### *isCreatable() method*

Returns the value of the appropriate OData attribute.

#### *Syntax*

```
public abstract boolean isCreatable ()
```

#### *Returns*

The value of the appropriate OData attribute

### *isDeletable() method*

Returns the value of the appropriate OData attribute.

#### *Syntax*

```
public abstract boolean isDeletable ()
```

#### *Returns*

The value of the appropriate OData attribute

### *isFilterable() method*

Returns the value of the appropriate OData attribute.

#### *Syntax*

```
public abstract boolean isFilterable ()
```

#### *Returns*

The value of the appropriate OData attribute

### *isSearchable() method*

Returns the value of the appropriate OData attribute.

#### *Syntax*

```
public abstract boolean isSearchable ()
```

#### *Returns*

The value of the appropriate OData attribute

### *isUpdatable() method*

Returns the value of the appropriate OData attribute.

#### *Syntax*

```
public abstract boolean isUpdatable ()
```

*Returns*

The value of the appropriate OData attribute

*setEntitySet(IODataEntitySet) method*

Sets the data held by the appropriate element of the OData Schema.

*Syntax*

```
public abstract void setEntitySet ( IODataEntitySet entitySet )
```

*Parameters*

- **entitySet** – The OData EntitySet to use the data from.

*Usage*

If EntitySet is set base attributes of collection will be overwritten with the appropriate values of the EntitySet.

*ATTRIBUTE\_CREATABLE variable*

Name of the appropriate OData attribute.

*Syntax*

```
public static final String ATTRIBUTE_CREATABLE
```

*ATTRIBUTE\_DELETABLE variable*

Name of the appropriate OData attribute.

*Syntax*

```
public static final String ATTRIBUTE_DELETABLE
```

*ATTRIBUTE\_DISPLAYORDER variable*

Name of the appropriate OData extension attribute.

*Syntax*

```
public static final String ATTRIBUTE_DISPLAYORDER
```

*ATTRIBUTE\_FILTERABLE variable*

Name of the appropriate OData attribute.

*Syntax*

```
public static final String ATTRIBUTE_FILTERABLE
```

### *ATTRIBUTE\_HREF variable*

Name of the appropriate OData attribute.

#### *Syntax*

```
public static final String ATTRIBUTE_HREF
```

### *ATTRIBUTE\_SEARCHABLE variable*

Name of the appropriate OData attribute.

#### *Syntax*

```
public static final String ATTRIBUTE_SEARCHABLE
```

### *ATTRIBUTE\_SEMANTICS variable*

Name of the appropriate OData attribute.

#### *Syntax*

```
public static final String ATTRIBUTE_SEMANTICS
```

### *ATTRIBUTE\_UPDATABLE variable*

Name of the appropriate OData attribute.

#### *Syntax*

```
public static final String ATTRIBUTE_UPDATABLE
```

### *ATTRIBUTE\_VALUE\_REL\_SEARCH variable*

Possible value of the appropriate OData attribute.

#### *Syntax*

```
public static final String ATTRIBUTE_VALUE_REL_SEARCH
```

### *ELEMENT\_COLLECTION variable*

Name of the appropriate OData element.

#### *Syntax*

```
public static final String ELEMENT_COLLECTION
```

### *ELEMENT\_LINK variable*

Name of the appropriate OData element.

#### *Syntax*

```
public static final String ELEMENT_LINK
```

***ELEMENT\_MEMBERTITLE* variable**

Name of the appropriate OData element.

**Syntax**

```
public static final String ELEMENT_MEMBERTITLE
```

***ELEMENT\_TITLE* variable**

Name of the appropriate OData element.

**Syntax**

```
public static final String ELEMENT_TITLE
```

***IODataComplexType* interface**

Represents the appropriate OData element.

**Syntax**

```
public abstract interface IODataComplexType extends
  IParserDocument
```

**Derived classes**

- *IODataComplexType* on page 516

**Members**

All members of *IODataComplexType*, including inherited members. **Variables**

Modifier and Type	Variable	Description
public static final String	<i>ATTRIBUTE_NAME</i> on page 177	Name of the appropriate OData attribute.
public static final String	<i>ELEMENT_COMPLEXTYPE</i> on page 177	Name of the appropriate OData element.
public static final String	<i>ELEMENT_PROPERTY</i> on page 177	Name of the appropriate OData element.

**Methods**

Modifier and Type	Method	Description
public abstract String	<i>getName()</i> on page 176	Returns the value of the appropriate OData element.
public abstract List< IODataProperty >	<i>getProperties()</i> on page 177	Returns the list of the appropriate OData elements.

**Inherited members from *IParserDocument***

Modifier and Type	Member	Description
public static final String	<i>ATTRIBUTE_ETAG</i> on page 386	Name of the appropriate OData element.
public static final String	<i>ATTRIBUTE_VALUEPREFIX_EDMTYPE</i> on page 386	Value prefix for EDM Type type values.
public abstract IParserDocument	<i>clone()</i> on page 374	Creates a copy of this object.
public static Map< String, String >	<i>DEFAULT_PREFIXMAPPING</i> on page 386	The default XML Namespace-to-Prefix mapping used for building XMLS.
public static final String[]	<i>EDMDATETIME_PATTERNS</i> on page 386	Possible EDM DateTime patterns Note: Some pattern are not supported by OData specification but still widely used.
public static final String[]	<i>EDMDATETIMEOFFSET_PATTERNS</i> on page 386	Possible EDM DateTimeOffset patterns Note: Some pattern are not supported by OData specification but still widely used.
public static final String	<i>EDMTIME_PATTERN</i> on page 386	EDM Time pattern.
public static String	<i>ELEMENT_FEED</i> on page 386	Name of the appropriate OData element.
public static final String	<i>ELEMENT_ID</i> on page 387	Name of the appropriate OData element.
public abstract String	<i>getAttribute(String...)</i> on page 374	Returns the value of the first attribute with the given route.
public abstract List< String >	<i>getAttributes(String...)</i> on page 374	Returns all the values of attributes with the given route.
public abstract Map< String, String >	<i>getChildAttributeMap(String...)</i> on page 375	Returns all the name-value pairs of attributes contained by the element with the given route.
public abstract List< String >	<i>getChildAttributes(String...)</i> on page 375	Returns all the values of attributes contained by the element with the given route.



Modifier and Type	Member	Description
public abstract List<IParserDocument >	<i>getChildDocuments(String...)</i> on page 375	Returns the elements contained by the element with the given route.
public abstract List<IParserDocument >	<i>getChildDocumentsWithAttribute(String, String, String...)</i> on page 376	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public abstract List<IParserDocument >	<i>getChildDocumentsWithAttribute(String, String, boolean, String...)</i> on page 376	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public abstract IParserDocument	<i>getDocument(String...)</i> on page 377	Returns the first element with the given route.
public abstract List<IParserDocument >	<i>getDocuments(String...)</i> on page 377	Returns all the elements with the given route.
public abstract List<IParserDocument >	<i>getDocumentsWithAttribute(String, String, String...)</i> on page 378	Returns the elements with the given route that contains the given attribute with the given value.
public abstract List<IParserDocument >	<i>getDocumentsWithAttribute(String, String, boolean, String...)</i> on page 378	Returns the elements with the given route that contains the given attribute with the given value.
public abstract IParserDocument	<i>getDocumentWithAttribute(String, String, String...)</i> on page 379	Returns the first element with the given route that contains the given attribute with the given value.
public abstract IParserDocument	<i>getDocumentWithAttribute(String, String, boolean, String...)</i> on page 379	Returns the first element with the given route that contains the given attribute with the given value.
public abstract String	<i>getElementName()</i> on page 380	Returns The name of the root element of this document.
public abstract String	<i>getFunctionImportComplexPropertyValue(String...)</i> on page 380	

Modifier and Type	Member	Description
public abstract String	<i>getPrefixForUri(String)</i> on page 380	Returns the appropriate name-space prefix for the given XML name-space URI.
public abstract String[]	<i>getStrings()</i> on page 381	Returns all the string values contained by this document.
public abstract String	<i>getValue(String...)</i> on page 381	Returns the value of the first element with the given route.
public abstract List< String >	<i>getValues(String...)</i> on page 381	Returns all the values of elements with the given route.
public abstract void	<i>putAttribute(String, String...)</i> on page 382	Sets the value of the attribute with the given route If attribute does not exist it will be created as well as all other non existing elements in the route.
public abstract void	<i>putDocument(IParserDocument, String...)</i> on page 382	Insert the document under the element with the given route inserted document will be placed before already existing documents with the same route name under All missing elements from the route will be created.
public abstract void	<i>putValue(String, String...)</i> on page 382	Sets the value of the first element with the given route.
public abstract boolean	<i>removeAttribute(String...)</i> on page 383	Removes first element with the given route.
public abstract boolean	<i>removeAttributes(String...)</i> on page 383	Removes all the attribute with the given route.
public abstract boolean	<i>removeDocument(String...)</i> on page 383	Removes first element with the given route For removing multiple element use setDocuemtns with null arguments.
public static final String	<i>ROOT_DOCUMENT_NAME</i> on page 387	The default root element name for a new document.

Modifier and Type	Member	Description
public abstract void	<i>setAttributes(List&lt; String &gt;, String...)</i> on page 384	Sets all the values of the attributes with the given route Values will be paired to attributes in order Attributes with greater or equals index than size of new values will be untouched Attributes paired with null values will be removed.
public abstract void	<i>setDocuments(List&lt; IParser-Document &gt;, String...)</i> on page 384	Replaces all the elements with the given route Documents will be paired to elements in order Elements with greater or equals index than size of new elements will be untouched Element paired with null will be removed.
public abstract void	<i>setElementName(String, String...)</i> on page 385	Sets the name of the root element with the given route Use empty route for setting root name of this document.
public abstract void	<i>setValues(List&lt; String &gt;, String...)</i> on page 385	Sets all the values of the elements with the given rout Values will be paired to elements in order Elements with greater or equals index than size of new values will be untouched Null values will be treated as empty strings.
public abstract String	<i>toXMLString()</i> on page 385	Returns the XML string representation of this object.
public static final String	<i>XMLNS_APPLICATION_URI</i> on page 387	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/08/dataservices">http://schemas.microsoft.com/ado/2007/08/dataservices</a> .
public static final String	<i>XMLNS_ATOM_URI</i> on page 387	Constant for XMLNS URI: <a href="http://www.w3.org/2005/Atom">http://www.w3.org/2005/Atom</a> .

Modifier and Type	Member	Description
public static final String	<i>XMLNS_DATASERVICES_URI</i> on page 387	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/08/dataservices">http://schemas.microsoft.com/ado/2007/08/dataservices</a> .
public static final String	<i>XMLNS_EDM_URI</i> on page 387	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/05/edm">http://schemas.microsoft.com/ado/2007/05/edm</a> .
public static final String	<i>XMLNS_EDMX_URI</i> on page 387	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/06/edmx">http://schemas.microsoft.com/ado/2007/06/edmx</a> .
public static final String	<i>XMLNS_GENERICPLAYER_URI</i> on page 388	Constant for XMLNS URI: <a href="http://www.sap.com/Protocols/SAPData/GenericPlayer">http://www.sap.com/Protocols/SAPData/GenericPlayer</a> .
public static final String	<i>XMLNS_METADATA_URI</i> on page 388	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/08/dataservices/metadata">http://schemas.microsoft.com/ado/2007/08/dataservices/metadata</a> .
public static final String	<i>XMLNS_SAP_URI</i> on page 388	Constant for XMLNS URI: <a href="http://www.sap.com/Protocols/SAPData">http://www.sap.com/Protocols/SAPData</a> .

#### Inherited members from IPersistable

Modifier and Type	Member	Description
public void	<i>read(BufferedReader)</i> on page 389	
public void	<i>write(BufferedWriter)</i> on page 389	

#### *getName()* method

Returns the value of the appropriate OData element.

#### Syntax

```
public abstract String getName ()
```

#### Returns

The value of the appropriate OData element

*getProperties() method*

Returns the list of the appropriate OData elements.

*Syntax*

```
public abstract List< IODataProperty > getProperties ()
```

*Returns*

The list of the appropriate OData elements

*ATTRIBUTE\_NAME variable*

Name of the appropriate OData attribute.

*Syntax*

```
public static final String ATTRIBUTE_NAME
```

*ELEMENT\_COMPLEXTYPE variable*

Name of the appropriate OData element.

*Syntax*

```
public static final String ELEMENT_COMPLEXTYPE
```

*ELEMENT\_PROPERTY variable*

Name of the appropriate OData element.

*Syntax*

```
public static final String ELEMENT_PROPERTY
```

*IODataEntitySet interface*

Represents the appropriate OData element.

*Syntax*

```
public abstract interface IODataEntitySet extends  
IParserDocument
```

*Derived classes*

- *IODataEntitySet* on page 531

*Members*

All members of IODataEntitySet, including inherited members. **Variables**

Modifier and Type	Variable	Description
public static final String	<i>ATTRIBUTE_CREATABLE</i> on page 184	Name of the appropriate OData attribute.
public static final String	<i>ATTRIBUTE_DELETABLE</i> on page 184	Name of the appropriate OData attribute.
public static final String	<i>ATTRIBUTE_NAME</i> on page 185	Name of the appropriate OData attribute.
public static final String	<i>ATTRIBUTE_SEARCHABLE</i> on page 185	Name of the appropriate OData attribute.
public static final String	<i>ATTRIBUTE_UPDATABLE</i> on page 185	Name of the appropriate OData attribute.
public static final String	<i>ELEMENT_ENTITYSET</i> on page 185	Name of the appropriate OData element.

### Methods

Modifier and Type	Method	Description
public abstract String	<i>getName()</i> on page 183	
public abstract boolean	<i>isCreatable()</i> on page 183	
public abstract boolean	<i>isDeletable()</i> on page 183	
public abstract boolean	<i>isSearchable()</i> on page 184	
public abstract boolean	<i>isSearchable(String)</i> on page 184	Returns the value of the given OData attribute.
public abstract boolean	<i>isUpdatable()</i> on page 184	

### Inherited members from IParserDocument

Modifier and Type	Member	Description
public static final String	<i>ATTRIBUTE_ETAG</i> on page 386	Name of the appropriate OData element.
public static final String	<i>ATTRIBUTE_VALUEPREFIX_EDMTYPE</i> on page 386	Value prefix for EDM Type type values.
public abstract IParserDocument	<i>clone()</i> on page 374	Creates a copy of this object.

Modifier and Type	Member	Description
public static Map< String, String >	<i>DEFAULT_PREFIXMAP-PING</i> on page 386	The default XML Namespace-to-Prefix mapping used for building XMLS.
public static final String[]	<i>EDMDATETIME_PATTERNS</i> on page 386	Possible EDM DateTime patterns Note: Some pattern are not supported by OData specification but still widely used.
public static final String[]	<i>EDMDATETIMEOFFSET_PATTERNS</i> on page 386	Possible EDM TimeOffset patterns Note: Some pattern are not supported by OData specification but still widely used.
public static final String	<i>EDMTIME_PATTERN</i> on page 386	EDM Time pattern.
public static String	<i>ELEMENT_FEED</i> on page 386	Name of the appropriate OData element.
public static final String	<i>ELEMENT_ID</i> on page 387	Name of the appropriate OData element.
public abstract String	<i>getAttribute(String...)</i> on page 374	Returns the value of the first attribute with the given route.
public abstract List< String >	<i>getAttributes(String...)</i> on page 374	Returns all the values of attributes with the given route.
public abstract Map< String, String >	<i>getChildAttribute-Map(String...)</i> on page 375	Returns all the name-value pairs of attributes contained by the element with the given route.
public abstract List< String >	<i>getChildAttributes(String...)</i> on page 375	Returns all the values of attributes contained by the element with the given route.
public abstract List< IParseDocument >	<i>getChildDocuments(String...)</i> on page 375	Returns the elements contained by the element with the given route.
public abstract List< IParseDocument >	<i>getChildDocumentsWithAttribute(String, String, String...)</i> on page 376	Returns the elements contained by the element with the given route and having the given attribute with the given value.

Modifier and Type	Member	Description
public abstract List<IParserDocument >	<i>getChildDocumentsWithAttribute(String, String, boolean, String...)</i> on page 376	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public abstract IParserDocument	<i>getDocument(String...)</i> on page 377	Returns the first element with the given route.
public abstract List<IParserDocument >	<i>getDocuments(String...)</i> on page 377	Returns all the elements with the given route.
public abstract List<IParserDocument >	<i>getDocumentsWithAttribute(String, String, String...)</i> on page 378	Returns the elements with the given route that contains the given attribute with the given value.
public abstract List<IParserDocument >	<i>getDocumentsWithAttribute(String, String, boolean, String...)</i> on page 378	Returns the elements with the given route that contains the given attribute with the given value.
public abstract IParserDocument	<i>getDocumentWithAttribute(String, String, String...)</i> on page 379	Returns the first element with the given route that contains the given attribute with the given value.
public abstract IParserDocument	<i>getDocumentWithAttribute(String, String, boolean, String...)</i> on page 379	Returns the first element with the given route that contains the given attribute with the given value.
public abstract String	<i>getElementName()</i> on page 380	Returns The name of the root element of this document.
public abstract String	<i>getFunctionImportComplexProperty Value(String...)</i> on page 380	
public abstract String	<i>getPrefixForUri(String)</i> on page 380	Returns the appropriate namespace prefix for the given XML name-space URI.
public abstract String[]	<i>getStrings()</i> on page 381	Returns all the string values contained by this document.



Modifier and Type	Member	Description
public abstract String	<i>getValue(String...)</i> on page 381	Returns the value of the first element with the given route.
public abstract List< String >	<i>getValues(String...)</i> on page 381	Returns all the values of elements with the given route.
public abstract void	<i>putAttribute(String, String...)</i> on page 382	Sets the value of the attribute with the given route If attribute does not exist it will be created as well as all other non existing elements in the route.
public abstract void	<i>putDocument(IParserDocument, String...)</i> on page 382	Insert the document under the element with the given route inserted document will be placed before already existing documents with the same route name under All missing elements from the route will be created.
public abstract void	<i>putValue(String, String...)</i> on page 382	Sets the value of the first element with the given route.
public abstract boolean	<i>removeAttribute(String...)</i> on page 383	Removes first element with the given route.
public abstract boolean	<i>removeAttributes(String...)</i> on page 383	Removes all the attribute with the given route.
public abstract boolean	<i>removeDocument(String...)</i> on page 383	Removes first element with the given route For removing multiple element use setDocuemtns with null arguments.
public static final String	<i>ROOT_DOCUMENT_NAME</i> on page 387	The default root element name for a new document.
public abstract void	<i>setAttributes(List&lt; String &gt;, String...)</i> on page 384	Sets all the values of the attributes with the given route Values will be paired to attributes in order Attributes with greater or equals index than size of new values will be untouched Attributes paired with null values will be removed.

Modifier and Type	Member	Description
public abstract void	<i>setDocuments(List&lt; IParser-Document &gt;, String...)</i> on page 384	Replaces all the elements with the given route Documents will be paired to elements in order Elements with greater or equals index than size of new elements will be untouched Element paired with null will be removed.
public abstract void	<i>setElementName(String, String...)</i> on page 385	Sets the name of the root element with the given route Use empty route for setting root name of this document.
public abstract void	<i>setValues(List&lt; String &gt;, String...)</i> on page 385	Sets all the values of the elements with the given route Values will be paired to elements in order Elements with greater or equals index than size of new values will be untouched Null values will be treated as empty strings.
public abstract String	<i>toXMLString()</i> on page 385	Returns the XML string representation of this object.
public static final String	<i>XMLNS_APPLICATION_URI</i> on page 387	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/08/dataservices">http://schemas.microsoft.com/ado/2007/08/dataservices</a> .
public static final String	<i>XMLNS_ATOM_URI</i> on page 387	Constant for XMLNS URI: <a href="http://www.w3.org/2005/Atom">http://www.w3.org/2005/Atom</a> .
public static final String	<i>XMLNS_DATASERVICES_URI</i> on page 387	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/08/dataservices">http://schemas.microsoft.com/ado/2007/08/dataservices</a> .
public static final String	<i>XMLNS_EDM_URI</i> on page 387	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/05/edm">http://schemas.microsoft.com/ado/2007/05/edm</a> .
public static final String	<i>XMLNS_EDMX_URI</i> on page 387	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/06/edmx">http://schemas.microsoft.com/ado/2007/06/edmx</a> .

Modifier and Type	Member	Description
public static final String	<i>XMLNS_GENERICPLAYER_URI</i> on page 388	Constant for XMLNS URI: <a href="http://www.sap.com/Protocols/SAPData/GenericPlayer">http://www.sap.com/Protocols/SAPData/GenericPlayer</a> .
public static final String	<i>XMLNS_METADATA_URI</i> on page 388	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/08/dataservices/metadata">http://schemas.microsoft.com/ado/2007/08/dataservices/metadata</a> .
public static final String	<i>XMLNS_SAP_URI</i> on page 388	Constant for XMLNS URI: <a href="http://www.sap.com/Protocols/SAPData">http://www.sap.com/Protocols/SAPData</a> .

#### Inherited members from IPersistable

Modifier and Type	Member	Description
public void	<i>read(BufferedReader)</i> on page 389	
public void	<i>write(BufferedWriter)</i> on page 389	

#### *getName()* method

##### *Syntax*

```
public abstract String getName ()
```

##### *Returns*

The value of the appropriate OData attribute

#### *isCreatable()* method

##### *Syntax*

```
public abstract boolean isCreatable ()
```

##### *Returns*

The value of the appropriate OData attribute

#### *isDeletable()* method

##### *Syntax*

```
public abstract boolean isDeletable ()
```

### *Returns*

The value of the appropriate OData attribute

### *isSearchable() method*

### *Syntax*

```
public abstract boolean isSearchable ()
```

### *Returns*

The value of the appropriate OData attribute

### *isSearchable(String) method*

Returns the value of the given OData attribute.

### *Syntax*

```
public abstract boolean isSearchable (String searchAttributeName )
```

### *Parameters*

- **searchAttributeName** – The name of the OData attribute

### *Returns*

The value of the given OData attribute

### *isUpdatable() method*

### *Syntax*

```
public abstract boolean isUpdatable ()
```

### *Returns*

The value of the appropriate OData attribute

### *ATTRIBUTE\_CREATABLE variable*

Name of the appropriate OData attribute.

### *Syntax*

```
public static final String ATTRIBUTE_CREATABLE
```

### *ATTRIBUTE\_DELETABLE variable*

Name of the appropriate OData attribute.

### *Syntax*

```
public static final String ATTRIBUTE_DELETABLE
```

***ATTRIBUTE\_NAME*** variable

Name of the appropriate OData attribute.

***Syntax***

```
public static final String ATTRIBUTE_NAME
```

***ATTRIBUTE\_SEARCHABLE*** variable

Name of the appropriate OData attribute.

***Syntax***

```
public static final String ATTRIBUTE_SEARCHABLE
```

***ATTRIBUTE\_UPDATABLE*** variable

Name of the appropriate OData attribute.

***Syntax***

```
public static final String ATTRIBUTE_UPDATABLE
```

***ELEMENT\_ENTITYSET*** variable

Name of the appropriate OData element.

***Syntax***

```
public static final String ELEMENT_ENTITYSET
```

***IODataEntityType*** interface

Represents the appropriate OData element.

***Syntax***

```
public abstract interface IODataEntityType extends
  IParserDocument
```

***Derived classes***

- *IODataEntityType* on page 547

***Members***

All members of *IODataEntityType*, including inherited members. **Variables**

Modifier and Type	Variable	Description
public static final String	<i>ATTRIBUTE_HASSTREAM</i> on page 196	Name of the appropriate OData attribute.

Modifier and Type	Variable	Description
public static final String	<i>ATTRIBUTE_NAME</i> on page 196	Name of the appropriate OData attribute.
public static final String	<i>ELEMENT_ENTITYTYPE</i> on page 196	Name of the appropriate OData element.
public static final String	<i>ELEMENT_KEY</i> on page 196	Name of the appropriate OData element.
public static final String	<i>ELEMENT_PROPERTY</i> on page 196	Name of the appropriate OData element.
public static final String	<i>ELEMENT_PROPERTYREF</i> on page 196	Name of the appropriate OData element.

### Methods

Modifier and Type	Method	Description
public abstract List< IODataProperty >	<i>getGPUseInSearchPropertiesData()</i> on page 192	Returns The list of appropriate OData elements with 'true' use-in-search (Generic Player names-pace) attribute value.
public abstract List< IODataProperty >	<i>getGPVisibleInDetailPropertiesData()</i> on page 192	Returns The list of appropriate OData elements with 'true' visible-in-detail (Generic Player names-pace) attribute value.
public abstract List< IODataProperty >	<i>getGPVisibleInListPropertiesData()</i> on page 193	Returns The list of appropriate OData elements with 'true' visible-in-list (Generic Player names-pace) attribute value.
public abstract List< String >	<i>getKeyPropertyNames()</i> on page 193	Returns the list of the values of the 'PropertyRef' OData element contained by the 'Key' OData element.
public abstract String	<i>getName()</i> on page 193	Returns The value of the appropriate OData attribute.
public abstract List< IODataNavigationProperty >	<i>getNavigationProperties()</i> on page 193	Returns The list of appropriate OData elements.
public abstract IODataNavigationProperty	<i>getNavigationProperty(String)</i> on page 194	Returns The appropriate OData element with the given name.

Modifier and Type	Method	Description
public abstract List< IODataProperty >	<i>getProperties()</i> on page 194	Returns The list of appropriate OData elements.
public abstract List< IODataProperty >	<i>getPropertiesWithAttribute(String, String)</i> on page 194	Returns The list of appropriate OData elements with given attribute value.
public abstract List< IODataProperty >	<i>getPropertiesWithAttribute(String, String, boolean)</i> on page 194	Returns The list of appropriate OData elements with given attribute value.
public abstract IODataProperty	<i>getProperty(String)</i> on page 195	Returns The appropriate OData element with the given name.
public abstract List< IODataProperty >	<i>getSAPSearchablePropertiesData()</i> on page 195	Returns The list of appropriate OData elements with 'true' searchable (SAP names-pace) attribute value.
public abstract List< IODataProperty >	<i>getSearchablePropertiesData(String)</i> on page 195	Returns The list of appropriate OData elements with 'true' attribute value of the given attribute.
public abstract boolean	<i>hasStream()</i> on page 195	Returns The value of the appropriate OData attribute.

### Inherited members from IParserDocument

Modifier and Type	Member	Description
public static final String	<i>ATTRIBUTE_ETAG</i> on page 386	Name of the appropriate OData element.
public static final String	<i>ATTRIBUTE_VALUEPREFIX_EDMTYPE</i> on page 386	Value prefix for EDM Type type values.
public abstract IParserDocument	<i>clone()</i> on page 374	Creates a copy of this object.
public static Map< String, String >	<i>DEFAULT_PREFIXMAPPING</i> on page 386	The default XML Namespace-to-Prefix mapping used for building XMLS.

Modifier and Type	Member	Description
public static final String[]	<i>EDMDATETIME_PATTERNS</i> on page 386	Possible EDM DateTime patterns Note: Some pattern are not supported by OData specification but still widely used.
public static final String[]	<i>EDMDATETIMEOFFSET_PATTERNS</i> on page 386	Possible EDM TimeOffset patterns Note: Some pattern are not supported by OData specification but still widely used.
public static final String	<i>EDMTIME_PATTERN</i> on page 386	EDM Time pattern.
public static String	<i>ELEMENT_FEED</i> on page 386	Name of the appropriate OData element.
public static final String	<i>ELEMENT_ID</i> on page 387	Name of the appropriate OData element.
public abstract String	<i>getAttribute(String...)</i> on page 374	Returns the value of the first attribute with the given route.
public abstract List< String >	<i>getAttributes(String...)</i> on page 374	Returns all the values of attributes with the given route.
public abstract Map< String, String >	<i>getChildAttributeMap(String...)</i> on page 375	Returns all the name-value pairs of attributes contained by the element with the given route.
public abstract List< String >	<i>getChildAttributes(String...)</i> on page 375	Returns all the values of attributes contained by the element with the given route.
public abstract List< IParserDocument >	<i>getChildDocuments(String...)</i> on page 375	Returns the elements contained by the element with the given route.
public abstract List< IParserDocument >	<i>getChildDocumentsWithAttribute(String, String, String...)</i> on page 376	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public abstract List< IParserDocument >	<i>getChildDocumentsWithAttribute(String, String, boolean, String...)</i> on page 376	Returns the elements contained by the element with the given route and having the given attribute with the given value.



Modifier and Type	Member	Description
public abstract IParserDocument	<i>getDocument(String...)</i> on page 377	Returns the first element with the given route.
public abstract List<IParserDocument >	<i>getDocuments(String...)</i> on page 377	Returns all the elements with the given route.
public abstract List<IParserDocument >	<i>getDocumentsWithAttribute(String, String, String...)</i> on page 378	Returns the elements with the given route that contains the given attribute with the given value.
public abstract List<IParserDocument >	<i>getDocumentsWithAttribute(String, String, boolean, String...)</i> on page 378	Returns the elements with the given route that contains the given attribute with the given value.
public abstract IParserDocument	<i>getDocumentWithAttribute(String, String, String...)</i> on page 379	Returns the first element with the given route that contains the given attribute with the given value.
public abstract IParserDocument	<i>getDocumentWithAttribute(String, String, boolean, String...)</i> on page 379	Returns the first element with the given route that contains the given attribute with the given value.
public abstract String	<i>getElementName()</i> on page 380	Returns The name of the root element of this document.
public abstract String	<i>getFunctionImportComplexPropertyValue(String...)</i> on page 380	
public abstract String	<i>getPrefixForUri(String)</i> on page 380	Returns the appropriate name-space prefix for the given XML name-space URI.
public abstract String[]	<i>getStrings()</i> on page 381	Returns all the string values contained by this document.
public abstract String	<i>getValue(String...)</i> on page 381	Returns the value of the first element with the given route.
public abstract List<String >	<i>getValues(String...)</i> on page 381	Returns all the values of elements with the given route.

Modifier and Type	Member	Description
public abstract void	<i>putAttribute(String, String...)</i> on page 382	Sets the value of the attribute with the given route. If attribute does not exist it will be created as well as all other non existing elements in the route.
public abstract void	<i>putDocument(IParserDocument, String...)</i> on page 382	Insert the document under the element with the given route. Inserted document will be placed before already existing documents with the same route name. All missing elements from the route will be created.
public abstract void	<i>putValue(String, String...)</i> on page 382	Sets the value of the first element with the given route.
public abstract boolean	<i>removeAttribute(String...)</i> on page 383	Removes first element with the given route.
public abstract boolean	<i>removeAttributes(String...)</i> on page 383	Removes all the attribute with the given route.
public abstract boolean	<i>removeDocument(String...)</i> on page 383	Removes first element with the given route. For removing multiple element use <code>setDocuments</code> with null arguments.
public static final String	<i>ROOT_DOCUMENT_NAME</i> on page 387	The default root element name for a new document.
public abstract void	<i>setAttributes(List&lt;String&gt;, String...)</i> on page 384	Sets all the values of the attributes with the given route. Values will be paired to attributes in order. Attributes with greater or equals index than size of new values will be untouched. Attributes paired with null values will be removed.

Modifier and Type	Member	Description
public abstract void	<i>setDocuments(List&lt; IParser-Document &gt;, String...)</i> on page 384	Replaces all the elements with the given route Documents will be paired to elements in order Elements with greater or equals index than size of new elements will be untouched Element paired with null will be removed.
public abstract void	<i>setElementName(String, String...)</i> on page 385	Sets the name of the root element with the given route Use empty route for setting root name of this document.
public abstract void	<i>setValues(List&lt; String &gt;, String...)</i> on page 385	Sets all the values of the elements with the given route Values will be paired to elements in order Elements with greater or equals index than size of new values will be untouched Null values will be treated as empty strings.
public abstract String	<i>toXMLString()</i> on page 385	Returns the XML string representation of this object.
public static final String	<i>XMLNS_APPLICATION_URI</i> on page 387	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/08/dataservices">http://schemas.microsoft.com/ado/2007/08/dataservices</a> .
public static final String	<i>XMLNS_ATOM_URI</i> on page 387	Constant for XMLNS URI: <a href="http://www.w3.org/2005/Atom">http://www.w3.org/2005/Atom</a> .
public static final String	<i>XMLNS_DATASERVICES_URI</i> on page 387	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/08/dataservices">http://schemas.microsoft.com/ado/2007/08/dataservices</a> .
public static final String	<i>XMLNS_EDM_URI</i> on page 387	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/05/edm">http://schemas.microsoft.com/ado/2007/05/edm</a> .
public static final String	<i>XMLNS_EDMX_URI</i> on page 387	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/06/edmx">http://schemas.microsoft.com/ado/2007/06/edmx</a> .

Modifier and Type	Member	Description
public static final String	<i>XMLNS_GENERICPLAYER_URI</i> on page 388	Constant for XMLNS URI: <a href="http://www.sap.com/Protocols/SAPData/GenericPlayer">http://www.sap.com/Protocols/SAPData/GenericPlayer</a> .
public static final String	<i>XMLNS_METADATA_URI</i> on page 388	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/08/dataservices/metadata">http://schemas.microsoft.com/ado/2007/08/dataservices/metadata</a> .
public static final String	<i>XMLNS_SAP_URI</i> on page 388	Constant for XMLNS URI: <a href="http://www.sap.com/Protocols/SAPData">http://www.sap.com/Protocols/SAPData</a> .

#### Inherited members from IPersistable

Modifier and Type	Member	Description
public void	<i>read(BufferedReader)</i> on page 389	
public void	<i>write(BufferedWriter)</i> on page 389	

#### *getGPUseInSearchPropertiesData()* method

Returns The list of appropriate OData elements with 'true' use-in-search (Generic Player names-pace) attribute value.

#### *Syntax*

```
public abstract List< IODataProperty >
getGPUseInSearchPropertiesData ()
```

#### *Returns*

The list of appropriate OData elements with 'true' use-in-search (Generic Player names-pace) attribute value

#### *getGPVisibleInDetailPropertiesData()* method

Returns The list of appropriate OData elements with 'true' visible-in-detail (Generic Player names-pace) attribute value.

#### *Syntax*

```
public abstract List< IODataProperty >
getGPVisibleInDetailPropertiesData ()
```

**Returns**

The list of appropriate OData elements with 'true' visible-in-detail (Generic Player namespace) attribute value

***getGPVisibleInListPropertiesData() method***

Returns The list of appropriate OData elements with 'true' visible-in-list (Generic Player namespace) attribute value.

**Syntax**

```
public abstract List< IODataProperty >
getGPVisibleInListPropertiesData ()
```

**Returns**

The list of appropriate OData elements with 'true' visible-in-list (Generic Player namespace) attribute value

***getKeyPropertyNames() method***

Returns the list of the values of the 'PropertyRef' OData element contained by the 'Key' OData element.

**Syntax**

```
public abstract List< String > getKeyPropertyNames ()
```

**Returns**

The list of the values of the 'PropertyRef' OData element

***getName() method***

Returns The value of the appropriate OData attribute.

**Syntax**

```
public abstract String getName ()
```

**Returns**

The value of the appropriate OData attribute

***getNavigationProperties() method***

Returns The list of appropriate OData elements.

**Syntax**

```
public abstract List< IODataNavigationProperty >
getNavigationProperties ()
```

### *Returns*

The list of appropriate OData elements

### *getNavigationProperty(String) method*

Returns The appropriate OData element with the given name.

### *Syntax*

```
public abstract IODataNavigationProperty  
getNavigationProperty ( String name )
```

### *Returns*

The appropriate OData element with the given name

### *getProperties() method*

Returns The list of appropriate OData elements.

### *Syntax*

```
public abstract List< IODataProperty > getProperties ( )
```

### *Returns*

The list of appropriate OData elements

### *getPropertiesWithAttribute(String, String) method*

Returns The list of appropriate OData elements with given attribute value.

### *Syntax*

```
public abstract List< IODataProperty >  
getPropertiesWithAttribute ( String attributeName , String  
attributeValue )
```

### *Returns*

The list of appropriate OData elements with given attribute value

### *getPropertiesWithAttribute(String, String, boolean) method*

Returns The list of appropriate OData elements with given attribute value.

### *Syntax*

```
public abstract List< IODataProperty >  
getPropertiesWithAttribute ( String attributeName , String  
attributeValue , boolean addByDefault )
```

**Returns**

The list of appropriate OData elements with given attribute value

***getProperty(String) method***

Returns The appropriate OData element with the given name.

**Syntax**

```
public abstract IODataProperty getProperty ( String
propertyName )
```

**Returns**

The appropriate OData element with the given name

***getSAPSearchablePropertiesData() method***

Returns The list of appropriate OData elements with 'true' searchable (SAP names-pace) attribute value.

**Syntax**

```
public abstract List< IODataProperty >
getSAPSearchablePropertiesData ( )
```

**Returns**

The list of appropriate OData elements with 'true' searchable (SAP names-pace) attribute value

***getSearchablePropertiesData(String) method***

Returns The list of appropriate OData elements with 'true' attribute value of the given attribute.

**Syntax**

```
public abstract List< IODataProperty >
getSearchablePropertiesData ( String searchAttributeName )
```

**Returns**

The list of appropriate OData elements with 'true' attribute value of the given attribute

***hasStream() method***

Returns The value of the appropriate OData attribute.

**Syntax**

```
public abstract boolean hasStream ( )
```

**Returns**

The value of the appropriate OData attribute

### *ATTRIBUTE\_HASSTREAM variable*

Name of the appropriate OData attribute.

#### *Syntax*

```
public static final String ATTRIBUTE_HASSTREAM
```

### *ATTRIBUTE\_NAME variable*

Name of the appropriate OData attribute.

#### *Syntax*

```
public static final String ATTRIBUTE_NAME
```

### *ELEMENT\_ENTITYTYPE variable*

Name of the appropriate OData element.

#### *Syntax*

```
public static final String ELEMENT_ENTITYTYPE
```

### *ELEMENT\_KEY variable*

Name of the appropriate OData element.

#### *Syntax*

```
public static final String ELEMENT_KEY
```

### *ELEMENT\_PROPERTY variable*

Name of the appropriate OData element.

#### *Syntax*

```
public static final String ELEMENT_PROPERTY
```

### *ELEMENT\_PROPERTYREF variable*

Name of the appropriate OData element.

#### *Syntax*

```
public static final String ELEMENT_PROPERTYREF
```

### *IODataEntry interface*

Represents the 'entry' OData element with maintained reference to the appropriate OData Schema document.

#### *Syntax*

```
public abstract interface IODataEntry extends IParserDocument
```



*Derived classes*

- *IODataSubscriptionEntry* on page 324
- *ODataEntry* on page 567
- *ODataReturnTypeEntry* on page 752

*Members*

All members of *IODataEntry*, including inherited members. **Variables**

<b>Modifier and Type</b>	<b>Variable</b>	<b>Description</b>
public static final String	<i>ATTRIBUTE_SEMANTICS</i> on page 220	Name of the appropriate OData attribute.
public static final String	<i>ATTRIBUTE_TERM</i> on page 220	Name of the appropriate OData attribute.
public static final String	<i>ATTRIBUTE_VALUE_SEMANTICS_ACTION</i> on page 220	Value option for appropriate OData attribute.
public static final String	<i>ELEMENT_AUTHOR</i> on page 220	Name of the appropriate OData element.
public static final String	<i>ELEMENT_CATEGORY</i> on page 220	Name of the appropriate OData element.
public static final String	<i>ELEMENT_CONTENT</i> on page 220	Name of the appropriate OData element.
public static final String	<i>ELEMENT_ENTRY</i> on page 221	Name of the appropriate OData element.
public static final String	<i>ELEMENT_LINK</i> on page 221	Name of the appropriate OData element.
public static final String	<i>ELEMENT_NAME</i> on page 221	Name of the appropriate OData element.
public static final String	<i>ELEMENT_PROPERTIES</i> on page 221	Name of the appropriate OData element.
public static final String	<i>ELEMENT_SUMMARY</i> on page 221	Name of the appropriate OData element.
public static final String	<i>ELEMENT_TITLE</i> on page 221	Name of the appropriate OData element.

Modifier and Type	Variable	Description
public static final String	<i>ELEMENT_UPDATED</i> on page 221	Name of the appropriate OData element.
public static final String	<i>PROPERTY_LEVEL_SEPARATOR</i> on page 222	

### Methods

Modifier and Type	Method	Description
public abstract List< IOData-Link >	<i>getActionLinks()</i> on page 208	Returns OData Link objects that are set as action links (Has semantics (SAP name-space) attribute with value 'action')
public abstract String	<i>getAuthorName()</i> on page 208	Returns The value of the 'name' OData element of the 'author' OData element.
public cacheState	<i>getCachestate()</i> on page 208	
public Long	<i>getCacheTimestamp()</i> on page 208	
public abstract String	<i>getCollectionId()</i> on page 208	Returns the Id of the OCata Collection that this Entry belongs to.
public abstract String	<i>getContentType()</i> on page 209	Returns the content type of the entry.
public abstract String	<i>getEtag()</i> on page 209	Returns the Id of the OData Collection that this Entry belongs to.
public abstract String	<i>getFilterUrl()</i> on page 209	Returns the full execution URL hat can be used for filtering collection search for this single entry.

Modifier and Type	Method	Description
public abstract List< IODataProperty >	<i>getGPUseInSearchPropertiesData()</i> on page 209	Returns the value and meta information (retrieved from OData Schema document) of the properties of this OData Entry document with 'true' use-in-search (Generic Player namespace) attribute value.
public abstract List< IODataProperty >	<i>getGPVisibleInDetailPropertiesData()</i> on page 210	Returns the value and meta information (retrieved from OData Schema document) of the properties of this OData Entry document with 'true' visible-in-detail (Generic Player namespace) attribute value.
public abstract List< IODataProperty >	<i>getGPVisibleInListPropertiesData()</i> on page 210	Returns the value and meta information (retrieved from OData Schema document) of the properties of this OData Entry document with 'true' visible-in-list (Generic Player namespace) attribute value.
public abstract List< IODataProperty >	<i>getIcons()</i> on page 210	Returns the list of the appropriate OData elements.
public abstract String	<i>getId()</i> on page 210	Returns The Id of this OData Entry (value of appropriate OData Id element)
public boolean	<i>getIsLocal()</i> on page 211	
public abstract Map< String, String >	<i>getKeyPropertyValues()</i> on page 211	Returns the values of the properties that are marked as key properties in the OData Schema document.
public abstract Date	<i>getLastUpdated()</i> on page 211	Returns The parsed value of the 'updated' OData Element.
public abstract List< IODataLink >	<i>getLinks()</i> on page 211	Returns the list of the appropriate OData elements.
public abstract String	<i>getMediaSrc()</i> on page 211	Returns the media source if the entry has a media content.

Modifier and Type	Method	Description
public abstract List< IODataProperty >	<i>getPropertiesData()</i> on page 212	Returns the value and meta information (retrieved from OData Schema document) of the properties of this Odata Entry document.
public abstract List< IODataProperty >	<i>getPropertiesDataWithAttribute(String, String)</i> on page 212	Returns the value and meta information (retrieved from OData Schema document) of the properties of this OData Entry document with the given attribute value.
public abstract List< IODataProperty >	<i>getPropertiesDataWithAttribute(String, String, boolean)</i> on page 212	Returns the value and meta information (retrieved from OData Schema document) of the properties of this OData Entry document with the given attribute value.
public abstract IParserDocument	<i>getPropertiesDocument()</i> on page 213	Returns the representer document of OData 'properties' (Metadata name-space) document This method is created for performance reasons mostly to use in search methods.
public abstract String	<i>getPropertyValue(String...)</i> on page 213	Returns the value of the appropriate property.
public abstract< T > T	<i>getPropertyValueParsed(String...)</i> on page 213	Returns the value of the appropriate property parsed to it's real type.
public abstract Map< String, String >	<i>getPropertyValues()</i> on page 214	Returns the all the values of properties contained by this OData Entry document Key for the properties will be their name of their full path in case they are enclosed by Complex Types.
public abstract List< String >	<i>getPropertyValues(List&lt; String[]&gt;)</i> on page 214	Return list of property values for the given property paths.

Modifier and Type	Method	Description
public abstract List< IOData-Link >	<i>getRelatedDataLinks()</i> on page 215	Returns OData Link objects that represents links to Related Data.
public abstract List< IODataProperty >	<i>getSAPSearchableProperties-Data()</i> on page 215	Returns the value and meta information (retrieved from OData Schema document) of the properties of this OData Entry document with 'true' searchable (SAP name-space) attribute value.
public abstract IODataSchema	<i>getSchema()</i> on page 215	Returns the appropriate OData Schema object.
public abstract IODataLink	<i>getSelfLink()</i> on page 215	Returns OData Link object that should be used for self related operations (with 'rel' attribute value 'self' or 'edit')
public abstract IODataLink	<i>getSubscriptionLink()</i> on page 216	Returns OData Link object that should be used for subscription or null if there is no subscription link defined.
public abstract String	<i>getSummary()</i> on page 216	Returns The value of the appropriate OData element.
public abstract String	<i>getTitle()</i> on page 216	Returns The value of the appropriate OData element.
public abstract void	<i>putComplexPropertyValue(String, String...)</i> on page 216	Puts the new property element as a sub-element of the 'complex properties' OData element.
public abstract void	<i>putContentType(String)</i> on page 217	Puts the content type for a new entry object.
public abstract void	<i>putId(String)</i> on page 217	Sets id of this OData Entry document (value of appropriate OData Id element)
public abstract void	<i>putMediaSrc(String)</i> on page 217	Puts the media source for a new entry object.

Modifier and Type	Method	Description
public abstract void	<i>putPropertyValue(String, String)</i> on page 217	Puts the new property element as a sub-element of the 'properties' OData element.
public abstract void	<i>putPropertyValue(String, String, boolean)</i> on page 218	Puts the new property element as a sub-element of the 'properties' OData element.
public abstract void	<i>setAuthorName(String)</i> on page 218	Sets the value of the 'name' OData element of the 'author' OData element.
public void	<i>setCachestate(cache.State)</i> on page 218	
public void	<i>setCacheTimestamp(Long)</i> on page 219	
public abstract void	<i>setCollectionId(String)</i> on page 219	Maintains the Id of the OCata Collection that this Entry belongs to.
public void	<i>setIsLocal(boolean)</i> on page 219	
public abstract void	<i>setSchema(IODataSchema)</i> on page 219	Maintains the reference to the appropriate OData Schema object.
public abstract void	<i>setSummary(String)</i> on page 219	Sets the value of the appropriate OData element.
public abstract void	<i>setTitle(String)</i> on page 219	Sets the value of the appropriate OData element.

#### Inherited members from IParserDocument

Modifier and Type	Member	Description
public static final String	<i>ATTRIBUTE_ETAG</i> on page 386	Name of the appropriate OData element.
public static final String	<i>ATTRIBUTE_VALUEPREFIX_EDMTYPE</i> on page 386	Value prefix for EDM Type type values.
public abstract IParserDocument	<i>clone()</i> on page 374	Creates a copy of this object.

Modifier and Type	Member	Description
public static Map< String, String >	<i>DEFAULT_PREFIXMAP-PING</i> on page 386	The default XML Namespace-to-Prefix mapping used for building XMLS.
public static final String[]	<i>EDMDATETIME_PATTERNS</i> on page 386	Possible EDM DateTime patterns Note: Some pattern are not supported by OData specification but still widely used.
public static final String[]	<i>EDMDATETIMEOFFSET_PATTERNS</i> on page 386	Possible EDM TimeOffset patterns Note: Some pattern are not supported by OData specification but still widely used.
public static final String	<i>EDMTIME_PATTERN</i> on page 386	EDM Time pattern.
public static String	<i>ELEMENT_FEED</i> on page 386	Name of the appropriate OData element.
public static final String	<i>ELEMENT_ID</i> on page 387	Name of the appropriate OData element.
public abstract String	<i>getAttribute(String...)</i> on page 374	Returns the value of the first attribute with the given route.
public abstract List< String >	<i>getAttributes(String...)</i> on page 374	Returns all the values of attributes with the given route.
public abstract Map< String, String >	<i>getChildAttribute-Map(String...)</i> on page 375	Returns all the name-value pairs of attributes contained by the element with the given route.
public abstract List< String >	<i>getChildAttributes(String...)</i> on page 375	Returns all the values of attributes contained by the element with the given route.
public abstract List< IParseDocument >	<i>getChildDocuments(String...)</i> on page 375	Returns the elements contained by the element with the given route.
public abstract List< IParseDocument >	<i>getChildDocumentsWithAttribute(String, String, String...)</i> on page 376	Returns the elements contained by the element with the given route and having the given attribute with the given value.

Modifier and Type	Member	Description
public abstract List<IParserDocument >	<i>getChildDocumentsWithAttribute(String, String, boolean, String...)</i> on page 376	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public abstract IParserDocument	<i>getDocument(String...)</i> on page 377	Returns the first element with the given route.
public abstract List<IParserDocument >	<i>getDocuments(String...)</i> on page 377	Returns all the elements with the given route.
public abstract List<IParserDocument >	<i>getDocumentsWithAttribute(String, String, String...)</i> on page 378	Returns the elements with the given route that contains the given attribute with the given value.
public abstract List<IParserDocument >	<i>getDocumentsWithAttribute(String, String, boolean, String...)</i> on page 378	Returns the elements with the given route that contains the given attribute with the given value.
public abstract IParserDocument	<i>getDocumentWithAttribute(String, String, String...)</i> on page 379	Returns the first element with the given route that contains the given attribute with the given value.
public abstract IParserDocument	<i>getDocumentWithAttribute(String, String, boolean, String...)</i> on page 379	Returns the first element with the given route that contains the given attribute with the given value.
public abstract String	<i>getElementName()</i> on page 380	Returns The name of the root element of this document.
public abstract String	<i>getFunctionImportComplexProperty Value(String...)</i> on page 380	
public abstract String	<i>getPrefixForUri(String)</i> on page 380	Returns the appropriate namespace prefix for the given XML name-space URI.
public abstract String[]	<i>getStrings()</i> on page 381	Returns all the string values contained by this document.



Modifier and Type	Member	Description
public abstract String	<i>getValue(String...)</i> on page 381	Returns the value of the first element with the given route.
public abstract List< String >	<i>getValues(String...)</i> on page 381	Returns all the values of elements with the given route.
public abstract void	<i>putAttribute(String, String...)</i> on page 382	Sets the value of the attribute with the given route If attribute does not exist it will be created as well as all other non existing elements in the route.
public abstract void	<i>putDocument(IParserDocument, String...)</i> on page 382	Insert the document under the element with the given route inserted document will be placed before already existing documents with the same route name under All missing elements from the route will be created.
public abstract void	<i>putValue(String, String...)</i> on page 382	Sets the value of the first element with the given route.
public abstract boolean	<i>removeAttribute(String...)</i> on page 383	Removes first element with the given route.
public abstract boolean	<i>removeAttributes(String...)</i> on page 383	Removes all the attribute with the given route.
public abstract boolean	<i>removeDocument(String...)</i> on page 383	Removes first element with the given route For removing multiple element use setDocuemtns with null arguments.
public static final String	<i>ROOT_DOCUMENT_NAME</i> on page 387	The default root element name for a new document.
public abstract void	<i>setAttributes(List&lt; String &gt;, String...)</i> on page 384	Sets all the values of the attributes with the given route Values will be paired to attributes in order Attributes with greater or equals index than size of new values will be untouched Attributes paired with null values will be removed.

Modifier and Type	Member	Description
public abstract void	<i>setDocuments(List&lt; IParser-Document &gt;, String...)</i> on page 384	Replaces all the elements with the given route Documents will be paired to elements in order Elements with greater or equals index than size of new elements will be untouched Element paired with null will be removed.
public abstract void	<i>setElementName(String, String...)</i> on page 385	Sets the name of the root element with the given route Use empty route for setting root name of this document.
public abstract void	<i>setValues(List&lt; String &gt;, String...)</i> on page 385	Sets all the values of the elements with the given route Values will be paired to elements in order Elements with greater or equals index than size of new values will be untouched Null values will be treated as empty strings.
public abstract String	<i>toXMLString()</i> on page 385	Returns the XML string representation of this object.
public static final String	<i>XMLNS_APPLICATION_URI</i> on page 387	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/08/dataservices">http://schemas.microsoft.com/ado/2007/08/dataservices</a> .
public static final String	<i>XMLNS_ATOM_URI</i> on page 387	Constant for XMLNS URI: <a href="http://www.w3.org/2005/Atom">http://www.w3.org/2005/Atom</a> .
public static final String	<i>XMLNS_DATASERVICES_URI</i> on page 387	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/08/dataservices">http://schemas.microsoft.com/ado/2007/08/dataservices</a> .
public static final String	<i>XMLNS_EDM_URI</i> on page 387	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/05/edm">http://schemas.microsoft.com/ado/2007/05/edm</a> .
public static final String	<i>XMLNS_EDMX_URI</i> on page 387	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/06/edmx">http://schemas.microsoft.com/ado/2007/06/edmx</a> .

Modifier and Type	Member	Description
public static final String	<i>XMLNS_GENERICPLAYER_URI</i> on page 388	Constant for XMLNS URI: <a href="http://www.sap.com/Protocols/SAPData/GenericPlayer">http://www.sap.com/Protocols/SAPData/GenericPlayer</a> .
public static final String	<i>XMLNS_METADATA_URI</i> on page 388	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/08/dataservices/metadata">http://schemas.microsoft.com/ado/2007/08/dataservices/metadata</a> .
public static final String	<i>XMLNS_SAP_URI</i> on page 388	Constant for XMLNS URI: <a href="http://www.sap.com/Protocols/SAPData">http://www.sap.com/Protocols/SAPData</a> .

#### Inherited members from IPersistable

Modifier and Type	Member	Description
public void	<i>read(BufferedReader)</i> on page 389	
public void	<i>write(BufferedWriter)</i> on page 389	

#### *IODataEntry.cacheState* enum

##### Members

All members of *cacheState*, including inherited members. **Variables**

Modifier and Type	Variable	Description
public	<i>Deleted</i> on page 207	
public	<i>Inserted</i> on page 207	
public	<i>Updated</i> on page 208	

##### *Deleted* variable

###### Syntax

```
public Deleted
```

##### *Inserted* variable

###### Syntax

```
public Inserted
```

### *Updated variable*

#### *Syntax*

```
public Updated
```

#### *getActionLinks() method*

Returns OData Link objects that are set as action links (Has semantics (SAP name-space) attribute with value 'action')

#### *Syntax*

```
public abstract List< IODataLink > getActionLinks ()
```

#### *Returns*

List of OData Action Link documents

#### *getAuthorName() method*

Returns The value of the 'name' OData element of the 'author' OData element.

#### *Syntax*

```
public abstract String getAuthorName ()
```

#### *Returns*

The value of the 'name' OData element of the 'author' OData element

#### *getCachestate() method*

#### *Syntax*

```
public cacheState getCachestate ()
```

#### *getCacheTimestamp() method*

#### *Syntax*

```
public Long getCacheTimestamp ()
```

#### *getCollectionId() method*

Returns the Id of the OCata Collection that this Entry belongs to.

#### *Syntax*

```
public abstract String getCollectionId ()
```

#### *Returns*

The Id of the OCata Collection that this Entry belongs to

*getContentTypes() method*

Returns the content type of the entry.

*Syntax*

```
public abstract String getContentTypes ()
```

*Returns*

Content Type of the entry

*getEtag() method*

Returns the Id of the OData Collection that this Entry belongs to.

*Syntax*

```
public abstract String getEtag ()
```

*Returns*

The Id of the OData Collection that this Entry belongs to

*getFilterUrl() method*

Returns the full execution URL hat can be used for filtering collection search for this single entry.

*Syntax*

```
public abstract String getFilterUrl ()
```

*Returns*

The full filter URL

*getGPUseInSearchPropertiesData() method*

Returns the value and meta information (retrieved from OData Schema document) of the properties of this OData Entry document with 'true' use-in-search (Generic Player namespace) attribute value.

*Syntax*

```
public abstract List< IODataProperty >
getGPUseInSearchPropertiesData ()
```

*Returns*

The meta-informations and values of the appropriate properties

### *getGPVisibleInDetailPropertiesData() method*

Returns the value and meta information (retrieved from OData Schema document) of the properties of this OData Entry document with 'true' visible-in-detail (Generic Player namespace) attribute value.

#### *Syntax*

```
public abstract List< IODataProperty >  
getGPVisibleInDetailPropertiesData ()
```

#### *Returns*

The meta-informations and values of the appropriate properties

### *getGPVisibleInListPropertiesData() method*

Returns the value and meta information (retrieved from OData Schema document) of the properties of this OData Entry document with 'true' visible-in-list (Generic Player namespace) attribute value.

#### *Syntax*

```
public abstract List< IODataProperty >  
getGPVisibleInListPropertiesData ()
```

#### *Returns*

The meta-informations and values of the appropriate properties

### *getIcons() method*

Returns the list of the appropriate OData elements.

#### *Syntax*

```
public abstract List< IODataIcon > getIcons ()
```

#### *Returns*

The list of the appropriate OData elements

### *getId() method*

Returns The Id of this OData Entry (value of appropriate OData Id element)

#### *Syntax*

```
public abstract String getId ()
```

#### *Returns*

The Id of this OData Entry

*getIsLocal() method**Syntax*

```
public boolean getIsLocal ()
```

*getKeyPropertyValues() method*

Returns the values of the properties that are marked as key properties in the OData Schema document.

*Syntax*

```
public abstract Map< String, String > getKeyPropertyValues  
( )
```

*Returns*

The name-value pairs of the key properties

*getLastUpdated() method*

Returns The parsed value of the 'updated' OData Element.

*Syntax*

```
public abstract Date getLastUpdated ()
```

*Returns*

The parsed value of the value of the 'updated' OData element or null is parsing failed

*getLinks() method*

Returns the list of the appropriate OData elements.

*Syntax*

```
public abstract List< IODataLink > getLinks ()
```

*Returns*

The list of the appropriate OData elements

*getMediaSrc() method*

Returns the media source if the entry has a media content.

*Syntax*

```
public abstract String getMediaSrc ()
```

*Returns*

Media source link of the entry

### *getPropertiesData() method*

Returns the value and meta information (retrieved from OData Schema document) of the properties of this Odata Entry document.

#### *Syntax*

```
public abstract List< IODataProperty > getPropertiesData ()
```

#### *Returns*

The meta-informations and values of the contained properties

### *getPropertiesDataWithAttribute(String, String) method*

Returns the value and meta information (retrieved from OData Schema document) of the properties of this OData Entry document with the given attribute value.

#### *Syntax*

```
public abstract List< IODataProperty >  
getPropertiesDataWithAttribute ( String attributeName , String  
attributeValue )
```

#### *Parameters*

- **attributeName** – The name of the attribute
- **attributeValue** – The expected value of the attribute

#### *Returns*

The meta-informations and values of the appropriate properties

### *getPropertiesDataWithAttribute(String, String, boolean) method*

Returns the value and meta information (retrieved from OData Schema document) of the properties of this OData Entry document with the given attribute value.

#### *Syntax*

```
public abstract List< IODataProperty >  
getPropertiesDataWithAttribute ( String attributeName , String  
attributeValue , boolean addByDefault )
```

#### *Parameters*

- **attributeName** – The name of the attribute
- **attributeValue** – The expected value of the attribute
- **addByDefault** – true if the Property should be add in case if there is no attribute with the given name



*Returns*

The meta-informations and values of the appropriate properties

*getPropertiesDocument() method*

Returns the representer document of OData 'properties' (Metadata name-space) document  
This method is created for performance reasons mostly to use in search methods.

*Syntax*

```
public abstract IParserDocument getPropertiesDocument ()
```

*Returns*

The ParseDocument representation of OData 'properties' (Metadata name-space) document

*getPropertyValue(String...) method*

Returns the value of the appropriate property.

*Syntax*

```
public abstract String getPropertyValue (String... propertyPath )  
throws IllegalArgumentException
```

*Parameters*

- **propertyPath** – The path to the property with or without the name-space prefix including names of the enclosing complex types if any (Without enclosing complex type this argument should be simple the name of the property)

*Returns*

The value of the property

*Exceptions*

- **IllegalArgumentException** – if the property name is null or ambiguous.

*Usage*

Name of property may or may not contain name-space prefix as long as the property name is not ambiguous

*getPropertyValueParsed(String...) method*

Returns the value of the appropriate property parsed to it's real type.

*Syntax*

```
public abstract< T > T getPropertyValueParsed (String...  
propertyPath ) throws ClassCastException
```

### *Parameters*

- **propertyPath** – The path to the property with or without the name-space prefix including names of the enclosing complex types if any (Without enclosing complex type this argument should be simple the name of the property)

### *Returns*

The value of the property

### *Exceptions*

- **IllegalArgumentException** – if the property name is null or ambiguous
- **ClassCastException** – if the property value can not be parsed to the expected type

### *Usage*

Name of property may or may not contain name-space prefix as long as the property name is not ambiguous

### *getPropertyValues() method*

Returns the all the values of properties contained by this OData Entry document Key for the properties will be their name of their full path in case they are enclosed by Complex Types.

### *Syntax*

```
public abstract Map< String, String > getPropertyValues ()
```

### *Returns*

The name/path and value pairs of the contained properties

### *Usage*

The name of the properties will contain their current name-space prefixes.

### *getPropertyValues(List< String[]>) method*

Return list of property values for the given property paths.

### *Syntax*

```
public abstract List< String > getPropertyValues ( List<  
String[]> propertyPathes )
```

### *Parameters*

- **propertyPathes** – Name of the property or path including the name of the enclosing Complex Types

### *Returns*

The list of the values of the properties

*getRelatedDataLinks() method*

Returns OData Link objects that represents links to Related Data.

*Syntax*

```
public abstract List< IODataLink > getRelatedDataLinks ()
```

*Returns*

List of OData Related Link documents

*getSAPSearchablePropertiesData() method*

Returns the value and meta information (retrieved from OData Schema document) of the properties of this OData Entry document with 'true' searchable (SAP name-space) attribute value.

*Syntax*

```
public abstract List< IODataProperty >
getSAPSearchablePropertiesData ()
```

*Returns*

The meta-informations and values of the appropriate properties

*getSchema() method*

Returns the appropriate OData Schema object.

*Syntax*

```
public abstract IODataSchema getSchema ()
```

*Returns*

The appropriate OData Schema object.

*getSelfLink() method*

Returns OData Link object that should be used for self related operations (with 'rel' attribute value 'self' or 'edit')

*Syntax*

```
public abstract IODataLink getSelfLink ()
```

*Returns*

OData self Link

### *getSubscriptionLink() method*

Returns OData Link object that should be used for subscription or null if there is no subscription link defined.

#### *Syntax*

```
public abstract IODataLink getSubscriptionLink ()
```

#### *Returns*

OData Link for subscribe

### *getSummary() method*

Returns The value of the appropriate OData element.

#### *Syntax*

```
public abstract String getSummary ()
```

#### *Returns*

The value of the appropriate OData element

### *getTitle() method*

Returns The value of the appropriate OData element.

#### *Syntax*

```
public abstract String getTitle ()
```

#### *Returns*

The value of the appropriate OData element

### *putComplexPropertyValue(String, String...) method*

Puts the new property element as a sub-element of the 'complex properties' OData element.

#### *Syntax*

```
public abstract void putComplexPropertyValue (String  
propertyValue , String... propertyName )
```

#### *Parameters*

- **propertyName** – The route of the property with or without name-space until the complex type.
- **propertyValue** – The value of the property

*Usage*

An element with the same name will be overwritten by the new element. Not-prefixed property name will be automatically prefixed with the current prefix of DataServices XML name-space.

*putContentType(String) method*

Puts the content type for a new entry object.

*Syntax*

```
public abstract void putContentType ( String contentType )
```

*Parameters*

- **contentType** – - Content Type of the entry

*putId(String) method*

Sets id of this OData Entry document (value of appropriate OData Id element)

*Syntax*

```
public abstract void putId ( String id ) throws  
IllegalArgumentException
```

*Parameters*

- **id** – The new id.

*putMediaSrc(String) method*

Puts the media source for a new entry object.

*Syntax*

```
public abstract void putMediaSrc ( String mediaSrc )
```

*Parameters*

- **mediaSrc** – - Media source of the entry

*putPropertyValue(String, String) method*

Puts the new property element as a sub-element of the 'properties' OData element.

*Syntax*

```
public abstract void putPropertyValue ( String propertyName ,  
String propertyValue )
```

### *Parameters*

- **propertyName** – The name of the property with or without name-space.
- **propertyValue** – The value of the property

### *Usage*

An element with the same name will be overwritten by the new element. Not-prefixed property name will be automatically prefixed with the current prefix of DataServices XML name-space.

### *putPropertyValue(String, String, boolean) method*

Puts the new property element as a sub-element of the 'properties' OData element.

### *Syntax*

```
public abstract void putPropertyValue ( String propertyName ,  
String propertyValue , boolean useDefaultPrefix )
```

### *Parameters*

- **useDefaultPrefix** – If true not-prefixed property name will be automatically prefixed with the current prefix of DataServices XML names-pace.
- **propertyName** – The name of the property with or without name-space.
- **propertyValue** – The value of the property

### *Usage*

An element with the same name will be overwritten by the new element.

If name of the property is not prefixed and useDefaultPreix is false, name of the property should be prefixed by the caller. (Use getPrefix for get the valid prefix for a name-space URI)

### *setAuthorName(String) method*

Sets the value of the 'name' OData element of the 'author' OData element.

### *Syntax*

```
public abstract void setAuthorName ( String authorName )
```

### *Parameters*

- **authorName** – The new value of the element

### *setCachestate(cacheState) method*

### *Syntax*

```
public void setCachestate ( cacheState cachestate )
```

*setCacheTimestamp(Long) method**Syntax*

```
public void setCacheTimestamp ( Long timestamp )
```

*setCollectionId(String) method*

Maintains the Id of the OCata Collection that this Entry belongs to.

*Syntax*

```
public abstract void setCollectionId ( String collectionId )
```

*Parameters*

- **collectionId** – The Id of the OCata Collection that this Entry belongs to

*setIsLocal(boolean) method**Syntax*

```
public void setIsLocal ( boolean isLocal )
```

*setSchema(IODataSchema) method*

Maintains the reference to the appropriate OData Schema object.

*Syntax*

```
public abstract void setSchema ( IODataSchema schema )
```

*Parameters*

- **schema** – The appropriate OData Schema object.

*setSummary(String) method*

Sets the value of the appropriate OData element.

*Syntax*

```
public abstract void setSummary ( String summary )
```

*Parameters*

- **summary** – The new value of the element

*setTitle(String) method*

Sets the value of the appropriate OData element.

*Syntax*

```
public abstract void setTitle ( String title )
```

### *Parameters*

- **title** – The new value of the element

### *ATTRIBUTE\_SEMANTICS variable*

Name of the appropriate OData attribute.

### *Syntax*

```
public static final String ATTRIBUTE_SEMANTICS
```

### *ATTRIBUTE\_TERM variable*

Name of the appropriate OData attribute.

### *Syntax*

```
public static final String ATTRIBUTE_TERM
```

### *ATTRIBUTE\_VALUE\_SEMANTICS\_ACTION variable*

Value option for appropriate OData attribute.

### *Syntax*

```
public static final String ATTRIBUTE_VALUE_SEMANTICS_ACTION
```

### *ELEMENT\_AUTHOR variable*

Name of the appropriate OData element.

### *Syntax*

```
public static final String ELEMENT_AUTHOR
```

### *ELEMENT\_CATEGORY variable*

Name of the appropriate OData element.

### *Syntax*

```
public static final String ELEMENT_CATEGORY
```

### *ELEMENT\_CONTENT variable*

Name of the appropriate OData element.

### *Syntax*

```
public static final String ELEMENT_CONTENT
```



***ELEMENT\_ENTRY variable***

Name of the appropriate OData element.

***Syntax***

```
public static final String ELEMENT_ENTRY
```

***ELEMENT\_LINK variable***

Name of the appropriate OData element.

***Syntax***

```
public static final String ELEMENT_LINK
```

***ELEMENT\_NAME variable***

Name of the appropriate OData element.

***Syntax***

```
public static final String ELEMENT_NAME
```

***ELEMENT\_PROPERTIES variable***

Name of the appropriate OData element.

***Syntax***

```
public static final String ELEMENT_PROPERTIES
```

***ELEMENT\_SUMMARY variable***

Name of the appropriate OData element.

***Syntax***

```
public static final String ELEMENT_SUMMARY
```

***ELEMENT\_TITLE variable***

Name of the appropriate OData element.

***Syntax***

```
public static final String ELEMENT_TITLE
```

***ELEMENT\_UPDATED variable***

Name of the appropriate OData element.

***Syntax***

```
public static final String ELEMENT_UPDATED
```

*PROPERTY\_LEVEL\_SEPARATOR* variable*Syntax*

```
public static final String PROPERTY_LEVEL_SEPARATOR
```

*IODataError* interface

Represents the appropriate OData element.

*Syntax*

```
public abstract interface IODataError extends IParserDocument
```

*Derived classes*

- *IODataError* on page 604

*Members*

All members of *IODataError*, including inherited members. **Variables**

Modifier and Type	Variable	Description
public static final String	<i>ATTRIBUTE_LANGUAGE</i> on page 228	Name of the appropriate OData attribute.
public static final String	<i>ELEMENT_ERROR</i> on page 228	Name of the appropriate OData element.
public static final String	<i>ELEMENT_ERRORCODE</i> on page 228	Name of the appropriate OData element.
public static final String	<i>ELEMENT_MESSAGE</i> on page 228	Name of the appropriate OData element.

**Methods**

Modifier and Type	Method	Description
public abstract String	<i>getErrorCode()</i> on page 227	Returns The value of the 'code' OData element.
public abstract String	<i>getLang()</i> on page 228	Returns The value of the appropriate OData attribute of the 'message' element.
public abstract String	<i>getMessage()</i> on page 228	Return the localized error message.

**Inherited members from *IParserDocument***

Modifier and Type	Member	Description
public static final String	<i>ATTRIBUTE_ETAG</i> on page 386	Name of the appropriate OData element.
public static final String	<i>ATTRIBUTE_VALUEPREFIX_EDMTYPE</i> on page 386	Value prefix for EDM Type type values.
public abstract IParserDocument	<i>clone()</i> on page 374	Creates a copy of this object.
public static Map< String, String >	<i>DEFAULT_PREFIXMAPPING</i> on page 386	The default XML Namespace-to-Prefix mapping used for building XMLS.
public static final String[]	<i>EDMDATETIME_PATTERNS</i> on page 386	Possible EDM DateTime patterns Note: Some pattern are not supported by OData specification but still widely used.
public static final String[]	<i>EDMDATETIMEOFFSET_PATTERNS</i> on page 386	Possible EDM DateTimeOffset patterns Note: Some pattern are not supported by OData specification but still widely used.
public static final String	<i>EDMTIME_PATTERN</i> on page 386	EDM Time pattern.
public static String	<i>ELEMENT_FEED</i> on page 386	Name of the appropriate OData element.
public static final String	<i>ELEMENT_ID</i> on page 387	Name of the appropriate OData element.
public abstract String	<i>getAttribute(String...)</i> on page 374	Returns the value of the first attribute with the given route.
public abstract List< String >	<i>getAttributes(String...)</i> on page 374	Returns all the values of attributes with the given route.
public abstract Map< String, String >	<i>getChildAttributeMap(String...)</i> on page 375	Returns all the name-value pairs of attributes contained by the element with the given route.
public abstract List< String >	<i>getChildAttributes(String...)</i> on page 375	Returns all the values of attributes contained by the element with the given route.

Modifier and Type	Member	Description
public abstract List<IParserDocument >	<i>getChildDocuments(String...)</i> on page 375	Returns the elements contained by the element with the given route.
public abstract List<IParserDocument >	<i>getChildDocumentsWithAttribute(String, String, String...)</i> on page 376	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public abstract List<IParserDocument >	<i>getChildDocumentsWithAttribute(String, String, boolean, String...)</i> on page 376	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public abstract IParserDocument	<i>getDocument(String...)</i> on page 377	Returns the first element with the given route.
public abstract List<IParserDocument >	<i>getDocuments(String...)</i> on page 377	Returns all the elements with the given route.
public abstract List<IParserDocument >	<i>getDocumentsWithAttribute(String, String, String...)</i> on page 378	Returns the elements with the given route that contains the given attribute with the given value.
public abstract List<IParserDocument >	<i>getDocumentsWithAttribute(String, String, boolean, String...)</i> on page 378	Returns the elements with the given route that contains the given attribute with the given value.
public abstract IParserDocument	<i>getDocumentWithAttribute(String, String, String...)</i> on page 379	Returns the first element with the given route that contains the given attribute with the given value.
public abstract IParserDocument	<i>getDocumentWithAttribute(String, String, boolean, String...)</i> on page 379	Returns the first element with the given route that contains the given attribute with the given value.
public abstract String	<i>getElementName()</i> on page 380	Returns The name of the root element of this document.
public abstract String	<i>getFunctionImportComplexPropertyValue(String...)</i> on page 380	

Modifier and Type	Member	Description
public abstract String	<i>getPrefixForUri(String)</i> on page 380	Returns the appropriate name-space prefix for the given XML name-space URI.
public abstract String[]	<i>getStrings()</i> on page 381	Returns all the string values contained by this document.
public abstract String	<i>getValue(String...)</i> on page 381	Returns the value of the first element with the given route.
public abstract List< String >	<i>getValues(String...)</i> on page 381	Returns all the values of elements with the given route.
public abstract void	<i>putAttribute(String, String...)</i> on page 382	Sets the value of the attribute with the given route If attribute does not exist it will be created as well as all other non existing elements in the route.
public abstract void	<i>putDocument(IParserDocument, String...)</i> on page 382	Insert the document under the element with the given route inserted document will be placed before already existing documents with the same route name under All missing elements from the route will be created.
public abstract void	<i>putValue(String, String...)</i> on page 382	Sets the value of the first element with the given route.
public abstract boolean	<i>removeAttribute(String...)</i> on page 383	Removes first element with the given route.
public abstract boolean	<i>removeAttributes(String...)</i> on page 383	Removes all the attribute with the given route.
public abstract boolean	<i>removeDocument(String...)</i> on page 383	Removes first element with the given route For removing multiple element use setDocuemtns with null arguments.
public static final String	<i>ROOT_DOCUMENT_NAME</i> on page 387	The default root element name for a new document.

Modifier and Type	Member	Description
public abstract void	<i>setAttributes(List&lt; String &gt;, String...)</i> on page 384	Sets all the values of the attributes with the given route Values will be paired to attributes in order Attributes with greater or equals index than size of new values will be untouched Attributes paired with null values will be removed.
public abstract void	<i>setDocuments(List&lt; IParser-Document &gt;, String...)</i> on page 384	Replaces all the elements with the given route Documents will be paired to elements in order Elements with greater or equals index than size of new elements will be untouched Element paired with null will be removed.
public abstract void	<i>setElementName(String, String...)</i> on page 385	Sets the name of the root element with the given route Use empty route for setting root name of this document.
public abstract void	<i>setValues(List&lt; String &gt;, String...)</i> on page 385	Sets all the values of the elements with the given rout Values will be paired to elements in order Elements with greater or equals index than size of new values will be untouched Null values will be treated as empty strings.
public abstract String	<i>toXMLString()</i> on page 385	Returns the XML string representation of this object.
public static final String	<i>XMLNS_APPLICATION_URI</i> on page 387	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/08/dataservices">http://schemas.microsoft.com/ado/2007/08/dataservices</a> .
public static final String	<i>XMLNS_ATOM_URI</i> on page 387	Constant for XMLNS URI: <a href="http://www.w3.org/2005/Atom">http://www.w3.org/2005/Atom</a> .

Modifier and Type	Member	Description
public static final String	<i>XMLNS_DATASERVICES_URI</i> on page 387	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/08/dataservices">http://schemas.microsoft.com/ado/2007/08/dataservices</a> .
public static final String	<i>XMLNS_EDM_URI</i> on page 387	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/05/edm">http://schemas.microsoft.com/ado/2007/05/edm</a> .
public static final String	<i>XMLNS_EDMX_URI</i> on page 387	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/06/edmx">http://schemas.microsoft.com/ado/2007/06/edmx</a> .
public static final String	<i>XMLNS_GENERICPLAYER_URI</i> on page 388	Constant for XMLNS URI: <a href="http://www.sap.com/Protocols/SAPData/GenericPlayer">http://www.sap.com/Protocols/SAPData/GenericPlayer</a> .
public static final String	<i>XMLNS_METADATA_URI</i> on page 388	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/08/dataservices/metadata">http://schemas.microsoft.com/ado/2007/08/dataservices/metadata</a> .
public static final String	<i>XMLNS_SAP_URI</i> on page 388	Constant for XMLNS URI: <a href="http://www.sap.com/Protocols/SAPData">http://www.sap.com/Protocols/SAPData</a> .

#### Inherited members from IPersistable

Modifier and Type	Member	Description
public void	<i>read(BufferedReader)</i> on page 389	
public void	<i>write(BufferedWriter)</i> on page 389	

#### *getErrorCode()* method

Returns The value of the 'code' OData element.

#### Syntax

```
public abstract String getErrorCode ()
```

#### Returns

The value of the 'code' OData element

### *getLang() method*

Returns The value of the appropriate OData attribute of the 'message' element.

#### *Syntax*

```
public abstract String getLang ()
```

#### *Returns*

The value of the appropriate OData attribute of the 'message' element

### *getMessage() method*

Return the localized error message.

#### *Syntax*

```
public abstract String getMessage ()
```

#### *Returns*

The value of the 'message' OData element

### *ATTRIBUTE\_LANGUAGE variable*

Name of the appropriate OData attribute.

#### *Syntax*

```
public static final String ATTRIBUTE_LANGUAGE
```

### *ELEMENT\_ERROR variable*

Name of the appropriate OData element.

#### *Syntax*

```
public static final String ELEMENT_ERROR
```

### *ELEMENT\_ERRORCODE variable*

Name of the appropriate OData element.

#### *Syntax*

```
public static final String ELEMENT_ERRORCODE
```

### *ELEMENT\_MESSAGE variable*

Name of the appropriate OData element.

#### *Syntax*

```
public static final String ELEMENT_MESSAGE
```



*IODataFeed interface**Syntax*

```
public interface IODataFeed
```

*Derived classes*

- *ODataFeed* on page 620

*Members*

All members of IODataFeed, including inherited members. **Methods**

Modifier and Type	Method	Description
public String	<i>getAuthor()</i> on page 229	Returns the name of the Author of the OData Feed.
public List< String >	<i>getDeletedEntries()</i> on page 230	Returns the list of links of the Deleted Entries.
public IODataLink	<i>getDeltaLink()</i> on page 230	Returns the latest delta link token.
public List< IODataEntry >	<i>getEntries()</i> on page 230	Returns the entries in the feed that have been updated/ entire list of entries in the collection.
public String	<i>getId()</i> on page 230	Returns the id of the OData Feed.
public String	<i>getLastUpdated()</i> on page 230	Returns the date/time of last update on the OData Feed.
public List< IODataLink >	<i>getLinks()</i> on page 231	
public String	<i>getTitle()</i> on page 231	Returns the Title of the OData Feed.

*getAuthor() method*

Returns the name of the Author of the OData Feed.

*Syntax*

```
public String getAuthor ()
```

*Returns*

String Author Name

### *getDeletedEntries() method*

Returns the list of links of the Deleted Entries.

#### *Syntax*

```
public List< String > getDeletedEntries ()
```

#### *Returns*

List<ISDMODataLink> - List of links of the deleted entries

### *getDeltaLink() method*

Returns the latest delta link token.

#### *Syntax*

```
public IODataLink getDeltaLink ()
```

### *getEntries() method*

Returns the entries in the feed that have been updated/ entire list of entries in the collection.

#### *Syntax*

```
public List< IODataEntry > getEntries ()
```

#### *Returns*

List<ISDMODataEntry> - List of ODataEntries

### *getId() method*

Returns the id of the OData Feed.

#### *Syntax*

```
public String getId ()
```

#### *Returns*

String Id

### *getLastUpdated() method*

Returns the date/time of last update on the OData Feed.

#### *Syntax*

```
public String getLastUpdated ()
```

#### *Returns*

String Date-time

*getLinks() method**Syntax*

```
public List< IODataLink > getLinks ()
```

*getTitle() method*

Returns the Title of the OData Feed.

*Syntax*

```
public String getTitle ()
```

*Returns*

String Title

*IODataFunctionImport interface*

Represents the 'FunctionImport' OData element.

*Syntax*

```
public abstract interface IODataFunctionImport extends
IParserDocument
```

*Derived classes*

- *IODataFunctionImport* on page 623

*Members*

All members of IODataFunctionImport, including inherited members. **Variables**

Modifier and Type	Variable	Description
public static final String	<i>ATTRIBUTE_ACTION_FOR</i> on page 241	Name of the appropriate OData attribute.
public static final String	<i>ATTRIBUTE_ENTITYSET</i> on page 241	Name of the appropriate OData attribute.
public static final String	<i>ATTRIBUTE_HTTPMETHOD</i> on page 241	Name of the appropriate OData attribute.
public static final String	<i>ATTRIBUTE_NAME</i> on page 242	Name of the appropriate OData attribute.
public static final String	<i>ATTRIBUTE_RETURNTYPE</i> on page 242	Name of the appropriate OData attribute.

Modifier and Type	Variable	Description
public static final String	<i>ELEMENT_FUNCTIONAL_IMPORT</i> on page 242	Name of the appropriate OData element.
public static final String	<i>ELEMENT_PARAMETER</i> on page 242	Name of the appropriate OData element.

**Methods**

Modifier and Type	Method	Description
public abstract String	<i>getActionFor()</i> on page 239	Returns The value of the appropriate OData attribute.
public abstract String	<i>getCollectionId()</i> on page 239	Returns The value of the 'EntitySet' OData attribute.
public abstract String	<i>getEntitySet()</i> on page 239	Returns The value of the 'EntitySet' OData attribute.
public abstract String	<i>getExecutionUrl(Map&lt; String, String &gt;)</i> on page 239	Calculate the full execution URL for executing this Function Import according to the passed parameters.
public abstract String	<i>getHTTPMethod()</i> on page 240	Returns The value of the appropriate OData attribute.
public abstract List< String >	<i>getInputParameterNames()</i> on page 240	Returns The list of the appropriate OData element with 'In' or 'InOut' attribute value.
public abstract String	<i>getName()</i> on page 240	Returns The value of the appropriate OData attribute.
public abstract List< String >	<i>getOutputParameterNames()</i> on page 240	Returns The list of the appropriate OData element with 'Out' or 'InOut' attribute value.
public abstract List< IOData-Parameter >	<i>getParameters()</i> on page 240	Returns The list of the appropriate OData element.
public abstract String	<i>getReturnType()</i> on page 241	Returns The value of the appropriate OData attribute.
public RETURN_TYPE_ENUM	<i>getReturnTypeEnum()</i> on page 241	Returns The return type of this Function Import OData document.

**Inherited members from IParserDocument**

Modifier and Type	Member	Description
public static final String	<i>ATTRIBUTE_ETAG</i> on page 386	Name of the appropriate OData element.
public static final String	<i>ATTRIBUTE_VALUEPREFIX_EDMTYPE</i> on page 386	Value prefix for EDM Type type values.
public abstract IParserDocument	<i>clone()</i> on page 374	Creates a copy of this object.
public static Map< String, String >	<i>DEFAULT_PREFIXMAPPING</i> on page 386	The default XML Namespace-to-Prefix mapping used for building XMLS.
public static final String[]	<i>EDMDATETIME_PATTERNS</i> on page 386	Possible EDM DateTime patterns Note: Some pattern are not supported by OData specification but still widely used.
public static final String[]	<i>EDMDATETIMEOFFSET_PATTERNS</i> on page 386	Possible EDM DateTimeOffset patterns Note: Some pattern are not supported by OData specification but still widely used.
public static final String	<i>EDMTIME_PATTERN</i> on page 386	EDM Time pattern.
public static String	<i>ELEMENT_FEED</i> on page 386	Name of the appropriate OData element.
public static final String	<i>ELEMENT_ID</i> on page 387	Name of the appropriate OData element.
public abstract String	<i>getAttribute(String...)</i> on page 374	Returns the value of the first attribute with the given route.
public abstract List< String >	<i>getAttributes(String...)</i> on page 374	Returns all the values of attributes with the given route.
public abstract Map< String, String >	<i>getChildAttributeMap(String...)</i> on page 375	Returns all the name-value pairs of attributes contained by the element with the given route.
public abstract List< String >	<i>getChildAttributes(String...)</i> on page 375	Returns all the values of attributes contained by the element with the given route.

Modifier and Type	Member	Description
public abstract List<IParserDocument >	<i>getChildDocuments(String...)</i> on page 375	Returns the elements contained by the element with the given route.
public abstract List<IParserDocument >	<i>getChildDocumentsWithAttribute(String, String, String...)</i> on page 376	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public abstract List<IParserDocument >	<i>getChildDocumentsWithAttribute(String, String, boolean, String...)</i> on page 376	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public abstract IParserDocument	<i>getDocument(String...)</i> on page 377	Returns the first element with the given route.
public abstract List<IParserDocument >	<i>getDocuments(String...)</i> on page 377	Returns all the elements with the given route.
public abstract List<IParserDocument >	<i>getDocumentsWithAttribute(String, String, String...)</i> on page 378	Returns the elements with the given route that contains the given attribute with the given value.
public abstract List<IParserDocument >	<i>getDocumentsWithAttribute(String, String, boolean, String...)</i> on page 378	Returns the elements with the given route that contains the given attribute with the given value.
public abstract IParserDocument	<i>getDocumentWithAttribute(String, String, String...)</i> on page 379	Returns the first element with the given route that contains the given attribute with the given value.
public abstract IParserDocument	<i>getDocumentWithAttribute(String, String, boolean, String...)</i> on page 379	Returns the first element with the given route that contains the given attribute with the given value.
public abstract String	<i>getElementName()</i> on page 380	Returns The name of the root element of this document.
public abstract String	<i>getFunctionImportComplexPropertyValue(String...)</i> on page 380	

Modifier and Type	Member	Description
public abstract String	<i>getPrefixForUri(String)</i> on page 380	Returns the appropriate name-space prefix for the given XML name-space URI.
public abstract String[]	<i>getStrings()</i> on page 381	Returns all the string values contained by this document.
public abstract String	<i>getValue(String...)</i> on page 381	Returns the value of the first element with the given route.
public abstract List< String >	<i>getValues(String...)</i> on page 381	Returns all the values of elements with the given route.
public abstract void	<i>putAttribute(String, String...)</i> on page 382	Sets the value of the attribute with the given route If attribute does not exist it will be created as well as all other non existing elements in the route.
public abstract void	<i>putDocument(IParserDocument, String...)</i> on page 382	Insert the document under the element with the given route inserted document will be placed before already existing documents with the same route name under All missing elements from the route will be created.
public abstract void	<i>putValue(String, String...)</i> on page 382	Sets the value of the first element with the given route.
public abstract boolean	<i>removeAttribute(String...)</i> on page 383	Removes first element with the given route.
public abstract boolean	<i>removeAttributes(String...)</i> on page 383	Removes all the attribute with the given route.
public abstract boolean	<i>removeDocument(String...)</i> on page 383	Removes first element with the given route For removing multiple element use setDocuemtns with null arguments.
public static final String	<i>ROOT_DOCUMENT_NAME</i> on page 387	The default root element name for a new document.

Modifier and Type	Member	Description
public abstract void	<i>setAttributes(List&lt; String &gt;, String...)</i> on page 384	Sets all the values of the attributes with the given route Values will be paired to attributes in order Attributes with greater or equals index than size of new values will be untouched Attributes paired with null values will be removed.
public abstract void	<i>setDocuments(List&lt; IParser-Document &gt;, String...)</i> on page 384	Replaces all the elements with the given route Documents will be paired to elements in order Elements with greater or equals index than size of new elements will be untouched Element paired with null will be removed.
public abstract void	<i>setElementName(String, String...)</i> on page 385	Sets the name of the root element with the given route Use empty route for setting root name of this document.
public abstract void	<i>setValues(List&lt; String &gt;, String...)</i> on page 385	Sets all the values of the elements with the given rout Values will be paired to elements in order Elements with greater or equals index than size of new values will be untouched Null values will be treated as empty strings.
public abstract String	<i>toXMLString()</i> on page 385	Returns the XML string representation of this object.
public static final String	<i>XMLNS_APPLICATION_URI</i> on page 387	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/08/dataservices">http://schemas.microsoft.com/ado/2007/08/dataservices</a> .
public static final String	<i>XMLNS_ATOM_URI</i> on page 387	Constant for XMLNS URI: <a href="http://www.w3.org/2005/Atom">http://www.w3.org/2005/Atom</a> .



Modifier and Type	Member	Description
public static final String	<i>XMLNS_DATASERVICES_URI</i> on page 387	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/08/dataservices">http://schemas.microsoft.com/ado/2007/08/dataservices</a> .
public static final String	<i>XMLNS_EDM_URI</i> on page 387	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/05/edm">http://schemas.microsoft.com/ado/2007/05/edm</a> .
public static final String	<i>XMLNS_EDMX_URI</i> on page 387	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/06/edmx">http://schemas.microsoft.com/ado/2007/06/edmx</a> .
public static final String	<i>XMLNS_GENERICPLAYER_URI</i> on page 388	Constant for XMLNS URI: <a href="http://www.sap.com/Protocols/SAPData/GenericPlayer">http://www.sap.com/Protocols/SAPData/GenericPlayer</a> .
public static final String	<i>XMLNS_METADATA_URI</i> on page 388	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/08/dataservices/metadata">http://schemas.microsoft.com/ado/2007/08/dataservices/metadata</a> .
public static final String	<i>XMLNS_SAP_URI</i> on page 388	Constant for XMLNS URI: <a href="http://www.sap.com/Protocols/SAPData">http://www.sap.com/Protocols/SAPData</a> .

#### Inherited members from IPersistable

Modifier and Type	Member	Description
public void	<i>read(BufferedReader)</i> on page 389	
public void	<i>write(BufferedWriter)</i> on page 389	

#### *IODataFunctionImport.RETURNTYPE\_ENUM* enum

Possible return type of a SMDOData Function Import element.

#### Members

All members of RETURNTYPE\_ENUM, including inherited members. **Variables**

Modifier and Type	Variable	Description
public	<i>RETURNTYPE_COMPLEX</i> on page 238	

Modifier and Type	Variable	Description
public	<i>RETURNTYPE_COMPLEX_COLLECTION</i> on page 238	
public	<i>RETURNTYPE_ENTRY</i> on page 238	
public	<i>RETURNTYPE_FEED</i> on page 238	
public	<i>RETURNTYPE_SIMPLE</i> on page 238	
public	<i>RETURNTYPE_SIMPLE_COLLECTION</i> on page 239	

*RETURNTYPE\_COMPLEX* variable**Syntax**

```
public RETURNTYPE_COMPLEX
```

*RETURNTYPE\_COMPLEX\_COLLECTION* variable**Syntax**

```
public RETURNTYPE_COMPLEX_COLLECTION
```

*RETURNTYPE\_ENTRY* variable**Syntax**

```
public RETURNTYPE_ENTRY
```

*RETURNTYPE\_FEED* variable**Syntax**

```
public RETURNTYPE_FEED
```

*RETURNTYPE\_SIMPLE* variable**Syntax**

```
public RETURNTYPE_SIMPLE
```

*RETURNTYPE\_SIMPLE\_COLLECTION* variable

**Syntax**

```
public RETURNTYPE_SIMPLE_COLLECTION
```

*getActionFor()* method

Returns The value of the appropriate OData attribute.

**Syntax**

```
public abstract String getActionFor ()
```

**Returns**

The value of the appropriate OData attribute

*getCollectionId()* method

Returns The value of the 'EntitySet' OData attribute.

**Syntax**

```
public abstract String getCollectionId ()
```

**Returns**

The value of the 'EntitySet' OData attribute

*getEntitySet()* method

Returns The value of the 'EntitySet' OData attribute.

**Syntax**

```
public abstract String getEntitySet ()
```

**Returns**

The value of the 'EntitySet' OData attribute

*getExecutionUrl(Map< String, String >) method*

Calculate the full execution URL for executing this Function Import according to the passed paramteres.

**Syntax**

```
public abstract String getExecutionUrl (Map< String, String >
parameters )
```

**Returns**

The full execution URL

### *getHTTPMethod() method*

Returns The value of the appropriate OData attribute.

#### *Syntax*

```
public abstract String getHTTPMethod ()
```

#### *Returns*

The value of the appropriate OData attribute

### *getInputParameterNames() method*

Returns The list of the appropriate OData element with 'In' or 'InOut' attribute value.

#### *Syntax*

```
public abstract List< String > getInputParameterNames ()
```

#### *Returns*

The list of the appropriate OData element with 'In' or 'InOut' attribute value

### *getName() method*

Returns The value of the appropriate OData attribute.

#### *Syntax*

```
public abstract String getName ()
```

#### *Returns*

The value of the appropriate OData attribute

### *getOutputParameterNames() method*

Returns The list of the appropriate OData element with 'Out' or 'InOut' attribute value.

#### *Syntax*

```
public abstract List< String > getOutputParameterNames ()
```

#### *Returns*

The list of the appropriate OData element with 'Out' or 'InOut' attribute value

### *getParameters() method*

Returns The list of the appropriate OData element.

#### *Syntax*

```
public abstract List< IODataParameter > getParameters ()
```

**Returns**

The list of the appropriate OData element

***getReturnType() method***

Returns The value of the appropriate OData attribute.

**Syntax**

```
public abstract String getReturnType ()
```

**Returns**

The value of the appropriate OData attribute

***getReturnTypeEnum() method***

Returns The return type of this Function Import OData document.

**Syntax**

```
public RETURN_TYPE_ENUM getReturnTypeEnum ()
```

**Returns**

The return type of this Function Import OData document

***ATTRIBUTE\_ACTION\_FOR variable***

Name of the appropriate OData attribute.

**Syntax**

```
public static final String ATTRIBUTE_ACTION_FOR
```

***ATTRIBUTE\_ENTITYSET variable***

Name of the appropriate OData attribute.

**Syntax**

```
public static final String ATTRIBUTE_ENTITYSET
```

***ATTRIBUTE\_HTTPMETHOD variable***

Name of the appropriate OData attribute.

**Syntax**

```
public static final String ATTRIBUTE_HTTPMETHOD
```

### *ATTRIBUTE\_NAME variable*

Name of the appropriate OData attribute.

#### *Syntax*

```
public static final String ATTRIBUTE_NAME
```

### *ATTRIBUTE\_RETURNTYPE variable*

Name of the appropriate OData attribute.

#### *Syntax*

```
public static final String ATTRIBUTE_RETURNTYPE
```

### *ELEMENT\_FUNCTIONALIMPORT variable*

Name of the appropriate OData element.

#### *Syntax*

```
public static final String ELEMENT_FUNCTIONALIMPORT
```

### *ELEMENT\_PARAMETER variable*

Name of the appropriate OData element.

#### *Syntax*

```
public static final String ELEMENT_PARAMETER
```

### *IODataIcon interface*

Represents the appropriate OData element.

#### *Syntax*

```
public interface IODataIcon extends IParserDocument
```

#### *Derived classes*

- *ODataIcon* on page 641

#### *Members*

All members of IODataIcon, including inherited members. **Variables**

Modifier and Type	Variable	Description
public static final String	<i>ATTRIBUTE_HEIGHT</i> on page 249	Name of the appropriate OData attribute.
public static final String	<i>ATTRIBUTE_WIDTH</i> on page 249	Name of the appropriate OData attribute.

Modifier and Type	Variable	Description
public static final String	<i>ELEMENT_ICON</i> on page 249	Name of the appropriate OData element.

### Methods

Modifier and Type	Method	Description
public int	<i>getHeight()</i> on page 248	Returns The value of the appropriate OData attribute.
public String	<i>getUrl()</i> on page 248	Returns The value of the appropriate OData attribute.
public int	<i>getWidth()</i> on page 248	Returns The value of the appropriate OData attribute.

### Inherited members from IParserDocument

Modifier and Type	Member	Description
public static final String	<i>ATTRIBUTE_ETAG</i> on page 386	Name of the appropriate OData element.
public static final String	<i>ATTRIBUTE_VALUEPREFIX_EDMTYPE</i> on page 386	Value prefix for EDM Type type values.
public abstract IParserDocument	<i>clone()</i> on page 374	Creates a copy of this object.
public static Map< String, String >	<i>DEFAULT_PREFIXMAPPING</i> on page 386	The default XML Namespace-to-Prefix mapping used for building XMLS.
public static final String[]	<i>EDMDATETIME_PATTERNS</i> on page 386	Possible EDM DateTime patterns Note: Some pattern are not supported by OData specification but still widely used.
public static final String[]	<i>EDMDATETIMEOFFSET_PATTERNS</i> on page 386	Possible EDM TimeOffset patterns Note: Some pattern are not supported by OData specification but still widely used.
public static final String	<i>EDMTIME_PATTERN</i> on page 386	EDM Time pattern.

Modifier and Type	Member	Description
public static String	<i>ELEMENT_FEED</i> on page 386	Name of the appropriate OData element.
public static final String	<i>ELEMENT_ID</i> on page 387	Name of the appropriate OData element.
public abstract String	<i>getAttribute(String...)</i> on page 374	Returns the value of the first attribute with the given route.
public abstract List< String >	<i>getAttributes(String...)</i> on page 374	Returns all the values of attributes with the given route.
public abstract Map< String, String >	<i>getChildAttributeMap(String...)</i> on page 375	Returns all the name-value pairs of attributes contained by the element with the given route.
public abstract List< String >	<i>getChildAttributes(String...)</i> on page 375	Returns all the values of attributes contained by the element with the given route.
public abstract List< IParserDocument >	<i>getChildDocuments(String...)</i> on page 375	Returns the elements contained by the element with the given route.
public abstract List< IParserDocument >	<i>getChildDocumentsWithAttribute(String, String, String...)</i> on page 376	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public abstract List< IParserDocument >	<i>getChildDocumentsWithAttribute(String, String, boolean, String...)</i> on page 376	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public abstract IParserDocument	<i>getDocument(String...)</i> on page 377	Returns the first element with the given route.
public abstract List< IParserDocument >	<i>getDocuments(String...)</i> on page 377	Returns all the elements with the given route.
public abstract List< IParserDocument >	<i>getDocumentsWithAttribute(String, String, String...)</i> on page 378	Returns the elements with the given route that contains the given attribute with the given value.



Modifier and Type	Member	Description
public abstract List<IParserDocument >	<i>getDocumentsWithAttribute(String, String, boolean, String...)</i> on page 378	Returns the elements with the given route that contains the given attribute with the given value.
public abstract IParserDocument	<i>getDocumentWithAttribute(String, String, String...)</i> on page 379	Returns the first element with the given route that contains the given attribute with the given value.
public abstract IParserDocument	<i>getDocumentWithAttribute(String, String, boolean, String...)</i> on page 379	Returns the first element with the given route that contains the given attribute with the given value.
public abstract String	<i>getElementName()</i> on page 380	Returns The name of the root element of this document.
public abstract String	<i>getFunctionImportComplexPropertyValue(String...)</i> on page 380	
public abstract String	<i>getPrefixForUri(String)</i> on page 380	Returns the appropriate namespace prefix for the given XML name-space URI.
public abstract String[]	<i>getStrings()</i> on page 381	Returns all the string values contained by this document.
public abstract String	<i>getValue(String...)</i> on page 381	Returns the value of the first element with the given route.
public abstract List< String >	<i>getValues(String...)</i> on page 381	Returns all the values of elements with the given route.
public abstract void	<i>putAttribute(String, String...)</i> on page 382	Sets the value of the attribute with the given route If attribute does not exist it will be created as well as all other non existing elements in the route.

Modifier and Type	Member	Description
public abstract void	<i>putDocument(IParserDocument, String...)</i> on page 382	Insert the document under the element with the given route inserted document will be placed before already existing documents with the same route name under All missing elements from the route will be created.
public abstract void	<i>putValue(String, String...)</i> on page 382	Sets the value of the first element with the given route.
public abstract boolean	<i>removeAttribute(String...)</i> on page 383	Removes first element with the given route.
public abstract boolean	<i>removeAttributes(String...)</i> on page 383	Removes all the attribute with the given route.
public abstract boolean	<i>removeDocument(String...)</i> on page 383	Removes first element with the given route For removing multiple element use setDocuemtns with null arguments.
public static final String	<i>ROOT_DOCUMENT_NAME</i> on page 387	The default root element name for a new document.
public abstract void	<i>setAttributes(List&lt;String&gt;, String...)</i> on page 384	Sets all the values of the attributes with the given route Values will be paired to attributes in order Attributes with greater or equals index than size of new values will be untouched Attributes paired with null values will be removed.
public abstract void	<i>setDocuments(List&lt;IParserDocument&gt;, String...)</i> on page 384	Replaces all the elements with the given route Documents will be paired to elements in order Elements with greater or equals index than size of new elements will be untouched Element paired with null will be removed.

Modifier and Type	Member	Description
public abstract void	<i>setElementName(String, String...)</i> on page 385	Sets the name of the root element with the given route Use empty route for setting root name of this document.
public abstract void	<i>setValues(List&lt; String &gt;, String...)</i> on page 385	Sets all the values of the elements with the given rout Values will be paired to elements in order Elements with greater or equals index than size of new values will be untouched Null values will be treated as empty strings.
public abstract String	<i>toXMLString()</i> on page 385	Returns the XML string representation of this object.
public static final String	<i>XMLNS_APPLICATION_URI</i> on page 387	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/08/dataservices">http://schemas.microsoft.com/ado/2007/08/dataservices</a> .
public static final String	<i>XMLNS_ATOM_URI</i> on page 387	Constant for XMLNS URI: <a href="http://www.w3.org/2005/Atom">http://www.w3.org/2005/Atom</a> .
public static final String	<i>XMLNS_DATASERVICES_URI</i> on page 387	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/08/dataservices">http://schemas.microsoft.com/ado/2007/08/dataservices</a> .
public static final String	<i>XMLNS_EDM_URI</i> on page 387	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/05/edm">http://schemas.microsoft.com/ado/2007/05/edm</a> .
public static final String	<i>XMLNS_EDMX_URI</i> on page 387	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/06/edmx">http://schemas.microsoft.com/ado/2007/06/edmx</a> .
public static final String	<i>XMLNS_GENERICPLAYER_URI</i> on page 388	Constant for XMLNS URI: <a href="http://www.sap.com/Protocols/SAPData/GenericPlayer">http://www.sap.com/Protocols/SAPData/GenericPlayer</a> .
public static final String	<i>XMLNS_METADATA_URI</i> on page 388	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/08/dataservices/metadata">http://schemas.microsoft.com/ado/2007/08/dataservices/metadata</a> .

Modifier and Type	Member	Description
public static final String	<i>XMLNS_SAP_URI</i> on page 388	Constant for XMLNS URI: <a href="http://www.sap.com/Protocols/SAPData">http://www.sap.com/Protocols/SAPData</a> .

**Inherited members from IPersistable**

Modifier and Type	Member	Description
public void	<i>read(BufferedReader)</i> on page 389	
public void	<i>write(BufferedWriter)</i> on page 389	

*getHeight() method*

Returns The value of the appropriate OData attribute.

*Syntax*

```
public int getHeight ()
```

*Returns*

The value of the appropriate OData attribute

*getUrl() method*

Returns The value of the appropriate OData attribute.

*Syntax*

```
public String getUrl ()
```

*Returns*

The value of the appropriate OData attribute

*getWidth() method*

Returns The value of the appropriate OData attribute.

*Syntax*

```
public int getWidth ()
```

*Returns*

The value of the appropriate OData attribute

***ATTRIBUTE\_HEIGHT variable***

Name of the appropriate OData attribute.

***Syntax***

```
public static final String ATTRIBUTE_HEIGHT
```

***ATTRIBUTE\_WIDTH variable***

Name of the appropriate OData attribute.

***Syntax***

```
public static final String ATTRIBUTE_WIDTH
```

***ELEMENT\_ICON variable***

Name of the appropriate OData element.

***Syntax***

```
public static final String ELEMENT_ICON
```

***IODataLink interface***

Represents the appropriate OData element.

***Syntax***

```
public abstract interface IODataLink extends IParserDocument
```

***Derived classes***

- *IODataLink* on page 658

***Members***

All members of IODataLink, including inherited members. **Variables**

Modifier and Type	Variable	Description
public static final String	<i>ATTRIBUTE_HREF</i> on page 260	Name of the appropriate OData attribute.
public static final String	<i>ATTRIBUTE_REL</i> on page 260	Name of the appropriate OData attribute.
public static final String	<i>ATTRIBUTE_REL_VAL-UE_EDIT</i> on page 260	Value option for the appropriate OData parameter.
public static final String	<i>ATTRIBUTE_REL_VAL-UE_SELF</i> on page 260	Value option for the appropriate OData parameter.

Modifier and Type	Variable	Description
public static final String	<i>ATTRIBUTE_SEMANTICS</i> on page 260	Name of the appropriate OData attribute.
public static final String	<i>ATTRIBUTE_TITLE</i> on page 260	Name of the appropriate OData attribute.
public static final String	<i>ATTRIBUTE_VALUE-PART_DELTA</i> on page 260	String that should be part of every rel attribute of a Delta.
public static final String	<i>ATTRIBUTE_VALUE-PART_RELATED</i> on page 261	String that should be part of every rel attribute of a Related Data Link.
public static final String	<i>ATTRIBUTE_VALUESUFFIX_SUBSCRIPTION</i> on page 261	String that should be end of every rel attribute of a Subscription Link.
public static final String	<i>ELEMENT_INLINE</i> on page 261	Name of the appropriate OData element.
public static final String	<i>ELEMENT_LINK</i> on page 261	Name of the appropriate OData element.
public static final String	<i>ELEMENT_PARAMETER</i> on page 261	Name of the appropriate OData element.
public static final String	<i>ELEMENT_PARAMETER-SET</i> on page 261	Name of the appropriate OData element.

## Methods

Modifier and Type	Method	Description
public abstract String	<i>getHref()</i> on page 256	Returns the value of the appropriate OData attribute.
public abstract List<IODataEntry >	<i>getInlineEntries()</i> on page 257	Returns the list of OData Entries contained by the appropriate OData 'inline' element.
public abstract List< String >	<i>getInputParameterNames()</i> on page 257	Returns the list of the appropriate OData Parameter elements that should be used as input parameter.

Modifier and Type	Method	Description
public abstract List< String >	<i>getOutputParameterNames()</i> on page 257	Returns the list of the appropriate OData Parameter elements that should be used as output parameter.
public abstract List< IOData-Parameter >	<i>getParameters()</i> on page 257	Returns the list of the appropriate OData Parameter elements.
public abstract String	<i>getRel()</i> on page 257	Returns the value of the appropriate OData attribute.
public abstract IODataSchema	<i>getSchema()</i> on page 258	Returns the Schema that is to be used for 'Inline entries'.
public abstract String	<i>getSemantics()</i> on page 258	Returns The value of the appropriate OData extension (vCard) attribute.
public abstract String	<i>getTargetCollectionId()</i> on page 258	Returns the Id of the collection that this link points to (if any)
public abstract String	<i>getTitle()</i> on page 258	Returns the value of the appropriate OData attribute.
public abstract String	<i>getUrl()</i> on page 259	Returns the full URL for this OData Link object without parameters.
public abstract String	<i>getUrlWithParameters(Map&lt;String, String &gt;)</i> on page 259	Returns the full URL for this OData Link object extended with the given parameter names and values.
public abstract void	<i>setSchema(IODataSchema)</i> on page 259	Sets the Schema that is to be used for 'Inline entries'.
public abstract void	<i>setTargetCollectionId(String)</i> on page 259	Maintains the Id of the collection that this link points to (if any)

#### Inherited members from IParserDocument

Modifier and Type	Member	Description
public static final String	<i>ATTRIBUTE_ETAG</i> on page 386	Name of the appropriate OData element.

Modifier and Type	Member	Description
public static final String	<i>ATTRIBUTE_VALUEPREFIX_EDMTYPE</i> on page 386	Value prefix for EDM Type type values.
public abstract IParserDocument	<i>clone()</i> on page 374	Creates a copy of this object.
public static Map< String, String >	<i>DEFAULT_PREFIXMAPPING</i> on page 386	The default XML Namespace-to-Prefix mapping used for building XMLS.
public static final String[]	<i>EDMDATETIME_PATTERNS</i> on page 386	Possible EDM DateTime patterns Note: Some pattern are not supported by OData specification but still widely used.
public static final String[]	<i>EDMDATETIMEOFFSET_PATTERNS</i> on page 386	Possible EDM TimeOffset patterns Note: Some pattern are not supported by OData specification but still widely used.
public static final String	<i>EDMTIME_PATTERN</i> on page 386	EDM Time pattern.
public static String	<i>ELEMENT_FEED</i> on page 386	Name of the appropriate OData element.
public static final String	<i>ELEMENT_ID</i> on page 387	Name of the appropriate OData element.
public abstract String	<i>getAttribute(String...)</i> on page 374	Returns the value of the first attribute with the given route.
public abstract List< String >	<i>getAttributes(String...)</i> on page 374	Returns all the values of attributes with the given route.
public abstract Map< String, String >	<i>getChildAttributeMap(String...)</i> on page 375	Returns all the name-value pairs of attributes contained by the element with the given route.
public abstract List< String >	<i>getChildAttributes(String...)</i> on page 375	Returns all the values of attributes contained by the element with the given route.
public abstract List< IParserDocument >	<i>getChildDocuments(String...)</i> on page 375	Returns the elements contained by the element with the given route.



Modifier and Type	Member	Description
public abstract List<IParserDocument >	<i>getChildDocumentsWithAttribute(String, String, String...)</i> on page 376	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public abstract List<IParserDocument >	<i>getChildDocumentsWithAttribute(String, String, boolean, String...)</i> on page 376	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public abstract IParserDocument	<i>getDocument(String...)</i> on page 377	Returns the first element with the given route.
public abstract List<IParserDocument >	<i>getDocuments(String...)</i> on page 377	Returns all the elements with the given route.
public abstract List<IParserDocument >	<i>getDocumentsWithAttribute(String, String, String...)</i> on page 378	Returns the elements with the given route that contains the given attribute with the given value.
public abstract List<IParserDocument >	<i>getDocumentsWithAttribute(String, String, boolean, String...)</i> on page 378	Returns the elements with the given route that contains the given attribute with the given value.
public abstract IParserDocument	<i>getDocumentWithAttribute(String, String, String...)</i> on page 379	Returns the first element with the given route that contains the given attribute with the given value.
public abstract IParserDocument	<i>getDocumentWithAttribute(String, String, boolean, String...)</i> on page 379	Returns the first element with the given route that contains the given attribute with the given value.
public abstract String	<i>getElementName()</i> on page 380	Returns The name of the root element of this document.
public abstract String	<i>getFunctionImportComplexPropertyValue(String...)</i> on page 380	
public abstract String	<i>getPrefixForUri(String)</i> on page 380	Returns the appropriate namespace prefix for the given XML name-space URI.

Modifier and Type	Member	Description
public abstract String[]	<i>getStrings()</i> on page 381	Returns all the string values contained by this document.
public abstract String	<i>getValue(String...)</i> on page 381	Returns the value of the first element with the given route.
public abstract List< String >	<i>getValues(String...)</i> on page 381	Returns all the values of elements with the given route.
public abstract void	<i>putAttribute(String, String...)</i> on page 382	Sets the value of the attribute with the given route If attribute does not exist it will be created as well as all other non existing elements in the route.
public abstract void	<i>putDocument(IParserDocument, String...)</i> on page 382	Insert the document under the element with the given route inserted document will be placed before already existing documents with the same route name under All missing elements from the route will be created.
public abstract void	<i>putValue(String, String...)</i> on page 382	Sets the value of the first element with the given route.
public abstract boolean	<i>removeAttribute(String...)</i> on page 383	Removes first element with the given route.
public abstract boolean	<i>removeAttributes(String...)</i> on page 383	Removes all the attribute with the given route.
public abstract boolean	<i>removeDocument(String...)</i> on page 383	Removes first element with the given route For removing multiple element use setDocuemtns with null arguments.
public static final String	<i>ROOT_DOCUMENT_NAME</i> on page 387	The default root element name for a new document.

Modifier and Type	Member	Description
public abstract void	<i>setAttributes(List&lt; String &gt;, String...)</i> on page 384	Sets all the values of the attributes with the given route Values will be paired to attributes in order Attributes with greater or equals index than size of new values will be untouched Attributes paired with null values will be removed.
public abstract void	<i>setDocuments(List&lt; IParser-Document &gt;, String...)</i> on page 384	Replaces all the elements with the given route Documents will be paired to elements in order Elements with greater or equals index than size of new elements will be untouched Element paired with null will be removed.
public abstract void	<i>setElementName(String, String...)</i> on page 385	Sets the name of the root element with the given route Use empty route for setting root name of this document.
public abstract void	<i>setValues(List&lt; String &gt;, String...)</i> on page 385	Sets all the values of the elements with the given rout Values will be paired to elements in order Elements with greater or equals index than size of new values will be untouched Null values will be treated as empty strings.
public abstract String	<i>toXMLString()</i> on page 385	Returns the XML string representation of this object.
public static final String	<i>XMLNS_APPLICATION_URI</i> on page 387	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/08/dataservices">http://schemas.microsoft.com/ado/2007/08/dataservices</a> .
public static final String	<i>XMLNS_ATOM_URI</i> on page 387	Constant for XMLNS URI: <a href="http://www.w3.org/2005/Atom">http://www.w3.org/2005/Atom</a> .

Modifier and Type	Member	Description
public static final String	<i>XMLNS_DATASERVICES_URI</i> on page 387	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/08/dataservices">http://schemas.microsoft.com/ado/2007/08/dataservices</a> .
public static final String	<i>XMLNS_EDM_URI</i> on page 387	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/05/edm">http://schemas.microsoft.com/ado/2007/05/edm</a> .
public static final String	<i>XMLNS_EDMX_URI</i> on page 387	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/06/edmx">http://schemas.microsoft.com/ado/2007/06/edmx</a> .
public static final String	<i>XMLNS_GENERICPLAYER_URI</i> on page 388	Constant for XMLNS URI: <a href="http://www.sap.com/Protocols/SAPData/GenericPlayer">http://www.sap.com/Protocols/SAPData/GenericPlayer</a> .
public static final String	<i>XMLNS_METADATA_URI</i> on page 388	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/08/dataservices/metadata">http://schemas.microsoft.com/ado/2007/08/dataservices/metadata</a> .
public static final String	<i>XMLNS_SAP_URI</i> on page 388	Constant for XMLNS URI: <a href="http://www.sap.com/Protocols/SAPData">http://www.sap.com/Protocols/SAPData</a> .

#### Inherited members from IPersistable

Modifier and Type	Member	Description
public void	<i>read(BufferedReader)</i> on page 389	
public void	<i>write(BufferedWriter)</i> on page 389	

#### *getHref()* method

Returns the value of the appropriate OData attribute.

#### Syntax

```
public abstract String getHref ()
```

#### Returns

The value of the appropriate OData attribute

*getInlineEntries() method*

Returns the list of OData Entries contained by the appropriate OData 'inline' element.

*Syntax*

```
public abstract List< IODataEntry > getInlineEntries ()
```

*Returns*

The List of 'inline' OData Entries

*getInputParameterNames() method*

Returns the list of the appropriate OData Parameter elements that should be used as input parameter.

*Syntax*

```
public abstract List< String > getInputParameterNames ()
```

*Returns*

The list of the appropriate OData Parameter elements that should be used as input parameter

*getOutputParameterNames() method*

Returns the list of the appropriate OData Parameter elements that should be used as output parameter.

*Syntax*

```
public abstract List< String > getOutputParameterNames ()
```

*Returns*

The list of the appropriate OData Parameter elements that should be used as output parameter

*getParameters() method*

Returns the list of the appropriate OData Parameter elements.

*Syntax*

```
public abstract List< IODataParameter > getParameters ()
```

*Returns*

The list of the appropriate OData Parameter elements

*getRel() method*

Returns the value of the appropriate OData attribute.

*Syntax*

```
public abstract String getRel ()
```

### *Returns*

The value of the appropriate OData attribute

### *getSchema() method*

Returns the Schema that is to be used for 'Inline entries'.

### *Syntax*

```
public abstract IODataSchema getSchema ()
```

### *Returns*

The relevant schema

### *getSemantics() method*

Returns The value of the appropriate OData extension (vCard) attribute.

### *Syntax*

```
public abstract String getSemantics ()
```

### *Returns*

The value of the appropriate OData extension (vCard) attribute

### *getTargetCollectionId() method*

Returns the Id of the collection that this link points to (if any)

### *Syntax*

```
public abstract String getTargetCollectionId ()
```

### *Returns*

The Id of the collection that this link points to

### *getTitle() method*

Returns the value of the appropriate OData attribute.

### *Syntax*

```
public abstract String getTitle ()
```

### *Returns*

The value of the appropriate OData attribute

*getUrl() method*

Returns the full URL for this OData Link object without parameters.

*Syntax*

```
public abstract String getUrl ()
```

*Returns*

The full URL of this link without parameters

*getUrlWithParameters(Map< String, String >) method*

Returns the full URL for this OData Link object extended with the given parameter names and values.

*Syntax*

```
public abstract String getUrlWithParameters (Map< String,
String > parameters )
```

*Returns*

The full URL of this link with parameters

*setSchema(IODataSchema) method*

Sets the Schema that is to be used for 'Inline entries'.

*Syntax*

```
public abstract void setSchema ( IODataSchema schema )
```

*Parameters*

- **schema** – The relevant schema

*setTargetCollectionId(String) method*

Maintains the Id of the collection that this link points to (if any)

*Syntax*

```
public abstract void setTargetCollectionId (String
targetCollectionId )
```

*Parameters*

- **targetCollectionId** – The Id of the collection that this link points to

### *ATTRIBUTE\_HREF variable*

Name of the appropriate OData attribute.

#### *Syntax*

```
public static final String ATTRIBUTE_HREF
```

### *ATTRIBUTE\_REL variable*

Name of the appropriate OData attribute.

#### *Syntax*

```
public static final String ATTRIBUTE_REL
```

### *ATTRIBUTE\_REL\_VALUE\_EDIT variable*

Value option for the appropriate OData parameter.

#### *Syntax*

```
public static final String ATTRIBUTE_REL_VALUE_EDIT
```

### *ATTRIBUTE\_REL\_VALUE\_SELF variable*

Value option for the appropriate OData parameter.

#### *Syntax*

```
public static final String ATTRIBUTE_REL_VALUE_SELF
```

### *ATTRIBUTE\_SEMANTICS variable*

Name of the appropriate OData attribute.

#### *Syntax*

```
public static final String ATTRIBUTE_SEMANTICS
```

### *ATTRIBUTE\_TITLE variable*

Name of the appropriate OData attribute.

#### *Syntax*

```
public static final String ATTRIBUTE_TITLE
```

### *ATTRIBUTE\_VALUEPART\_DELTA variable*

String that should be part of every rel attribute of a Delta.

#### *Syntax*

```
public static final String ATTRIBUTE_VALUEPART_DELTA
```



***ATTRIBUTE\_VALUEPART\_RELATED variable***

String that should be part of every rel attribute of a Related Data Link.

***Syntax***

```
public static final String ATTRIBUTE_VALUEPART_RELATED
```

***ATTRIBUTE\_VALUESUFFIX\_SUBSCRIPTION variable***

String that should be end of every rel attribute of a Subscription Link.

***Syntax***

```
public static final String
ATTRIBUTE_VALUESUFFIX_SUBSCRIPTION
```

***ELEMENT\_INLINE variable***

Name of the appropriate OData element.

***Syntax***

```
public static final String ELEMENT_INLINE
```

***ELEMENT\_LINK variable***

Name of the appropriate OData element.

***Syntax***

```
public static final String ELEMENT_LINK
```

***ELEMENT\_PARAMETER variable***

Name of the appropriate OData element.

***Syntax***

```
public static final String ELEMENT_PARAMETER
```

***ELEMENT\_PARAMETERSET variable***

Name of the appropriate OData element.

***Syntax***

```
public static final String ELEMENT_PARAMETERSET
```

***IODataNavigationProperty interface***

Represents the appropriate OData element.

***Syntax***

```
public abstract interface IODataNavigationProperty extends
IParserDocument
```

*Derived classes*

- *INavigationProperty* on page 678

*Members*

All members of *INavigationProperty*, including inherited members. **Variables**

Modifier and Type	Variable	Description
public static final String	<i>ATTRIBUTE_FROMROLE</i> on page 268	Name of the appropriate OData attribute.
public static final String	<i>ATTRIBUTE_NAME</i> on page 268	Name of the appropriate OData attribute.
public static final String	<i>ATTRIBUTE_RELATIONSHIP</i> on page 269	Name of the appropriate OData attribute.
public static final String	<i>ATTRIBUTE_TOROLE</i> on page 269	Name of the appropriate OData attribute.
public static final String	<i>ELEMENT_NAVIGATIONPROPERTY</i> on page 269	Name of the appropriate OData element.

**Methods**

Modifier and Type	Method	Description
public abstract String	<i>getFromRole()</i> on page 267	Returns The value of the appropriate OData attribute.
public abstract String	<i>getName()</i> on page 268	Returns The value of the appropriate OData attribute.
public abstract String	<i>getRelationship()</i> on page 268	Returns The value of the appropriate OData attribute.
public abstract String	<i>getToRole()</i> on page 268	Returns The value of the appropriate OData attribute.

**Inherited members from *IParserDocument***

Modifier and Type	Member	Description
public static final String	<i>ATTRIBUTE_ETAG</i> on page 386	Name of the appropriate OData element.
public static final String	<i>ATTRIBUTE_VALUEPREFIX_EDMTYPE</i> on page 386	Value prefix for EDM Type type values.

Modifier and Type	Member	Description
public abstract IParserDocument	<i>clone()</i> on page 374	Creates a copy of this object.
public static Map< String, String >	<i>DEFAULT_PREFIXMAP-PING</i> on page 386	The default XML Namespace-to-Prefix mapping used for building XMLS.
public static final String[]	<i>EDMDATETIME_PATTERNS</i> on page 386	Possible EDM DateTime patterns Note: Some pattern are not supported by OData specification but still widely used.
public static final String[]	<i>EDMDATETIMEOFFSET_PATTERNS</i> on page 386	Possible EDM TimeOffset patterns Note: Some pattern are not supported by OData specification but still widely used.
public static final String	<i>EDMTIME_PATTERN</i> on page 386	EDM Time pattern.
public static String	<i>ELEMENT_FEED</i> on page 386	Name of the appropriate OData element.
public static final String	<i>ELEMENT_ID</i> on page 387	Name of the appropriate OData element.
public abstract String	<i>getAttribute(String...)</i> on page 374	Returns the value of the first attribute with the given route.
public abstract List< String >	<i>getAttributes(String...)</i> on page 374	Returns all the values of attributes with the given route.
public abstract Map< String, String >	<i>getChildAttribute-Map(String...)</i> on page 375	Returns all the name-value pairs of attributes contained by the element with the given route.
public abstract List< String >	<i>getChildAttributes(String...)</i> on page 375	Returns all the values of attributes contained by the element with the given route.
public abstract List< IParserDocument >	<i>getChildDocuments(String...)</i> on page 375	Returns the elements contained by the element with the given route.

Modifier and Type	Member	Description
public abstract List<IParserDocument >	<i>getChildDocumentsWithAttribute(String, String, String...)</i> on page 376	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public abstract List<IParserDocument >	<i>getChildDocumentsWithAttribute(String, String, boolean, String...)</i> on page 376	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public abstract IParserDocument	<i>getDocument(String...)</i> on page 377	Returns the first element with the given route.
public abstract List<IParserDocument >	<i>getDocuments(String...)</i> on page 377	Returns all the elements with the given route.
public abstract List<IParserDocument >	<i>getDocumentsWithAttribute(String, String, String...)</i> on page 378	Returns the elements with the given route that contains the given attribute with the given value.
public abstract List<IParserDocument >	<i>getDocumentsWithAttribute(String, String, boolean, String...)</i> on page 378	Returns the elements with the given route that contains the given attribute with the given value.
public abstract IParserDocument	<i>getDocumentWithAttribute(String, String, String...)</i> on page 379	Returns the first element with the given route that contains the given attribute with the given value.
public abstract IParserDocument	<i>getDocumentWithAttribute(String, String, boolean, String...)</i> on page 379	Returns the first element with the given route that contains the given attribute with the given value.
public abstract String	<i>getElementName()</i> on page 380	Returns The name of the root element of this document.
public abstract String	<i>getFunctionImportComplexPropertyValue(String...)</i> on page 380	
public abstract String	<i>getPrefixForUri(String)</i> on page 380	Returns the appropriate namespace prefix for the given XML name-space URI.

Modifier and Type	Member	Description
public abstract String[]	<i>getStrings()</i> on page 381	Returns all the string values contained by this document.
public abstract String	<i>getValue(String...)</i> on page 381	Returns the value of the first element with the given route.
public abstract List< String >	<i>getValues(String...)</i> on page 381	Returns all the values of elements with the given route.
public abstract void	<i>putAttribute(String, String...)</i> on page 382	Sets the value of the attribute with the given route If attribute does not exist it will be created as well as all other non existing elements in the route.
public abstract void	<i>putDocument(IParserDocument, String...)</i> on page 382	Insert the document under the element with the given route inserted document will be placed before already existing documents with the same route name under All missing elements from the route will be created.
public abstract void	<i>putValue(String, String...)</i> on page 382	Sets the value of the first element with the given route.
public abstract boolean	<i>removeAttribute(String...)</i> on page 383	Removes first element with the given route.
public abstract boolean	<i>removeAttributes(String...)</i> on page 383	Removes all the attribute with the given route.
public abstract boolean	<i>removeDocument(String...)</i> on page 383	Removes first element with the given route For removing multiple element use setDocuemtns with null arguments.
public static final String	<i>ROOT_DOCUMENT_NAME</i> on page 387	The default root element name for a new document.

Modifier and Type	Member	Description
public abstract void	<i>setAttributes(List&lt; String &gt;, String...)</i> on page 384	Sets all the values of the attributes with the given route Values will be paired to attributes in order Attributes with greater or equals index than size of new values will be untouched Attributes paired with null values will be removed.
public abstract void	<i>setDocuments(List&lt; IParser-Document &gt;, String...)</i> on page 384	Replaces all the elements with the given route Documents will be paired to elements in order Elements with greater or equals index than size of new elements will be untouched Element paired with null will be removed.
public abstract void	<i>setElementName(String, String...)</i> on page 385	Sets the name of the root element with the given route Use empty route for setting root name of this document.
public abstract void	<i>setValues(List&lt; String &gt;, String...)</i> on page 385	Sets all the values of the elements with the given rout Values will be paired to elements in order Elements with greater or equals index than size of new values will be untouched Null values will be treated as empty strings.
public abstract String	<i>toXMLString()</i> on page 385	Returns the XML string representation of this object.
public static final String	<i>XMLNS_APPLICATION_URI</i> on page 387	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/08/dataservices">http://schemas.microsoft.com/ado/2007/08/dataservices</a> .
public static final String	<i>XMLNS_ATOM_URI</i> on page 387	Constant for XMLNS URI: <a href="http://www.w3.org/2005/Atom">http://www.w3.org/2005/Atom</a> .

Modifier and Type	Member	Description
public static final String	<i>XMLNS_DATASERVICES_URI</i> on page 387	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/08/dataservices">http://schemas.microsoft.com/ado/2007/08/dataservices</a> .
public static final String	<i>XMLNS_EDM_URI</i> on page 387	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/05/edm">http://schemas.microsoft.com/ado/2007/05/edm</a> .
public static final String	<i>XMLNS_EDMX_URI</i> on page 387	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/06/edmx">http://schemas.microsoft.com/ado/2007/06/edmx</a> .
public static final String	<i>XMLNS_GENERICPLAYER_URI</i> on page 388	Constant for XMLNS URI: <a href="http://www.sap.com/Protocols/SAPData/GenericPlayer">http://www.sap.com/Protocols/SAPData/GenericPlayer</a> .
public static final String	<i>XMLNS_METADATA_URI</i> on page 388	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/08/dataservices/metadata">http://schemas.microsoft.com/ado/2007/08/dataservices/metadata</a> .
public static final String	<i>XMLNS_SAP_URI</i> on page 388	Constant for XMLNS URI: <a href="http://www.sap.com/Protocols/SAPData">http://www.sap.com/Protocols/SAPData</a> .

#### Inherited members from IPersistable

Modifier and Type	Member	Description
public void	<i>read(BufferedReader)</i> on page 389	
public void	<i>write(BufferedWriter)</i> on page 389	

#### *getFromRole()* method

Returns The value of the appropriate OData attribute.

#### Syntax

```
public abstract String getFromRole ()
```

#### Returns

The value of the appropriate OData attribute

### *getName() method*

Returns The value of the appropriate OData attribute.

#### *Syntax*

```
public abstract String getName ()
```

#### *Returns*

The value of the appropriate OData attribute

### *getRelationship() method*

Returns The value of the appropriate OData attribute.

#### *Syntax*

```
public abstract String getRelationship ()
```

#### *Returns*

The value of the appropriate OData attribute

### *getToRole() method*

Returns The value of the appropriate OData attribute.

#### *Syntax*

```
public abstract String getToRole ()
```

#### *Returns*

The value of the appropriate OData attribute

### *ATTRIBUTE\_FROMROLE variable*

Name of the appropriate OData attribute.

#### *Syntax*

```
public static final String ATTRIBUTE_FROMROLE
```

### *ATTRIBUTE\_NAME variable*

Name of the appropriate OData attribute.

#### *Syntax*

```
public static final String ATTRIBUTE_NAME
```



***ATTRIBUTE\_RELATIONSHIP* variable**

Name of the appropriate OData attribute.

***Syntax***

```
public static final String ATTRIBUTE_RELATIONSHIP
```

***ATTRIBUTE\_TOROLE* variable**

Name of the appropriate OData attribute.

***Syntax***

```
public static final String ATTRIBUTE_TOROLE
```

***ELEMENT\_NAVIGATIONPROPERTY* variable**

Name of the appropriate OData element.

***Syntax***

```
public static final String ELEMENT_NAVIGATIONPROPERTY
```

***IODataOpenSearchDescription* interface**

Represents the appropriate OData element.

***Syntax***

```
public abstract interface IODataOpenSearchDescription extends
  IParserDocument, Serializable
```

***Derived classes***

- *IODataOpenSearchDescription* on page 695

***Members***

All members of *IODataOpenSearchDescription*, including inherited members. **Variables**

<b>Modifier and Type</b>	<b>Variable</b>	<b>Description</b>
public static final String	<i>ELEMENT_DESCRIPTION</i> on page 275	Name of the appropriate OData element.
public static final String	<i>ELEMENT_OPENSEARCH-DESCRIPTION</i> on page 275	Name of the appropriate OData element.
public static final String	<i>ELEMENT_SHORTNAME</i> on page 276	Name of the appropriate OData element.
public static final String	<i>ELEMENT_URL</i> on page 276	Name of the appropriate OData element.

***Methods***

Modifier and Type	Method	Description
public abstract String	<i>getDescription()</i> on page 275	Returns The value of the appropriate OData element.
public abstract String	<i>getShortName()</i> on page 275	Returns The value of the appropriate OData element.
public abstract List<IODataURL >	<i>getUrls()</i> on page 275	Returns The list of the appropriate OData element.

#### Inherited members from IParserDocument

Modifier and Type	Member	Description
public static final String	<i>ATTRIBUTE_ETAG</i> on page 386	Name of the appropriate OData element.
public static final String	<i>ATTRIBUTE_VALUEPREFIX_EDMTYPE</i> on page 386	Value prefix for EDM Type type values.
public abstract IParserDocument	<i>clone()</i> on page 374	Creates a copy of this object.
public static Map< String, String >	<i>DEFAULT_PREFIXMAPPING</i> on page 386	The default XML Namespace-to-Prefix mapping used for building XMLS.
public static final String[]	<i>EDMDATETIME_PATTERNS</i> on page 386	Possible EDM DateTime patterns Note: Some pattern are not supported by OData specification but still widely used.
public static final String[]	<i>EDMDATETIMEOFFSET_PATTERNS</i> on page 386	Possible EDM TimeOffset patterns Note: Some pattern are not supported by OData specification but still widely used.
public static final String	<i>EDMTIME_PATTERN</i> on page 386	EDM Time pattern.
public static String	<i>ELEMENT_FEED</i> on page 386	Name of the appropriate OData element.
public static final String	<i>ELEMENT_ID</i> on page 387	Name of the appropriate OData element.
public abstract String	<i>getAttribute(String...)</i> on page 374	Returns the value of the first attribute with the given route.

Modifier and Type	Member	Description
public abstract List< String >	<i>getAttributes(String...)</i> on page 374	Returns all the values of attributes with the given route.
public abstract Map< String, String >	<i>getChildAttribute-Map(String...)</i> on page 375	Returns all the name-value pairs of attributes contained by the element with the given route.
public abstract List< String >	<i>getChildAttributes(String...)</i> on page 375	Returns all the values of attributes contained by the element with the given route.
public abstract List< IParserDocument >	<i>getChildDocuments(String...)</i> on page 375	Returns the elements contained by the element with the given route.
public abstract List< IParserDocument >	<i>getChildDocumentsWithAttribute(String, String, String...)</i> on page 376	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public abstract List< IParserDocument >	<i>getChildDocumentsWithAttribute(String, String, boolean, String...)</i> on page 376	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public abstract IParserDocument	<i>getDocument(String...)</i> on page 377	Returns the first element with the given route.
public abstract List< IParserDocument >	<i>getDocuments(String...)</i> on page 377	Returns all the elements with the given route.
public abstract List< IParserDocument >	<i>getDocumentsWithAttribute(String, String, String...)</i> on page 378	Returns the elements with the given route that contains the given attribute with the given value.
public abstract List< IParserDocument >	<i>getDocumentsWithAttribute(String, String, boolean, String...)</i> on page 378	Returns the elements with the given route that contains the given attribute with the given value.
public abstract IParserDocument	<i>getDocumentWithAttribute(String, String, String...)</i> on page 379	Returns the first element with the given route that contains the given attribute with the given value.

Modifier and Type	Member	Description
public abstract IParserDocument	<i>getDocumentWithAttribute(String, String, boolean, String...)</i> on page 379	Returns the first element with the given route that contains the given attribute with the given value.
public abstract String	<i>getElementName()</i> on page 380	Returns The name of the root element of this document.
public abstract String	<i>getFunctionImportComplexPropertyValue(String...)</i> on page 380	
public abstract String	<i>getPrefixForUri(String)</i> on page 380	Returns the appropriate namespace prefix for the given XML name-space URI.
public abstract String[]	<i>getStrings()</i> on page 381	Returns all the string values contained by this document.
public abstract String	<i>getValue(String...)</i> on page 381	Returns the value of the first element with the given route.
public abstract List< String >	<i>getValues(String...)</i> on page 381	Returns all the values of elements with the given route.
public abstract void	<i>putAttribute(String, String...)</i> on page 382	Sets the value of the attribute with the given route If attribute does not exist it will be created as well as all other non existing elements in the route.
public abstract void	<i>putDocument(IParserDocument, String...)</i> on page 382	Insert the document under the element with the given route inserted document will be placed before already existing documents with the same route name under All missing elements from the route will be created.
public abstract void	<i>putValue(String, String...)</i> on page 382	Sets the value of the first element with the given route.
public abstract boolean	<i>removeAttribute(String...)</i> on page 383	Removes first element with the given route.

Modifier and Type	Member	Description
public abstract boolean	<i>removeAttributes(String...)</i> on page 383	Removes all the attribute with the given route.
public abstract boolean	<i>removeDocument(String...)</i> on page 383	Removes first element with the given route For removing multiple element use setDocuemtns with null arguments.
public static final String	<i>ROOT_DOCUMENT_NAME</i> on page 387	The default root element name for a new document.
public abstract void	<i>setAttributes(List&lt; String &gt;, String...)</i> on page 384	Sets all the values of the attributes with the given route Values will be paired to attributes in order Attributes with greater or equals index than size of new values will be untouched Attributes paired with null values will be removed.
public abstract void	<i>setDocuments(List&lt; IParser-Document &gt;, String...)</i> on page 384	Replaces all the elements with the given route Documents will be paired to elements in order Elements with greater or equals index than size of new elements will be untouched Element paired with null will be removed.
public abstract void	<i>setElementName(String, String...)</i> on page 385	Sets the name of the root element with the given route Use empty route for setting root name of this document.
public abstract void	<i>setValues(List&lt; String &gt;, String...)</i> on page 385	Sets all the values of the elements with the given rout Values will be paired to elements in order Elements with greater or equals index than size of new values will be untouched Null values will be treated as empty strings.
public abstract String	<i>toXMLString()</i> on page 385	Returns the XML string representation of this object.

Modifier and Type	Member	Description
public static final String	<i>XMLNS_APPLICATION_URI</i> on page 387	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/08/dataservices">http://schemas.microsoft.com/ado/2007/08/dataservices</a> .
public static final String	<i>XMLNS_ATOM_URI</i> on page 387	Constant for XMLNS URI: <a href="http://www.w3.org/2005/Atom">http://www.w3.org/2005/Atom</a> .
public static final String	<i>XMLNS_DATASERVICES_URI</i> on page 387	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/08/dataservices">http://schemas.microsoft.com/ado/2007/08/dataservices</a> .
public static final String	<i>XMLNS_EDM_URI</i> on page 387	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/05/edm">http://schemas.microsoft.com/ado/2007/05/edm</a> .
public static final String	<i>XMLNS_EDMX_URI</i> on page 387	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/06/edmx">http://schemas.microsoft.com/ado/2007/06/edmx</a> .
public static final String	<i>XMLNS_GENERICPLAYER_URI</i> on page 388	Constant for XMLNS URI: <a href="http://www.sap.com/Protocols/SAPData/GenericPlayer">http://www.sap.com/Protocols/SAPData/GenericPlayer</a> .
public static final String	<i>XMLNS_METADATA_URI</i> on page 388	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/08/dataservices/metadata">http://schemas.microsoft.com/ado/2007/08/dataservices/metadata</a> .
public static final String	<i>XMLNS_SAP_URI</i> on page 388	Constant for XMLNS URI: <a href="http://www.sap.com/Protocols/SAPData">http://www.sap.com/Protocols/SAPData</a> .

**Inherited members from IPersistable**

Modifier and Type	Member	Description
public void	<i>read(BufferedReader)</i> on page 389	
public void	<i>write(BufferedWriter)</i> on page 389	

*getDescription() method*

Returns The value of the appropriate OData element.

*Syntax*

```
public abstract String getDescription ()
```

*Returns*

The value of the appropriate OData element

*getShortName() method*

Returns The value of the appropriate OData element.

*Syntax*

```
public abstract String getShortName ()
```

*Returns*

The value of the appropriate OData element

*getUrls() method*

Returns The list of the appropriate OData element.

*Syntax*

```
public abstract List< IODataURL > getUrls ()
```

*Returns*

The list of the appropriate OData element

*ELEMENT\_DESCRIPTION variable*

Name of the appropriate OData element.

*Syntax*

```
public static final String ELEMENT_DESCRIPTION
```

*ELEMENT\_OPENSEARCHDESCRIPTION variable*

Name of the appropriate OData element.

*Syntax*

```
public static final String ELEMENT_OPENSEARCHDESCRIPTION
```

*ELEMENT\_SHORTNAME variable*

Name of the appropriate OData element.

*Syntax*

```
public static final String ELEMENT_SHORTNAME
```

*ELEMENT\_URL variable*

Name of the appropriate OData element.

*Syntax*

```
public static final String ELEMENT_URL
```

*IODataParameter interface*

Represents the appropriate OData element.

*Syntax*

```
public abstract interface IODataParameter extends
IParserDocument
```

*Derived classes*

- *ODataParameter* on page 711

*Members*

All members of IODataParameter, including inherited members. **Variables**

Modifier and Type	Variable	Description
public static final String	<i>ATTRIBUTE_MODE</i> on page 282	Name of the appropriate OData attribute.
public static final String	<i>ATTRIBUTE_NAME</i> on page 282	Name of the appropriate OData attribute.
public static final String	<i>ATTRIBUTE_TYPE</i> on page 283	Name of the appropriate OData attribute.
public static final String	<i>ELEMENT_PARAMETER</i> on page 283	Name of the appropriate OData element.
public static final String	<i>VALUE_MODE_IN</i> on page 283	Value option for the 'Mode' OData attribute.
public static final String	<i>VALUE_MODE_OUT</i> on page 283	Value option for the 'Mode' OData attribute.

**Methods**



Modifier and Type	Method	Description
public abstract String	<i>getMode()</i> on page 282	Returns The value of the appropriate OData attribute.
public abstract String	<i>getName()</i> on page 282	Returns The value of the appropriate OData attribute.
public abstract String	<i>getType()</i> on page 282	Returns The value of the appropriate OData attribute.

#### Inherited members from IParserDocument

Modifier and Type	Member	Description
public static final String	<i>ATTRIBUTE_ETAG</i> on page 386	Name of the appropriate OData element.
public static final String	<i>ATTRIBUTE_VALUEPREFIX_EDMTYPE</i> on page 386	Value prefix for EDM Type type values.
public abstract IParserDocument	<i>clone()</i> on page 374	Creates a copy of this object.
public static Map< String, String >	<i>DEFAULT_PREFIXMAPPING</i> on page 386	The default XML Namespace-to-Prefix mapping used for building XMLS.
public static final String[]	<i>EDMDATETIME_PATTERNS</i> on page 386	Possible EDM DateTime patterns Note: Some pattern are not supported by OData specification but still widely used.
public static final String[]	<i>EDMDATETIMEOFFSET_PATTERNS</i> on page 386	Possible EDM DateTimeOffset patterns Note: Some pattern are not supported by OData specification but still widely used.
public static final String	<i>EDMTIME_PATTERN</i> on page 386	EDM Time pattern.
public static String	<i>ELEMENT_FEED</i> on page 386	Name of the appropriate OData element.
public static final String	<i>ELEMENT_ID</i> on page 387	Name of the appropriate OData element.
public abstract String	<i>getAttribute(String...)</i> on page 374	Returns the value of the first attribute with the given route.

Modifier and Type	Member	Description
public abstract List< String >	<i>getAttributes(String...)</i> on page 374	Returns all the values of attributes with the given route.
public abstract Map< String, String >	<i>getChildAttribute-Map(String...)</i> on page 375	Returns all the name-value pairs of attributes contained by the element with the given route.
public abstract List< String >	<i>getChildAttributes(String...)</i> on page 375	Returns all the values of attributes contained by the element with the given route.
public abstract List< IParserDocument >	<i>getChildDocuments(String...)</i> on page 375	Returns the elements contained by the element with the given route.
public abstract List< IParserDocument >	<i>getChildDocumentsWithAttribute(String, String, String...)</i> on page 376	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public abstract List< IParserDocument >	<i>getChildDocumentsWithAttribute(String, String, boolean, String...)</i> on page 376	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public abstract IParserDocument	<i>getDocument(String...)</i> on page 377	Returns the first element with the given route.
public abstract List< IParserDocument >	<i>getDocuments(String...)</i> on page 377	Returns all the elements with the given route.
public abstract List< IParserDocument >	<i>getDocumentsWithAttribute(String, String, String...)</i> on page 378	Returns the elements with the given route that contains the given attribute with the given value.
public abstract List< IParserDocument >	<i>getDocumentsWithAttribute(String, String, boolean, String...)</i> on page 378	Returns the elements with the given route that contains the given attribute with the given value.
public abstract IParserDocument	<i>getDocumentWithAttribute(String, String, String...)</i> on page 379	Returns the first element with the given route that contains the given attribute with the given value.

Modifier and Type	Member	Description
public abstract IParserDocument	<i>getDocumentWithAttribute(String, String, boolean, String...)</i> on page 379	Returns the first element with the given route that contains the given attribute with the given value.
public abstract String	<i>getElementName()</i> on page 380	Returns The name of the root element of this document.
public abstract String	<i>getFunctionImportComplexPropertyValue(String...)</i> on page 380	
public abstract String	<i>getPrefixForUri(String)</i> on page 380	Returns the appropriate namespace prefix for the given XML name-space URI.
public abstract String[]	<i>getStrings()</i> on page 381	Returns all the string values contained by this document.
public abstract String	<i>getValue(String...)</i> on page 381	Returns the value of the first element with the given route.
public abstract List< String >	<i>getValues(String...)</i> on page 381	Returns all the values of elements with the given route.
public abstract void	<i>putAttribute(String, String...)</i> on page 382	Sets the value of the attribute with the given route If attribute does not exist it will be created as well as all other non existing elements in the route.
public abstract void	<i>putDocument(IParserDocument, String...)</i> on page 382	Insert the document under the element with the given route inserted document will be placed before already existing documents with the same route name under All missing elements from the route will be created.
public abstract void	<i>putValue(String, String...)</i> on page 382	Sets the value of the first element with the given route.
public abstract boolean	<i>removeAttribute(String...)</i> on page 383	Removes first element with the given route.

Modifier and Type	Member	Description
public abstract boolean	<i>removeAttributes(String...)</i> on page 383	Removes all the attribute with the given route.
public abstract boolean	<i>removeDocument(String...)</i> on page 383	Removes first element with the given route For removing multiple element use setDocuemtns with null arguments.
public static final String	<i>ROOT_DOCUMENT_NAME</i> on page 387	The default root element name for a new document.
public abstract void	<i>setAttributes(List&lt;String&gt;, String...)</i> on page 384	Sets all the values of the attributes with the given route Values will be paired to attributes in order Attributes with greater or equals index than size of new values will be untouched Attributes paired with null values will be removed.
public abstract void	<i>setDocuments(List&lt;IParser-Document&gt;, String...)</i> on page 384	Replaces all the elements with the given route Documents will be paired to elements in order Elements with greater or equals index than size of new elements will be untouched Element paired with null will be removed.
public abstract void	<i>setElementName(String, String...)</i> on page 385	Sets the name of the root element with the given route Use empty route for setting root name of this document.
public abstract void	<i>setValues(List&lt;String&gt;, String...)</i> on page 385	Sets all the values of the elements with the given rout Values will be paired to elements in order Elements with greater or equals index than size of new values will be untouched Null values will be treated as empty strings.
public abstract String	<i>toXMLString()</i> on page 385	Returns the XML string representation of this object.

Modifier and Type	Member	Description
public static final String	<i>XMLNS_APPLICATION_URI</i> on page 387	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/08/dataservices">http://schemas.microsoft.com/ado/2007/08/dataservices</a> .
public static final String	<i>XMLNS_ATOM_URI</i> on page 387	Constant for XMLNS URI: <a href="http://www.w3.org/2005/Atom">http://www.w3.org/2005/Atom</a> .
public static final String	<i>XMLNS_DATASERVICES_URI</i> on page 387	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/08/dataservices">http://schemas.microsoft.com/ado/2007/08/dataservices</a> .
public static final String	<i>XMLNS_EDM_URI</i> on page 387	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/05/edm">http://schemas.microsoft.com/ado/2007/05/edm</a> .
public static final String	<i>XMLNS_EDMX_URI</i> on page 387	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/06/edmx">http://schemas.microsoft.com/ado/2007/06/edmx</a> .
public static final String	<i>XMLNS_GENERICPLAYER_URI</i> on page 388	Constant for XMLNS URI: <a href="http://www.sap.com/Protocols/SAPData/GenericPlayer">http://www.sap.com/Protocols/SAPData/GenericPlayer</a> .
public static final String	<i>XMLNS_METADATA_URI</i> on page 388	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/08/dataservices/metadata">http://schemas.microsoft.com/ado/2007/08/dataservices/metadata</a> .
public static final String	<i>XMLNS_SAP_URI</i> on page 388	Constant for XMLNS URI: <a href="http://www.sap.com/Protocols/SAPData">http://www.sap.com/Protocols/SAPData</a> .

#### Inherited members from IPersistable

Modifier and Type	Member	Description
public void	<i>read(BufferedReader)</i> on page 389	
public void	<i>write(BufferedWriter)</i> on page 389	

### *getMode() method*

Returns The value of the appropriate OData attribute.

#### *Syntax*

```
public abstract String getMode ()
```

#### *Returns*

The value of the appropriate OData attribute

### *getName() method*

Returns The value of the appropriate OData attribute.

#### *Syntax*

```
public abstract String getName ()
```

#### *Returns*

The value of the appropriate OData attribute

### *getType() method*

Returns The value of the appropriate OData attribute.

#### *Syntax*

```
public abstract String getType ()
```

#### *Returns*

The value of the appropriate OData attribute

### *ATTRIBUTE\_MODE variable*

Name of the appropriate OData attribute.

#### *Syntax*

```
public static final String ATTRIBUTE_MODE
```

### *ATTRIBUTE\_NAME variable*

Name of the appropriate OData attribute.

#### *Syntax*

```
public static final String ATTRIBUTE_NAME
```

***ATTRIBUTE\_TYPE* variable**

Name of the appropriate OData attribute.

***Syntax***

```
public static final String ATTRIBUTE_TYPE
```

***ELEMENT\_PARAMETER* variable**

Name of the appropriate OData element.

***Syntax***

```
public static final String ELEMENT_PARAMETER
```

***VALUE\_MODE\_IN* variable**

Value option for the 'Mode' OData attribute.

***Syntax***

```
public static final String VALUE_MODE_IN
```

***VALUE\_MODE\_OUT* variable**

Value option for the 'Mode' OData attribute.

***Syntax***

```
public static final String VALUE_MODE_OUT
```

***IODataProperty* interface**

Represents the appropriate OData element.

***Syntax***

```
public abstract interface IODataProperty extends
  IParserDocument
```

***Derived classes***

- *ODataProperty* on page 726

***Members***

All members of IODataProperty, including inherited members. **Variables**

Modifier and Type	Variable	Description
public static final String	<i>ATTRIBUTE_COLLATION</i> on page 299	Name of the appropriate OData attribute.

<b>Modifier and Type</b>	<b>Variable</b>	<b>Description</b>
public static final String	<i>ATTRIBUTE_CREATABLE</i> on page 299	Name of the appropriate OData attribute.
public static final String	<i>ATTRIBUTE_DEFAULTVALUE</i> on page 299	Name of the appropriate OData attribute.
public static final String	<i>ATTRIBUTE_DELETABLE</i> on page 299	Name of the appropriate OData attribute.
public static final String	<i>ATTRIBUTE_DETAIL_DISPLAYORDER</i> on page 299	Name of the display-order OData attribute.
public static final String	<i>ATTRIBUTE_FILTERABLE</i> on page 299	Name of the appropriate OData attribute.
public static final String	<i>ATTRIBUTE_FIXEDLENGTH</i> on page 299	Name of the appropriate OData attribute.
public static final String	<i>ATTRIBUTE_LABEL</i> on page 300	Name of the appropriate OData attribute.
public static final String	<i>ATTRIBUTE_LIST_DISPLAYORDER</i> on page 300	Name of the display-order OData attribute.
public static final String	<i>ATTRIBUTE_MAXLENGTH</i> on page 300	Name of the appropriate OData attribute.
public static final String	<i>ATTRIBUTE_NAME</i> on page 300	Name of the appropriate OData attribute.
public static final String	<i>ATTRIBUTE_NULLABLE</i> on page 300	Name of the appropriate OData attribute.
public static final String	<i>ATTRIBUTE_PRECISION</i> on page 300	Name of the appropriate OData attribute.
public static final String	<i>ATTRIBUTE_SCALE</i> on page 300	Name of the appropriate OData attribute.
public static final String	<i>ATTRIBUTE_SEARCHABLE</i> on page 301	Name of the appropriate OData attribute.
public static final String	<i>ATTRIBUTE_SEMANTICS</i> on page 301	Name of the appropriate OData attribute.
public static final String	<i>ATTRIBUTE_TYPE</i> on page 301	Name of the appropriate OData attribute.



Modifier and Type	Variable	Description
public static final String	<i>ATTRIBUTE_UNICODE</i> on page 301	Name of the appropriate OData attribute.
public static final String	<i>ATTRIBUTE_UPDATABLE</i> on page 301	Name of the appropriate OData attribute.
public static final String	<i>ATTRIBUTE_USEIN-SEARCH</i> on page 301	Name of the appropriate OData attribute.
public static final String	<i>ATTRIBUTE_VISIBLEINDE-TAIL</i> on page 301	Name of the appropriate OData attribute.
public static final String	<i>ATTRIBUTE_VISIBLEIN-LIST</i> on page 302	Name of the appropriate OData attribute.
public static final String	<i>ELEMENT_PROPERTY</i> on page 302	Name of the appropriate OData element.

## Methods

Modifier and Type	Method	Description
public abstract List< IODataProperty >	<i>getChildPropertiesData()</i> on page 292	Returns all the child properties added to this document with putChildProperty method.
public abstract List< IODataProperty >	<i>getChildPropertiesDataWithAttribute(String, String)</i> on page 292	Returns list of appropriate contained Property OData elements with the given attribute value.
public abstract List< IODataProperty >	<i>getChildPropertiesDataWithAttribute(String, String, boolean)</i> on page 293	Returns list of appropriate contained Property OData elements with the given attribute value.
public abstract IODataProperty	<i>getChildPropertyData(String)</i> on page 293	Return a single child property added with putChildProperty method.
public abstract String	<i>getCollation()</i> on page 293	Returns the value of the appropriate OData attribute.
public abstract String	<i>getDefaultValue()</i> on page 294	Returns the value of the appropriate OData attribute.
public abstract int	<i>getDetailDisplayOrder()</i> on page 294	In current version it return the same value as getListDisplayOrder.

<b>Modifier and Type</b>	<b>Method</b>	<b>Description</b>
public abstract String	<i>getLabel()</i> on page 294	Returns The value of the appropriate OData attribute.
public abstract int	<i>getListDisplayOrder()</i> on page 294	In current version it returns the same value as getDetailDisplayOrder.
public abstract int	<i>getMaxLength()</i> on page 294	Returns the value of the appropriate OData attribute with defaultValue = 0;.
public abstract String	<i>getName()</i> on page 295	Returns The value of the appropriate OData attribute.
public abstract String	<i>getPrecision()</i> on page 295	Returns the value of the appropriate OData attribute.
public abstract String	<i>getScale()</i> on page 295	Returns the value of the appropriate OData attribute.
public abstract String	<i>getSemantics()</i> on page 295	Returns the value of the appropriate OData attribute with defaultValue = 0;.
public abstract String	<i>getType()</i> on page 296	Returns The value of the appropriate OData attribute.
public abstract String	<i>getValue()</i> on page 296	Returns the value of the property if there is a single property instance that is represented by this object and value is set with setValue method.
public abstract boolean	<i>hasFixedLength()</i> on page 296	Returns The value of the appropriate OData attribute.
public abstract boolean	<i>isComplex()</i> on page 296	Returns if the property has complex type and has child properties.
public abstract boolean	<i>isCreatable()</i> on page 297	Returns The value of the appropriate OData attribute.
public abstract boolean	<i>isDeletable()</i> on page 297	Returns The value of the appropriate OData attribute.

Modifier and Type	Method	Description
public abstract boolean	<i>isFilterable()</i> on page 297	Returns The value of the appropriate OData attribute.
public abstract boolean	<i>isNullable()</i> on page 297	Returns The value of the appropriate OData attribute.
public abstract boolean	<i>isSearchable()</i> on page 297	Returns The value of the appropriate OData attribute.
public abstract boolean	<i>isUnicode()</i> on page 298	Returns the value of the appropriate OData attribute.
public abstract boolean	<i>isUpdatable()</i> on page 298	Returns The value of the appropriate OData attribute.
public abstract void	<i>putChildPropertyData(IODataProperty)</i> on page 298	Put new child property to this property document.
public abstract void	<i>setValue(String)</i> on page 298	Sets the value of the property, represented by this object.

#### Inherited members from IParserDocument

Modifier and Type	Member	Description
public static final String	<i>ATTRIBUTE_ETAG</i> on page 386	Name of the appropriate OData element.
public static final String	<i>ATTRIBUTE_VALUEPREFIX_EDMTYPE</i> on page 386	Value prefix for EDM Type type values.
public abstract IParserDocument	<i>clone()</i> on page 374	Creates a copy of this object.
public static Map< String, String >	<i>DEFAULT_PREFIXMAPPING</i> on page 386	The default XML Namespace-to-Prefix mapping used for building XMLS.
public static final String[]	<i>EDMDATETIME_PATTERNS</i> on page 386	Possible EDM DateTime patterns Note: Some pattern are not supported by OData specification but still widely used.
public static final String[]	<i>EDMDATETIMEOFFSET_PATTERNS</i> on page 386	Possible EDM TimeOffset patterns Note: Some pattern are not supported by OData specification but still widely used.

Modifier and Type	Member	Description
public static final String	<i>EDMTIME_PATTERN</i> on page 386	EDM Time pattern.
public static String	<i>ELEMENT_FEED</i> on page 386	Name of the appropriate OData element.
public static final String	<i>ELEMENT_ID</i> on page 387	Name of the appropriate OData element.
public abstract String	<i>getAttribute(String...)</i> on page 374	Returns the value of the first attribute with the given route.
public abstract List< String >	<i>getAttributes(String...)</i> on page 374	Returns all the values of attributes with the given route.
public abstract Map< String, String >	<i>getChildAttributeMap(String...)</i> on page 375	Returns all the name-value pairs of attributes contained by the element with the given route.
public abstract List< String >	<i>getChildAttributes(String...)</i> on page 375	Returns all the values of attributes contained by the element with the given route.
public abstract List< IParserDocument >	<i>getChildDocuments(String...)</i> on page 375	Returns the elements contained by the element with the given route.
public abstract List< IParserDocument >	<i>getChildDocumentsWithAttribute(String, String, String...)</i> on page 376	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public abstract List< IParserDocument >	<i>getChildDocumentsWithAttribute(String, String, boolean, String...)</i> on page 376	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public abstract IParserDocument	<i>getDocument(String...)</i> on page 377	Returns the first element with the given route.
public abstract List< IParserDocument >	<i>getDocuments(String...)</i> on page 377	Returns all the elements with the given route.
public abstract List< IParserDocument >	<i>getDocumentsWithAttribute(String, String, String...)</i> on page 378	Returns the elements with the given route that contains the given attribute with the given value.

Modifier and Type	Member	Description
public abstract List<IParserDocument >	<i>getDocumentsWithAttribute(String, String, boolean, String...)</i> on page 378	Returns the elements with the given route that contains the given attribute with the given value.
public abstract IParserDocument	<i>getDocumentWithAttribute(String, String, String...)</i> on page 379	Returns the first element with the given route that contains the given attribute with the given value.
public abstract IParserDocument	<i>getDocumentWithAttribute(String, String, boolean, String...)</i> on page 379	Returns the first element with the given route that contains the given attribute with the given value.
public abstract String	<i>getElementName()</i> on page 380	Returns The name of the root element of this document.
public abstract String	<i>getFunctionImportComplexProperty Value(String...)</i> on page 380	
public abstract String	<i>getPrefixForUri(String)</i> on page 380	Returns the appropriate namespace prefix for the given XML name-space URI.
public abstract String[]	<i>getStrings()</i> on page 381	Returns all the string values contained by this document.
public abstract String	<i>getValue(String...)</i> on page 381	Returns the value of the first element with the given route.
public abstract List< String >	<i>getValues(String...)</i> on page 381	Returns all the values of elements with the given route.
public abstract void	<i>putAttribute(String, String...)</i> on page 382	Sets the value of the attribute with the given route If attribute does not exist it will be created as well as all other non existing elements in the route.

Modifier and Type	Member	Description
public abstract void	<i>putDocument(IParserDocument, String...)</i> on page 382	Insert the document under the element with the given route inserted document will be placed before already existing documents with the same route name under All missing elements from the route will be created.
public abstract void	<i>putValue(String, String...)</i> on page 382	Sets the value of the first element with the given route.
public abstract boolean	<i>removeAttribute(String...)</i> on page 383	Removes first element with the given route.
public abstract boolean	<i>removeAttributes(String...)</i> on page 383	Removes all the attribute with the given route.
public abstract boolean	<i>removeDocument(String...)</i> on page 383	Removes first element with the given route For removing multiple element use setDocuemtns with null arguments.
public static final String	<i>ROOT_DOCUMENT_NAME</i> on page 387	The default root element name for a new document.
public abstract void	<i>setAttributes(List&lt;String&gt;, String...)</i> on page 384	Sets all the values of the attributes with the given route Values will be paired to attributes in order Attributes with greater or equals index than size of new values will be untouched Attributes paired with null values will be removed.
public abstract void	<i>setDocuments(List&lt;IParserDocument&gt;, String...)</i> on page 384	Replaces all the elements with the given route Documents will be paired to elements in order Elements with greater or equals index than size of new elements will be untouched Element paired with null will be removed.

Modifier and Type	Member	Description
public abstract void	<i>setElementName(String, String...)</i> on page 385	Sets the name of the root element with the given route Use empty route for setting root name of this document.
public abstract void	<i>setValues(List&lt; String &gt;, String...)</i> on page 385	Sets all the values of the elements with the given rout Values will be paired to elements in order Elements with greater or equals index than size of new values will be untouched Null values will be treated as empty strings.
public abstract String	<i>toXMLString()</i> on page 385	Returns the XML string representation of this object.
public static final String	<i>XMLNS_APPLICATION_URI</i> on page 387	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/08/dataservices">http://schemas.microsoft.com/ado/2007/08/dataservices</a> .
public static final String	<i>XMLNS_ATOM_URI</i> on page 387	Constant for XMLNS URI: <a href="http://www.w3.org/2005/Atom">http://www.w3.org/2005/Atom</a> .
public static final String	<i>XMLNS_DATASERVICES_URI</i> on page 387	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/08/dataservices">http://schemas.microsoft.com/ado/2007/08/dataservices</a> .
public static final String	<i>XMLNS_EDM_URI</i> on page 387	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/05/edm">http://schemas.microsoft.com/ado/2007/05/edm</a> .
public static final String	<i>XMLNS_EDMX_URI</i> on page 387	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/06/edmx">http://schemas.microsoft.com/ado/2007/06/edmx</a> .
public static final String	<i>XMLNS_GENERICPLAYER_URI</i> on page 388	Constant for XMLNS URI: <a href="http://www.sap.com/Protocols/SAPData/GenericPlayer">http://www.sap.com/Protocols/SAPData/GenericPlayer</a> .
public static final String	<i>XMLNS_METADATA_URI</i> on page 388	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/08/dataservices/metadata">http://schemas.microsoft.com/ado/2007/08/dataservices/metadata</a> .

Modifier and Type	Member	Description
public static final String	<i>XMLNS_SAP_URI</i> on page 388	Constant for XMLNS URI: <a href="http://www.sap.com/Protocols/SAPData">http://www.sap.com/Protocols/SAPData</a> .

**Inherited members from IPersistable**

Modifier and Type	Member	Description
public void	<i>read(BufferedReader)</i> on page 389	
public void	<i>write(BufferedWriter)</i> on page 389	

*Usage*

May contain additional data retrieved from several source documents

*getChildPropertiesData() method*

Returns all the child properties added to this document with putChildProperty method.

*Syntax*

```
public abstract List< IODataProperty > getChildPropertiesData
()
```

*Returns*

List of child properties.

*getChildPropertiesDataWithAttribute(String, String) method*

Returns list of appropriate contained Property OData elements with the given attribute value.

*Syntax*

```
public abstract List< IODataProperty >
getChildPropertiesDataWithAttribute (String attributeName , String
attributeValue )
```

*Parameters*

- **attributeName** – the name of the attribute that value should be checked
- **attributeValue** – expected value of the attribute

*Returns*

list of appropriate contained Property OData elements with the given attribute value



*getChildPropertiesDataWithAttribute(String, String, boolean) method*

Returns list of appropriate contained Property OData elements with the given attribute value.

*Syntax*

```
public abstract List< IODataProperty >
getChildPropertiesDataWithAttribute ( String attributeName , String
attributeValue , boolean addByDefault )
```

*Parameters*

- **attributeName** – the name of the attribute that value should be checked
- **attributeValue** – expected value of the attribute
- **addByDefault** – true if the child Property should be add in case if there is no attribute with the given name

*Returns*

list of appropriate contained Property OData elements with the given attribute value

*getChildPropertyData(String) method*

Return a single child property added with putChildProperty method.

*Syntax*

```
public abstract IODataProperty getChildPropertyData ( String
propertyName )
```

*Parameters*

- **propertyName** – The name of the child property that should be returned.

*Returns*

The found child property or null if there is no child property with the given name.

*getCollation() method*

Returns the value of the appropriate OData attribute.

*Syntax*

```
public abstract String getCollation ()
```

*Returns*

The value of the appropriate OData attribute

### *getDefaultValue() method*

Returns the value of the appropriate OData attribute.

#### *Syntax*

```
public abstract String getDefaultValue ()
```

#### *Returns*

The value of the appropriate OData attribute

### *getDetailDisplayOrder() method*

In current version it return the same value as getListDisplayOrder.

#### *Syntax*

```
public abstract int getDetailDisplayOrder ()
```

#### *Returns*

The value of 'display-order' attribute with default value = 0;

### *getLabel() method*

Returns The value of the appropriate OData attribute.

#### *Syntax*

```
public abstract String getLabel ()
```

#### *Returns*

The value of the appropriate OData attribute

### *getListDisplayOrder() method*

In current version it returns the same value as getDetailDisplayOrder.

#### *Syntax*

```
public abstract int getListDisplayOrder ()
```

#### *Returns*

The value of 'display-order' attribute with default value = 0;

### *getMaxLength() method*

Returns the value of the appropriate OData attribute with default value = 0;.

#### *Syntax*

```
public abstract int getMaxLength ()
```

**Returns**

The value of the appropriate OData attribute with default Value = 0;

**getName() method**

Returns The value of the appropriate OData attribute.

**Syntax**

```
public abstract String getName ()
```

**Returns**

The value of the appropriate OData attribute

**getPrecision() method**

Returns the value of the appropriate OData attribute.

**Syntax**

```
public abstract String getPrecision ()
```

**Returns**

The value of the appropriate OData attribute

**getScale() method**

Returns the value of the appropriate OData attribute.

**Syntax**

```
public abstract String getScale ()
```

**Returns**

The value of the appropriate OData attribute

**getSemantics() method**

Returns the value of the appropriate OData attribute with default Value = 0;.

**Syntax**

```
public abstract String getSemantics ()
```

**Returns**

The value of the appropriate OData attribute with default Value = 0;

### *getType() method*

Returns The value of the appropriate OData attribute.

### *Syntax*

```
public abstract String getType ()
```

### *Returns*

The value of the appropriate OData attribute

### *getValue() method*

Returns the value of the property if there is a single property instance that is represented by this object and value is set with setValue method.

### *Syntax*

```
public abstract String getValue ()
```

### *Returns*

the value of the property instance represented by this object.

### *Usage*

Otherwise it returns null.

Typically this object contains value only if this object was returned by an OData Entry.

### *hasFixedLength() method*

Returns The value of the appropriate OData attribute.

### *Syntax*

```
public abstract boolean hasFixedLength ()
```

### *Returns*

The value of the appropriate OData attribute

### *isComplex() method*

Returns if the property has complex type and has child properties.

### *Syntax*

```
public abstract boolean isComplex ()
```

### *Returns*

true if the property has complex type and has child properties.

*isCreatable() method*

Returns The value of the appropriate OData attribute.

*Syntax*

```
public abstract boolean isCreatable ()
```

*Returns*

The value of the appropriate OData attribute

*isDeletable() method*

Returns The value of the appropriate OData attribute.

*Syntax*

```
public abstract boolean isDeletable ()
```

*Returns*

The value of the appropriate OData attribute

*isFilterable() method*

Returns The value of the appropriate OData attribute.

*Syntax*

```
public abstract boolean isFilterable ()
```

*Returns*

The value of the appropriate OData attribute

*isNullable() method*

Returns The value of the appropriate OData attribute.

*Syntax*

```
public abstract boolean isNullable ()
```

*Returns*

The value of the appropriate OData attribute

*isSearchable() method*

Returns The value of the appropriate OData attribute.

*Syntax*

```
public abstract boolean isSearchable ()
```

### *Returns*

The value of the appropriate OData attribute

### *isUnicode() method*

Returns the value of the appropriate OData attribute.

### *Syntax*

```
public abstract boolean isUnicode ()
```

### *Returns*

The value of the appropriate OData attribute

### *isUpdatable() method*

Returns The value of the appropriate OData attribute.

### *Syntax*

```
public abstract boolean isUpdatable ()
```

### *Returns*

The value of the appropriate OData attribute

### *putChildPropertyData(IODataProperty) method*

Put new child property to this property document.

### *Syntax*

```
public abstract void putChildPropertyData ( IODataProperty  
property )
```

### *Parameters*

- **property** – The child property

### *setValue(String) method*

Sets the value of the property, represented by this object.

### *Syntax*

```
public abstract void setValue (String value )
```

### *Parameters*

- **value** – The value of the property instance represented by this object.

### *Usage*

This method should be used only if there a property instance that is represented by this object.

Typically this method is used when property object is returned by an OData Entry object.

***ATTRIBUTE\_COLLATION variable***

Name of the appropriate OData attribute.

***Syntax***

```
public static final String ATTRIBUTE_COLLATION
```

***ATTRIBUTE\_CREATABLE variable***

Name of the appropriate OData attribute.

***Syntax***

```
public static final String ATTRIBUTE_CREATABLE
```

***ATTRIBUTE\_DEFAULTVALUE variable***

Name of the appropriate OData attribute.

***Syntax***

```
public static final String ATTRIBUTE_DEFAULTVALUE
```

***ATTRIBUTE\_DELETABLE variable***

Name of the appropriate OData attribute.

***Syntax***

```
public static final String ATTRIBUTE_DELETABLE
```

***ATTRIBUTE\_DETAIL\_DISPLAYORDER variable***

Name of the display-order OData attribute.

***Syntax***

```
public static final String ATTRIBUTE_DETAIL_DISPLAYORDER
```

***ATTRIBUTE\_FILTERABLE variable***

Name of the appropriate OData attribute.

***Syntax***

```
public static final String ATTRIBUTE_FILTERABLE
```

***ATTRIBUTE\_FIXEDLENGTH variable***

Name of the appropriate OData attribute.

***Syntax***

```
public static final String ATTRIBUTE_FIXEDLENGTH
```

### *ATTRIBUTE\_LABEL variable*

Name of the appropriate OData attribute.

#### *Syntax*

```
public static final String ATTRIBUTE_LABEL
```

### *ATTRIBUTE\_LIST\_DISPLAYORDER variable*

Name of the display-order OData attribute.

#### *Syntax*

```
public static final String ATTRIBUTE_LIST_DISPLAYORDER
```

### *ATTRIBUTE\_MAXLENGTH variable*

Name of the appropriate OData attribute.

#### *Syntax*

```
public static final String ATTRIBUTE_MAXLENGTH
```

### *ATTRIBUTE\_NAME variable*

Name of the appropriate OData attribute.

#### *Syntax*

```
public static final String ATTRIBUTE_NAME
```

### *ATTRIBUTE\_NULLABLE variable*

Name of the appropriate OData attribute.

#### *Syntax*

```
public static final String ATTRIBUTE_NULLABLE
```

### *ATTRIBUTE\_PRECISION variable*

Name of the appropriate OData attribute.

#### *Syntax*

```
public static final String ATTRIBUTE_PRECISION
```

### *ATTRIBUTE\_SCALE variable*

Name of the appropriate OData attribute.

#### *Syntax*

```
public static final String ATTRIBUTE_SCALE
```



*ATTRIBUTE\_SEARCHABLE variable*

Name of the appropriate OData attribute.

*Syntax*

```
public static final String ATTRIBUTE_SEARCHABLE
```

*ATTRIBUTE\_SEMANTICS variable*

Name of the appropriate OData attribute.

*Syntax*

```
public static final String ATTRIBUTE_SEMANTICS
```

*ATTRIBUTE\_TYPE variable*

Name of the appropriate OData attribute.

*Syntax*

```
public static final String ATTRIBUTE_TYPE
```

*ATTRIBUTE\_UNICODE variable*

Name of the appropriate OData attribute.

*Syntax*

```
public static final String ATTRIBUTE_UNICODE
```

*ATTRIBUTE\_UPDATABLE variable*

Name of the appropriate OData attribute.

*Syntax*

```
public static final String ATTRIBUTE_UPDATABLE
```

*ATTRIBUTE\_USEINSEARCH variable*

Name of the appropriate OData attribute.

*Syntax*

```
public static final String ATTRIBUTE_USEINSEARCH
```

*ATTRIBUTE\_VISIBLEINDETAIL variable*

Name of the appropriate OData attribute.

*Syntax*

```
public static final String ATTRIBUTE_VISIBLEINDETAIL
```

*ATTRIBUTE\_VISIBLEINLIST variable*

Name of the appropriate OData attribute.

*Syntax*

```
public static final String ATTRIBUTE_VISIBLEINLIST
```

*ELEMENT\_PROPERTY variable*

Name of the appropriate OData element.

*Syntax*

```
public static final String ELEMENT_PROPERTY
```

*IODataSchema interface*

Represents the OData Service Document.

*Syntax*

```
public abstract interface IODataSchema extends
IParserDocument
```

*Derived classes*

- *IODataSchema* on page 814

*Members*

All members of IODataSchema, including inherited members. **Variables**

Modifier and Type	Variable	Description
public static final String	<i>ACTION_FOR</i> on page 313	name of the appropriate Odata attribute
public static final String	<i>ATTRIBUTE_ENTITYSET</i> on page 313	Name of the appropriate OData attribute.
public static final String	<i>ATTRIBUTE_ENTITYTYPE</i> on page 313	Name of the appropriate OData attribute.
public static final String	<i>ATTRIBUTE_NAME</i> on page 313	Name of the appropriate OData attribute.
public static final String	<i>ATTRIBUTE_NAMESPACE</i> on page 314	Name of the appropriate OData attribute.
public static final String	<i>ELEMENT_COMPLEXTYPE</i> on page 314	Name of the appropriate OData element.

Modifier and Type	Variable	Description
public static final String	<i>ELEMENT_DATASERVICES</i> on page 314	Name of the appropriate OData element.
public static final String	<i>ELEMENT_EDMX</i> on page 314	Name of the appropriate OData element.
public static final String	<i>ELEMENT_ENTITYCONTAINER</i> on page 314	Name of the appropriate OData element.
public static final String	<i>ELEMENT_ENTITYSET</i> on page 314	Name of the appropriate OData element.
public static final String	<i>ELEMENT_ENTITYTYPE</i> on page 314	Name of the appropriate OData element.
public static final String	<i>ELEMENT_FUNCTIONALIMPORT</i> on page 315	Name of the appropriate OData element.
public static final String	<i>ELEMENT_SCHEMA</i> on page 315	Name of the appropriate OData element.

### Methods

Modifier and Type	Method	Description
public abstract IODataAssociation	<i>getAssociation(String)</i> on page 309	Returns the appropriate OData Association element with the given relationship attribute.
public abstract List<IODataAssociation >	<i>getAssociations()</i> on page 309	Returns the list of the appropriate OData elements.
public abstract IODataAssociationSet	<i>getAssociationSet(String)</i> on page 310	Returns the appropriate AssociationSet with for given association.
public abstract List<IODataAssociationSet >	<i>getAssociationSets()</i> on page 310	Returns the list of the appropriate OData elements.
public abstract IODataComplexType	<i>getComplexType(String)</i> on page 310	Returns The 'ComplexType' OData element associated with the reference.
public abstract List< IODataComplexType >	<i>getComplexTypes()</i> on page 310	Returns The list of the appropriate OData element.
public abstract IODataEntitySet	<i>getEntitySet(String)</i> on page 311	Returns The appropriate OData EntitySet.

Modifier and Type	Method	Description
public abstract IODataEntityType	<i>getEntityType(String)</i> on page 311	Returns The 'EntityType' OData element associated with the reference argument.
public abstract IODataEntityType	<i>getEntityTypeForCollection(String)</i> on page 311	Returns the 'EntityType' OData element contained by the 'EntitySet' element that is associated with the collectionId matching.
public abstract List< IODataFunctionImport >	<i>getFunctionImports()</i> on page 312	Returns The list of the 'FunctionImport' OData element.
public abstract List< IODataFunctionImport >	<i>getFunctionImportsForCollection(String)</i> on page 312	Returns List of FunctionImports valid for the appropriate collection.
public abstract IODataServiceDocument	<i>getServiceDocument()</i> on page 312	Returns the appropriate OData Service Document.
public abstract String	<i>getTargetCollectionIdForNavigationProperty(String, String)</i> on page 312	Resolves the target collection Id of the given OData Navigation Property element.
public abstract void	<i>setServiceDocument(IODataServiceDocument)</i> on page 313	Maintains reference to the appropriate OData Service Document.

#### Inherited members from IParserDocument

Modifier and Type	Member	Description
public static final String	<i>ATTRIBUTE_ETAG</i> on page 386	Name of the appropriate OData element.
public static final String	<i>ATTRIBUTE_VALUEPREFIX_EDMTYPE</i> on page 386	Value prefix for EDM Type type values.
public abstract IParserDocument	<i>clone()</i> on page 374	Creates a copy of this object.
public static Map< String, String >	<i>DEFAULT_PREFIXMAPPING</i> on page 386	The default XML Namespace-to-Prefix mapping used for building XMLS.

Modifier and Type	Member	Description
public static final String[]	<i>EDMDATETIME_PATTERNS</i> on page 386	Possible EDM DateTime patterns Note: Some pattern are not supported by OData specification but still widely used.
public static final String[]	<i>EDMDATETIMEOFFSET_PATTERNS</i> on page 386	Possible EDM TimeOffset patterns Note: Some pattern are not supported by OData specification but still widely used.
public static final String	<i>EDMTIME_PATTERN</i> on page 386	EDM Time pattern.
public static String	<i>ELEMENT_FEED</i> on page 386	Name of the appropriate OData element.
public static final String	<i>ELEMENT_ID</i> on page 387	Name of the appropriate OData element.
public abstract String	<i>getAttribute(String...)</i> on page 374	Returns the value of the first attribute with the given route.
public abstract List< String >	<i>getAttributes(String...)</i> on page 374	Returns all the values of attributes with the given route.
public abstract Map< String, String >	<i>getChildAttributeMap(String...)</i> on page 375	Returns all the name-value pairs of attributes contained by the element with the given route.
public abstract List< String >	<i>getChildAttributes(String...)</i> on page 375	Returns all the values of attributes contained by the element with the given route.
public abstract List< IParseDocument >	<i>getChildDocuments(String...)</i> on page 375	Returns the elements contained by the element with the given route.
public abstract List< IParseDocument >	<i>getChildDocumentsWithAttribute(String, String, String...)</i> on page 376	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public abstract List< IParseDocument >	<i>getChildDocumentsWithAttribute(String, String, boolean, String...)</i> on page 376	Returns the elements contained by the element with the given route and having the given attribute with the given value.

Modifier and Type	Member	Description
public abstract IParserDocument	<i>getDocument(String...)</i> on page 377	Returns the first element with the given route.
public abstract List<IParserDocument >	<i>getDocuments(String...)</i> on page 377	Returns all the elements with the given route.
public abstract List<IParserDocument >	<i>getDocumentsWithAttribute(String, String, String...)</i> on page 378	Returns the elements with the given route that contains the given attribute with the given value.
public abstract List<IParserDocument >	<i>getDocumentsWithAttribute(String, String, boolean, String...)</i> on page 378	Returns the elements with the given route that contains the given attribute with the given value.
public abstract IParserDocument	<i>getDocumentWithAttribute(String, String, String...)</i> on page 379	Returns the first element with the given route that contains the given attribute with the given value.
public abstract IParserDocument	<i>getDocumentWithAttribute(String, String, boolean, String...)</i> on page 379	Returns the first element with the given route that contains the given attribute with the given value.
public abstract String	<i>getElementName()</i> on page 380	Returns The name of the root element of this document.
public abstract String	<i>getFunctionImportComplexPropertyValue(String...)</i> on page 380	
public abstract String	<i>getPrefixForUri(String)</i> on page 380	Returns the appropriate name-space prefix for the given XML name-space URI.
public abstract String[]	<i>getStrings()</i> on page 381	Returns all the string values contained by this document.
public abstract String	<i>getValue(String...)</i> on page 381	Returns the value of the first element with the given route.
public abstract List< String >	<i>getValues(String...)</i> on page 381	Returns all the values of elements with the given route.

Modifier and Type	Member	Description
public abstract void	<i>putAttribute(String, String...)</i> on page 382	Sets the value of the attribute with the given route. If attribute does not exist it will be created as well as all other non existing elements in the route.
public abstract void	<i>putDocument(IParserDocument, String...)</i> on page 382	Insert the document under the element with the given route. Inserted document will be placed before already existing documents with the same route name. All missing elements from the route will be created.
public abstract void	<i>putValue(String, String...)</i> on page 382	Sets the value of the first element with the given route.
public abstract boolean	<i>removeAttribute(String...)</i> on page 383	Removes first element with the given route.
public abstract boolean	<i>removeAttributes(String...)</i> on page 383	Removes all the attribute with the given route.
public abstract boolean	<i>removeDocument(String...)</i> on page 383	Removes first element with the given route. For removing multiple element use <code>setDocuments</code> with null arguments.
public static final String	<i>ROOT_DOCUMENT_NAME</i> on page 387	The default root element name for a new document.
public abstract void	<i>setAttributes(List&lt;String&gt;, String...)</i> on page 384	Sets all the values of the attributes with the given route. Values will be paired to attributes in order. Attributes with greater or equals index than size of new values will be untouched. Attributes paired with null values will be removed.

Modifier and Type	Member	Description
public abstract void	<i>setDocuments(List&lt; IParser-Document &gt;, String...)</i> on page 384	Replaces all the elements with the given route Documents will be paired to elements in order Elements with greater or equals index than size of new elements will be untouched Element paired with null will be removed.
public abstract void	<i>setElementName(String, String...)</i> on page 385	Sets the name of the root element with the given route Use empty route for setting root name of this document.
public abstract void	<i>setValues(List&lt; String &gt;, String...)</i> on page 385	Sets all the values of the elements with the given route Values will be paired to elements in order Elements with greater or equals index than size of new values will be untouched Null values will be treated as empty strings.
public abstract String	<i>toXMLString()</i> on page 385	Returns the XML string representation of this object.
public static final String	<i>XMLNS_APPLICATION_URI</i> on page 387	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/08/dataservices">http://schemas.microsoft.com/ado/2007/08/dataservices</a> .
public static final String	<i>XMLNS_ATOM_URI</i> on page 387	Constant for XMLNS URI: <a href="http://www.w3.org/2005/Atom">http://www.w3.org/2005/Atom</a> .
public static final String	<i>XMLNS_DATASERVICES_URI</i> on page 387	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/08/dataservices">http://schemas.microsoft.com/ado/2007/08/dataservices</a> .
public static final String	<i>XMLNS_EDM_URI</i> on page 387	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/05/edm">http://schemas.microsoft.com/ado/2007/05/edm</a> .
public static final String	<i>XMLNS_EDMX_URI</i> on page 387	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/06/edmx">http://schemas.microsoft.com/ado/2007/06/edmx</a> .



Modifier and Type	Member	Description
public static final String	<i>XMLNS_GENERICPLAYER_URI</i> on page 388	Constant for XMLNS URI: <a href="http://www.sap.com/Protocols/SAPData/GenericPlayer">http://www.sap.com/Protocols/SAPData/GenericPlayer</a> .
public static final String	<i>XMLNS_METADATA_URI</i> on page 388	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/08/dataservices/metadata">http://schemas.microsoft.com/ado/2007/08/dataservices/metadata</a> .
public static final String	<i>XMLNS_SAP_URI</i> on page 388	Constant for XMLNS URI: <a href="http://www.sap.com/Protocols/SAPData">http://www.sap.com/Protocols/SAPData</a> .

#### Inherited members from IPersistable

Modifier and Type	Member	Description
public void	<i>read(BufferedReader)</i> on page 389	
public void	<i>write(BufferedWriter)</i> on page 389	

#### *getAssociation(String)* method

Returns the appropriate OData Association element with the given relationship attribute.

#### *Syntax*

```
public abstract IODataAssociation getAssociation (String
relationShip )
```

#### *getAssociations()* method

Returns the list of the appropriate OData elements.

#### *Syntax*

```
public abstract List< IODataAssociation > getAssociations ( )
```

#### *Returns*

List of the appropriate OData elements

### *getAssociationSet(String) method*

Returns the appropriate AssociationSet with for given association.

#### *Syntax*

```
public abstract IODataAssociationSet getAssociationSet  
( String association )
```

#### *Parameters*

- **association** – The association of the AssociationSet

#### *Returns*

The appropriate AssociationSet with for given association

### *getAssociationSets() method*

Returns the list of the appropriate OData elements.

#### *Syntax*

```
public abstract List< IODataAssociationSet >  
getAssociationSets ()
```

#### *Returns*

List of the appropriate OData elements

### *getComplexType(String) method*

Returns The 'ComplexType' OData element associated with the reference.

#### *Syntax*

```
public abstract IODataComplexType getComplexType (String  
complexTypeReference )
```

#### *Parameters*

- **complexTypeReference** – Reference to the appropriate Complex Type (example: 'namespace.complextypename')

#### *Returns*

The 'ComplexType' OData element associated with the reference

### *getComplexTypes() method*

Returns The list of the appropriate OData element.

#### *Syntax*

```
public abstract List< IODataComplexType > getComplexTypes ()
```

*Returns*

The list of the appropriate OData element

*getEntitySet(String) method*

Returns The appropriate OData EntitySet.

*Syntax*

```
public abstract IODataEntitySet getEntitySet ( String
collectionId )
```

*Parameters*

- **collectionId** – The href of the collection to find the OData EntitySet for

*Returns*

The appropriate OData EntitySet

*getEntityType(String) method*

Returns The 'EntityType' OData element associated with the reference argument.

*Syntax*

```
public abstract IODataEntityType getEntityType ( String
entityTypeReference )
```

*Parameters*

- **entityTypeReference** – Reference to the appropriate Entity Type (example: 'namespace.entitytypename')

*Returns*

The 'EntityType' OData element associated with the reference argument

*getEntityTypeForCollection(String) method*

Returns the 'EntityType' OData element contained by the 'EntitySet' element that is associated with the collectionId matching.

*Syntax*

```
public abstract IODataEntityType getEntityTypeForCollection (
String collectionId )
```

*Parameters*

- **collectionId** – The Id to be compared with the name of 'EntitySet' elements

### *Returns*

The matching EntityType

### *getFunctionImports() method*

Returns The list of the 'FunctionImport' OData element.

### *Syntax*

```
public abstract List< IODataFunctionImport >  
getFunctionImports ()
```

### *Returns*

The list of the 'FunctionImport' OData element

### *getFunctionImportsForCollection(String) method*

Returns List of FunctionImports valid for the appropriate collection.

### *Syntax*

```
public abstract List< IODataFunctionImport >  
getFunctionImportsForCollection ( String collectionId )
```

### *Parameters*

- **collectionId** – The href of the appropriate collection.

### *Returns*

List of FunctionImports valid for the appropriate collection.

### *getServiceDocument() method*

Returns the appropriate OData Service Document.

### *Syntax*

```
public abstract IODataServiceDocument getServiceDocument ()
```

### *Returns*

The appropriate OData Service Document

### *getTargetCollectionIdForNavigationProperty(String, String) method*

Resolves the target collection Id of the given OData Navigation Property element.

### *Syntax*

```
public abstract String  
getTargetCollectionIdForNavigationProperty ( String  
sourceCollectionId , String navigationPropertyName )
```

*Parameters*

- **sourceCollectionId** – The source Id of the source collection that is linked with the target collection
- **navigationPropertyName** – The name of the Navigation Property

*Returns*

The Id of the target collection

*setServiceDocument(IODataServiceDocument) method*

Maintains reference to the appropriate OData Service Document.

*Syntax*

```
public abstract void setServiceDocument
( IODataServiceDocument serviceDocument )
```

*Parameters*

- **serviceDocument** – The appropriate OData Service Document

*ACTION\_FOR variable*

name of the appropriate Odata attribute

*Syntax*

```
public static final String ACTION_FOR
```

*ATTRIBUTE\_ENTITYSET variable*

Name of the appropriate OData attribute.

*Syntax*

```
public static final String ATTRIBUTE_ENTITYSET
```

*ATTRIBUTE\_ENTITYTYPE variable*

Name of the appropriate OData attribute.

*Syntax*

```
public static final String ATTRIBUTE_ENTITYTYPE
```

*ATTRIBUTE\_NAME variable*

Name of the appropriate OData attribute.

*Syntax*

```
public static final String ATTRIBUTE_NAME
```

*ATTRIBUTE\_NAMESPACE variable*

Name of the appropriate OData attribute.

*Syntax*

```
public static final String ATTRIBUTE_NAMESPACE
```

*ELEMENT\_COMPLEXTYPE variable*

Name of the appropriate OData element.

*Syntax*

```
public static final String ELEMENT_COMPLEXTYPE
```

*ELEMENT\_DATASERVICES variable*

Name of the appropriate OData element.

*Syntax*

```
public static final String ELEMENT_DATASERVICES
```

*ELEMENT\_EDMX variable*

Name of the appropriate OData element.

*Syntax*

```
public static final String ELEMENT_EDMX
```

*ELEMENT\_ENTITYCONTAINER variable*

Name of the appropriate OData element.

*Syntax*

```
public static final String ELEMENT_ENTITYCONTAINER
```

*ELEMENT\_ENTITYSET variable*

Name of the appropriate OData element.

*Syntax*

```
public static final String ELEMENT_ENTITYSET
```

*ELEMENT\_ENTITYTYPE variable*

Name of the appropriate OData element.

*Syntax*

```
public static final String ELEMENT_ENTITYTYPE
```

***ELEMENT\_FUNCTIONALIMPORT*** variable

Name of the appropriate OData element.

**Syntax**

```
public static final String ELEMENT_FUNCTIONALIMPORT
```

***ELEMENT\_SCHEMA*** variable

Name of the appropriate OData element.

**Syntax**

```
public static final String ELEMENT_SCHEMA
```

***IODataServiceDocument*** interface

Represents the OData Service Document.

**Syntax**

```
public abstract interface IODataServiceDocument extends
  IParserDocument
```

**Derived classes**

- *IODataServiceDocument* on page 835

**Members**

All members of *IODataServiceDocument*, including inherited members. **Variables**

Modifier and Type	Variable	Description
public static final String	<i>ATTRIBUTE_BASE</i> on page 324	Name of the appropriate OData attribute.
public static final String	<i>ATTRIBUTE_LANG</i> on page 324	Name of the appropriate OData attribute.
public static final String	<i>ELEMENT_COLLECTION</i> on page 324	Name of the appropriate OData element.
public static final String	<i>ELEMENT_SERVICE</i> on page 324	Name of the appropriate OData element.
public static final String	<i>ELEMENT_WORKSPACE</i> on page 324	Name of the appropriate OData element.
public static final String	<i>URL_SUFFIX_METADATA</i> on page 324	URL value suffix for retrieving OData Schema document.

**Methods**

Modifier and Type	Method	Description
public abstract List< IOData-Collection >	<i>getAllCollections()</i> on page 321	Returns the list of all 'collection' OData element contained by the 'workspace' elements.
public abstract String	<i>getBaseUrl()</i> on page 321	Returns The value of the 'base' OData attribute.
public abstract String	<i>getEtag()</i> on page 322	Returns The value of the 'etag' OData attribute.
public abstract String	<i>getLanguage()</i> on page 322	Returns the value of the 'lang' OData attribute.
public abstract IODataOpen-SearchDescription	<i>getOpenSearchDescription(String)</i> on page 322	Returns the appropriate Open-Search Description Document for the given collection.
public abstract IODataSchema	<i>getSchema()</i> on page 322	Returns the appropriate OData Schema document.
public abstract String	<i>getSchemaUrl()</i> on page 323	Returns The full URL that can be used for retrieving the OData Schema document.
public abstract List< IOData-Workspace >	<i>getWorkspaces()</i> on page 323	Returns the list of appropriate OData elements.
public abstract void	<i>setOpenSearchDescription(String, IODataOpen-SearchDescription)</i> on page 323	Maintains the appropriate OpenSearch Description Document for the given collection.
public abstract void	<i>setSchema(IODataSchema)</i> on page 323	Maintains the appropriate OData Schema document.

#### Inherited members from IParserDocument

Modifier and Type	Member	Description
public static final String	<i>ATTRIBUTE_ETAG</i> on page 386	Name of the appropriate OData element.
public static final String	<i>ATTRIBUTE_VALUEPREFIX_EDMTYPE</i> on page 386	Value prefix for EDM Type type values.
public abstract IParserDocument	<i>clone()</i> on page 374	Creates a copy of this object.



Modifier and Type	Member	Description
public static Map< String, String >	<i>DEFAULT_PREFIXMAP-PING</i> on page 386	The default XML Namespace-to-Prefix mapping used for building XMLS.
public static final String[]	<i>EDMDATETIME_PATTERNS</i> on page 386	Possible EDM DateTime patterns Note: Some pattern are not supported by OData specification but still widely used.
public static final String[]	<i>EDMDATETIMEOFFSET_PATTERNS</i> on page 386	Possible EDM TimeOffset patterns Note: Some pattern are not supported by OData specification but still widely used.
public static final String	<i>EDMTIME_PATTERN</i> on page 386	EDM Time pattern.
public static String	<i>ELEMENT_FEED</i> on page 386	Name of the appropriate OData element.
public static final String	<i>ELEMENT_ID</i> on page 387	Name of the appropriate OData element.
public abstract String	<i>getAttribute(String...)</i> on page 374	Returns the value of the first attribute with the given route.
public abstract List< String >	<i>getAttributes(String...)</i> on page 374	Returns all the values of attributes with the given route.
public abstract Map< String, String >	<i>getChildAttribute-Map(String...)</i> on page 375	Returns all the name-value pairs of attributes contained by the element with the given route.
public abstract List< String >	<i>getChildAttributes(String...)</i> on page 375	Returns all the values of attributes contained by the element with the given route.
public abstract List< IParseDocument >	<i>getChildDocuments(String...)</i> on page 375	Returns the elements contained by the element with the given route.
public abstract List< IParseDocument >	<i>getChildDocumentsWithAttribute(String, String, String...)</i> on page 376	Returns the elements contained by the element with the given route and having the given attribute with the given value.

Modifier and Type	Member	Description
public abstract List<IParserDocument >	<i>getChildDocumentsWithAttribute(String, String, boolean, String...)</i> on page 376	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public abstract IParserDocument	<i>getDocument(String...)</i> on page 377	Returns the first element with the given route.
public abstract List<IParserDocument >	<i>getDocuments(String...)</i> on page 377	Returns all the elements with the given route.
public abstract List<IParserDocument >	<i>getDocumentsWithAttribute(String, String, String...)</i> on page 378	Returns the elements with the given route that contains the given attribute with the given value.
public abstract List<IParserDocument >	<i>getDocumentsWithAttribute(String, String, boolean, String...)</i> on page 378	Returns the elements with the given route that contains the given attribute with the given value.
public abstract IParserDocument	<i>getDocumentWithAttribute(String, String, String...)</i> on page 379	Returns the first element with the given route that contains the given attribute with the given value.
public abstract IParserDocument	<i>getDocumentWithAttribute(String, String, boolean, String...)</i> on page 379	Returns the first element with the given route that contains the given attribute with the given value.
public abstract String	<i>getElementName()</i> on page 380	Returns The name of the root element of this document.
public abstract String	<i>getFunctionImportComplexProperty Value(String...)</i> on page 380	
public abstract String	<i>getPrefixForUri(String)</i> on page 380	Returns the appropriate namespace prefix for the given XML name-space URI.
public abstract String[]	<i>getStrings()</i> on page 381	Returns all the string values contained by this document.

Modifier and Type	Member	Description
public abstract String	<i>getValue(String...)</i> on page 381	Returns the value of the first element with the given route.
public abstract List< String >	<i>getValues(String...)</i> on page 381	Returns all the values of elements with the given route.
public abstract void	<i>putAttribute(String, String...)</i> on page 382	Sets the value of the attribute with the given route If attribute does not exist it will be created as well as all other non existing elements in the route.
public abstract void	<i>putDocument(IParserDocument, String...)</i> on page 382	Insert the document under the element with the given route inserted document will be placed before already existing documents with the same route name under All missing elements from the route will be created.
public abstract void	<i>putValue(String, String...)</i> on page 382	Sets the value of the first element with the given route.
public abstract boolean	<i>removeAttribute(String...)</i> on page 383	Removes first element with the given route.
public abstract boolean	<i>removeAttributes(String...)</i> on page 383	Removes all the attribute with the given route.
public abstract boolean	<i>removeDocument(String...)</i> on page 383	Removes first element with the given route For removing multiple element use setDocuemtns with null arguments.
public static final String	<i>ROOT_DOCUMENT_NAME</i> on page 387	The default root element name for a new document.
public abstract void	<i>setAttributes(List&lt; String &gt;, String...)</i> on page 384	Sets all the values of the attributes with the given route Values will be paired to attributes in order Attributes with greater or equals index than size of new values will be untouched Attributes paired with null values will be removed.

Modifier and Type	Member	Description
public abstract void	<i>setDocuments(List&lt; IParser-Document &gt;, String...)</i> on page 384	Replaces all the elements with the given route Documents will be paired to elements in order Elements with greater or equals index than size of new elements will be untouched Element paired with null will be removed.
public abstract void	<i>setElementName(String, String...)</i> on page 385	Sets the name of the root element with the given route Use empty route for setting root name of this document.
public abstract void	<i>setValues(List&lt; String &gt;, String...)</i> on page 385	Sets all the values of the elements with the given route Values will be paired to elements in order Elements with greater or equals index than size of new values will be untouched Null values will be treated as empty strings.
public abstract String	<i>toXMLString()</i> on page 385	Returns the XML string representation of this object.
public static final String	<i>XMLNS_APPLICATION_URI</i> on page 387	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/08/dataservices">http://schemas.microsoft.com/ado/2007/08/dataservices</a> .
public static final String	<i>XMLNS_ATOM_URI</i> on page 387	Constant for XMLNS URI: <a href="http://www.w3.org/2005/Atom">http://www.w3.org/2005/Atom</a> .
public static final String	<i>XMLNS_DATASERVICES_URI</i> on page 387	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/08/dataservices">http://schemas.microsoft.com/ado/2007/08/dataservices</a> .
public static final String	<i>XMLNS_EDM_URI</i> on page 387	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/05/edm">http://schemas.microsoft.com/ado/2007/05/edm</a> .
public static final String	<i>XMLNS_EDMX_URI</i> on page 387	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/06/edmx">http://schemas.microsoft.com/ado/2007/06/edmx</a> .

Modifier and Type	Member	Description
public static final String	<i>XMLNS_GENERICPLAYER_URI</i> on page 388	Constant for XMLNS URI: <a href="http://www.sap.com/Protocols/SAPData/GenericPlayer">http://www.sap.com/Protocols/SAPData/GenericPlayer</a> .
public static final String	<i>XMLNS_METADATA_URI</i> on page 388	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/08/dataservices/metadata">http://schemas.microsoft.com/ado/2007/08/dataservices/metadata</a> .
public static final String	<i>XMLNS_SAP_URI</i> on page 388	Constant for XMLNS URI: <a href="http://www.sap.com/Protocols/SAPData">http://www.sap.com/Protocols/SAPData</a> .

#### Inherited members from IPersistable

Modifier and Type	Member	Description
public void	<i>read(BufferedReader)</i> on page 389	
public void	<i>write(BufferedWriter)</i> on page 389	

#### *getAllCollections()* method

Returns the list of all 'collection' OData element contained by the 'workspace' elements.

#### *Syntax*

```
public abstract List< IODataCollection > getAllCollections
()
```

#### *Returns*

The list of all 'collection' OData element contained by the 'workspace' elements

#### *getBaseUrl()* method

Returns The value of the 'base' OData attribute.

#### *Syntax*

```
public abstract String getBaseUrl ()
```

#### *Returns*

The value of the 'base' OData attribute

### *getEtag() method*

Returns The value of the 'etag' OData attribute.

#### *Syntax*

```
public abstract String getEtag ()
```

#### *Returns*

The value of the 'etag' OData attribute

### *getLanguage() method*

Returns the value of the 'lang' OData attribute.

#### *Syntax*

```
public abstract String getLanguage ()
```

#### *Returns*

The value of the 'lang' OData attribute

### *getOpenSearchDescription(String) method*

Returns the appropriate OpenSearch Description Document for the given collection.

#### *Syntax*

```
public abstract IODataOpenSearchDescription  
getOpenSearchDescription ( String collectionId )
```

#### *Parameters*

- **collectionId** – The Id of the collection

#### *Returns*

The appropriate OpenSearch Description Document

### *getSchema() method*

Returns the appropriate OData Schema document.

#### *Syntax*

```
public abstract IODataSchema getSchema ()
```

#### *Returns*

The appropriate OData Schema document

*getSchemaUrl() method*

Returns The full URL that can be used for retrieving the OData Schema document.

*Syntax*

```
public abstract String getSchemaUrl ()
```

*Returns*

The full URL that can be used for retrieving the OData Schema document

*getWorkspaces() method*

Returns the list of appropriate OData elements.

*Syntax*

```
public abstract List< IODataWorkspace > getWorkspaces ()
```

*Returns*

The list of appropriate OData elements

*setOpenSearchDescription(String, IODataOpenSearchDescription) method*

Maintains the appropriate OpenSearch Description Document for the given collection.

*Syntax*

```
public abstract void setOpenSearchDescription (String  
collectionId , IODataOpenSearchDescription openSearchDescription )
```

*Parameters*

- **collectionId** – The Id of the collection
- **openSearchDescription** – The appropriate OpenSearch Description Document

*setSchema(IODataSchema) method*

Maintains the appropriate OData Schema document.

*Syntax*

```
public abstract void setSchema ( IODataSchema schema )
```

*Parameters*

- **schema** – The appropriate OData Schema document

### *ATTRIBUTE\_BASE variable*

Name of the appropriate OData attribute.

#### *Syntax*

```
public static final String ATTRIBUTE_BASE
```

### *ATTRIBUTE\_LANG variable*

Name of the appropriate OData attribute.

#### *Syntax*

```
public static final String ATTRIBUTE_LANG
```

### *ELEMENT\_COLLECTION variable*

Name of the appropriate OData element.

#### *Syntax*

```
public static final String ELEMENT_COLLECTION
```

### *ELEMENT\_SERVICE variable*

Name of the appropriate OData element.

#### *Syntax*

```
public static final String ELEMENT_SERVICE
```

### *ELEMENT\_WORKSPACE variable*

Name of the appropriate OData element.

#### *Syntax*

```
public static final String ELEMENT_WORKSPACE
```

### *URL\_SUFFIX\_METADATA variable*

URL value suffix for retrieving OData Schema document.

#### *Syntax*

```
public static final String URL_SUFFIX_METADATA
```

### *IODataSubscriptionEntry interface*

Subclass of ODataEntry to be used for subscription s.

#### *Syntax*

```
public abstract interface IODataSubscriptionEntry extends  
IODataEntry
```



*Derived classes*

- *ODataSubscriptionEntry* on page 853

*Members*

All members of *IODataSubscriptionEntry*, including inherited members. **Variables**

Modifier and Type	Variable	Description
public static final String	<i>ELEMENT_COLLECTION</i> on page 338	Name of the appropriate OData element.
public static final String	<i>ELEMENT_DELIVERYADDRESS</i> on page 338	Name of the appropriate OData element.
public static final String	<i>ELEMENT_FILTER</i> on page 338	Name of the appropriate OData element.
public static final String	<i>ELEMENT_SELECT</i> on page 338	Name of the appropriate OData element.

**Methods**

Modifier and Type	Method	Description
public abstract String	<i>getCollection()</i> on page 336	Returns The value of the appropriate entry property.
public abstract String	<i>getDeliveryAddress()</i> on page 336	Returns The value of the appropriate entry property.
public abstract String	<i>getFilter()</i> on page 336	Returns The value of the appropriate entry property.
public abstract String	<i>getSelect()</i> on page 337	Returns The value of the appropriate entry property.
public abstract void	<i>setCollection(String)</i> on page 337	Sets the value of the appropriate entry property.
public abstract void	<i>setDeliveryAddress(String)</i> on page 337	Sets the value of the appropriate entry property.
public abstract void	<i>setFilter(String)</i> on page 337	Sets the value of the appropriate entry property.
public abstract void	<i>setSelect(String)</i> on page 337	Sets the value of the appropriate entry property.

**Inherited members from *IODataEntry***

Modifier and Type	Member	Description
public static final String	<i>ATTRIBUTE_SEMANTICS</i> on page 220	Name of the appropriate OData attribute.
public static final String	<i>ATTRIBUTE_TERM</i> on page 220	Name of the appropriate OData attribute.
public static final String	<i>ATTRIBUTE_VALUE_SEMANTICS_ACTION</i> on page 220	Value option for appropriate OData attribute.
public static final String	<i>ELEMENT_AUTHOR</i> on page 220	Name of the appropriate OData element.
public static final String	<i>ELEMENT_CATEGORY</i> on page 220	Name of the appropriate OData element.
public static final String	<i>ELEMENT_CONTENT</i> on page 220	Name of the appropriate OData element.
public static final String	<i>ELEMENT_ENTRY</i> on page 221	Name of the appropriate OData element.
public static final String	<i>ELEMENT_LINK</i> on page 221	Name of the appropriate OData element.
public static final String	<i>ELEMENT_NAME</i> on page 221	Name of the appropriate OData element.
public static final String	<i>ELEMENT_PROPERTIES</i> on page 221	Name of the appropriate OData element.
public static final String	<i>ELEMENT_SUMMARY</i> on page 221	Name of the appropriate OData element.
public static final String	<i>ELEMENT_TITLE</i> on page 221	Name of the appropriate OData element.
public static final String	<i>ELEMENT_UPDATED</i> on page 221	Name of the appropriate OData element.
public abstract List< IOData-Link >	<i>getActionLinks()</i> on page 208	Returns OData Link objects that are set as action links (Has semantics (SAP name-space) attribute with value 'action')
public abstract String	<i>getAuthorName()</i> on page 208	Returns The value of the 'name' OData element of the 'author' OData element.

Modifier and Type	Member	Description
public cacheState	<i>getCacheState()</i> on page 208	
public Long	<i>getCacheTimestamp()</i> on page 208	
public abstract String	<i>getCollectionId()</i> on page 208	Returns the Id of the OData Collection that this Entry belongs to.
public abstract String	<i>getContentType()</i> on page 209	Returns the content type of the entry.
public abstract String	<i>getEtag()</i> on page 209	Returns the Id of the OData Collection that this Entry belongs to.
public abstract String	<i>getFilterUrl()</i> on page 209	Returns the full execution URL that can be used for filtering collection search for this single entry.
public abstract List< IODataProperty >	<i>getGPUseInSearchPropertiesData()</i> on page 209	Returns the value and meta information (retrieved from OData Schema document) of the properties of this OData Entry document with 'true' use-in-search (Generic Player namespace) attribute value.
public abstract List< IODataProperty >	<i>getGPVisibleInDetailPropertiesData()</i> on page 210	Returns the value and meta information (retrieved from OData Schema document) of the properties of this OData Entry document with 'true' visible-in-detail (Generic Player namespace) attribute value.
public abstract List< IODataProperty >	<i>getGPVisibleInListPropertiesData()</i> on page 210	Returns the value and meta information (retrieved from OData Schema document) of the properties of this OData Entry document with 'true' visible-in-list (Generic Player namespace) attribute value.

Modifier and Type	Member	Description
public abstract List< IODataIcon >	<i>getIcons()</i> on page 210	Returns the list of the appropriate OData elements.
public abstract String	<i>getId()</i> on page 210	Returns The Id of this OData Entry (value of appropriate OData Id element)
public boolean	<i>getIsLocal()</i> on page 211	
public abstract Map< String, String >	<i>getKeyPropertyValues()</i> on page 211	Returns the values of the properties that are marked as key properties in the OData Schema document.
public abstract Date	<i>getLastUpdated()</i> on page 211	Returns The parsed value of the 'updated' OData Element.
public abstract List< IODataLink >	<i>getLinks()</i> on page 211	Returns the list of the appropriate OData elements.
public abstract String	<i>getMediaSrc()</i> on page 211	Returns the media source if the entry has a media content.
public abstract List< IODataProperty >	<i>getPropertiesData()</i> on page 212	Returns the value and meta information (retrieved from OData Schema document) of the properties of this Odata Entry document.
public abstract List< IODataProperty >	<i>getPropertiesDataWithAttribute(String, String)</i> on page 212	Returns the value and meta information (retrieved from OData Schema document) of the properties of this OData Entry document with the given attribute value.
public abstract List< IODataProperty >	<i>getPropertiesDataWithAttribute(String, String, boolean)</i> on page 212	Returns the value and meta information (retrieved from OData Schema document) of the properties of this OData Entry document with the given attribute value.

Modifier and Type	Member	Description
public abstract IParserDocument	<i>getPropertiesDocument()</i> on page 213	Returns the representer document of OData 'properties' (Metadata name-space) document This method is created for performance reasons mostly to use in search methods.
public abstract String	<i>getPropertyValue(String...)</i> on page 213	Returns the value of the appropriate property.
public abstract< T > T	<i>getPropertyValueParsed(String...)</i> on page 213	Returns the value of the appropriate property parsed to it's real type.
public abstract Map< String, String >	<i>getPropertyValues()</i> on page 214	Returns the all the values of properties contained by this OData Entry document Key for the properties will be their name of their full path in case they are enclosed by Complex Types.
public abstract List< String >	<i>getPropertyValues(List&lt; String[]&gt;)</i> on page 214	Return list of property values for the given property paths.
public abstract List< IODataLink >	<i>getRelatedDataLinks()</i> on page 215	Returns OData Link objects that represents links to Related Data.
public abstract List< IODataProperty >	<i>getSAPSearchablePropertiesData()</i> on page 215	Returns the value and meta information (retrieved from OData Schema document) of the properties of this OData Entry document with 'true' searchable (SAP name-space) attribute value.
public abstract IODataSchema	<i>getSchema()</i> on page 215	Returns the appropriate OData Schema object.
public abstract IODataLink	<i>getSelfLink()</i> on page 215	Returns OData Link object that should be used for self related operations (with 'rel' attribute value 'self' or 'edit')

Modifier and Type	Member	Description
public abstract IODataLink	<i>getSubscriptionLink()</i> on page 216	Returns OData Link object that should be used for subscription or null if there is no subscription link defined.
public abstract String	<i>getSummary()</i> on page 216	Returns The value of the appropriate OData element.
public abstract String	<i>getTitle()</i> on page 216	Returns The value of the appropriate OData element.
public static final String	<i>PROPERTY_LEVEL_SEPARATOR</i> on page 222	
public abstract void	<i>putComplexPropertyValue(String, String...)</i> on page 216	Puts the new property element as a sub-element of the 'complex properties' OData element.
public abstract void	<i>putContentType(String)</i> on page 217	Puts the content type for a new entry object.
public abstract void	<i>putId(String)</i> on page 217	Sets id of this OData Entry document (value of appropriate OData Id element)
public abstract void	<i>putMediaSrc(String)</i> on page 217	Puts the media source for a new entry object.
public abstract void	<i>putPropertyValue(String, String)</i> on page 217	Puts the new property element as a sub-element of the 'properties' OData element.
public abstract void	<i>putPropertyValue(String, String, boolean)</i> on page 218	Puts the new property element as a sub-element of the 'properties' OData element.
public abstract void	<i>setAuthorName(String)</i> on page 218	Sets the value of the 'name' OData element of the 'author' OData element.
public void	<i>setCachestate(cache.State)</i> on page 218	
public void	<i>setCacheTimestamp(Long)</i> on page 219	

Modifier and Type	Member	Description
public abstract void	<i>setCollectionId(String)</i> on page 219	Maintains the Id of the OData Collection that this Entry belongs to.
public void	<i>setIsLocal(boolean)</i> on page 219	
public abstract void	<i>setSchema(IODataSchema)</i> on page 219	Maintains the reference to the appropriate OData Schema object.
public abstract void	<i>setSummary(String)</i> on page 219	Sets the value of the appropriate OData element.
public abstract void	<i>setTitle(String)</i> on page 219	Sets the value of the appropriate OData element.

#### Inherited members from IParserDocument

Modifier and Type	Member	Description
public static final String	<i>ATTRIBUTE_ETAG</i> on page 386	Name of the appropriate OData element.
public static final String	<i>ATTRIBUTE_VALUEPREFIX_EDMTYPE</i> on page 386	Value prefix for EDM Type type values.
public abstract IParserDocument	<i>clone()</i> on page 374	Creates a copy of this object.
public static Map< String, String >	<i>DEFAULT_PREFIXMAPPING</i> on page 386	The default XML Namespace-to-Prefix mapping used for building XMLS.
public static final String[]	<i>EDMDATETIME_PATTERNS</i> on page 386	Possible EDM DateTime patterns Note: Some pattern are not supported by OData specification but still widely used.
public static final String[]	<i>EDMDATETIMEOFFSET_PATTERNS</i> on page 386	Possible EDM TimeOffset patterns Note: Some pattern are not supported by OData specification but still widely used.
public static final String	<i>EDMTIME_PATTERN</i> on page 386	EDM Time pattern.

Modifier and Type	Member	Description
public static String	<i>ELEMENT_FEED</i> on page 386	Name of the appropriate OData element.
public static final String	<i>ELEMENT_ID</i> on page 387	Name of the appropriate OData element.
public abstract String	<i>getAttribute(String...)</i> on page 374	Returns the value of the first attribute with the given route.
public abstract List< String >	<i>getAttributes(String...)</i> on page 374	Returns all the values of attributes with the given route.
public abstract Map< String, String >	<i>getChildAttributeMap(String...)</i> on page 375	Returns all the name-value pairs of attributes contained by the element with the given route.
public abstract List< String >	<i>getChildAttributes(String...)</i> on page 375	Returns all the values of attributes contained by the element with the given route.
public abstract List< IParserDocument >	<i>getChildDocuments(String...)</i> on page 375	Returns the elements contained by the element with the given route.
public abstract List< IParserDocument >	<i>getChildDocumentsWithAttribute(String, String, String...)</i> on page 376	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public abstract List< IParserDocument >	<i>getChildDocumentsWithAttribute(String, String, boolean, String...)</i> on page 376	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public abstract IParserDocument	<i>getDocument(String...)</i> on page 377	Returns the first element with the given route.
public abstract List< IParserDocument >	<i>getDocuments(String...)</i> on page 377	Returns all the elements with the given route.
public abstract List< IParserDocument >	<i>getDocumentsWithAttribute(String, String, String...)</i> on page 378	Returns the elements with the given route that contains the given attribute with the given value.



Modifier and Type	Member	Description
public abstract List<IParserDocument >	<i>getDocumentsWithAttribute(String, String, boolean, String...)</i> on page 378	Returns the elements with the given route that contains the given attribute with the given value.
public abstract IParserDocument	<i>getDocumentWithAttribute(String, String, String...)</i> on page 379	Returns the first element with the given route that contains the given attribute with the given value.
public abstract IParserDocument	<i>getDocumentWithAttribute(String, String, boolean, String...)</i> on page 379	Returns the first element with the given route that contains the given attribute with the given value.
public abstract String	<i>getElementName()</i> on page 380	Returns The name of the root element of this document.
public abstract String	<i>getFunctionImportComplexProperty Value(String...)</i> on page 380	
public abstract String	<i>getPrefixForUri(String)</i> on page 380	Returns the appropriate namespace prefix for the given XML name-space URI.
public abstract String[]	<i>getStrings()</i> on page 381	Returns all the string values contained by this document.
public abstract String	<i>getValue(String...)</i> on page 381	Returns the value of the first element with the given route.
public abstract List< String >	<i>getValues(String...)</i> on page 381	Returns all the values of elements with the given route.
public abstract void	<i>putAttribute(String, String...)</i> on page 382	Sets the value of the attribute with the given route If attribute does not exist it will be created as well as all other non existing elements in the route.

Modifier and Type	Member	Description
public abstract void	<i>putDocument(IParserDocument, String...)</i> on page 382	Insert the document under the element with the given route inserted document will be placed before already existing documents with the same route name under All missing elements from the route will be created.
public abstract void	<i>putValue(String, String...)</i> on page 382	Sets the value of the first element with the given route.
public abstract boolean	<i>removeAttribute(String...)</i> on page 383	Removes first element with the given route.
public abstract boolean	<i>removeAttributes(String...)</i> on page 383	Removes all the attribute with the given route.
public abstract boolean	<i>removeDocument(String...)</i> on page 383	Removes first element with the given route For removing multiple element use setDocuemtns with null arguments.
public static final String	<i>ROOT_DOCUMENT_NAME</i> on page 387	The default root element name for a new document.
public abstract void	<i>setAttributes(List&lt;String&gt;, String...)</i> on page 384	Sets all the values of the attributes with the given route Values will be paired to attributes in order Attributes with greater or equals index than size of new values will be untouched Attributes paired with null values will be removed.
public abstract void	<i>setDocuments(List&lt;IParserDocument&gt;, String...)</i> on page 384	Replaces all the elements with the given route Documents will be paired to elements in order Elements with greater or equals index than size of new elements will be untouched Element paired with null will be removed.

Modifier and Type	Member	Description
public abstract void	<i>setElementName(String, String...)</i> on page 385	Sets the name of the root element with the given route Use empty route for setting root name of this document.
public abstract void	<i>setValues(List&lt; String &gt;, String...)</i> on page 385	Sets all the values of the elements with the given rout Values will be paired to elements in order Elements with greater or equals index than size of new values will be untouched Null values will be treated as empty strings.
public abstract String	<i>toXMLString()</i> on page 385	Returns the XML string representation of this object.
public static final String	<i>XMLNS_APPLICATION_URI</i> on page 387	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/08/dataservices">http://schemas.microsoft.com/ado/2007/08/dataservices</a> .
public static final String	<i>XMLNS_ATOM_URI</i> on page 387	Constant for XMLNS URI: <a href="http://www.w3.org/2005/Atom">http://www.w3.org/2005/Atom</a> .
public static final String	<i>XMLNS_DATASERVICES_URI</i> on page 387	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/08/dataservices">http://schemas.microsoft.com/ado/2007/08/dataservices</a> .
public static final String	<i>XMLNS_EDM_URI</i> on page 387	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/05/edm">http://schemas.microsoft.com/ado/2007/05/edm</a> .
public static final String	<i>XMLNS_EDMX_URI</i> on page 387	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/06/edmx">http://schemas.microsoft.com/ado/2007/06/edmx</a> .
public static final String	<i>XMLNS_GENERICPLAYER_URI</i> on page 388	Constant for XMLNS URI: <a href="http://www.sap.com/Protocols/SAPData/GenericPlayer">http://www.sap.com/Protocols/SAPData/GenericPlayer</a> .
public static final String	<i>XMLNS_METADATA_URI</i> on page 388	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/08/dataservices/metadata">http://schemas.microsoft.com/ado/2007/08/dataservices/metadata</a> .

Modifier and Type	Member	Description
public static final String	<i>XMLNS_SAP_URI</i> on page 388	Constant for XMLNS URI: <a href="http://www.sap.com/Protocols/SAPData">http://www.sap.com/Protocols/SAPData</a> .

**Inherited members from IPersistable**

Modifier and Type	Member	Description
public void	<i>read(BufferedReader)</i> on page 389	
public void	<i>write(BufferedWriter)</i> on page 389	

*getCollection() method*

Returns The value of the appropriate entry property.

*Syntax*

```
public abstract String getCollection ()
```

*Returns*

The value of the appropriate entry property

*getDeliveryAddress() method*

Returns The value of the appropriate entry property.

*Syntax*

```
public abstract String getDeliveryAddress ()
```

*Returns*

The value of the appropriate entry property

*getFilter() method*

Returns The value of the appropriate entry property.

*Syntax*

```
public abstract String getFilter ()
```

*Returns*

The value of the appropriate entry property

*getSelect() method*

Returns The value of the appropriate entry property.

*Syntax*

```
public abstract String getSelect ()
```

*Returns*

The value of the appropriate entry property

*setCollection(String) method*

Sets the value of the appropriate entry property.

*Syntax*

```
public abstract void setCollection (String collection)
```

*Parameters*

- **collection** – The new value of the appropriate entry property

*setDeliveryAddress(String) method*

Sets the value of the appropriate entry property.

*Syntax*

```
public abstract void setDeliveryAddress (String deliveryAddress)
```

*Parameters*

- **deliveryAddress** –

*setFilter(String) method*

Sets the value of the appropriate entry property.

*Syntax*

```
public abstract void setFilter (String filterString)
```

*Parameters*

- **filterString** – The new value of the appropriate entry property

*setSelect(String) method*

Sets the value of the appropriate entry property.

*Syntax*

```
public abstract void setSelect (String selectString)
```

### *Parameters*

- **selectString** – The new value of the appropriate entry property

### *ELEMENT\_COLLECTION variable*

Name of the appropriate OData element.

### *Syntax*

```
public static final String ELEMENT_COLLECTION
```

### *ELEMENT\_DELIVERYADDRESS variable*

Name of the appropriate OData element.

### *Syntax*

```
public static final String ELEMENT_DELIVERYADDRESS
```

### *ELEMENT\_FILTER variable*

Name of the appropriate OData element.

### *Syntax*

```
public static final String ELEMENT_FILTER
```

### *ELEMENT\_SELECT variable*

Name of the appropriate OData element.

### *Syntax*

```
public static final String ELEMENT_SELECT
```

### *IODataURL interface*

Represents the appropriate OData element.

### *Syntax*

```
public abstract interface IODataURL extends IParserDocument
```

### *Derived classes*

- *IODataURL* on page 888

### *Members*

All members of IODataURL, including inherited members. **Variables**

Modifier and Type	Variable	Description
public static final String	<i>ATTRIBUTE_TEMPLATE</i> on page 346	Name of the appropriate OData attribute.
public static final String	<i>ATTRIBUTE_TYPE</i> on page 346	Name of the appropriate OData attribute.
public static final String	<i>ELEMENT_URL</i> on page 346	Name of the appropriate OData element.

### Methods

Modifier and Type	Method	Description
public abstract List< String >	<i>getMandatoryTemplateParameters()</i> on page 344	Returns the list of mandatory template parameter names.
public abstract List< String >	<i>getOptionalTemplateParameters()</i> on page 345	Returns the list of optional template parameter names.
public abstract String	<i>getTemplate()</i> on page 345	Returns the value of the appropriate OData attribute.
public abstract List< String >	<i>getTemplateParameters()</i> on page 345	Returns the list of all template parameter names.
public abstract String	<i>getType()</i> on page 345	Returns the value of the appropriate OData attribute.
public abstract String	<i>getUrl()</i> on page 345	Returns the full URL of this OData attribute without parameters.
public abstract String	<i>getUrlFromTemplate(Map&lt; String, String &gt;)</i> on page 346	Returns the full URL of this OData attribute extended with parameter names and values according to the given parameter map.

### Inherited members from IParserDocument

Modifier and Type	Member	Description
public static final String	<i>ATTRIBUTE_ETAG</i> on page 386	Name of the appropriate OData element.
public static final String	<i>ATTRIBUTE_VALUEPREFIX_EDMTYPE</i> on page 386	Value prefix for EDM Type type values.

Modifier and Type	Member	Description
public abstract IParserDocument	<i>clone()</i> on page 374	Creates a copy of this object.
public static Map< String, String >	<i>DEFAULT_PREFIXMAP-PING</i> on page 386	The default XML Namespace-to-Prefix mapping used for building XMLS.
public static final String[]	<i>EDMDATETIME_PATTERNS</i> on page 386	Possible EDM DateTime patterns Note: Some pattern are not supported by OData specification but still widely used.
public static final String[]	<i>EDMDATETIMEOFFSET_PATTERNS</i> on page 386	Possible EDM TimeOffset patterns Note: Some pattern are not supported by OData specification but still widely used.
public static final String	<i>EDMTIME_PATTERN</i> on page 386	EDM Time pattern.
public static String	<i>ELEMENT_FEED</i> on page 386	Name of the appropriate OData element.
public static final String	<i>ELEMENT_ID</i> on page 387	Name of the appropriate OData element.
public abstract String	<i>getAttribute(String...)</i> on page 374	Returns the value of the first attribute with the given route.
public abstract List< String >	<i>getAttributes(String...)</i> on page 374	Returns all the values of attributes with the given route.
public abstract Map< String, String >	<i>getChildAttribute-Map(String...)</i> on page 375	Returns all the name-value pairs of attributes contained by the element with the given route.
public abstract List< String >	<i>getChildAttributes(String...)</i> on page 375	Returns all the values of attributes contained by the element with the given route.
public abstract List< IParserDocument >	<i>getChildDocuments(String...)</i> on page 375	Returns the elements contained by the element with the given route.



Modifier and Type	Member	Description
public abstract List<IParserDocument >	<i>getChildDocumentsWithAttribute(String, String, String...)</i> on page 376	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public abstract List<IParserDocument >	<i>getChildDocumentsWithAttribute(String, String, boolean, String...)</i> on page 376	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public abstract IParserDocument	<i>getDocument(String...)</i> on page 377	Returns the first element with the given route.
public abstract List<IParserDocument >	<i>getDocuments(String...)</i> on page 377	Returns all the elements with the given route.
public abstract List<IParserDocument >	<i>getDocumentsWithAttribute(String, String, String...)</i> on page 378	Returns the elements with the given route that contains the given attribute with the given value.
public abstract List<IParserDocument >	<i>getDocumentsWithAttribute(String, String, boolean, String...)</i> on page 378	Returns the elements with the given route that contains the given attribute with the given value.
public abstract IParserDocument	<i>getDocumentWithAttribute(String, String, String...)</i> on page 379	Returns the first element with the given route that contains the given attribute with the given value.
public abstract IParserDocument	<i>getDocumentWithAttribute(String, String, boolean, String...)</i> on page 379	Returns the first element with the given route that contains the given attribute with the given value.
public abstract String	<i>getElementName()</i> on page 380	Returns The name of the root element of this document.
public abstract String	<i>getFunctionImportComplexPropertyValue(String...)</i> on page 380	
public abstract String	<i>getPrefixForUri(String)</i> on page 380	Returns the appropriate namespace prefix for the given XML name-space URI.

Modifier and Type	Member	Description
public abstract String[]	<i>getStrings()</i> on page 381	Returns all the string values contained by this document.
public abstract String	<i>getValue(String...)</i> on page 381	Returns the value of the first element with the given route.
public abstract List< String >	<i>getValues(String...)</i> on page 381	Returns all the values of elements with the given route.
public abstract void	<i>putAttribute(String, String...)</i> on page 382	Sets the value of the attribute with the given route If attribute does not exist it will be created as well as all other non existing elements in the route.
public abstract void	<i>putDocument(IParserDocument, String...)</i> on page 382	Insert the document under the element with the given route inserted document will be placed before already existing documents with the same route name under All missing elements from the route will be created.
public abstract void	<i>putValue(String, String...)</i> on page 382	Sets the value of the first element with the given route.
public abstract boolean	<i>removeAttribute(String...)</i> on page 383	Removes first element with the given route.
public abstract boolean	<i>removeAttributes(String...)</i> on page 383	Removes all the attribute with the given route.
public abstract boolean	<i>removeDocument(String...)</i> on page 383	Removes first element with the given route For removing multiple element use setDocuemtns with null arguments.
public static final String	<i>ROOT_DOCUMENT_NAME</i> on page 387	The default root element name for a new document.

Modifier and Type	Member	Description
public abstract void	<i>setAttributes(List&lt; String &gt;, String...)</i> on page 384	Sets all the values of the attributes with the given route Values will be paired to attributes in order Attributes with greater or equals index than size of new values will be untouched Attributes paired with null values will be removed.
public abstract void	<i>setDocuments(List&lt; IParser-Document &gt;, String...)</i> on page 384	Replaces all the elements with the given route Documents will be paired to elements in order Elements with greater or equals index than size of new elements will be untouched Element paired with null will be removed.
public abstract void	<i>setElementName(String, String...)</i> on page 385	Sets the name of the root element with the given route Use empty route for setting root name of this document.
public abstract void	<i>setValues(List&lt; String &gt;, String...)</i> on page 385	Sets all the values of the elements with the given rout Values will be paired to elements in order Elements with greater or equals index than size of new values will be untouched Null values will be treated as empty strings.
public abstract String	<i>toXMLString()</i> on page 385	Returns the XML string representation of this object.
public static final String	<i>XMLNS_APPLICATION_URI</i> on page 387	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/08/dataservices">http://schemas.microsoft.com/ado/2007/08/dataservices</a> .
public static final String	<i>XMLNS_ATOM_URI</i> on page 387	Constant for XMLNS URI: <a href="http://www.w3.org/2005/Atom">http://www.w3.org/2005/Atom</a> .

Modifier and Type	Member	Description
public static final String	<i>XMLNS_DATASERVICES_URI</i> on page 387	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/08/dataservices">http://schemas.microsoft.com/ado/2007/08/dataservices</a> .
public static final String	<i>XMLNS_EDM_URI</i> on page 387	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/05/edm">http://schemas.microsoft.com/ado/2007/05/edm</a> .
public static final String	<i>XMLNS_EDMX_URI</i> on page 387	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/06/edmx">http://schemas.microsoft.com/ado/2007/06/edmx</a> .
public static final String	<i>XMLNS_GENERICPLAYER_URI</i> on page 388	Constant for XMLNS URI: <a href="http://www.sap.com/Protocols/SAPData/GenericPlayer">http://www.sap.com/Protocols/SAPData/GenericPlayer</a> .
public static final String	<i>XMLNS_METADATA_URI</i> on page 388	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/08/dataservices/metadata">http://schemas.microsoft.com/ado/2007/08/dataservices/metadata</a> .
public static final String	<i>XMLNS_SAP_URI</i> on page 388	Constant for XMLNS URI: <a href="http://www.sap.com/Protocols/SAPData">http://www.sap.com/Protocols/SAPData</a> .

#### Inherited members from IPersistable

Modifier and Type	Member	Description
public void	<i>read(BufferedReader)</i> on page 389	
public void	<i>write(BufferedWriter)</i> on page 389	

#### *getMandatoryTemplateParameters()* method

Returns the list of mandatory template parameter names.

#### Syntax

```
public abstract List< String > getMandatoryTemplateParameters
()
```

#### Returns

the list of mandatory template parameter names

***getOptionalTemplateParameters() method***

Returns the list of optional template parameter names.

***Syntax***

```
public abstract List< String > getOptionalTemplateParameters  
( )
```

***Returns***

the list of optional template parameter names

***getTemplate() method***

Returns the value of the appropriate OData attribute.

***Syntax***

```
public abstract String getTemplate ( )
```

***Returns***

The value of the appropriate OData attribute

***getTemplateParameters() method***

Returns the list of all template parameter names.

***Syntax***

```
public abstract List< String > getTemplateParameters ( )
```

***Returns***

the list of all template parameter names

***getType() method***

Returns the value of the appropriate OData attribute.

***Syntax***

```
public abstract String getType ( )
```

***Returns***

The value of the appropriate OData attribute

***getUrl() method***

Returns the full URL of this OData attribute without parameters.

***Syntax***

```
public abstract String getUrl ( )
```

### *Returns*

The full URL this OData attribute without parameters

### *getUrlFromTemplate(Map< String, String >) method*

Returns the full URL of this OData attribute extended with parameter names and values according to the given parameter map.

### *Syntax*

```
public abstract String getUrlFromTemplate (Map< String,  
String > parameters )
```

### *Returns*

The full URL this OData attribute with parameters names and values

### *ATTRIBUTE\_TEMPLATE variable*

Name of the appropriate OData attribute.

### *Syntax*

```
public static final String ATTRIBUTE_TEMPLATE
```

### *ATTRIBUTE\_TYPE variable*

Name of the appropriate OData attribute.

### *Syntax*

```
public static final String ATTRIBUTE_TYPE
```

### *ELEMENT\_URL variable*

Name of the appropriate OData element.

### *Syntax*

```
public static final String ELEMENT_URL
```

### *IODataWorkspace interface*

### *Syntax*

```
public abstract interface IODataWorkspace extends  
IParserDocument
```

### *Derived classes*

- *IODataWorkspace* on page 906

### *Members*

All members of IODataWorkspace, including inherited members. **Variables**

Modifier and Type	Variable	Description
public static final String	<i>ATTRIBUTE_SEMANTICS</i> on page 353	Name of the appropriate OData attribute.
public static final String	<i>ELEMENT_TITLE</i> on page 353	Name of the appropriate OData element.
public static final String	<i>ELEMENT_WORKSPACE</i> on page 353	Name of the appropriate OData element.

### Methods

Modifier and Type	Method	Description
public abstract List< IOData-Collection >	<i>getCollections()</i> on page 352	Returns The list of of 'collection' OData element.
public abstract String	<i>getSemantics()</i> on page 352	Returns the value of the appropriate OData attribute.
public abstract String	<i>getTitle()</i> on page 352	Returns the value of the appropriate OData element.

### Inherited members from IParserDocument

Modifier and Type	Member	Description
public static final String	<i>ATTRIBUTE_ETAG</i> on page 386	Name of the appropriate OData element.
public static final String	<i>ATTRIBUTE_VALUEPREFIX_EDMTYPE</i> on page 386	Value prefix for EDM Type type values.
public abstract IParserDocument	<i>clone()</i> on page 374	Creates a copy of this object.
public static Map< String, String >	<i>DEFAULT_PREFIXMAPPING</i> on page 386	The default XML Namespace-to-Prefix mapping used for building XMLS.
public static final String[]	<i>EDMDATETIME_PATTERNS</i> on page 386	Possible EDM DateTime patterns Note: Some pattern are not supported by OData specification but still widely used.

Modifier and Type	Member	Description
public static final String[]	<i>EDMDATETIMEOFFSET_PATTERNS</i> on page 386	Possible EDM TimeOffset patterns Note: Some pattern are not supported by OData specification but still widely used.
public static final String	<i>EDMTIME_PATTERN</i> on page 386	EDM Time pattern.
public static String	<i>ELEMENT_FEED</i> on page 386	Name of the appropriate OData element.
public static final String	<i>ELEMENT_ID</i> on page 387	Name of the appropriate OData element.
public abstract String	<i>getAttribute(String...)</i> on page 374	Returns the value of the first attribute with the given route.
public abstract List< String >	<i>getAttributes(String...)</i> on page 374	Returns all the values of attributes with the given route.
public abstract Map< String, String >	<i>getChildAttributeMap(String...)</i> on page 375	Returns all the name-value pairs of attributes contained by the element with the given route.
public abstract List< String >	<i>getChildAttributes(String...)</i> on page 375	Returns all the values of attributes contained by the element with the given route.
public abstract List< IParserDocument >	<i>getChildDocuments(String...)</i> on page 375	Returns the elements contained by the element with the given route.
public abstract List< IParserDocument >	<i>getChildDocumentsWithAttribute(String, String, String...)</i> on page 376	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public abstract List< IParserDocument >	<i>getChildDocumentsWithAttribute(String, String, boolean, String...)</i> on page 376	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public abstract IParserDocument	<i>getDocument(String...)</i> on page 377	Returns the first element with the given route.
public abstract List< IParserDocument >	<i>getDocuments(String...)</i> on page 377	Returns all the elements with the given route.



Modifier and Type	Member	Description
public abstract List<IParserDocument >	<i>getDocumentsWithAttribute(String, String, String...)</i> on page 378	Returns the elements with the given route that contains the given attribute with the given value.
public abstract List<IParserDocument >	<i>getDocumentsWithAttribute(String, String, boolean, String...)</i> on page 378	Returns the elements with the given route that contains the given attribute with the given value.
public abstract IParserDocument	<i>getDocumentWithAttribute(String, String, String...)</i> on page 379	Returns the first element with the given route that contains the given attribute with the given value.
public abstract IParserDocument	<i>getDocumentWithAttribute(String, String, boolean, String...)</i> on page 379	Returns the first element with the given route that contains the given attribute with the given value.
public abstract String	<i>getElementName()</i> on page 380	Returns The name of the root element of this document.
public abstract String	<i>getFunctionImportComplexPropertyValue(String...)</i> on page 380	
public abstract String	<i>getPrefixForUri(String)</i> on page 380	Returns the appropriate namespace prefix for the given XML name-space URI.
public abstract String[]	<i>getStrings()</i> on page 381	Returns all the string values contained by this document.
public abstract String	<i>getValue(String...)</i> on page 381	Returns the value of the first element with the given route.
public abstract List<String >	<i>getValues(String...)</i> on page 381	Returns all the values of elements with the given route.
public abstract void	<i>putAttribute(String, String...)</i> on page 382	Sets the value of the attribute with the given route If attribute does not exist it will be created as well as all other non existing elements in the route.

Modifier and Type	Member	Description
public abstract void	<i>putDocument(IParserDocument, String...)</i> on page 382	Insert the document under the element with the given route inserted document will be placed before already existing documents with the same route name under All missing elements from the route will be created.
public abstract void	<i>putValue(String, String...)</i> on page 382	Sets the value of the first element with the given route.
public abstract boolean	<i>removeAttribute(String...)</i> on page 383	Removes first element with the given route.
public abstract boolean	<i>removeAttributes(String...)</i> on page 383	Removes all the attribute with the given route.
public abstract boolean	<i>removeDocument(String...)</i> on page 383	Removes first element with the given route For removing multiple element use setDocuemtns with null arguments.
public static final String	<i>ROOT_DOCUMENT_NAME</i> on page 387	The default root element name for a new document.
public abstract void	<i>setAttributes(List&lt;String&gt;, String...)</i> on page 384	Sets all the values of the attributes with the given route Values will be paired to attributes in order Attributes with greater or equals index than size of new values will be untouched Attributes paired with null values will be removed.
public abstract void	<i>setDocuments(List&lt;IParserDocument&gt;, String...)</i> on page 384	Replaces all the elements with the given route Documents will be paired to elements in order Elements with greater or equals index than size of new elements will be untouched Element paired with null will be removed.

Modifier and Type	Member	Description
public abstract void	<i>setElementName(String, String...)</i> on page 385	Sets the name of the root element with the given route Use empty route for setting root name of this document.
public abstract void	<i>setValues(List&lt; String &gt;, String...)</i> on page 385	Sets all the values of the elements with the given rout Values will be paired to elements in order Elements with greater or equals index than size of new values will be untouched Null values will be treated as empty strings.
public abstract String	<i>toXMLString()</i> on page 385	Returns the XML string representation of this object.
public static final String	<i>XMLNS_APPLICATION_URI</i> on page 387	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/08/dataservices">http://schemas.microsoft.com/ado/2007/08/dataservices</a> .
public static final String	<i>XMLNS_ATOM_URI</i> on page 387	Constant for XMLNS URI: <a href="http://www.w3.org/2005/Atom">http://www.w3.org/2005/Atom</a> .
public static final String	<i>XMLNS_DATASERVICES_URI</i> on page 387	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/08/dataservices">http://schemas.microsoft.com/ado/2007/08/dataservices</a> .
public static final String	<i>XMLNS_EDM_URI</i> on page 387	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/05/edm">http://schemas.microsoft.com/ado/2007/05/edm</a> .
public static final String	<i>XMLNS_EDMX_URI</i> on page 387	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/06/edmx">http://schemas.microsoft.com/ado/2007/06/edmx</a> .
public static final String	<i>XMLNS_GENERICPLAYER_URI</i> on page 388	Constant for XMLNS URI: <a href="http://www.sap.com/Protocols/SAPData/GenericPlayer">http://www.sap.com/Protocols/SAPData/GenericPlayer</a> .
public static final String	<i>XMLNS_METADATA_URI</i> on page 388	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/08/dataservices/metadata">http://schemas.microsoft.com/ado/2007/08/dataservices/metadata</a> .

Modifier and Type	Member	Description
public static final String	<i>XMLNS_SAP_URI</i> on page 388	Constant for XMLNS URI: <a href="http://www.sap.com/Protocols/SAPData">http://www.sap.com/Protocols/SAPData</a> .

**Inherited members from IPersistable**

Modifier and Type	Member	Description
public void	<i>read(BufferedReader)</i> on page 389	
public void	<i>write(BufferedWriter)</i> on page 389	

*getCollections()* method

Returns The list of of 'collection' OData element.

*Syntax*

```
public abstract List< IODataCollection > getCollections ()
```

*Returns*

The list of of 'collection' OData element.

*getSemantics()* method

Returns the value of the appropriate OData attribute.

*Syntax*

```
public abstract String getSemantics ()
```

*Returns*

The value of the appropriate OData attribute

*getTitle()* method

Returns the value of the appropriate OData element.

*Syntax*

```
public abstract String getTitle ()
```

*Returns*

The value of the appropriate OData element

***ATTRIBUTE\_SEMANTICS* variable**

Name of the appropriate OData attribute.

***Syntax***

```
public static final String ATTRIBUTE_SEMANTICS
```

***ELEMENT\_TITLE* variable**

Name of the appropriate OData element.

***Syntax***

```
public static final String ELEMENT_TITLE
```

***ELEMENT\_WORKSPACE* variable**

Name of the appropriate OData element.

***Syntax***

```
public static final String ELEMENT_WORKSPACE
```

***IParser* interface**

Main interface for OData parser.

***Syntax***

```
public abstract interface IParser
```

***Derived classes***

- *Parser* on page 921

***Members***

All members of IParser, including inherited members. **Variables**

<b>Modifier and Type</b>	<b>Variable</b>	<b>Description</b>
public static final int	<i>FORMAT_JSON</i> on page 365	JSON Format for Building Post Body.
public static final int	<i>FORMAT_XML</i> on page 365	XML Format for Building Post Body.

**Methods**

Modifier and Type	Method	Description
public abstract String	<i>buildODataDocument(IParserDocument)</i> on page 356	Builds a valid OData Entry XML Post body from the entry argument.
public String	<i>buildODataEntryRequestBody(IODataEntry, String, IODataSchema, int)</i> on page 356	Builds a valid OData Entry JSON Post body from the entry argument.
public void	<i>enableParserPerformanceLog(boolean, Context)</i> on page 357	This method is to be called if performance data point are to be enabled for Parser.
public abstract IParserDocument	<i>parse(String)</i> on page 357	Parses the Source and converts it to a Java Object containing all the information that were contained by the source.
public abstract IParserDocument	<i>parse(InputStream)</i> on page 358	Parses the stream source of document and converts it to a Java Object containing all the information that were contained by the source.
public abstract List<IODataEntry >	<i>parseFunctionImportResult(String, IODataFunctionImport, IODataSchema)</i> on page 358	Parser a non error result of the execution of a Function Import OData document The result will be converted to a list of OData Entry documents If the result was a simple type it can accessed due the result entries as if it were a property..
public abstract List<IODataEntry >	<i>parseFunctionImportResult(InputStream, IODataFunctionImport, IODataSchema)</i> on page 359	Parser a non error result of the execution of a Function Import OData document The result will be converted to a list of OData Entry documents If the result was a simple type it can accessed due the result entries as if it were a property..
public abstract List<IODataEntry >	<i>parseODataEntries(String, String, IODataSchema)</i> on page 359	Parses SAPData structure that represent either a single OData Entry or an OData Feed with several OData entries.

Modifier and Type	Method	Description
public abstract List<IODataEntry >	<i>parseODataEntries(InputStream, String, IODataSchema)</i> on page 360	Parses SAPData structure from stream that represent either a single OData Entry or an OData Feed of several OData entries.
public abstract IODataError	<i>parseODataError(String)</i> on page 360	Parses the OData Error.
public abstract IODataError	<i>parseODataError(InputStream)</i> on page 361	Parses the OData Error from stream.
public IODataFeed	<i>parseODataFeed(String, String, IODataSchema)</i> on page 361	Parse OData Feed, support for Delta Query.
public IODataFeed	<i>parseODataFeed(InputStream, String, IODataSchema)</i> on page 362	Parse OData Feed from stream, support for Delta Query.
public abstract IODataOpenSearchDescription	<i>parseODataOpenSearchDescription(String, String, IODataServiceDocument)</i> on page 362	Parses the OData Open Search Description.
public abstract IODataOpenSearchDescription	<i>parseODataOpenSearchDescription(InputStream, String, IODataServiceDocument)</i> on page 362	Parses the OData Open Search Description from stream.
public abstract IODataSchema	<i>parseODataSchema(String, IODataServiceDocument)</i> on page 363	Parses the OData Schema.
public abstract IODataSchema	<i>parseODataSchema(InputStream, IODataServiceDocument)</i> on page 363	Parses the OData Schema from stream.
public abstract IODataServiceDocument	<i>parseODataServiceDocument(String)</i> on page 364	Parses the OData Service Document.
public abstract IODataServiceDocument	<i>parseODataServiceDocument(InputStream)</i> on page 364	Parses the OData Service Document from stream.

### *buildODataDocument(IParserDocument) method*

Builds a valid OData Entry XML Post body from the entry argument.

#### *Syntax*

```
public abstract String buildODataDocument ( IParserDocument  
document ) throws ParserException, IllegalArgumentException
```

#### *Parameters*

- **entry** – The ODataEntry object to build the from
- **document** – The ParserDocument object to build the from

#### *Returns*

The built documentThe built document

#### *Exceptions*

- **ParserException class** – If building has failed
- **IllegalArgumentException** – If the argument is null Builds and representation of the document argument
- **ParserException class** – If building document has failed
- **IllegalArgumentException** – If the argument is null

### *buildODataEntryRequestBody(IODataEntry, String, IODataSchema, int) method*

Builds a valid OData Entry JSON Post body from the entry argument.

#### *Syntax*

```
public String buildODataEntryRequestBody ( IODataEntry entry ,  
String collectionId , IODataSchema schema , int formatType ) throws  
ParserException
```

#### *Parameters*

- **entry** – The ODataEntry object to build the from
- **collectionID** –
- **entry** – The ODataEntry object to build the from
- **collectionID** – Collection t which the entry would be posted
- **schema** – Schema of the service
- **formatType** – Format of the post body to be built 1 - Atom/XML 2 - JSON

#### *Returns*

The built documentThe built document



*Exceptions*

- **ParserException class** – If building has failed
- **IllegalArgumentException** – If the argument is null Builds a valid OData Entry XML or JSON Post body from the entry argument
- **ParserException class** – If building has failed
- **IllegalArgumentException** – If the argument is null

*enableParserPerformanceLog(boolean, Context) method*

This method is to be called if performance data point are to be enabled for Parser.

*Syntax*

```
public void enableParserPerformanceLog ( boolean perflog ,
Context applicationContext )
```

*Parameters*

- **perflog** –
- **applicationContext** –

*parse(String) method*

Parses the Source and converts it to a Java Object containing all the information that were contained by the source.

*Syntax*

```
public abstract IParserDocument parse ( String document ) throws
ParserException, IllegalArgumentException
```

*Parameters*

- **A** – syntactically valid document

*Returns*

The Object representation of the parsed document

*Exceptions*

- **ParserException class** – If the document source is invalid
- **IllegalArgumentException** – If the argument is null

### *parse(InputStream) method*

Parses the stream source of document and converts it to a Java Object containing all the information that were contained by the source.

### *Syntax*

```
public abstract IParserDocument parse (InputStream stream) throws  
ParserException, IllegalArgumentException
```

### *Parameters*

- **stream** – A stream that holds a syntactically valid document

### *Returns*

The Object representation of the parsed document

### *Exceptions*

- **ParserException class** – If the stream source is invalid
- **IllegalArgumentException** – If the argument is null

### *parseFunctionImportResult(String, IODataFunctionImport, IODataSchema) method*

Parser a non error result of the execution of a Function Import OData document The result will be converted to a list of OData Entry documents If the result was a simple type it can accessed due the result entries as if it were a property..

### *Syntax*

```
public abstract List< IODataEntry > parseFunctionImportResult  
(String document , IODataFunctionImport functionImport ,  
IODataSchema schema) throws ParserException,  
IllegalArgumentException
```

### *Parameters*

- **document** – The Function Import result document
- **functionImport** – The OData Function Import document
- **schema** – The appropriate OData Schema document

### *Returns*

List of OData Entry containing the result values

### *Exceptions*

- **ParserException class** – If parsing document has failed
- **IllegalArgumentException** – If either of the arguments is null

*parseFunctionImportResult(InputStream, IODataFunctionImport, IODataSchema) method*

Parser a non error result of the execution of a Function Import OData document The result will be converted to a list of OData Entry documents If the result was a simple type it can accessed due the result entries as if it were a property,.

*Syntax*

```
public abstract List< IODataEntry > parseFunctionImportResult
( InputStream stream , IODataFunctionImport functionImport ,
IODataSchema schema ) throws ParseException,
IllegalArgumentException
```

*Parameters*

- **stream** – The function Import result stream
- **functionImport** – The OData Function Import document
- **schema** – The appropriate OData Schema document

*Returns*

List of OData Entry containing the result values

*Exceptions*

- **ParseException class** – If parsing document has failed
- **IllegalArgumentException** – If either of the arguments is null

*parseODataEntries(String, String, IODataSchema) method*

Parses SAPData structure that represent either a single OData Entry or an OData Feed with several OData entries.

*Syntax*

```
public abstract List< IODataEntry > parseODataEntries ( String
entries , String collectionId , IODataSchema schema ) throws
ParseException, IllegalArgumentException
```

*Parameters*

- **entries** – The source of either a single OData Entry or OData Feed of several OData entries
- **collectionId** – The id of the collection that the result entries should belong to
- **schema** – The relevant OData schema document

*Returns*

The list of the OData Entries contained by the source

### *Exceptions*

- **ParserException class** – If the document source is invalid
- **IllegalArgumentException** – If the argument is null

### *parseODataEntries(InputStream, String, IODataSchema) method*

Parses SAPData structure from stream that represent either a single OData Entry or an OData Feed of several OData entries.

### *Syntax*

```
public abstract List< IODataEntry > parseODataEntries  
( InputStream stream , String collectionId , IODataSchema schema ) throws  
ParserException, IllegalArgumentException
```

### *Parameters*

- **stream** – The stream that holds the source of either a single OData Entry or OData Feed of several OData entries
- **collectionId** – The id of the collection that the result entries should belong to
- **schema** – The relevant OData schema document

### *Returns*

The list of the OData Entries contained by the source

### *Exceptions*

- **ParserException class** – If the document source is invalid
- **IllegalArgumentException** – If the argument is null

### *parseODataError(String) method*

Parses the OData Error.

### *Syntax*

```
public abstract IODataError parseODataError ( String error ) throws  
ParserException, IllegalArgumentException
```

### *Parameters*

- **error** – The OData Error

### *Returns*

The OData Error document

*Exceptions*

- **ParserException class** – If the document source is invalid
- **IllegalArgumentException** – If the argument is null

*parseODataError(InputStream) method*

Parses the OData Error from stream.

*Syntax*

```
public abstract IODataError parseODataError ( InputStream
stream ) throws ParserException, IllegalArgumentException
```

*Parameters*

- **stream** – The OData Error as stream

*Returns*

The OData Error document

*Exceptions*

- **ParserException class** – If the stream source is invalid
- **IllegalArgumentException** – If the argument is null

*parseODataFeed(String, String, IODataSchema) method*

Parse OData Feed, support for Delta Query.

*Syntax*

```
public IODataFeed parseODataFeed ( String feed, String collectionId,
IODataSchema schema ) throws ParserException
```

*Parameters*

- **feed** –
- **collectionId** –
- **schema** –

*Exceptions*

- **SDMParseException** –

### *parseODataFeed(InputStream, String, IODataSchema) method*

Parse OData Feed from stream, support for Delta Query.

#### *Syntax*

```
public IODataFeed parseODataFeed ( InputStream stream , String  
collectionId , IODataSchema schema ) throws ParserException
```

#### *Parameters*

- **stream** –
- **collectionId** –
- **schema** –

#### *Exceptions*

- **ParserException class** –

### *parseODataOpenSearchDescription(String, String, IODataServiceDocument) method*

Parses the OData Open Search Description.

#### *Syntax*

```
public abstract IODataOpenSearchDescription  
parseODataOpenSearchDescription ( String openSearchDescription ,  
String collectionId , IODataServiceDocument serviceDocument ) throws  
ParserException, IllegalArgumentException
```

#### *Parameters*

- **openSearchDescription** – The OData Open Search Description

#### *Returns*

OData Open Search Description document

#### *Exceptions*

- **ParserException class** – If the document source is invalid
- **IllegalArgumentException** – If the argument is null

### *parseODataOpenSearchDescription(InputStream, String, IODataServiceDocument) method*

Parses the OData Open Search Description from stream.

#### *Syntax*

```
public abstract IODataOpenSearchDescription  
parseODataOpenSearchDescription ( InputStream stream , String
```

*collectionId*, *IODataServiceDocument serviceDocument*) throws *ParserException*, *IllegalArgumentException*

### Parameters

- **stream** – The stream that holds the OData Open Search Description .

### Returns

OData Open Search Description document

### Exceptions

- **ParserException class** – If the stream source is invalid.
- **IllegalArgumentException** – If the argument is null.

### *parseODataSchema(String, IODataServiceDocument) method*

Parses the OData Schema.

### Syntax

```
public abstract IODataSchema parseODataSchema (String schema ,
IODataServiceDocument serviceDocument) throws ParserException,
IllegalArgumentException
```

### Parameters

- **schema** – The OData Schema
- **serviceDocument** – The appropriate OData Service Document object

### Returns

The OData Schema document

### Exceptions

- **ParserException class** – If the document source is invalid
- **IllegalArgumentException** – If the argument is null

### *parseODataSchema(InputStream, IODataServiceDocument) method*

Parses the OData Schema from stream.

### Syntax

```
public abstract IODataSchema parseODataSchema (InputStream
stream , IODataServiceDocument serviceDocument) throws
ParserException, IllegalArgumentException
```

### *Parameters*

- **stream** – The stream that holds OData Schema
- **serviceDocument** – The appropriate OData Service Document object

### *Returns*

The OData Schema document

### *Exceptions*

- **ParserException class** – If the stream source is invalid
- **IllegalArgumentException** – If the argument is null

### *parseODataServiceDocument(String) method*

Parses the OData Service Document.

### *Syntax*

```
public abstract IODataServiceDocument  
parseODataServiceDocument ( String serviceDocument ) throws  
ParserException, IllegalArgumentException
```

### *Parameters*

- **serviceDocument** – The OData Service Document

### *Returns*

The OData Service Document

### *Exceptions*

- **ParserException class** – If the document source is invalid
- **IllegalArgumentException** – If the argument is null

### *parseODataServiceDocument(InputStream) method*

Parses the OData Service Document from stream.

### *Syntax*

```
public abstract IODataServiceDocument  
parseODataServiceDocument ( InputStream stream ) throws  
ParserException, IllegalArgumentException
```

### *Parameters*

- **stream** – The stream that holds OData Service Document



*Returns*

The OData Service Document

*Exceptions*

- **ParserException class** – If the stream source is invalid
- **IllegalArgumentException** – If the argument is null

*FORMAT\_JSON variable*

JSON Format for Building Post Body.

*Syntax*

```
public static final int FORMAT_JSON
```

*FORMAT\_XML variable*

XML Format for Building Post Body.

*Syntax*

```
public static final int FORMAT_XML
```

*IParserDocument interface*

Represents a general XML-compatible, persistable object.

*Syntax*

```
public abstract interface IParserDocument extends
IPersistable
```

*Derived classes*

- *IODataAssociation* on page 141
- *IODataCollection* on page 158
- *IODataComplexType* on page 171
- *IODataEntitySet* on page 177
- *IODataEntityType* on page 185
- *IODataEntry* on page 196
- *IODataError* on page 222
- *IODataFunctionImport* on page 231
- *IODataIcon* on page 242
- *IODataLink* on page 249
- *IODataNavigationProperty* on page 261
- *IODataOpenSearchDescription* on page 269
- *IODataParameter* on page 276

- *IODataProperty* on page 283
- *IODataSchema* on page 302
- *IODataServiceDocument* on page 315
- *IODataURL* on page 338
- *IODataWorkspace* on page 346
- *ParserDocument* on page 935

*Members*

All members of *IParserDocument*, including inherited members. **Variables**

<b>Modifier and Type</b>	<b>Variable</b>	<b>Description</b>
public static final String	<i>ATTRIBUTE_ETAG</i> on page 386	Name of the appropriate OData element.
public static final String	<i>ATTRIBUTE_VALUEPREFIX_EDMTYPE</i> on page 386	Value prefix for EDM Type type values.
public static Map< String, String >	<i>DEFAULT_PREFIXMAPPING</i> on page 386	The default XML Namespace-to-Prefix mapping used for building XMLS.
public static final String[]	<i>EDMDATETIME_PATTERNS</i> on page 386	Possible EDM DateTime patterns Note: Some pattern are not supported by OData specification but still widely used.
public static final String[]	<i>EDMDATETIMEOFFSET_PATTERNS</i> on page 386	Possible EDM TimeOffset patterns Note: Some pattern are not supported by OData specification but still widely used.
public static final String	<i>EDMTIME_PATTERN</i> on page 386	EDM Time pattern.
public static String	<i>ELEMENT_FEED</i> on page 386	Name of the appropriate OData element.
public static final String	<i>ELEMENT_ID</i> on page 387	Name of the appropriate OData element.
public static final String	<i>ROOT_DOCUMENT_NAME</i> on page 387	The default root element name for a new document.
public static final String	<i>XMLNS_APPLICATION_URI</i> on page 387	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/08/dataservices">http://schemas.microsoft.com/ado/2007/08/dataservices</a> .

Modifier and Type	Variable	Description
public static final String	<i>XMLNS_ATOM_URI</i> on page 387	Constant for XMLNS URI: <a href="http://www.w3.org/2005/Atom">http://www.w3.org/2005/Atom</a> .
public static final String	<i>XMLNS_DATASERVICES_URI</i> on page 387	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/08/dataservices">http://schemas.microsoft.com/ado/2007/08/dataservices</a> .
public static final String	<i>XMLNS_EDM_URI</i> on page 387	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/05/edm">http://schemas.microsoft.com/ado/2007/05/edm</a> .
public static final String	<i>XMLNS_EDMX_URI</i> on page 387	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/06/edmx">http://schemas.microsoft.com/ado/2007/06/edmx</a> .
public static final String	<i>XMLNS_GENERICPLAYER_URI</i> on page 388	Constant for XMLNS URI: <a href="http://www.sap.com/Protocols/SAPData/GenericPlayer">http://www.sap.com/Protocols/SAPData/GenericPlayer</a> .
public static final String	<i>XMLNS_METADATA_URI</i> on page 388	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/08/dataservices/metadata">http://schemas.microsoft.com/ado/2007/08/dataservices/metadata</a> .
public static final String	<i>XMLNS_SAP_URI</i> on page 388	Constant for XMLNS URI: <a href="http://www.sap.com/Protocols/SAPData">http://www.sap.com/Protocols/SAPData</a> .

## Methods

Modifier and Type	Method	Description
public abstract IParserDocument	<i>clone()</i> on page 374	Creates a copy of this object.
public abstract String	<i>getAttribute(String...)</i> on page 374	Returns the value of the first attribute with the given route.
public abstract List< String >	<i>getAttributes(String...)</i> on page 374	Returns all the values of attributes with the given route.
public abstract Map< String, String >	<i>getChildAttributeMap(String...)</i> on page 375	Returns all the name-value pairs of attributes contained by the element with the given route.

Modifier and Type	Method	Description
public abstract List< String >	<i>getChildAttributes(String...)</i> on page 375	Returns all the values of attributes contained by the element with the given route.
public abstract List< IParseDocument >	<i>getChildDocuments(String...)</i> on page 375	Returns the elements contained by the element with the given route.
public abstract List< IParseDocument >	<i>getChildDocumentsWithAttribute(String, String, String...)</i> on page 376	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public abstract List< IParseDocument >	<i>getChildDocumentsWithAttribute(String, String, boolean, String...)</i> on page 376	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public abstract IParseDocument	<i>getDocument(String...)</i> on page 377	Returns the first element with the given route.
public abstract List< IParseDocument >	<i>getDocuments(String...)</i> on page 377	Returns all the elements with the given route.
public abstract List< IParseDocument >	<i>getDocumentsWithAttribute(String, String, String...)</i> on page 378	Returns the elements with the given route that contains the given attribute with the given value.
public abstract List< IParseDocument >	<i>getDocumentsWithAttribute(String, String, boolean, String...)</i> on page 378	Returns the elements with the given route that contains the given attribute with the given value.
public abstract IParseDocument	<i>getDocumentWithAttribute(String, String, String...)</i> on page 379	Returns the first element with the given route that contains the given attribute with the given value.
public abstract IParseDocument	<i>getDocumentWithAttribute(String, String, boolean, String...)</i> on page 379	Returns the first element with the given route that contains the given attribute with the given value.
public abstract String	<i>getElementName()</i> on page 380	Returns The name of the root element of this document.

Modifier and Type	Method	Description
public abstract String	<i>getFunctionImportComplexProperty Value(String...)</i> on page 380	
public abstract String	<i>getPrefixForUri(String)</i> on page 380	Returns the appropriate name-space prefix for the given XML name-space URI.
public abstract String[]	<i>getStrings()</i> on page 381	Returns all the string values contained by this document.
public abstract String	<i>getValue(String...)</i> on page 381	Returns the value of the first element with the given route.
public abstract List< String >	<i>getValues(String...)</i> on page 381	Returns all the values of elements with the given route.
public abstract void	<i>putAttribute(String, String...)</i> on page 382	Sets the value of the attribute with the given route If attribute does not exist it will be created as well as all other non existing elements in the route.
public abstract void	<i>putDocument(IParserDocument, String...)</i> on page 382	Insert the document under the element with the given route inserted document will be placed before already existing documents with the same route name under All missing elements from the route will be created.
public abstract void	<i>putValue(String, String...)</i> on page 382	Sets the value of the first element with the given route.
public abstract boolean	<i>removeAttribute(String...)</i> on page 383	Removes first element with the given route.
public abstract boolean	<i>removeAttributes(String...)</i> on page 383	Removes all the attribute with the given route.
public abstract boolean	<i>removeDocument(String...)</i> on page 383	Removes first element with the given route For removing multiple element use setDocuemtns with null arguments.

Modifier and Type	Method	Description
public abstract void	<i>setAttributes(List&lt; String &gt;, String...)</i> on page 384	Sets all the values of the attributes with the given route Values will be paired to attributes in order Attributes with greater or equals index than size of new values will be untouched Attributes paired with null values will be removed.
public abstract void	<i>setDocuments(List&lt; IParser-Document &gt;, String...)</i> on page 384	Replaces all the elements with the given route Documents will be paired to elements in order Elements with greater or equals index than size of new elements will be untouched Element paired with null will be removed.
public abstract void	<i>setElementName(String, String...)</i> on page 385	Sets the name of the root element with the given route Use empty route for setting root name of this document.
public abstract void	<i>setValues(List&lt; String &gt;, String...)</i> on page 385	Sets all the values of the elements with the given rout Values will be paired to elements in order Elements with greater or equals index than size of new values will be untouched Null values will be treated as empty strings.
public abstract String	<i>toXMLString()</i> on page 385	Returns the XML string representation of this object.

#### Inherited members from IPersistable

Modifier and Type	Member	Description
public void	<i>read(BufferedReader)</i> on page 389	
public void	<i>write(BufferedWriter)</i> on page 389	

### Usage

XML like elements, values and attributes can be access via routes Routes are list of element names where each element contains the next element in the list

Elements can be retrieved as a new `IParserDocument` containing all the attributes, values and child elements of the represented element.

Empty routes always refer to the given object the method invoked on

### *IParserDocument.EDMSIMPLETYPES* enum

Enum for all the available simple types.

### Members

All members of `EDMSIMPLETYPES`, including inherited members. **Variables**

Modifier and Type	Variable	Description
public	<i>BINARY</i> on page 372	
public	<i>BOOLEAN</i> on page 372	
public	<i>BYTE</i> on page 372	
public	<i>DATETIME</i> on page 372	
public	<i>DATETIMEOFFSET</i> on page 372	
public	<i>DECIMAL</i> on page 372	
public	<i>DOUBLE</i> on page 372	
public	<i>FLOAT</i> on page 372	
public	<i>GUID</i> on page 373	
public	<i>INT16</i> on page 373	
public	<i>INT32</i> on page 373	
public	<i>INT64</i> on page 373	
public	<i>SBYTE</i> on page 373	
public	<i>SINGLE</i> on page 373	
public	<i>STRING</i> on page 373	
public	<i>TIME</i> on page 373	

*BINARY variable*

*Syntax*

```
public BINARY
```

*BOOLEAN variable*

*Syntax*

```
public BOOLEAN
```

*BYTE variable*

*Syntax*

```
public BYTE
```

*DATETIME variable*

*Syntax*

```
public DATETIME
```

*DATETIMEOFFSET variable*

*Syntax*

```
public DATETIMEOFFSET
```

*DECIMAL variable*

*Syntax*

```
public DECIMAL
```

*DOUBLE variable*

*Syntax*

```
public DOUBLE
```

*FLOAT variable*

*Syntax*

```
public FLOAT
```



*GUID variable**Syntax*

```
public  GUID
```

*INT16 variable**Syntax*

```
public  INT16
```

*INT32 variable**Syntax*

```
public  INT32
```

*INT64 variable**Syntax*

```
public  INT64
```

*SBYTE variable**Syntax*

```
public  SBYTE
```

*SINGLE variable**Syntax*

```
public  SINGLE
```

*STRING variable**Syntax*

```
public  STRING
```

*TIME variable**Syntax*

```
public  TIME
```

### *clone() method*

Creates a copy of this object.

### *Syntax*

```
public abstract IParserDocument clone () throws  
CloneNotSupportedException
```

### *Returns*

The new copy of this object

### *getAttribute(String...) method*

Returns the value of the first attribute with the given route.

### *Syntax*

```
public abstract String getAttribute (String... route ) throws  
IllegalArgumentException
```

### *Parameters*

- **route** – The route to the attribute

### *Returns*

The value of the first attribute or null if there is no such attribute

### *Exceptions*

- **IllegalArgumentException** – if the argument is null.

### *getAttributes(String...) method*

Returns all the values of attributes with the given route.

### *Syntax*

```
public abstract List< String > getAttributes (String... route )  
throws IllegalArgumentException
```

### *Parameters*

- **route** – The route to the attributes

### *Returns*

The list of values

*Exceptions*

- **IllegalArgumentException** – if the argument is null.

*getChildAttributeMap(String...) method*

Returns all the name-value pairs of attributes contained by the element with the given route.

*Syntax*

```
public abstract Map< String, String > getChildAttributeMap
( String... route ) throws IllegalArgumentException
```

*Parameters*

- **route** – The route to the element with the child attributes

*Returns*

The list of values

*Exceptions*

- **IllegalArgumentException** – if the argument is null.

*getChildAttributes(String...) method*

Returns all the values of attributes contained by the element with the given route.

*Syntax*

```
public abstract List< String > getChildAttributes ( String...
route ) throws IllegalArgumentException
```

*Parameters*

- **route** – The route to the element with the child attributes

*Returns*

The list of values

*Exceptions*

- **IllegalArgumentException** – if the argument is null.

*getChildDocuments(String...) method*

Returns the elements contained by the element with the given route.

*Syntax*

```
public abstract List< IParserDocument > getChildDocuments
( String... route ) throws IllegalArgumentException
```

### *Parameters*

- **route** – The route to the element with the child elements

### *Returns*

List of elements as new `IParser` documents

### *Exceptions*

- **IllegalArgumentException** – if the argument is null.

### *getChildDocumentsWithAttribute(String, String, String...) method*

Returns the elements contained by the element with the given route and having the given attribute with the given value.

### *Syntax*

```
public abstract List< IParserDocument >  
getChildDocumentsWithAttribute ( String attributeName , String  
attributeValue , String... route ) throws IllegalArgumentException
```

### *Parameters*

- **route** – The route to the element with the child elements
- **attributeName** – The name of the attribute
- **attributeValue** – The expected value of the attribute

### *Returns*

List of elements as new `IParser` documents

### *Exceptions*

- **IllegalArgumentException** – if either of the arguments is null.

### *getChildDocumentsWithAttribute(String, String, boolean, String...) method*

Returns the elements contained by the element with the given route and having the given attribute with the given value.

### *Syntax*

```
public abstract List< IParserDocument >  
getChildDocumentsWithAttribute ( String attributeName , String  
attributeValue , boolean addByDefault , String... route )
```

*Parameters*

- **route** – The route to the element with the child elements
- **attributeName** – The name of the attribute
- **attributeValue** – The expected value of the attribute
- **addByDefault** – true if element should be returned in case it does not contain the given attribute

*Returns*

List of elements as new IParser documents

*Exceptions*

- **IllegalArgumentException** – if either of the arguments is null.

*getDocument(String...) method*

Returns the first element with the given route.

*Syntax*

```
public abstract IParserDocument getDocument ( String... route )
throws IllegalArgumentException
```

*Parameters*

- **route** – The route to the element

*Returns*

The element as a new IParser document or null if there is no such element

*Exceptions*

- **IllegalArgumentException** – if the argument is null.

*getDocuments(String...) method*

Returns all the elements with the given route.

*Syntax*

```
public abstract List< IParserDocument > getDocuments
( String... route ) throws IllegalArgumentException
```

*Parameters*

- **route** – The route to the elements

### Returns

List of elements as new IParser documents

### Exceptions

- **IllegalArgumentException** – if the argument is null.

### *getDocumentsWithAttribute(String, String, String...) method*

Returns the elements with the given route that contains the given attribute with the given value.

### Syntax

```
public abstract List< IParserDocument >  
getDocumentsWithAttribute ( String attributeName , String  
attributeValue , String... route )
```

### Parameters

- **route** – The route to the elements
- **attributeName** – The name of the attribute
- **attributeValue** – The expected value of the attribute

### Returns

List of elements as new IParser documents

### Exceptions

- **IllegalArgumentException** – if either of the arguments is null.

### *getDocumentsWithAttribute(String, String, boolean, String...) method*

Returns the elements with the given route that contains the given attribute with the given value.

### Syntax

```
public abstract List< IParserDocument >  
getDocumentsWithAttribute ( String attributeName , String  
attributeValue , boolean addByDefault , String... route )
```

### Parameters

- **route** – The route to the elements
- **attributeName** – The name of the attribute
- **attributeValue** – The expected value of the attribute

- **addByDefault** – true if element should be returned in case it does not contain the given attribute

### Returns

List of elements as new IParser documents

### Exceptions

- **IllegalArgumentException** – if either of the arguments is null.

### *getDocumentWithAttribute(String, String, String...) method*

Returns the first element with the given route that contains the given attribute with the given value.

### Syntax

```
public abstract IParserDocument getDocumentWithAttribute
( String attributeName , String attributeValue , String... route )
```

### Parameters

- **route** – The route to the element
- **attributeName** – The name of the attribute
- **attributeValue** – The expected value of the attribute

### Returns

The element as a new IParser document or null if there is no such element

### Exceptions

- **IllegalArgumentException** – if either of the arguments is null.

### *getDocumentWithAttribute(String, String, boolean, String...) method*

Returns the first element with the given route that contains the given attribute with the given value.

### Syntax

```
public abstract IParserDocument getDocumentWithAttribute
( String attributeName , String attributeValue , boolean addByDefault ,
String... route )
```

### Parameters

- **route** – The route to the element
- **attributeName** – The name of the attribute
- **attributeValue** – The expected value of the attribute

- **addByDefault** – true if element should be returned in case it does not contain the given attribute

### *Returns*

The element as a new IParser document or null if there is no such element

### *Exceptions*

- **IllegalArgumentException** – if either of the arguments is null.

### *getElementName() method*

Returns The name of the root element of this document.

### *Syntax*

```
public abstract String getElementName ()
```

### *Returns*

The name of the root element of this document

### *getFunctionImportComplexPropertyValue(String...) method*

### *Syntax*

```
public abstract String getFunctionImportComplexPropertyValue  
(String... route)
```

### *getPrefixForUri(String) method*

Returns the appropriate name-space prefix for the given XML name-space URI.

### *Syntax*

```
public abstract String getPrefixForUri (String uri) throws  
IllegalArgumentException
```

### *Parameters*

- **uri** – An XML names-pace URI

### *Returns*

The appropriate name-space prefix

### *Exceptions*

- **IllegalArgumentException** – if the argument is null.



*getStrings() method*

Returns all the string values contained by this document.

*Syntax*

```
public abstract String[] getStrings ()
```

*Returns*

all the string values contained by this document

*getValue(String...) method*

Returns the value of the first element with the given route.

*Syntax*

```
public abstract String getValue (String... route ) throws
IllegalArgumentException
```

*Parameters*

- **route** – The route to the element

*Returns*

The value of the first element or null if there is no such element

*Exceptions*

- **IllegalArgumentException** – if the argument is null.

*getValues(String...) method*

Returns all the values of elements with the given route.

*Syntax*

```
public abstract List< String > getValues (String... route ) throws
IllegalArgumentException
```

*Parameters*

- **route** – The route to the elements

*Returns*

The list of values

*Exceptions*

- **IllegalArgumentException** – if the argument is null.

### *putAttribute(String, String...) method*

Sets the value of the attribute with the given route. If attribute does not exist it will be created as well as all other non-existing elements in the route.

#### *Syntax*

```
public abstract void putAttribute (String value , String... route)  
throws IllegalArgumentException
```

#### *Parameters*

- **value** – The new value
- **route** – The route to the attribute

#### *Exceptions*

- **IllegalArgumentException** – if either of the arguments is null.

### *putDocument(IParserDocument, String...) method*

Insert the document under the element with the given route. Inserted document will be placed before already existing documents with the same route name under. All missing elements from the route will be created.

#### *Syntax*

```
public abstract void putDocument ( IParserDocument document ,  
String... route ) throws IllegalArgumentException
```

#### *Parameters*

- **document** – The new document
- **route** – The route to the parent element of the new document

#### *Exceptions*

- **IllegalArgumentException** – if either of the arguments is null.

### *putValue(String, String...) method*

Sets the value of the first element with the given route.

#### *Syntax*

```
public abstract void putValue (String value , String... route)  
throws IllegalArgumentException
```

*Parameters*

- **value** – The new value
- **route** – The route to the element

*Exceptions*

- **IllegalArgumentException** – if either of the arguments is null.

*removeAttribute(String...) method*

Removes first element with the given route.

*Syntax*

```
public abstract boolean removeAttribute (String... route)
```

*Parameters*

- **route** – The route to the attribute to remove

*Returns*

true if at least one attribute has been removed or false otherwise

*removeAttributes(String...) method*

Removes all the attribute with the given route.

*Syntax*

```
public abstract boolean removeAttributes (String... route)
```

*Parameters*

- **route** – The route to the attributes to remove

*Returns*

true if at least one attribute has been removed or false otherwise

*removeDocument(String...) method*

Removes first element with the given route For removing multiple element use setDocuemtns with null arguments.

*Syntax*

```
public abstract boolean removeDocument (String... route) throws  
IllegalArgumentException
```

### *Parameters*

- **route** – The route to the element to remove

### *Returns*

true if at least one element has been removed or false otherwise

### *setAttributes(List< String >, String...) method*

Sets all the values of the attributes with the given route Values will be paired to attributes in order Attributes with greater or equals index than size of new values will be untouched Attributes paired with null values will be removed.

### *Syntax*

```
public abstract void setAttributes ( List< String > values ,  
String... route ) throws IllegalArgumentException
```

### *Parameters*

- **values** – The new values of the attributes
- **route** – The route to the attributes

### *Exceptions*

- **IllegalArgumentException** – if either of the arguments is null.

### *setDocuments(List< IParserDocument >, String...) method*

Replaces all the elements with the given route Documents will be paired to elements in order Elements with greater or equals index than size of new elements will be untouched Element paired with null will be removed.

### *Syntax*

```
public abstract void setDocuments ( List< IParserDocument >  
documents , String... route ) throws IllegalArgumentException
```

### *Parameters*

- **documents** – The list of new documents or nulls if one or more document should be removed
- **route** – The route to the elements

### *Exceptions*

- **IllegalArgumentException** – if either of the arguments is null.

*setElementName(String, String...) method*

Sets the name of the root element with the given route Use empty route for setting root name of this document.

*Syntax*

```
public abstract void setElementName ( String name , String...
route ) throws IllegalArgumentException
```

*Parameters*

- **name** – The new name of the root element
- **route** – The route to the element

*Exceptions*

- **IllegalArgumentException** – if either of the arguments is null.

*setValues(List< String >, String...) method*

Sets all the values of the elements with the given rout Values will be paired to elements in order Elements with greater or equals index than size of new values will be untouched Null values will be treated as empty strings.

*Syntax*

```
public abstract void setValues ( List< String > values ,
String... route ) throws IllegalArgumentException
```

*Parameters*

- **values** – The new values of the elements
- **route** – The route to the elements

*Exceptions*

- **IllegalArgumentException** – if either of the arguments is null.

*toXMLString() method*

Returns the XML string representation of this object.

*Syntax*

```
public abstract String toXMLString ()
```

*Returns*

The XML string representation of this object

### *ATTRIBUTE\_ETAG variable*

Name of the appropriate OData element.

#### *Syntax*

```
public static final String ATTRIBUTE_ETAG
```

### *ATTRIBUTE\_VALUEPREFIX\_EDMTYPE variable*

Value prefix for EDM Type type values.

#### *Syntax*

```
public static final String ATTRIBUTE_VALUEPREFIX_EDMTYPE
```

### *DEFAULT\_PREFIXMAPPING variable*

The default XML Namespace-to-Prefix mapping used for building XMLS.

#### *Syntax*

```
public static Map< String, String > DEFAULT_PREFIXMAPPING
```

### *EDMDATETIME\_PATTERNS variable*

Possible EDM DateTime patterns Note: Some pattern are not supported by OData specification but still widely used.

#### *Syntax*

```
public static final String[] EDMDATETIME_PATTERNS
```

### *EDMDATETIMEOFFSET\_PATTERNS variable*

Possible EDM DateTimeOffset patterns Note: Some pattern are not supported by OData specification but still widely used.

#### *Syntax*

```
public static final String[] EDMDATETIMEOFFSET_PATTERNS
```

### *EDMTIME\_PATTERN variable*

EDM Time pattern.

#### *Syntax*

```
public static final String EDMTIME_PATTERN
```

### *ELEMENT\_FEED variable*

Name of the appropriate OData element.

#### *Syntax*

```
public static String ELEMENT_FEED
```

***ELEMENT\_ID variable***

Name of the appropriate OData element.

***Syntax***

```
public static final String ELEMENT_ID
```

***ROOT\_DOCUMENT\_NAME variable***

The default root element name for a new document.

***Syntax***

```
public static final String ROOT_DOCUMENT_NAME
```

***XMLNS\_APPLICATION\_URI variable***

Constant for XMLNS URI: <http://schemas.microsoft.com/ado/2007/08/dataservices>.

***Syntax***

```
public static final String XMLNS_APPLICATION_URI
```

***XMLNS\_ATOM\_URI variable***

Constant for XMLNS URI: <http://www.w3.org/2005/Atom>.

***Syntax***

```
public static final String XMLNS_ATOM_URI
```

***XMLNS\_DATASERVICES\_URI variable***

Constant for XMLNS URI: <http://schemas.microsoft.com/ado/2007/08/dataservices>.

***Syntax***

```
public static final String XMLNS_DATASERVICES_URI
```

***XMLNS\_EDM\_URI variable***

Constant for XMLNS URI: <http://schemas.microsoft.com/ado/2007/05/edm>.

***Syntax***

```
public static final String XMLNS_EDM_URI
```

***XMLNS\_EDMX\_URI variable***

Constant for XMLNS URI: <http://schemas.microsoft.com/ado/2007/06/edmx>.

***Syntax***

```
public static final String XMLNS_EDMX_URI
```

*XMLNS\_GENERICPLAYER\_URI variable*

Constant for XMLNS URI: <http://www.sap.com/Protocols/SAPData/GenericPlayer>.

*Syntax*

```
public static final String XMLNS_GENERICPLAYER_URI
```

*XMLNS\_METADATA\_URI variable*

Constant for XMLNS URI: <http://schemas.microsoft.com/ado/2007/08/dataservices/metadata>.

*Syntax*

```
public static final String XMLNS_METADATA_URI
```

*XMLNS\_SAP\_URI variable*

Constant for XMLNS URI: <http://www.sap.com/Protocols/SAPData>.

*Syntax*

```
public static final String XMLNS_SAP_URI
```

*IPersistable interface*

Interface that any object should implement that is to store by SDMPersistence.

*Syntax*

```
public interface IPersistable
```

*Derived classes*

- *IParserDocument* on page 365
- *Logger* on page 426

*Members*

All members of IPersistable, including inherited members. **Methods**

Modifier and Type	Method	Description
public void	<i>read(BufferedReader)</i> on page 389	
public void	<i>write(BufferedWriter)</i> on page 389	



*read(BufferedReader) method**Syntax*

```
public void read (BufferedReader reader) throws
PersistenceException
```

*Parameters*

- **reader** – The buffered reader to read the object from.

*Exceptions*

- **PersistenceException class** – if data can not be loaded from the reader.

*write(BufferedWriter) method**Syntax*

```
public void write (BufferedWriter writer) throws
PersistenceException
```

*Parameters*

- **writer** – The buffered writer that object data needs to be written into.

*Exceptions*

- **PersistenceException class** – if data can not be written into the writer

*IPreferenceChangeListener interface*

Interface for classes that are to listen changes of preferences.

*Syntax*

```
public interface IPreferenceChangeListener
```

*Derived classes*

- *RequestManager* on page 994

*Members*

All members of IPreferenceChangeListener, including inherited members. **Methods**

Modifier and Type	Method	Description
public void	<i>onPreferenceChanged(String, Object)</i> on page 390	Callback method for preference change event.

*onPreferenceChanged(String, Object) method*

Callback method for preference change event.

*Syntax*

```
public void onPreferenceChanged ( String key , Object value )
```

*Parameters*

- **key** – key of the preference
- **value** – value of the preference

```
public class Activity implements IPreferenceChangeListener{ ...@override public void
onPreferenceChanged(String key, Object value) { Logger.d(TAG,"Got preference change
notification: " + key + " to value " + value + """); } ... }
```

*IPreferences interface*

Main interface for Configuration.

*Syntax*

```
public interface IPreferences
```

*Derived classes*

- *Preferences* on page 969

*Members*

All members of IPreferences, including inherited members. **Variables**

Modifier and Type	Variable	Description
public static final String	<i>BUSINESSSTRANSAC- TION_ENABLED</i> on page 400	Preference for the indicator to decide if SAP passport should be enabled or not.
public static final String	<i>BYPASS_PROXY</i> on page 400	Preference for the indicator to decide which URLs need the proxy bypassed.
public static final String	<i>CACHE_CAPACITY</i> on page 400	Preference for the maximum number of documents can be stored in cache.
public static final String	<i>CACHE_MAX_SEARCH_RE- SULTS</i> on page 400	Preference for the maximum entries that can be returned as a result of a search.

Modifier and Type	Variable	Description
public static final String	<i>CACHE_PARSER_SEARCH_ATTRIBUTE</i> on page 400	Preference for the name of the XML attribute that should be used to decide if a property is searchable.
public static final String	<i>CACHE_SEARCH_ATTRIBUTE_XMLNS</i> on page 401	Preference for the XML namespace URI of the XML attribute that should be used to decide if a property is searchable.
public static final String	<i>CONNECTIVITY_CONNECTION_TIMEOUT</i> on page 401	Preference for connection time out.
public static final String	<i>CONNECTIVITY_HANDLER_CLASS_NAME</i> on page 401	Preference for full name (including package) of the class that should be initialized as connectivity handler.
public static final String	<i>CONNECTIVITY_HTTP_PORT</i> on page 401	Preference for default HTTP port.
public static final String	<i>CONNECTIVITY_HTTPS_PORT</i> on page 401	Preference for default HTTPS port.
public static final String	<i>CONNECTIVITY_PROXY_HOST</i> on page 401	Preference for proxy host if there is a proxy should be used.
public static final String	<i>CONNECTIVITY_PROXY_PORT</i> on page 401	Preference for proxy port if there is a proxy should be used.
public static final String	<i>CONNECTIVITY_SOCKET_TIMEOUT</i> on page 402	Preference for socket connection time out.
public static final String	<i>LOG_LEVEL</i> on page 402	Preference for the current log severity.
public static final String	<i>PARSER_FOLDER_PATH</i> on page 402	Preference for the default folder where Parser related information can be persisted Should not point to a folder that can be removed outside of the application.

Modifier and Type	Variable	Description
public static final String	<i>PERSISTENCE_BYTE_BUFFER_SIZE</i> on page 402	Preference for the size of the buffer that is used during persistence. Should be changed only in case of low memory available.
public static final String	<i>PERSISTENCE_CIPHER_TRANSFORMATION</i> on page 402	Preference for the default cipher transformation algorithm. Should be matched with algorithm of the Secure Key generation used for data encryption.
public static final String	<i>PERSISTENCE_FOLDER_PATH</i> on page 402	Preference for the default folder where data should be persisted.
public static final String	<i>PERSISTENCE_SECURE_MODE</i> on page 403	Preference for indicator if persisted data should be encrypted.
public static final String	<i>SAP_APPLICATION_ID_HEADER_VALUE</i> on page 403	Preference for application ID (used in request headers)
public static final String	<i>SAPPASSPORT_ENABLED</i> on page 403	Preference for the indicator to decide if SAP passport should be enabled or not.

### Methods

Modifier and Type	Method	Description
public boolean	<i>containsPreference(String)</i> on page 394	Checks the existence of the given preference.
public Map< String, ?>	<i>getAllPreferences()</i> on page 394	
public Boolean	<i>getBooleanPreference(String)</i> on page 394	Returns the value of the given preference or null if there is no preference with the given key.
public Context	<i>getContext()</i> on page 395	Returns the context.
public Float	<i>getFloatPreference(String)</i> on page 395	Returns the value of the given preference or null if there is no preference with the given key.

Modifier and Type	Method	Description
public Integer	<i>getIntPreference(String)</i> on page 395	Returns the value of the given preference or null if there is no preference with the given key.
public Long	<i>getLongPreference(String)</i> on page 396	Returns the value of the given preference or null if there is no preference with the given key.
public String	<i>getStringPreference(String)</i> on page 396	Returns the value of the given preference or null if there is no preference with the given key.
public void	<i>registerPreferenceChangeListener(String, IPreferenceChangeListener)</i> on page 396	You can register a class implementing the <code>IPreferenceChangeListener</code> interface for the change of a preference with the given key.
public void	<i>removePreference(String)</i> on page 397	Removes the preferences with the given key.
public void	<i>resetPreference(String)</i> on page 397	Resets the preference's value to its default value or to null if there is no default value for the given preference.
public void	<i>setBooleanPreference(String, boolean)</i> on page 398	Sets and validates and persists the value of the preferences with the given type.
public void	<i>setFloatPreference(String, float)</i> on page 398	Sets and validates and persists the value of the preferences with the given type.
public void	<i>setIntPreference(String, int)</i> on page 398	Sets and validates and persists the value of the preferences with the given type.
public void	<i>setLongPreference(String, long)</i> on page 399	Sets and validates and persists the value of the preferences with the given type.
public void	<i>setStringPreference(String, String)</i> on page 399	Sets and validates and persists the value of the preferences with the given type.

Modifier and Type	Method	Description
public void	<i>unRegisterPreferenceChangeListener(String, IPreferenceChangeListener)</i> on page 399	You can unregister a change listener.

*containsPreference(String) method*

Checks the existence of the given preference.

*Syntax*

```
public boolean containsPreference ( String key )
```

*Parameters*

- **key** – The key of the preference

*Returns*

true if Preference contains the given key or false otherwise

*getAllPreferences() method**Syntax*

```
public Map< String, ?> getAllPreferences () throws  
PreferencesException
```

*getBooleanPreference(String) method*

Returns the value of the given preference or null if there is no preference with the given key.

*Syntax*

```
public Boolean getBooleanPreference ( String key ) throws  
PreferencesException
```

*Parameters*

- **key** – The key of the preference

*Returns*

the boolean type preference with the given key

*Exceptions*

- **PreferencesException class** – if preference exists with the given key but with value of different type

*getContext() method*

Returns the context.

*Syntax*

```
public Context getContext ()
```

*getFloatPreference(String) method*

Returns the value of the given preference or null if there is no preference with the given key.

*Syntax*

```
public Float getFloatPreference (String key) throws  
PreferencesException
```

*Parameters*

- **key** – The key of the preference

*Returns*

the float type preference with the given key

*Exceptions*

- **PreferencesException class** – if preference exists with the given key but with value of different type

*getIntPreference(String) method*

Returns the value of the given preference or null if there is no preference with the given key.

*Syntax*

```
public Integer getIntPreference (String key) throws  
PreferencesException
```

*Parameters*

- **key** – The key of the preference

*Returns*

the integer type preference with the given key

*Exceptions*

- **PreferencesException class** – if preference exists with the given key but with value of different type

### *getLongPreference(String) method*

Returns the value of the given preference or null if there is no preference with the given key.

#### *Syntax*

```
public Long getLongPreference ( String key ) throws  
PreferencesException
```

#### *Parameters*

- **key** – The key of the preference

#### *Returns*

the long type preference with the given key

#### *Exceptions*

- **PreferencesException class** – if preference exists with the given key but with value of different type

### *getStringPreference(String) method*

Returns the value of the given preference or null if there is no preference with the given key.

#### *Syntax*

```
public String getStringPreference ( String key ) throws  
PreferencesException
```

#### *Parameters*

- **key** – The key of the preference

#### *Returns*

the String type preference with the given key

#### *Exceptions*

- **PreferencesException class** – if preference exists with the given key but with value of different type

### *registerPreferenceChangeListener(String, IPreferenceChangeListener) method*

You can register a class implementing the IPreferenceChangeListener interface for the change of a preference with the given key.

#### *Syntax*

```
public void registerPreferenceChangeListener ( String key ,  
IPreferenceChangeListener changeListener )
```



*Parameters*

- **key** – key of the preference
- **changeListener** – listener object to be registered

*Exceptions*

- **IllegalArgumentException** – if the argument is null.

*Usage*

If any of the arguments are null, an `IllegalArgumentException` is thrown.

*removePreference(String) method*

Removes the preferences with the given key.

*Syntax*

```
public void removePreference (String key) throws
PreferencesException
```

*Parameters*

- **key** – The key of the preference

*Exceptions*

- **PreferencesException class** – If the preference does not exist or it cannot be removed (e.g. a preference)

*Usage*

Also notifies the listeners with null value.

*resetPreference(String) method*

Resets the preference's value to its default value or to null if there is no default value for the given preference.

*Syntax*

```
public void resetPreference (String key)
```

*Parameters*

- **key** – The key of the preference

### *setBooleanPreference(String, boolean) method*

Sets and validates and persists the value of the preferences with the given type.

#### *Syntax*

```
public void setBooleanPreference ( String key , boolean value )  
throws PreferencesException
```

#### *Parameters*

- **key** – The key of the preference
- **value** – The new value of the preference

#### *Exceptions*

- **PreferencesException class** – if the new value of the preference is invalid for any reasons

### *setFloatPreference(String, float) method*

Sets and validates and persists the value of the preferences with the given type.

#### *Syntax*

```
public void setFloatPreference ( String key , float value ) throws  
PreferencesException
```

#### *Parameters*

- **key** – The key of the preference
- **value** – The new value of the preference

#### *Exceptions*

- **PreferencesException class** – if the new value of the preference is invalid for any reasons

### *setIntPreference(String, int) method*

Sets and validates and persists the value of the preferences with the given type.

#### *Syntax*

```
public void setIntPreference ( String key , int value ) throws  
PreferencesException
```

#### *Parameters*

- **key** – The key of the preference
- **value** – The new value of the preference

*Exceptions*

- **PreferencesException class** – if the new value of the preference is invalid for any reasons

*setLongPreference(String, long) method*

Sets and validates and persists the value of the preferences with the given type.

*Syntax*

```
public void setLongPreference ( String key , long value ) throws
PreferencesException
```

*Parameters*

- **key** – The key of the preference
- **value** – The new value of the preference

*Exceptions*

- **PreferencesException class** – if the new value of the preference is invalid for any reasons

*setStringPreference(String, String) method*

Sets and validates and persists the value of the preferences with the given type.

*Syntax*

```
public void setStringPreference ( String key , String value ) throws
PreferencesException
```

*Parameters*

- **key** – The key of the preference
- **value** – The new value of the preference

*Exceptions*

- **PreferencesException class** – if the new value of the preference is invalid for any reasons

*unRegisterPreferenceChangeListener(String, IPreferenceChangeListener) method*

You can unregister a change listener.

*Syntax*

```
public void unRegisterPreferenceChangeListener ( String key ,
IPreferenceChangeListener changeListener )
```

### *Parameters*

- **key** – key of the preference
- **changeListener** – listener object to be unregistered

### *Exceptions*

- **IllegalArgumentException** – if the argument is null.

### *Usage*

If any of the arguments are null, an `IllegalArgumentException` is thrown.

### *BUSINESSTRANSACTION\_ENABLED variable*

Preference for the indicator to decide if SAP passport should be enabled or not.

### *Syntax*

```
public static final String BUSINESSSTRANSACTION_ENABLED
```

### *BYPASS\_PROXY variable*

Preference for the indicator to decide which URLs need the proxy bypassed.

### *Syntax*

```
public static final String BYPASS_PROXY
```

### *CACHE\_CAPACITY variable*

Preference for the maximum number of documents can be stored in cache.

### *Syntax*

```
public static final String CACHE_CAPACITY
```

### *CACHE\_MAX\_SEARCH\_RESULTS variable*

Preference for the maximum entries that can be returned as a result of a search.

### *Syntax*

```
public static final String CACHE_MAX_SEARCH_RESULTS
```

### *CACHE\_PARSER\_SEARCH\_ATTRIBUTE variable*

Preference for the name of the XML attribute that should be used to decide if a property is searchable.

### *Syntax*

```
public static final String CACHE_PARSER_SEARCH_ATTRIBUTE
```

***CACHE\_SEARCH\_ATTRIBUTE\_XMLNS variable***

Preference for the XML namespace URI of the XML attribute that should be used to decide if a property is searchable.

***Syntax***

```
public static final String CACHE_SEARCH_ATTRIBUTE_XMLNS
```

***CONNECTIVITY\_CONNTIMEOUT variable***

Preference for connection time out.

***Syntax***

```
public static final String CONNECTIVITY_CONNTIMEOUT
```

***CONNECTIVITY\_HANDLER\_CLASS\_NAME variable***

Preference for full name (including package) of the class that should be initialized as connectivity handler.

***Syntax***

```
public static final String CONNECTIVITY_HANDLER_CLASS_NAME
```

***CONNECTIVITY\_HTTP\_PORT variable***

Preference for default HTTP port.

***Syntax***

```
public static final String CONNECTIVITY_HTTP_PORT
```

***CONNECTIVITY\_HTTPS\_PORT variable***

Preference for default HTTPS port.

***Syntax***

```
public static final String CONNECTIVITY_HTTPS_PORT
```

***CONNECTIVITY\_PROXY\_HOST variable***

Preference for proxy host if there is a proxy should be used.

***Syntax***

```
public static final String CONNECTIVITY_PROXY_HOST
```

***CONNECTIVITY\_PROXY\_PORT variable***

Preference for proxy port if there is a proxy should be used.

***Syntax***

```
public static final String CONNECTIVITY_PROXY_PORT
```

### *CONNECTIVITY\_SCONNTIMEOUT variable*

Preference for socket connection time out.

#### *Syntax*

```
public static final String CONNECTIVITY_SCONNTIMEOUT
```

### *LOG\_LEVEL variable*

Preference for the current log severity.

#### *Syntax*

```
public static final String LOG_LEVEL
```

### *PARSER\_FOLDER\_PATH variable*

Preference for the default folder where Parser related information can be persisted Should not point to a folder that can be removed outside of the application.

#### *Syntax*

```
public static final String PARSER_FOLDER_PATH
```

### *PERSISTENCE\_BYTE\_BUFFER\_SIZE variable*

Preference for the size of the buffer that is used during persistence Should be changed only in case of low memory available.

#### *Syntax*

```
public static final String PERSISTENCE_BYTE_BUFFER_SIZE
```

### *PERSISTENCE\_CIPHER\_TRANSFORMATION variable*

Preference for the default cipher transformation algorithm Should be matched with algorithm of the Secure Key generation used for data encryption.

#### *Syntax*

```
public static final String PERSISTENCE_CIPHER_TRANSFORMATION
```

### *PERSISTENCE\_FOLDER\_PATH variable*

Preference for the default folder where data should be persisted.

#### *Syntax*

```
public static final String PERSISTENCE_FOLDER_PATH
```

*PERSISTENCE\_SECUREMODE* variable

Preference for indicator if persisted data should be encrypted.

*Syntax*

```
public static final String PERSISTENCE_SECUREMODE
```

*SAP\_APPLICATIONID\_HEADER\_VALUE* variable

Preference for application ID (used in request headers)

*Syntax*

```
public static final String SAP_APPLICATIONID_HEADER_VALUE
```

*SAPPASSPORT\_ENABLED* variable

Preference for the indicator to decide if SAP passport should be enabled or not.

*Syntax*

```
public static final String SAPPASSPORT_ENABLED
```

*IRequest* interface

Consists of interface for requests.

*Syntax*

```
public interface IRequest extends Serializable
```

*Derived classes*

- *BaseRequest* on page 38
- *PushRequest* on page 986

*Members*

All members of IRequest, including inherited members. **Variables**

Modifier and Type	Variable	Description
public static final int	<i>ETAG_IF_MATCH</i> on page 411	etag "if-match"
public static final int	<i>ETAG_IF_NONE_MATCH</i> on page 411	etag "if-none-match"
public static final int	<i>ETAG_IF_RANGE</i> on page 411	etag "if-range"
public static final int	<i>PRIORITY_HIGH</i> on page 411	High priority.

Modifier and Type	Variable	Description
public static final int	<i>PRIORITY_NORMAL</i> on page 412	Normal priority.
public static final int	<i>REQUEST_METHOD_DELETE</i> on page 412	HTTP DELETE method.
public static final int	<i>REQUEST_METHOD_GET</i> on page 412	HTTP GET method.
public static final int	<i>REQUEST_METHOD_POST</i> on page 412	HTTP POST method.
public static final int	<i>REQUEST_METHOD_PUT</i> on page 412	HTTP PUT method.

### Methods

Modifier and Type	Method	Description
public void	<i>disableDeltaHandling(boolean)</i> on page 405	Disables delta query handling.
public byte[]	<i>getData()</i> on page 406	If the request method is POST, this method is called from the network library.
public Map< String, String >	<i>getHeaders()</i> on page 406	Returns the request headers set.
public INetListener	<i>getListener()</i> on page 406	Returns the listener to be used by the connectivity library to notify the registered listener about a successful or failed request operation.
public int	<i>getPriority()</i> on page 407	Returns the priority of the request.
public int	<i>getRequestMethod()</i> on page 407	Retrieves the request method type.
public String	<i>getRequestUrl()</i> on page 407	Returns the URL where the request must be invoked.
public boolean	<i>isDeltaHandlingDisabled()</i> on page 408	internal
public void	<i>setData(byte[])</i> on page 408	Sets the request data in case of an HTTP POST request.



Modifier and Type	Method	Description
public void	<i>setHeaders</i> ( <i>Map&lt;String, String&gt;</i> ) on page 408	Sets the request headers.
public void	<i>setListener</i> ( <i>final INetListener</i> ) on page 409	Client can register listeners to be used by the connectivity layer to notify the implementation about the result of the request.
public void	<i>setPriority</i> ( <i>final int</i> ) on page 409	Sets the priority of the request.
public void	<i>setRequestMethod</i> ( <i>final int</i> ) on page 410	Sets the type of HTTP request method.
public void	<i>setRequestUrl</i> ( <i>final String</i> ) on page 410	Sets the URL for the request.
public boolean	<i>useCookies</i> () on page 411	Network library uses this method to check whether it has to send cookies to the server when the current request is performed.

### Usage

All request objects must implement this interface. The network layer uses this interface to interact with the request objects.

### *disableDeltaHandling*(*boolean*) method

Disables delta query handling.

### Syntax

```
public void disableDeltaHandling ( boolean disable )
```

### Parameters

- **disable** – If set to true it disables delta handling

### Returns

None

### Usage

By default delta handling is enabled.

### *getData() method*

If the request method is POST, this method is called from the network library.

#### *Syntax*

```
public byte[] getData ()
```

#### *Parameters*

- **None** –

#### *Returns*

the content data of the request.

```
BaseRequest getrequest = new BaseRequest(); byte[] data = getrequest.getData();
```

#### *Usage*

This method will return with the content to be sent to the server.

### *getHeaders() method*

Returns the request headers set.

#### *Syntax*

```
public Map< String, String > getHeaders ()
```

#### *Parameters*

- **None** –

#### *Returns*

the request headers

```
BaseRequest getrequest = new BaseRequest(); Map<String, String> headers =  
getrequest.getHeaders();
```

### *getListener() method*

Returns the listener to be used by the connectivity library to notify the registered listener about a successful or failed request operation.

#### *Syntax*

```
public INetListener getListener ()
```

#### *Parameters*

- **None** –

**Returns**

the listener or null.

```
class example implements INetListener{ .... public void makeGetRequest(...) throws
Exception { .... BaseRequest getrequest = new BaseRequest();
getrequest.getListener(); } ... }
```

**Usage**

Method will return null if there is no registered listener.

***getPriority() method***

Returns the priority of the request.

**Syntax**

```
public int getPriority ()
```

**Parameters**

- **None** –

**Returns**

The priority of the request. The value is integer.

```
BaseRequest getrequest = new BaseRequest(); int priority = getrequest.getPriority();
```

***getRequestMethod() method***

Retrieves the request method type.

**Syntax**

```
public int getRequestMethod ()
```

**Parameters**

- **None** –

**Returns**

Type of the HTTP request specified by IRequest.REQUEST\_METHOD\_\* constants.

```
BaseRequest getrequest = new BaseRequest(); int method = getrequest.getRequestMethod();
```

***getRequestUrl() method***

Returns the URL where the request must be invoked.

**Syntax**

```
public String getRequestUrl ()
```

### *Parameters*

- **None** –

### *Returns*

the URL.

```
BaseRequest getRequest = new BaseRequest(); String url = getRequest.getRequestUrl();
```

### *isDeltaHandlingDisabled() method*

internal

### *Syntax*

```
public boolean isDeltaHandlingDisabled ()
```

### *setData(byte[]) method*

Sets the request data in case of an HTTP POST request.

### *Syntax*

```
public void setData (byte[] data )
```

### *Parameters*

- **data** – the request data to set.

### *Returns*

None

```
BaseRequest getRequest = new BaseRequest(); String postBody= "<atom:entry xmlns:atom=" +
 "\"http://www.w3.org/2005/Atom">" + "<atom:content type=\"application/xml\">" +
 "<m:properties xmlns:m=\"http://schemas.microsoft.com/ado/2007/08/dataservices/" +
 "metadata\" *xmlns:d=\"http://schemas.microsoft.com/ado/2007/08/dataservices\">" +
 "<d:agencynum>09964571</d:agencynum>" + "<d:NAME ></d:NAME>" +
 "<d:STREET />" + "<d:POSTBOX />" + * "<d:POSTCODE />" + "<d:CITY />" +
 "<d:COUNTRY />" + "<d:REGION />" + "<d:TELEPHONE>+9945007007</" +
 "d:TELEPHONE>" + "<d:URL />" + "<d:LANGU />" + "<d:CURRENCY />" +
 "<d:mimeType>text/html</d:mimeType>" + "</m:properties>" + "</atom:content>" + "</" +
 "atom:entry>"; post1.setData(postBody.getBytes());
```

### *setHeaders(Map< String, String >) method*

Sets the request headers.

### *Syntax*

```
public void setHeaders (Map< String, String > headers )
```

*Parameters*

- **headers** – the request headers to set.

*Returns*

None

```
Map<String, String> headers1 = new HashMap<String, String>(); headers1.put("Content-Type", "application/atom+xml"); BaseRequest getrequest = new BaseRequest(); getrequest.setHeaders(headers1);
```

*setListener(final INetListener) method*

Client can register listeners to be used by the connectivity layer to notify the implementation about the result of the request.

*Syntax*

```
public void setListener ( final INetListener aListener )
```

*Parameters*

- **aListener** – the listener to be set.

*Returns*

None

```
class example implements INetListener { .... public void makeGetRequest(...) throws Exception { .... BaseRequest getrequest = new BaseRequest(); getrequest.setListener(this); } ... }
```

*Usage*

By default, the BaseRequest object included in the connectivity layer will contain no registered listeners.

*setPriority(final int) method*

Sets the priority of the request.

*Syntax*

```
public void setPriority ( final int aPriority )
```

*Parameters*

- **aPriority** – the priority of the request to set.

*Returns*

None

```
BaseRequest getrequest = new BaseRequest();
getrequest.setPriority(IRequest.PRIORITY_NORMAL);
```

### *Usage*

Allowed values are `IRequest.PRIORITY_HIGH` or `IRequest.PRIORITY_NORMAL`. In case of a different value, the default `IRequest.PRIORITY_NORMAL` will be used by the network. If the network layer finds an `IRequest` with `IRequest.PRIORITY_HIGH` priority in the queue, that request will be executed first. If there are more than one `IRequests` with `IRequest.PRIORITY_HIGH` priority, the network layer will choose an execution order. If the priority is not one of the predefined values, the priority will be set to the default value `IRequest.PRIORITY_NORMAL`.

### *setRequestMethod(final int) method*

Sets the type of HTTP request method.

### *Syntax*

```
public void setRequestMethod ( final int aRequestMethod )
```

### *Parameters*

- **requestMethod** – Type of the HTTP request specified by `IRequest.REQUEST_METHOD_*` constants.

### *Returns*

None

```
BaseRequest getrequest = new BaseRequest();
getrequest.setRequestMethod(IRequest.REQUEST_METHOD_GET);
```

### *setRequestUrl(final String) method*

Sets the URL for the request.

### *Syntax*

```
public void setRequestUrl ( final String aUrl )
```

### *Parameters*

- **aUrl** – the URL to set.

### *Returns*

None

```
BaseRequest getrequest = new BaseRequest(); getrequest.setRequestUrl("http://abc.com/
resource");
```

*useCookies() method*

Network library uses this method to check whether it has to send cookies to the server when the current request is performed.

*Syntax*

```
public boolean useCookies ()
```

*Parameters*

- **None** – Cookies in the network library.

```
BaseRequest getRequest = new BaseRequest(); boolean usecookie = getRequest.useCookies();
```

*Usage*

Some requests may deny sending any cookies to the server, in this case this method can be used by the request to signal to the network library. The default value for this is false in the BaseRequest implementation.

*ETAG\_IF\_MATCH variable*

```
etag "if-match"
```

*Syntax*

```
public static final int ETAG_IF_MATCH
```

*ETAG\_IF\_NONE\_MATCH variable*

```
etag "if-none-match"
```

*Syntax*

```
public static final int ETAG_IF_NONE_MATCH
```

*ETAG\_IF\_RANGE variable*

```
etag "if-range"
```

*Syntax*

```
public static final int ETAG_IF_RANGE
```

*PRIORITY\_HIGH variable*

High priority.

*Syntax*

```
public static final int PRIORITY_HIGH
```

*Usage*

Requests with high priority will be executed first. If there are more than one IRequests with IRequest.PRIORITY\_HIGH priority, the network layer will choose an execution order.

### *PRIORITY\_NORMAL variable*

Normal priority.

#### *Syntax*

```
public static final int PRIORITY_NORMAL
```

#### *Usage*

This is the default priority.

### *REQUEST\_METHOD\_DELETE variable*

HTTP DELETE method.

#### *Syntax*

```
public static final int REQUEST_METHOD_DELETE
```

### *REQUEST\_METHOD\_GET variable*

HTTP GET method.

#### *Syntax*

```
public static final int REQUEST_METHOD_GET
```

### *REQUEST\_METHOD\_POST variable*

HTTP POST method.

#### *Syntax*

```
public static final int REQUEST_METHOD_POST
```

### *REQUEST\_METHOD\_PUT variable*

HTTP PUT method.

#### *Syntax*

```
public static final int REQUEST_METHOD_PUT
```

### *IRequestManager interface*

Consists of interface for execution of requests.

#### *Syntax*

```
public interface IRequestManager
```

#### *Derived classes*

- *RequestManager* on page 994



## Members

All members of `IRequestManager`, including inherited members. **Methods**

Modifier and Type	Method	Description
public void	<i>clearPendingRequests(ILogger, Context)</i> on page 413	Clears all the persisted requests from database.
public void	<i>enablePerformanceLogging()</i> on page 414	Enables performance logging for Core Services.
public IConnectivityParameters	<i>getConnectivityParameters()</i> on page 414	Returns the ConnectivityParameters object containing the settings used by the Request library.
public boolean	<i>isPerformanceLoggingEnabled()</i> on page 414	Returns whether the Performance Logging is enabled or not.
public void	<i>makeRequest(final IRequest)</i> on page 415	Puts a request object into the RequestManager object.
public void	<i>makeRequest(final IBundleRequest)</i> on page 415	Puts a bundle request object into the RequestManager object.

### *clearPendingRequests(ILogger, Context) method*

Clears all the persisted requests from database.

### Syntax

```
public void clearPendingRequests ( ILogger logger , Context
context )
```

### Parameters

- **logger** – Logger instance.
- **context** – Application context.

### Returns

None

```
RequestManager reqMan = new RequestManager(logger, pref, param, 1);
reqMan.clearPendingRequests(logger, context);
```

### *enablePerformanceLogging() method*

Enables performance logging for Core Services.

#### *Syntax*

```
public void enablePerformanceLogging ()
```

#### *Parameters*

- **None** –

#### *Returns*

None

### *getConnectivityParameters() method*

Returns the ConnectivityParameters object containing the settings used by the Request library.

#### *Syntax*

```
public IConnectivityParameters getConnectivityParameters ()
```

#### *Parameters*

- **None.** –

#### *Returns*

IConnectivityParameters Object containing the settings used by the Request library.

```
RequestManager reqMan = new RequestManager(logger, pref, param, 1);
```

```
IConnectivityParameters params = reqMan.getConnectivityParameters();
```

### *isPerformanceLoggingEnabled() method*

Returns whether the Performance Logging is enabled or not.

#### *Syntax*

```
public boolean isPerformanceLoggingEnabled ()
```

#### *Parameters*

- **None** –

#### *Returns*

boolean - True/False

*makeRequest(final IRequest) method*

Puts a request object into the RequestManager object.

*Syntax*

```
public void makeRequest ( final IRequest aRequest )
```

*Parameters*

- **aRequest** – The request.

*Returns*

None

```
RequestManager reqMan = new RequestManager(logger, pref, param, 1); BaseRequest
request = new BaseRequest(); reqMan.makeRequest(request);
```

*makeRequest(final IBundleRequest) method*

Puts a bundle request object into the RequestManager object.

*Syntax*

```
public void makeRequest ( final IBundleRequest aBundleRequest )
```

*Parameters*

- **aBundleRequest** – The request object.

*Returns*

None

```
RequestManager reqMan = new RequestManager(logger, pref, param, 1); BundleRequest
request = new BundleRequest(); reqMan.makeRequest(request);
```

*IRequestStateElement interface*

Consists of methods to store the information of an exception.

*Syntax*

```
public abstract interface IRequestStateElement
```

*Derived classes*

- *RequestStateElement* on page 1005

*Members*

All members of IRequestStateElement, including inherited members. **Variables**

Modifier and Type	Variable	Description
public static final int	<i>AUTHENTICATION_ERROR</i> on page 419	Authentication error.
public static final int	<i>CLIENT_ERROR</i> on page 420	Client error.
public static final int	<i>HTTP_ERROR</i> on page 420	Server response status > 302.
public static final int	<i>NETWORK_ERROR</i> on page 420	There was a network error during a read/write to/from stream.
public static final int	<i>NO_ERROR</i> on page 420	
public static final int	<i>PARSE_ERROR</i> on page 420	Problem with parsing the response xml.
public static final int	<i>REQUEST_ERROR</i> on page 420	Problem with parsing the request.

### Methods

Modifier and Type	Method	Description
public abstract int	<i>getErrorCode()</i> on page 417	Returns the error code.
public abstract Exception	<i>getException()</i> on page 417	Returns the exception if it is set.
public abstract HttpResponseMessage	<i>getHttpResponse()</i> on page 417	Returns the HttpResponseMessage.
public abstract int	<i>getHttpStatusCode()</i> on page 418	Returns the HTTP status if it is set.
public abstract void	<i>setErrorCode(final int)</i> on page 418	Sets the error code.
public abstract void	<i>setException(final Exception)</i> on page 418	Sets the exception.
public abstract void	<i>setHttpResponse(HttpResponse)</i> on page 419	Sets the HttpResponseMessage.
public abstract void	<i>setHttpStatusCode(final int)</i> on page 419	Sets the HTTP status.

### Usage

Whenever there is an exception in the network layer, or there is an exception during the data parsing, this is sent by the network layer to the registered classes.

*getErrorCode() method*

Returns the error code.

*Syntax*

```
public abstract int getErrorCode ()
```

*Parameters*

- **None** –

*Returns*

error code

RequestStateElement element; element.getErrorCode();

*Usage*

The error code can be any of the following:

- HTTP\_ERROR
- PARSE\_ERROR
- NETWORK\_ERROR
- AUTHENTICATION\_ERROR

*getException() method*

Returns the exception if it is set.

*Syntax*

```
public abstract Exception getException ()
```

*Parameters*

- **None** –

*Returns*

The exception stored in RequestStateElement.

RequestStateElement element; element.getException();

*getHttpResponse() method*

Returns the HttpResponse.

*Syntax*

```
public abstract HttpResponse getHttpResponse ()
```

### *Parameters*

- **None** –

### *Returns*

The `HttpResponse`

```
RequestStateElement element; element.getHttpResponse();
```

### *getHttpStatusCode() method*

Returns the HTTP status if it is set.

### *Syntax*

```
public abstract int getHttpStatusCode ()
```

### *Parameters*

- **None** –

### *Returns*

The HTTP status code, if available.

```
RequestStateElement element; int code =element.getHttpStatusCode();
```

### *Usage*

If the HTTP status is not set, the default value is -1.

### *setErrorCode(final int) method*

Sets the error code.

### *Syntax*

```
public abstract void setErrorCode ( final int code )
```

### *Parameters*

- **code** – Error code.

### *Returns*

None

```
RequestStateElement element; element.setErrorCode(0x06);
```

### *setException(final Exception) method*

Sets the exception.

### *Syntax*

```
public abstract void setException ( final Exception aException )
```

*Parameters*

- **aException** – the exception to be set.

*Returns*

None

```
RequestStateElement element; element.setException(new Exception());
```

*setHttpResponse(HttpResponse) method*

Sets the HttpResponse.

*Syntax*

```
public abstract void setHttpResponse ( HttpResponse aResponse )
```

*Parameters*

- **aResponse** – The HttpResponse

*Returns*

None

```
RequestStateElement element; HttpResponse httpResponse;
element.setHttpResponse(httpResponse);
```

*setHttpStatusCode(final int) method*

Sets the HTTP status.

*Syntax*

```
public abstract void setHttpStatusCode ( final int httpStatus )
```

*Parameters*

- **httpStatus** – Set the HTTP status.

*Returns*

None

```
RequestStateElement element; element.setHttpStatusCode(200);
```

*AUTHENTICATION\_ERROR variable*

Authentication error.

*Syntax*

```
public static final int AUTHENTICATION_ERROR
```

### *CLIENT\_ERROR variable*

Client error.

#### *Syntax*

```
public static final int CLIENT_ERROR
```

### *HTTP\_ERROR variable*

Server response status > 302.

#### *Syntax*

```
public static final int HTTP_ERROR
```

### *NETWORK\_ERROR variable*

There was a network error during a read/write to/from stream.

#### *Syntax*

```
public static final int NETWORK_ERROR
```

### *NO\_ERROR variable*

#### *Syntax*

```
public static final int NO_ERROR
```

### *PARSE\_ERROR variable*

Problem with parsing the response xml.

#### *Syntax*

```
public static final int PARSE_ERROR
```

### *REQUEST\_ERROR variable*

Problem with parsing the request.

#### *Syntax*

```
public static final int REQUEST_ERROR
```

### *IResponse interface*

Consists of interface for responses.

#### *Syntax*

```
public interface IResponse extends HttpResponseMessage
```



*Derived classes*

- *ResponseImpl* on page 1011

*Members*

All members of *IResponse*, including inherited members. **Methods**

Modifier and Type	Method	Description
public ArrayList< <i>HttpResponse</i> >	<i>getBatchResponse()</i> on page 421	Returns the list of responses from batch response.
public HashMap< <i>IRequest</i> , <i>HttpResponse</i> >	<i>getBatchResponseMap()</i> on page 421	Returns the mapping of requests with corresponding responses within a batch response.
public Map< String, String >	<i>getHeadersMap()</i> on page 422	Returns all the response headers as a HashMap containing header name and header value.

*Usage*

All response objects must implement this interface. The network layer uses this interface to interact with the response objects.

*getBatchResponse() method*

Returns the list of responses from batch response.

*Syntax*

```
public ArrayList< HttpResponse > getBatchResponse ()
```

*Parameters*

- **None.** –

*Returns*

List of responses.

```
Response res; ArrayList<HttpResponse> res = res.getBatchResponse();
```

*getBatchResponseMap() method*

Returns the mapping of requests with corresponding responses within a batch response.

*Syntax*

```
public HashMap< IRequest, HttpResponse > getBatchResponseMap  
()
```

## Parameters

- **None.** –

## Returns

Map of requests and responses.

Response res; `HashMap<IRequest, HttpResponse> res = res.getBatchResponseMap();`

## *getHeadersMap()* method

Returns all the response headers as a `HashMap` containing header name and header value.

## Syntax

```
public Map<String, String > getHeadersMap ()
```

## Parameters

- **None** –

## Returns

Response headers in the form of a `hashmap`.

Response res; `Map<String,string> headers = res.getHeadersMap();`

## *JSONParser* class

## Syntax

```
public class JSONParser
```

## Members

All members of `JSONParser`, including inherited members. **Variables**

Modifier and Type	Variable	Description
protected static String	<i>JSON_TAG_D</i> on page 425	
protected static String	<i>JSON_TAG_DEFERRED</i> on page 425	
protected static String	<i>JSON_TAG_DELTA</i> on page 425	
protected static String	<i>JSON_TAG_METADATA</i> on page 425	
protected static String	<i>JSON_TAG_RESULTS</i> on page 425	

Modifier and Type	Variable	Description
protected static String	<i>JSON_TAG_TYPE</i> on page 425	
protected static String	<i>JSON_TAG_URI</i> on page 426	

### Constructors

Modifier and Type	Constructor	Description
public	<i>JSONParser()</i> on page 423	

### Methods

Modifier and Type	Method	Description
protected List< IODataEntry >	<i>parseComplexEntry(String, String, IODataSchema, String)</i> on page 424	
protected List< IODataEntry >	<i>parseFunctionImportComplexType(String, String, IODataSchema, String)</i> on page 424	
protected List< IODataEntry >	<i>parseODataEntries(String, String, IODataSchema, JsonObject)</i> on page 424	
protected List< IODataEntry >	<i>parseODataEntry(String, String, IODataSchema)</i> on page 424	
protected IODataFeed	<i>parseODataFeed(String, String, IODataSchema)</i> on page 424	
protected IODataServiceDocument	<i>parseODataServiceDocument(String)</i> on page 425	
protected void	<i>populateODataEntry(ODataEntry, JsonObject)</i> on page 425	

### *JSONParser()* constructor

#### Syntax

```
public JSONParser ()
```

*parseComplexEntry(String, String, IODataSchema, String) method*

**Syntax**

```
protected List< IODataEntry > parseComplexEntry ( String  
complexEntryXml , String functionImport , IODataSchema schema , String  
returnType )
```

*parseFunctionImportComplexType(String, String, IODataSchema, String) method*

**Syntax**

```
protected List< IODataEntry > parseFunctionImportComplexType  
( String entryJson , String functionImport , IODataSchema schema , String  
returnType )
```

*parseODataEntries(String, String, IODataSchema, JsonObject) method*

**Syntax**

```
protected List< IODataEntry > parseODataEntries ( String  
entriesJson , String collectionId , IODataSchema schema , JsonObject  
parsedFeed ) throws ParseException
```

**Parameters**

- **entriesJson** –
- **collectionId** –
- **schema** –

**Exceptions**

- **ParseException class** –

*parseODataEntry(String, String, IODataSchema) method*

**Syntax**

```
protected List< IODataEntry > parseODataEntry ( String entryJson ,  
String collectionId , IODataSchema schema )
```

*parseODataFeed(String, String, IODataSchema) method*

**Syntax**

```
protected IODataFeed parseODataFeed ( String entriesJson , String  
collectionId , IODataSchema schema ) throws ParseException
```

*parseODataServiceDocument(String) method***Syntax**

```
protected IODataServiceDocument parseODataServiceDocument
( String serviceDocumentXML )
```

*populateODataEntry(ODataEntry, JsonObject) method***Syntax**

```
protected void populateODataEntry ( ODataEntry oDataEntry ,
JsonObject properties )
```

*JSON\_TAG\_D variable***Syntax**

```
protected static String JSON_TAG_D
```

*JSON\_TAG\_DEFERRED variable***Syntax**

```
protected static String JSON_TAG_DEFERRED
```

*JSON\_TAG\_DELTA variable***Syntax**

```
protected static String JSON_TAG_DELTA
```

*JSON\_TAG\_METADATA variable***Syntax**

```
protected static String JSON_TAG_METADATA
```

*JSON\_TAG\_RESULTS variable***Syntax**

```
protected static String JSON_TAG_RESULTS
```

*JSON\_TAG\_TYPE variable***Syntax**

```
protected static String JSON_TAG_TYPE
```

*JSON\_TAG\_URI variable**Syntax*

```
protected static String JSON_TAG_URI
```

*Logger class*

ILogger implementation.

*Syntax*

```
public class Logger extends ILogger, IPersistable
```

*Members*

All members of Logger, including inherited members. **Nested classes**

Modifier and Type	Class	Description
public class	<i>LogEntry</i> on page 430	A log entry.

**Variables**

Modifier and Type	Variable	Description
SimpleDateFormat	<i>dateFormat</i> on page 447	
public static int	<i>e2eStep</i> on page 447	
public static int	<i>passportTraceLevel</i> on page 447	

**Constructors**

Modifier and Type	Constructor	Description
public	<i>Logger()</i> on page 433	Constructs a new Logger, an ILogger implementation.

**Methods**

Modifier and Type	Method	Description
public boolean	<i>canLog()</i> on page 434	Implementer should override this method!
public void	<i>cleanUp(final int)</i> on page 434	Deletes all entries weaker than the threshold priority.

Modifier and Type	Method	Description
public void	<i>d(final String, final String)</i> on page 434	Sends a DEBUG log message.
public void	<i>d(final String, final String, final Throwable)</i> on page 434	Sends a DEBUG log message and logs the exception.
public void	<i>d(final String, final String, final String)</i> on page 435	Sends a DEBUG log message.
public void	<i>d(final String, final String, final Throwable, final String)</i> on page 435	Sends a DEBUG log message and logs the exception.
public void	<i>e(final String, final String)</i> on page 435	Sends an ERROR log message.
public void	<i>e(final String, final String, final Throwable)</i> on page 436	Sends an ERROR log message and logs the exception.
public void	<i>e(final String, final String, final String)</i> on page 436	Sends an ERROR log message.
public void	<i>e(final String, final String, final Throwable, final String)</i> on page 437	Sends an ERROR log message and logs the exception.
public Enumeration< LogEntry >	<i>getLogElements()</i> on page 437	
public Vector< LogEntry >	<i>getLogElements(final int)</i> on page 437	Get the log elements above (and including) the threshold.
public Vector< LogEntry >	<i>getLogElementsByCorrelationId(final String)</i> on page 437	
public Vector< LogEntry >	<i>getLogElementsByPID(final long)</i> on page 437	
public Vector< LogEntry >	<i>getLogElementsByTag(final String)</i> on page 438	
public Vector< LogEntry >	<i>getLogElementsByTimeStamp(final long, final long)</i> on page 438	
public final int	<i>getLogLevel()</i> on page 438	Returns the log level.

Modifier and Type	Method	Description
public void	<i>i</i> ( <i>final String</i> , <i>final String</i> ) on page 438	Sends an INFO log message.
public void	<i>i</i> ( <i>final String</i> , <i>final String</i> , <i>final Throwable</i> ) on page 438	Sends a INFO log message and logs the exception.
public void	<i>i</i> ( <i>final String</i> , <i>final String</i> , <i>final String</i> ) on page 439	Sends an INFO log message.
public void	<i>i</i> ( <i>final String</i> , <i>final String</i> , <i>final Throwable</i> , <i>final String</i> ) on page 439	Sends a INFO log message and logs the exception.
public void	<i>log</i> ( <i>final int</i> , <i>final String</i> , <i>final String</i> , <i>final Throwable</i> , <i>String</i> ) on page 440	Logs a log message.
public void	<i>logFullLocation</i> ( <i>boolean</i> ) on page 440	Setting to control log full location (class-path and method name).
public boolean	<i>logsFullLocation</i> () on page 440	To get the setting which controls log output should contain full location (class and method name) or not.
public boolean	<i>logsToAndroid</i> () on page 440	To get the setting which controls log output to Android log.
public void	<i>logToAndroid</i> ( <i>final boolean</i> ) on page 441	Setting to control log output to Android log.
public void	<i>p</i> ( <i>final String</i> , <i>final String</i> ) on page 441	Sends a PERFORMANCE log message.
public void	<i>p</i> ( <i>final String</i> , <i>final String</i> , <i>final String</i> ) on page 441	Sends a PERFORMANCE log message.
public void	<i>read</i> ( <i>BufferedReader</i> ) on page 441	
public void	<i>setHeaderData</i> ( <i>final String</i> , <i>final String</i> , <i>final String</i> , <i>final String</i> , <i>final String</i> , <i>final String</i> , <i>final String</i> , <i>final String</i> , <i>final String</i> ) on page 442	Sets the log header fields.



Modifier and Type	Method	Description
public void	<i>setLogLevel(final int)</i> on page 442	Set the log level.
public void	<i>terminate()</i> on page 443	Clears collected log data.
public synchronized String	<i>toString()</i> on page 443	Get log data.
public void	<i>v(final String, final String)</i> on page 443	Sends a VERBOSE log message.
public void	<i>v(final String, final String, final Throwable)</i> on page 443	Sends a VERBOSE log message and logs the exception.
public void	<i>v(final String, final String, final String)</i> on page 444	Sends a VERBOSE log message.
public void	<i>v(final String, final String, final Throwable, final String)</i> on page 444	Sends a VERBOSE log message and logs the exception.
public void	<i>w(final String, final Throwable)</i> on page 444	Sends a WARN log message and logs the exception.
public void	<i>w(final String, final String, final Throwable)</i> on page 445	Sends a WARN log message and logs the exception.
public void	<i>w(final String, final String)</i> on page 445	Sends a WARN log message.
public void	<i>w(final String, final Throwable, final String)</i> on page 446	Sends a WARN log message and logs the exception.
public void	<i>w(final String, final String, final String)</i> on page 446	Sends a WARN log message.
public void	<i>w(final String, final String, final Throwable, final String)</i> on page 446	Sends a WARN log message and logs the exception.
public void	<i>write(BufferedWriter)</i> on page 447	

#### Inherited members from ILogger

Modifier and Type	Member	Description
public static final int	<i>ASSERT</i> on page 138	Log level ASSERT.

Modifier and Type	Member	Description
public static final int	<i>DEBUG</i> on page 139	Log level DEBUG.
public static final int	<i>ERROR</i> on page 139	Log level ERROR.
public static final int	<i>FATAL</i> on page 139	Log level FATAL.
public static final int	<i>INFO</i> on page 139	Log level INFO.
public static final int	<i>PERFORMANCE</i> on page 139	Log level PERFORMANCE.
public static final int	<i>VERBOSE</i> on page 139	Log level VERBOSE.
public static final int	<i>WARN</i> on page 139	Log level WARN.

### *Logger.LogEntry* class

A log entry.

#### Syntax

```
public class LogEntry
```

#### Members

All members of LogEntry, including inherited members. **Variables**

Modifier and Type	Variable	Description
public String	<i>caller</i> on page 433	
public Throwable	<i>ex</i> on page 433	
public String	<i>message</i> on page 433	
public int	<i>PID</i> on page 433	
public int	<i>priority</i> on page 433	
public String	<i>tag</i> on page 433	
public long	<i>when</i> on page 433	

#### Constructors

Modifier and Type	Constructor	Description
public	<i>LogEntry</i> (final int, final String, final String, final Throwable, final String, final int) on page 431	

Modifier and Type	Constructor	Description
public	<i>LogEntry()</i> on page 431	

### Methods

Modifier and Type	Method	Description
public LogEntry	<i>setCaller(String)</i> on page 431	
public LogEntry	<i>setMessage(final String)</i> on page 432	
public LogEntry	<i>setPID(int)</i> on page 432	
public LogEntry	<i>setPriority(int)</i> on page 432	
public LogEntry	<i>setPriority(String)</i> on page 432	
public LogEntry	<i>setTag(final String)</i> on page 432	
public LogEntry	<i>setThrowable(Throwable)</i> on page 432	
public LogEntry	<i>setWhen(long)</i> on page 432	
public String	<i>toString()</i> on page 432	

*LogEntry(final int, final String, final String, final Throwable, final String, final int)*  
*constructor*

#### Syntax

```
public LogEntry ( final int priority , final String tag , final
String message , final Throwable tr , final String location , final
int pid )
```

*LogEntry()* constructor

#### Syntax

```
public LogEntry ()
```

*setCaller(String)* method

#### Syntax

```
public LogEntry setCaller ( String caller )
```

*setMessage(final String) method*

**Syntax**

```
public LogEntry setMessage ( final String message )
```

*setPID(int) method*

**Syntax**

```
public LogEntry setPID ( int pID )
```

*setPriority(int) method*

**Syntax**

```
public LogEntry setPriority ( int priority )
```

*setPriority(String) method*

**Syntax**

```
public LogEntry setPriority ( String logLevel )
```

*setTag(final String) method*

**Syntax**

```
public LogEntry setTag ( final String tag )
```

*setThrowable(Throwable) method*

**Syntax**

```
public LogEntry setThrowable ( Throwable ex )
```

*setWhen(long) method*

**Syntax**

```
public LogEntry setWhen ( long when )
```

*toString() method*

**Syntax**

```
public String toString ( )
```

*caller variable***Syntax**

```
public String caller
```

*ex variable***Syntax**

```
public Throwable ex
```

*message variable***Syntax**

```
public String message
```

*PID variable***Syntax**

```
public int PID
```

*priority variable***Syntax**

```
public int priority
```

*tag variable***Syntax**

```
public String tag
```

*when variable***Syntax**

```
public long when
```

*Logger() constructor*

Constructs a new Logger, an ILogger implementation.

**Syntax**

```
public Logger ()
```

### *canLog() method*

Implementer should override this method!

### *Syntax*

```
public boolean canLog ()
```

### *Returns*

State of ability to log.

### *cleanUp(final int) method*

Deletes all entries weaker than the threshold priority.

### *Syntax*

```
public void cleanUp ( final int threshold )
```

### *d(final String, final String) method*

Sends a DEBUG log message.

### *Syntax*

```
public void d ( final String tag , final String msg )
```

### *Parameters*

- **tag** – Used to identify the source of a log message. It usually identifies the class or activity where the log call occurs.
- **msg** – The message you would like to be logged.

### *Usage*

Logger implementation is able to identify the source of the log message at the price of performance penalty. See `Logger#d(String,String,String)`

### *d(final String, final String, final Throwable) method*

Sends a DEBUG log message and logs the exception.

### *Syntax*

```
public void d ( final String tag , final String msg , final  
Throwable tr )
```

### *Parameters*

- **tag** – Used to identify the source of a log message. It usually identifies the class or activity where the log call occurs.
- **msg** – The message you would like to be logged.

- **tr** – An exception to log

### *Usage*

Logger implementation is able to identify the source of the log message at the price of performance penalty. See `Logger#d(String,String,Throwable,String)`

### *d(final String, final String, final String) method*

Sends a DEBUG log message.

### *Syntax*

```
public void d ( final String tag , final String msg , final String location )
```

### *Parameters*

- **tag** – Used to identify the source of a log message. It usually identifies the class or activity where the log call occurs.
- **msg** – The message you would like to be logged.
- **location** – The line-level location of the log source (full class name of the class).

### *d(final String, final String, final Throwable, final String) method*

Sends a DEBUG log message and logs the exception.

### *Syntax*

```
public void d ( final String tag , final String msg , final Throwable tr , final String location )
```

### *Parameters*

- **tag** – Used to identify the source of a log message. It usually identifies the class or activity where the log call occurs.
- **msg** – The message you would like to be logged.
- **tr** – An exception to log
- **location** – The line-level location of the log source (full class name of the class).

### *e(final String, final String) method*

Sends an ERROR log message.

### *Syntax*

```
public void e ( final String tag , final String msg )
```

### *Parameters*

- **tag** – Used to identify the source of a log message. It usually identifies the class or activity where the log call occurs.
- **msg** – The message you would like to be logged.

### *Usage*

Logger implementation is able to identify the source of the log message at the price of performance penalty. See `Logger#e(String,String,String)`

### *e(final String, final String, final Throwable) method*

Sends an ERROR log message and logs the exception.

### *Syntax*

```
public void e ( final String tag , final String msg , final
Throwable tr )
```

### *Parameters*

- **tag** – Used to identify the source of a log message. It usually identifies the class or activity where the log call occurs.
- **msg** – The message you would like to be logged.
- **tr** – An exception to log

### *Usage*

Logger implementation is able to identify the source of the log message at the price of performance penalty. See `Logger#e(String,String,Throwable,String)`

### *e(final String, final String, final String) method*

Sends an ERROR log message.

### *Syntax*

```
public void e ( final String tag , final String msg , final String
location )
```

### *Parameters*

- **tag** – Used to identify the source of a log message. It usually identifies the class or activity where the log call occurs.
- **msg** – The message you would like to be logged.
- **location** – The line-level location of the log source (full class name of the class).



*e(final String, final String, final Throwable, final String) method*

Sends an ERROR log message and logs the exception.

*Syntax*

```
public void e ( final String tag , final String msg , final
Throwable tr , final String location )
```

*Parameters*

- **tag** – Used to identify the source of a log message. It usually identifies the class or activity where the log call occurs.
- **msg** – The message you would like to be logged.
- **tr** – An exception to log
- **location** – The line-level location of the log source (full class name of the class).

*getLogElements() method**Syntax*

```
public Enumeration< LogEntry > getLogElements ()
```

*getLogElements(final int) method*

Get the log elements above (and including) the threshold.

*Syntax*

```
public Vector< LogEntry > getLogElements ( final int threshold )
```

*Parameters*

- **threshold** – the desired level (inclusively)

*Returns*

log elements as Vector

*getLogElementsByCorrelationId(final String) method**Syntax*

```
public Vector< LogEntry > getLogElementsByCorrelationId
( final String correlationId )
```

*getLogElementsByPID(final long) method**Syntax*

```
public Vector< LogEntry > getLogElementsByPID ( final long
PID )
```

### *getLogElementsByTag(final String) method*

#### *Syntax*

```
public Vector< LogEntry > getLogElementsByTag ( final String  
aTag )
```

### *getLogElementsByTimeStamp(final long, final long) method*

#### *Syntax*

```
public Vector< LogEntry > getLogElementsByTimeStamp ( final  
long start , final long end )
```

### *getLogLevel() method*

Returns the log level.

#### *Syntax*

```
public final int getLogLevel ()
```

#### *Returns*

the log level.

### *i(final String, final String) method*

Sends an INFO log message.

#### *Syntax*

```
public void i ( final String tag , final String msg )
```

#### *Parameters*

- **tag** – Used to identify the source of a log message. It usually identifies the class or activity where the log call occurs.
- **msg** – The message you would like to be logged.

#### *Usage*

Logger implementation is able to identify the source of the log message at the price of performance penalty. See `Logger#i(String,String,String)`

### *i(final String, final String, final Throwable) method*

Sends a INFO log message and logs the exception.

#### *Syntax*

```
public void i ( final String tag , final String msg , final  
Throwable tr )
```

### Parameters

- **tag** – Used to identify the source of a log message. It usually identifies the class or activity where the log call occurs.
- **msg** – The message you would like to be logged.
- **tr** – An exception to log

### Usage

Logger implementation is able to identify the source of the log message at the price of performance penalty. See `Logger#i(String,String,Throwable,String)`

### *i(final String, final String, final String) method*

Sends an INFO log message.

### Syntax

```
public void i ( final String tag , final String msg , final String location )
```

### Parameters

- **tag** – Used to identify the source of a log message. It usually identifies the class or activity where the log call occurs.
- **msg** – The message you would like to be logged.
- **location** – The line-level location of the log source (full class name of the class).

### *i(final String, final String, final Throwable, final String) method*

Sends a INFO log message and logs the exception.

### Syntax

```
public void i ( final String tag , final String msg , final Throwable tr , final String location )
```

### Parameters

- **tag** – Used to identify the source of a log message. It usually identifies the class or activity where the log call occurs.
- **msg** – The message you would like to be logged.
- **tr** – An exception to log
- **location** – The line-level location of the log source (full class name of the class).

### *log(final int, final String, final String, final Throwable, String) method*

Logs a log message.

#### *Syntax*

```
public void log (final int level, final String tag, final String msg, final Throwable tr, String location)
```

#### *Parameters*

- **level** – the log level
- **tag** – Used to identify the source of a log message. It usually identifies the class or activity where the log call occurs.
- **msg** – The message you would like to be logged.
- **tr** – An exception to log
- **location** – The line-level location of the log source (full class name of the class).

### *logFullLocation(boolean) method*

Setting to control log full location (class-path and method name).

#### *Syntax*

```
public void logFullLocation (boolean logFullLocation)
```

#### *Parameters*

- **logFullLocation** – log i or do not log it.

### *logsFullLocation() method*

To get the setting which controls log output should contain full location (class and method name) or not.

#### *Syntax*

```
public boolean logsFullLocation ()
```

#### *Returns*

logging with full location or not.

### *logsToAndroid() method*

To get the setting which controls log output to Android log.

#### *Syntax*

```
public boolean logsToAndroid ()
```

#### *Returns*

logging to Android log or not logging.

*logToAndroid(final boolean) method*

Setting to control log output to Android log.

*Syntax*

```
public void logToAndroid ( final boolean doIt )
```

*Parameters*

- **doIt** – log or do not log.

*p(final String, final String) method*

Sends a PERFORMANCE log message.

*Syntax*

```
public void p ( final String tag , final String msg )
```

*Parameters*

- **tag** – Used to identify the source of a log message. It usually identifies the class or activity where the log call occurs.
- **msg** – The message you would like to be logged.

*Usage*

Logger implementation is able to identify the source of the log message at the price of performance penalty. See `Logger#p(String,String,String)`

*p(final String, final String, final String) method*

Sends a PERFORMANCE log message.

*Syntax*

```
public void p ( final String tag , final String msg , final String location )
```

*Parameters*

- **tag** – Used to identify the source of a log message. It usually identifies the class or activity where the log call occurs.
- **msg** – The message you would like to be logged.
- **location** – The line-level location of the log source (full class name of the class).

*read(BufferedReader) method**Syntax*

```
public void read ( BufferedReader reader ) throws  
PersistenceException
```

### Parameters

- **reader** – The buffered reader to read the object from.

### Exceptions

- **PersistenceException** – if data can not be loaded from the reader.

*setHeaderData(final String, final String, final String, final String, final String, final String, final String, final String, final String) method*

Sets the log header fields.

### Syntax

```
public void setHeaderData ( final String osVersion , final String appName , final String appVersion , final String thirdParty , final String hwVersion , final String user , final String timezone , final String language , final String baseUrl )
```

### Parameters

- **osVersion** – the Operating System version
- **appName** – the Application name
- **appVersion** – the version of the Application
- **thirdParty** – 3rd-party product versions (e.g. SQLite)
- **hwVersion** – the Hardware version
- **user** – the user name used in Connectivity (Connectivity sets it)
- **timezone** – the time zone
- **language** – the language used in connectivity (Connectivity sets it)
- **baseUrl** – the URL used in Connectivity (connectivity sets it)

### Usage

A header field is set only if it is not *null*. Also, it is set only once; subsequent calls will not overwrite the first write.

*setLogLevel(final int) method*

Set the log level.

### Syntax

```
public void setLogLevel ( final int level )
```

### Parameters

- **level** – the log level

*terminate() method*

Clears collected log data.

*Syntax*

```
public void terminate ()
```

*toString() method*

Get log data.

*Syntax*

```
public synchronized String toString ()
```

*Returns*

log data as string

*v(final String, final String) method*

Sends a VERBOSE log message.

*Syntax*

```
public void v ( final String tag , final String msg )
```

*Parameters*

- **tag** – Used to identify the source of a log message. It usually identifies the class or activity where the log call occurs.
- **msg** – The message you would like to be logged.

*Usage*

Logger implementation is able to identify the source of the log message at the price of performance penalty. See `Logger#v(String,String,String)`

*v(final String, final String, final Throwable) method*

Sends a VERBOSE log message and logs the exception.

*Syntax*

```
public void v ( final String tag , final String msg , final
Throwable tr )
```

*Parameters*

- **tag** – Used to identify the source of a log message. It usually identifies the class or activity where the log call occurs.
- **msg** – The message you would like to be logged.

- **tr** – An exception to log

### *Usage*

Logger implementation is able to identify the source of the log message at the price of performance penalty. See `Logger#v(String,String,Throwable,String)`

### *v(final String, final String, final String) method*

Sends a VERBOSE log message.

### *Syntax*

```
public void v ( final String tag , final String msg , final String location )
```

### *Parameters*

- **tag** – Used to identify the source of a log message. It usually identifies the class or activity where the log call occurs.
- **msg** – The message you would like to be logged.
- **location** – The line-level location of the log source (full class name of the class).

### *v(final String, final String, final Throwable, final String) method*

Sends a VERBOSE log message and logs the exception.

### *Syntax*

```
public void v ( final String tag , final String msg , final Throwable tr , final String location )
```

### *Parameters*

- **tag** – Used to identify the source of a log message. It usually identifies the class or activity where the log call occurs.
- **msg** – The message you would like to be logged.
- **tr** – An exception to log
- **location** – The line-level location of the log source (full class name of the class).

### *w(final String, final Throwable) method*

Sends a WARN log message and logs the exception.

### *Syntax*

```
public void w ( final String tag , final Throwable tr )
```



### Parameters

- **tag** – Used to identify the source of a log message. It usually identifies the class or activity where the log call occurs.
- **tr** – An exception to log

### Usage

Logger implementation is able to identify the source of the log message at the price of performance penalty. See `Logger#w(String,Throwable,String)`

### *w(final String, final String, final Throwable) method*

Sends a WARN log message and logs the exception.

### Syntax

```
public void w ( final String tag , final String msg , final
Throwable tr )
```

### Parameters

- **tag** – Used to identify the source of a log message. It usually identifies the class or activity where the log call occurs.
- **msg** – The message you would like to be logged.
- **tr** – An exception to log

### Usage

Logger implementation is able to identify the source of the log message at the price of performance penalty. See `Logger#w(String,String,Throwable,String)`

### *w(final String, final String) method*

Sends a WARN log message.

### Syntax

```
public void w ( final String tag , final String msg )
```

### Parameters

- **tag** – Used to identify the source of a log message. It usually identifies the class or activity where the log call occurs.
- **msg** – The message you would like to be logged.

### Usage

Logger implementation is able to identify the source of the log message at the price of performance penalty. See `Logger#w(String,String,String)`

*w(final String, final Throwable, final String) method*

Sends a WARN log message and logs the exception.

### Syntax

```
public void w ( final String tag , final Throwable tr , final String location )
```

### Parameters

- **tag** – Used to identify the source of a log message. It usually identifies the class or activity where the log call occurs.
- **tr** – An exception to log
- **location** – The line-level location of the log source (full class name of the class).

*w(final String, final String, final String) method*

Sends a WARN log message.

### Syntax

```
public void w ( final String tag , final String msg , final String location )
```

### Parameters

- **tag** – Used to identify the source of a log message. It usually identifies the class or activity where the log call occurs.
- **msg** – The message you would like to be logged.
- **location** – The line-level location of the log source (full class name of the class).

*w(final String, final String, final Throwable, final String) method*

Sends a WARN log message and logs the exception.

### Syntax

```
public void w ( final String tag , final String msg , final Throwable tr , final String location )
```

### Parameters

- **tag** – Used to identify the source of a log message. It usually identifies the class or activity where the log call occurs.
- **msg** – The message you would like to be logged.
- **tr** – An exception to log
- **location** – The line-level location of the log source (full class name of the class).

*write(BufferedWriter) method**Syntax*

```
public void write (BufferedWriter writer) throws
PersistenceException
```

*Parameters*

- **writer** – The buffered writer that object data needs to be written into.

*Exceptions*

- **PersistenceException** – if data can not be written into the writer

*dateFormat variable**Syntax*

```
SimpleDateFormat dateFormat
```

*e2eStep variable**Syntax*

```
public static int e2eStep
```

*passportTraceLevel variable**Syntax*

```
public static int passportTraceLevel
```

*ODataAssociation class**Syntax*

```
public class ODataAssociation extends ParserDocument,
IODataAssociation
```

*Derived classes*

- *ODataAssociationSet* on page 474

*Members*

All members of ODataAssociation, including inherited members. **Nested classes**

Modifier and Type	Class	Description
public class	<i>ODataAssociationEnd</i> on page 462	

### Constructors

Modifier and Type	Constructor	Description
public	<i>ODataAssociation()</i> on page 472	
public	<i>ODataAssociation(ParserDocument)</i> on page 473	
protected	<i>ODataAssociation(int[], String[])</i> on page 473	
protected	<i>ODataAssociation(String)</i> on page 473	

### Methods

Modifier and Type	Method	Description
public IODataAssociationEnd	<i>getAssociationEnd(String)</i> on page 473	Returns the value of the appropriate Association End OData element with the given role.
public List< IODataAssociationEnd >	<i>getAssociationEnds()</i> on page 473	Returns list of the appropriate OData elements.
public String	<i>getName()</i> on page 473	Returns the value of the appropriate OData attribute.

### Inherited members from ParserDocument

Modifier and Type	Member	Description
static transient final String	<i>ANY_STRING</i> on page 963	
static transient final int	<i>ATTRIBUTE_ID</i> on page 963	
static transient final String	<i>ATTRIBUTE_STRING</i> on page 963	
public ParserDocument	<i>clone()</i> on page 945	Creates a copy of this object.
protected Map< String, String >	<i>extensions</i> on page 963	

Modifier and Type	Member	Description
public String	<i>getAttribute(String...)</i> on page 945	Returns the value of the first attribute with the given route.
public List< String >	<i>getAttributes(String...)</i> on page 946	Returns all the values of attributes with the given route.
protected int	<i>getAttributesEndPosition(int[], int, int)</i> on page 946	
public Map< String, String >	<i>getChildAttributeMap(String...)</i> on page 946	Returns all the name-value pairs of attributes contained by the element with the given route.
public List< String >	<i>getChildAttributes(String...)</i> on page 947	Returns all the values of attributes contained by the element with the given route.
public List< IParserDocument >	<i>getChildDocuments(String...)</i> on page 947	Returns the elements contained by the element with the given route.
public List< IParserDocument >	<i>getChildDocumentsWithAttribute(String, String, String...)</i> on page 947	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public List< IParserDocument >	<i>getChildDocumentsWithAttribute(String, String, boolean, String...)</i> on page 948	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public ParserDocument	<i>getDocument(String...)</i> on page 948	Returns the first element with the given route.
protected List< int[] >	<i>getDocumentPositions(String[], int, boolean, boolean)</i> on page 949	
public List< IParserDocument >	<i>getDocuments(String...)</i> on page 949	Returns all the elements with the given route.
public List< IParserDocument >	<i>getDocumentsWithAttribute(String, String, String...)</i> on page 949	Returns the elements with the given route that contains the given attribute with the given value.

Modifier and Type	Member	Description
public List< IParserDocument >	<i>getDocumentsWithAttribute(String, String, boolean, String...)</i> on page 950	Returns the elements with the given route that contains the given attribute with the given value.
public IParserDocument	<i>getDocumentWithAttribute(String, String, String...)</i> on page 950	Returns the first element with the given route that contains the given attribute with the given value.
public IParserDocument	<i>getDocumentWithAttribute(String, String, boolean, String...)</i> on page 951	Returns the first element with the given route that contains the given attribute with the given value.
public String	<i>getElementName()</i> on page 951	Returns The name of the root element of this document.
public String	<i>getExtension(String)</i> on page 952	
public String	<i>getFunctionImportComplexProperty Value(String...)</i> on page 952	
static int	<i>getNameId(String, boolean, boolean)</i> on page 952	
public static List< String >	<i>getNameMap()</i> on page 952	
public static String	<i>getPrefix(String)</i> on page 952	
public String	<i>getPrefixForUri(String)</i> on page 952	Returns the appropriate namespace prefix for the given XML name-space URI.
public static Map< String, String >	<i>getPrefixMapping()</i> on page 953	
protected List< Integer >	<i>getStringPositions(String[], int, boolean, boolean)</i> on page 953	
public String[]	<i>getStrings()</i> on page 953	Returns all the string values contained by this document.
public String	<i>getValue(String...)</i> on page 953	Returns the value of the first element with the given route.

Modifier and Type	Member	Description
public List< String >	<i>getValues(String...)</i> on page 953	Returns all the values of elements with the given route.
protected int[]	<i>insertRoutePositions(int[], int, int[])</i> on page 954	
protected void	<i>insertRoutesPositions(int, int[])</i> on page 954	
protected void	<i>insertStringsPositions(int, String[])</i> on page 954	
protected String[]	<i>insertStringsPositions(String[], int, String[])</i> on page 954	
boolean	<i>isComplexEntity</i> on page 963	
boolean	<i>isJson</i> on page 963	
protected boolean	<i>isMatched(String, String)</i> on page 954	
static List< String >	<i>nameMap</i> on page 963	
	<i>ParserDocument()</i> on page 945	
	<i>ParserDocument(boolean)</i> on page 945	
public	<i>ParserDocument(String)</i> on page 944	
public	<i>ParserDocument(ParserDocument)</i> on page 944	
protected	<i>ParserDocument(int[], String[])</i> on page 945	
protected	<i>ParserDocument(String, boolean)</i> on page 945	
static Map< String, String >	<i>prefixMapping</i> on page 964	

Modifier and Type	Member	Description
public void	<i>putAttribute(String, String...)</i> on page 955	Sets the value of the attribute with the given route. If attribute does not exist it will be created as well as all other non existing elements in the route.
public void	<i>putDocument(IParserDocument, String...)</i> on page 955	Insert the document under the element with the given route. Inserted document will be placed before already existing documents with the same route name under. All missing elements from the route will be created.
public void	<i>putExtension(String, String)</i> on page 955	
protected void	<i>putString(int, String, int, String...)</i> on page 956	
public void	<i>putValue(String, String...)</i> on page 956	Sets the value of the first element with the given route.
public void	<i>read(BufferedReader)</i> on page 956	
public void	<i>readExternal(ObjectInput)</i> on page 956	
public static void	<i>readNameMap(BufferedReader)</i> on page 957	
public boolean	<i>removeAttribute(String...)</i> on page 957	Removes first element with the given route.
public boolean	<i>removeAttributes(String...)</i> on page 957	Removes all the attribute with the given route.
public boolean	<i>removeDocument(String...)</i> on page 957	Removes first element with the given route. For removing multiple element use <code>setDocuments</code> with null arguments.
public void	<i>removeExtension(String)</i> on page 958	



Modifier and Type	Member	Description
protected void	<i>removeRoutesPositions(int, int)</i> on page 958	
protected int[]	<i>removeRoutesPositions(int[], int, int)</i> on page 958	
protected boolean	<i>removeString(String...)</i> on page 958	
protected boolean	<i>removeStrings(String...)</i> on page 958	
protected void	<i>removeStringsPositions(int, int)</i> on page 958	
protected String[]	<i>removeStringsPositions(String[], int, int)</i> on page 958	
protected int	<i>replaceRoutesPositions(int, int, int[])</i> on page 959	
protected int[]	<i>replaceRoutesPositions(int[], int, int, int[])</i> on page 959	
protected int	<i>replaceStringsPositions(int, int, String[])</i> on page 959	
protected String[]	<i>replaceStringsPositions(String[], int, int, String[])</i> on page 959	
public static String	<i>resolveUrl(String, String)</i> on page 959	
protected int[]	<i>routes</i> on page 964	
public void	<i>setAttribute(String, String...)</i> on page 959	

Modifier and Type	Member	Description
public void	<i>setAttributes(List&lt; String &gt;, String...)</i> on page 960	Sets all the values of the attributes with the given route Values will be paired to attributes in order Attributes with greater or equals index than size of new values will be untouched Attributes paired with null values will be removed.
public boolean	<i>setDocument(IParserDocument, String...)</i> on page 960	
public void	<i>setDocuments(List&lt; IParserDocument &gt;, String...)</i> on page 960	Replaces all the elements with the given route Documents will be paired to elements in order Elements with greater or equals index than size of new elements will be untouched Element paired with null will be removed.
public void	<i>setElementName(String, String...)</i> on page 961	Sets the name of the root element with the given route Use empty route for setting root name of this document.
public static void	<i>setNameMap(List&lt; String &gt;)</i> on page 961	
public static void	<i>setPrefixMapping(Map&lt; String, String &gt;)</i> on page 961	
protected void	<i>setString(String, String...)</i> on page 961	
protected void	<i>setStrings(List&lt; String &gt;, String...)</i> on page 961	
public void	<i>setValue(String, String...)</i> on page 961	

Modifier and Type	Member	Description
public void	<i>setValues(List&lt;String&gt;, String...)</i> on page 962	Sets all the values of the elements with the given route. Values will be paired to elements in order. Elements with greater or equals index than size of new values will be untouched. Null values will be treated as empty strings.
protected String[]	<i>strings</i> on page 964	
public String	<i>toXMLString()</i> on page 962	Returns the XML string representation of this object.
protected static final String	<i>URL_PROTOCOL_PREFIX</i> on page 964	
static transient final int	<i>VALUE_ID</i> on page 964	
static transient final String	<i>VALUE_STRING</i> on page 964	
public void	<i>write(BufferedWriter)</i> on page 962	
public void	<i>writeExternal(ObjectOutput)</i> on page 962	
public static void	<i>writeNameMap(BufferedWriter)</i> on page 963	

#### Inherited members from `IParserDocument`

Modifier and Type	Member	Description
public static final String	<i>ATTRIBUTE_ETAG</i> on page 386	Name of the appropriate OData element.
public static final String	<i>ATTRIBUTE_VALUEPREFIX_EDMTYPE</i> on page 386	Value prefix for EDM Type type values.
public static Map<String, String>	<i>DEFAULT_PREFIX_MAPPING</i> on page 386	The default XML Namespace-to-Prefix mapping used for building XMLS.

Modifier and Type	Member	Description
public static final String[]	<i>EDMDATETIME_PATTERNS</i> on page 386	Possible EDM DateTime patterns Note: Some pattern are not supported by OData specification but still widely used.
public static final String[]	<i>EDMDATETIMEOFFSET_PATTERNS</i> on page 386	Possible EDM TimeOffset patterns Note: Some pattern are not supported by OData specification but still widely used.
public static final String	<i>EDMTIME_PATTERN</i> on page 386	EDM Time pattern.
public static String	<i>ELEMENT_FEED</i> on page 386	Name of the appropriate OData element.
public static final String	<i>ELEMENT_ID</i> on page 387	Name of the appropriate OData element.
public static final String	<i>ROOT_DOCUMENT_NAME</i> on page 387	The default root element name for a new document.
public static final String	<i>XMLNS_APPLICATION_URI</i> on page 387	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/08/dataservices">http://schemas.microsoft.com/ado/2007/08/dataservices</a> .
public static final String	<i>XMLNS_ATOM_URI</i> on page 387	Constant for XMLNS URI: <a href="http://www.w3.org/2005/Atom">http://www.w3.org/2005/Atom</a> .
public static final String	<i>XMLNS_DATASERVICES_URI</i> on page 387	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/08/dataservices">http://schemas.microsoft.com/ado/2007/08/dataservices</a> .
public static final String	<i>XMLNS_EDM_URI</i> on page 387	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/05/edm">http://schemas.microsoft.com/ado/2007/05/edm</a> .
public static final String	<i>XMLNS_EDMX_URI</i> on page 387	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/06/edmx">http://schemas.microsoft.com/ado/2007/06/edmx</a> .
public static final String	<i>XMLNS_GENERICPLAYER_URI</i> on page 388	Constant for XMLNS URI: <a href="http://www.sap.com/Protocols/SAPData/GenericPlayer">http://www.sap.com/Protocols/SAPData/GenericPlayer</a> .

Modifier and Type	Member	Description
public static final String	<i>XMLNS_METADATA_URI</i> on page 388	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/08/dataservices/metadata">http://schemas.microsoft.com/ado/2007/08/dataservices/metadata</a> .
public static final String	<i>XMLNS_SAP_URI</i> on page 388	Constant for XMLNS URI: <a href="http://www.sap.com/Protocols/SAPData">http://www.sap.com/Protocols/SAPData</a> .

**Inherited members from IPersistable**

Modifier and Type	Member	Description
public void	<i>read(BufferedReader)</i> on page 389	
public void	<i>write(BufferedWriter)</i> on page 389	

**Inherited members from IODataAssociation**

Modifier and Type	Member	Description
public static final String	<i>ATTRIBUTE_ASSOCIATION</i> on page 151	Name of the appropriate OData attribute.
public static final String	<i>ATTRIBUTE_NAME</i> on page 151	Name of the appropriate OData attribute.
public static final String	<i>ELEMENT_ASSOCIATION</i> on page 151	Name of the appropriate OData element.
public static final String	<i>ELEMENT_ASSOCIATIONEND</i> on page 151	Name of the appropriate OData element.

**Inherited members from IParserDocument**

Modifier and Type	Member	Description
public static final String	<i>ATTRIBUTE_ETAG</i> on page 386	Name of the appropriate OData element.
public static final String	<i>ATTRIBUTE_VALUEPREFIX_EDMTYPE</i> on page 386	Value prefix for EDM Type type values.
public abstract IParserDocument	<i>clone()</i> on page 374	Creates a copy of this object.

Modifier and Type	Member	Description
public static Map< String, String >	<i>DEFAULT_PREFIXMAP-PING</i> on page 386	The default XML Namespace-to-Prefix mapping used for building XMLS.
public static final String[]	<i>EDMDATETIME_PATTERNS</i> on page 386	Possible EDM DateTime patterns Note: Some pattern are not supported by OData specification but still widely used.
public static final String[]	<i>EDMDATETIMEOFFSET_PATTERNS</i> on page 386	Possible EDM TimeOffset patterns Note: Some pattern are not supported by OData specification but still widely used.
public static final String	<i>EDMTIME_PATTERN</i> on page 386	EDM Time pattern.
public static String	<i>ELEMENT_FEED</i> on page 386	Name of the appropriate OData element.
public static final String	<i>ELEMENT_ID</i> on page 387	Name of the appropriate OData element.
public abstract String	<i>getAttribute(String...)</i> on page 374	Returns the value of the first attribute with the given route.
public abstract List< String >	<i>getAttributes(String...)</i> on page 374	Returns all the values of attributes with the given route.
public abstract Map< String, String >	<i>getChildAttribute-Map(String...)</i> on page 375	Returns all the name-value pairs of attributes contained by the element with the given route.
public abstract List< String >	<i>getChildAttributes(String...)</i> on page 375	Returns all the values of attributes contained by the element with the given route.
public abstract List< IParseDocument >	<i>getChildDocuments(String...)</i> on page 375	Returns the elements contained by the element with the given route.
public abstract List< IParseDocument >	<i>getChildDocumentsWithAttribute(String, String, String...)</i> on page 376	Returns the elements contained by the element with the given route and having the given attribute with the given value.

Modifier and Type	Member	Description
public abstract List<IParserDocument >	<i>getChildDocumentsWithAttribute(String, String, boolean, String...)</i> on page 376	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public abstract IParserDocument	<i>getDocument(String...)</i> on page 377	Returns the first element with the given route.
public abstract List<IParserDocument >	<i>getDocuments(String...)</i> on page 377	Returns all the elements with the given route.
public abstract List<IParserDocument >	<i>getDocumentsWithAttribute(String, String, String...)</i> on page 378	Returns the elements with the given route that contains the given attribute with the given value.
public abstract List<IParserDocument >	<i>getDocumentsWithAttribute(String, String, boolean, String...)</i> on page 378	Returns the elements with the given route that contains the given attribute with the given value.
public abstract IParserDocument	<i>getDocumentWithAttribute(String, String, String...)</i> on page 379	Returns the first element with the given route that contains the given attribute with the given value.
public abstract IParserDocument	<i>getDocumentWithAttribute(String, String, boolean, String...)</i> on page 379	Returns the first element with the given route that contains the given attribute with the given value.
public abstract String	<i>getElementName()</i> on page 380	Returns The name of the root element of this document.
public abstract String	<i>getFunctionImportComplexProperty Value(String...)</i> on page 380	
public abstract String	<i>getPrefixForUri(String)</i> on page 380	Returns the appropriate namespace prefix for the given XML name-space URI.
public abstract String[]	<i>getStrings()</i> on page 381	Returns all the string values contained by this document.

Modifier and Type	Member	Description
public abstract String	<i>getValue(String...)</i> on page 381	Returns the value of the first element with the given route.
public abstract List< String >	<i>getValues(String...)</i> on page 381	Returns all the values of elements with the given route.
public abstract void	<i>putAttribute(String, String...)</i> on page 382	Sets the value of the attribute with the given route If attribute does not exist it will be created as well as all other non existing elements in the route.
public abstract void	<i>putDocument(IParserDocument, String...)</i> on page 382	Insert the document under the element with the given route inserted document will be placed before already existing documents with the same route name under All missing elements from the route will be created.
public abstract void	<i>putValue(String, String...)</i> on page 382	Sets the value of the first element with the given route.
public abstract boolean	<i>removeAttribute(String...)</i> on page 383	Removes first element with the given route.
public abstract boolean	<i>removeAttributes(String...)</i> on page 383	Removes all the attribute with the given route.
public abstract boolean	<i>removeDocument(String...)</i> on page 383	Removes first element with the given route For removing multiple element use setDocuemtns with null arguments.
public static final String	<i>ROOT_DOCUMENT_NAME</i> on page 387	The default root element name for a new document.
public abstract void	<i>setAttributes(List&lt; String &gt;, String...)</i> on page 384	Sets all the values of the attributes with the given route Values will be paired to attributes in order Attributes with greater or equals index than size of new values will be untouched Attributes paired with null values will be removed.



Modifier and Type	Member	Description
public abstract void	<i>setDocuments(List&lt; IParser-Document &gt;, String...)</i> on page 384	Replaces all the elements with the given route Documents will be paired to elements in order Elements with greater or equals index than size of new elements will be untouched Element paired with null will be removed.
public abstract void	<i>setElementName(String, String...)</i> on page 385	Sets the name of the root element with the given route Use empty route for setting root name of this document.
public abstract void	<i>setValues(List&lt; String &gt;, String...)</i> on page 385	Sets all the values of the elements with the given route Values will be paired to elements in order Elements with greater or equals index than size of new values will be untouched Null values will be treated as empty strings.
public abstract String	<i>toXMLString()</i> on page 385	Returns the XML string representation of this object.
public static final String	<i>XMLNS_APPLICATION_URI</i> on page 387	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/08/dataservices">http://schemas.microsoft.com/ado/2007/08/dataservices</a> .
public static final String	<i>XMLNS_ATOM_URI</i> on page 387	Constant for XMLNS URI: <a href="http://www.w3.org/2005/Atom">http://www.w3.org/2005/Atom</a> .
public static final String	<i>XMLNS_DATASERVICES_URI</i> on page 387	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/08/dataservices">http://schemas.microsoft.com/ado/2007/08/dataservices</a> .
public static final String	<i>XMLNS_EDM_URI</i> on page 387	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/05/edm">http://schemas.microsoft.com/ado/2007/05/edm</a> .
public static final String	<i>XMLNS_EDMX_URI</i> on page 387	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/06/edmx">http://schemas.microsoft.com/ado/2007/06/edmx</a> .

Modifier and Type	Member	Description
public static final String	<i>XMLNS_GENERICPLAYER_URI</i> on page 388	Constant for XMLNS URI: <a href="http://www.sap.com/Protocols/SAPData/GenericPlayer">http://www.sap.com/Protocols/SAPData/GenericPlayer</a> .
public static final String	<i>XMLNS_METADATA_URI</i> on page 388	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/08/dataservices/metadata">http://schemas.microsoft.com/ado/2007/08/dataservices/metadata</a> .
public static final String	<i>XMLNS_SAP_URI</i> on page 388	Constant for XMLNS URI: <a href="http://www.sap.com/Protocols/SAPData">http://www.sap.com/Protocols/SAPData</a> .

#### Inherited members from IPersistable

Modifier and Type	Member	Description
public void	<i>read(BufferedReader)</i> on page 389	
public void	<i>write(BufferedWriter)</i> on page 389	

#### *ODataAssociation.ODataAssociationEnd* class

##### Syntax

```
public class ODataAssociationEnd extends ParserDocument,
IODataAssociationEnd
```

##### Members

All members of *ODataAssociationEnd*, including inherited members. **Constructors**

Modifier and Type	Constructor	Description
public	<i>ODataAssociationEnd()</i> on page 471	
public	<i>ODataAssociationEnd(ParserDocument)</i> on page 472	
protected	<i>ODataAssociationEnd(int[], String[])</i> on page 472	

##### Methods

Modifier and Type	Method	Description
public String	<i>getCollectionId()</i> on page 472	
public String	<i>getEntitySet()</i> on page 472	
public String	<i>getMultiplicity()</i> on page 472	
public String	<i>getRole()</i> on page 472	
public String	<i>getType()</i> on page 472	

### Inherited members from ParserDocument

Modifier and Type	Member	Description
static transient final String	<i>ANY_STRING</i> on page 963	
static transient final int	<i>ATTRIBUTE_ID</i> on page 963	
static transient final String	<i>ATTRIBUTE_STRING</i> on page 963	
public ParserDocument	<i>clone()</i> on page 945	Creates a copy of this object.
protected Map< String, String >	<i>extensions</i> on page 963	
public String	<i>getAttribute(String...)</i> on page 945	Returns the value of the first attribute with the given route.
public List< String >	<i>getAttributes(String...)</i> on page 946	Returns all the values of attributes with the given route.
protected int	<i>getAttributesEndPosition(int[], int, int)</i> on page 946	
public Map< String, String >	<i>getChildAttributeMap(String...)</i> on page 946	Returns all the name-value pairs of attributes contained by the element with the given route.
public List< String >	<i>getChildAttributes(String...)</i> on page 947	Returns all the values of attributes contained by the element with the given route.
public List< IParserDocument >	<i>getChildDocuments(String...)</i> on page 947	Returns the elements contained by the element with the given route.

Modifier and Type	Member	Description
public List< IParserDocument >	<i>getChildDocumentsWithAttribute(String, String, String...)</i> on page 947	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public List< IParserDocument >	<i>getChildDocumentsWithAttribute(String, String, boolean, String...)</i> on page 948	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public ParserDocument	<i>getDocument(String...)</i> on page 948	Returns the first element with the given route.
protected List< int[] >	<i>getDocumentPositions(String[], int, boolean, boolean)</i> on page 949	
public List< IParserDocument >	<i>getDocuments(String...)</i> on page 949	Returns all the elements with the given route.
public List< IParserDocument >	<i>getDocumentsWithAttribute(String, String, String...)</i> on page 949	Returns the elements with the given route that contains the given attribute with the given value.
public List< IParserDocument >	<i>getDocumentsWithAttribute(String, String, boolean, String...)</i> on page 950	Returns the elements with the given route that contains the given attribute with the given value.
public IParserDocument	<i>getDocumentWithAttribute(String, String, String...)</i> on page 950	Returns the first element with the given route that contains the given attribute with the given value.
public IParserDocument	<i>getDocumentWithAttribute(String, String, boolean, String...)</i> on page 951	Returns the first element with the given route that contains the given attribute with the given value.
public String	<i>getElementName()</i> on page 951	Returns The name of the root element of this document.
public String	<i>getExtension(String)</i> on page 952	

Modifier and Type	Member	Description
public String	<i>getFunctionImportComplexProperty Value(String...)</i> on page 952	
static int	<i>getNameId(String, boolean, boolean)</i> on page 952	
public static List< String >	<i>getNameMap()</i> on page 952	
public static String	<i>getPrefix(String)</i> on page 952	
public String	<i>getPrefixForUri(String)</i> on page 952	Returns the appropriate name-space prefix for the given XML name-space URI.
public static Map< String, String >	<i>getPrefixMapping()</i> on page 953	
protected List< Integer >	<i>getStringPositions(String[], int, boolean, boolean)</i> on page 953	
public String[]	<i>getStrings()</i> on page 953	Returns all the string values contained by this document.
public String	<i>getValue(String...)</i> on page 953	Returns the value of the first element with the given route.
public List< String >	<i>getValues(String...)</i> on page 953	Returns all the values of elements with the given route.
protected int[]	<i>insertRoutePositions(int[], int, int[])</i> on page 954	
protected void	<i>insertRoutesPositions(int, int[])</i> on page 954	
protected void	<i>insertStringsPositions(int, String[])</i> on page 954	
protected String[]	<i>insertStringsPositions(String[], int, String[])</i> on page 954	
boolean	<i>isComplexEntity</i> on page 963	
boolean	<i>isJson</i> on page 963	
protected boolean	<i>isMatched(String, String)</i> on page 954	

Modifier and Type	Member	Description
static List< String >	<i>nameMap</i> on page 963	
	<i>ParserDocument()</i> on page 945	
	<i>ParserDocument(boolean)</i> on page 945	
public	<i>ParserDocument(String)</i> on page 944	
public	<i>ParserDocument(ParserDocument)</i> on page 944	
protected	<i>ParserDocument(int[], String[])</i> on page 945	
protected	<i>ParserDocument(String, boolean)</i> on page 945	
static Map< String, String >	<i>prefixMapping</i> on page 964	
public void	<i>putAttribute(String, String...)</i> on page 955	Sets the value of the attribute with the given route. If attribute does not exist it will be created as well as all other non existing elements in the route.
public void	<i>putDocument(IParserDocument, String...)</i> on page 955	Insert the document under the element with the given route. Inserted document will be placed before already existing documents with the same route name under. All missing elements from the route will be created.
public void	<i>putExtension(String, String)</i> on page 955	
protected void	<i>putString(int, String, int, String...)</i> on page 956	
public void	<i>putValue(String, String...)</i> on page 956	Sets the value of the first element with the given route.
public void	<i>read(BufferedReader)</i> on page 956	

Modifier and Type	Member	Description
public void	<i>readExternal(ObjectInput)</i> on page 956	
public static void	<i>readNameMap(BufferedReader)</i> on page 957	
public boolean	<i>removeAttribute(String...)</i> on page 957	Removes first element with the given route.
public boolean	<i>removeAttributes(String...)</i> on page 957	Removes all the attribute with the given route.
public boolean	<i>removeDocument(String...)</i> on page 957	Removes first element with the given route For removing multiple element use setDocuemtns with null arguments.
public void	<i>removeExtension(String)</i> on page 958	
protected void	<i>removeRoutesPositions(int, int)</i> on page 958	
protected int[]	<i>removeRoutesPositions(int[], int, int)</i> on page 958	
protected boolean	<i>removeString(String...)</i> on page 958	
protected boolean	<i>removeStrings(String...)</i> on page 958	
protected void	<i>removeStringsPositions(int, int)</i> on page 958	
protected String[]	<i>removeStringsPositions(String[], int, int)</i> on page 958	
protected int	<i>replaceRoutesPositions(int, int, int[])</i> on page 959	
protected int[]	<i>replaceRoutesPositions(int[], int, int, int[])</i> on page 959	
protected int	<i>replaceStringsPositions(int, int, String[])</i> on page 959	

Modifier and Type	Member	Description
protected String[]	<i>replaceStringsPositions(String[], int, int, String[])</i> on page 959	
public static String	<i>resolveUrl(String, String)</i> on page 959	
protected int[]	<i>routes</i> on page 964	
public void	<i>setAttribute(String, String...)</i> on page 959	
public void	<i>setAttributes(List&lt;String&gt;, String...)</i> on page 960	Sets all the values of the attributes with the given route Values will be paired to attributes in order Attributes with greater or equals index than size of new values will be untouched Attributes paired with null values will be removed.
public boolean	<i>setDocument(IParserDocument, String...)</i> on page 960	
public void	<i>setDocuments(List&lt;IParserDocument&gt;, String...)</i> on page 960	Replaces all the elements with the given route Documents will be paired to elements in order Elements with greater or equals index than size of new elements will be untouched Element paired with null will be removed.
public void	<i>setElementName(String, String...)</i> on page 961	Sets the name of the root element with the given route Use empty route for setting root name of this document.
public static void	<i>setNameMap(List&lt;String&gt;)</i> on page 961	
public static void	<i>setPrefixMapping(Map&lt;String, String&gt;)</i> on page 961	
protected void	<i>setString(String, String...)</i> on page 961	



Modifier and Type	Member	Description
protected void	<i>setStrings(List&lt; String &gt;, String...)</i> on page 961	
public void	<i>setValue(String, String...)</i> on page 961	
public void	<i>setValues(List&lt; String &gt;, String...)</i> on page 962	Sets all the values of the elements with the given rout Values will be paired to elements in order Elements with greater or equals index than size of new values will be untouched Null values will be treated as empty strings.
protected String[]	<i>strings</i> on page 964	
public String	<i>toXMLString()</i> on page 962	Returns the XML string representation of this object.
protected static final String	<i>URL_PROTOCOL_PREFIX</i> on page 964	
static transient final int	<i>VALUE_ID</i> on page 964	
static transient final String	<i>VALUE_STRING</i> on page 964	
public void	<i>write(BufferedWriter)</i> on page 962	
public void	<i>writeExternal(ObjectOutput)</i> on page 962	
public static void	<i>writeNameMap(BufferedWriter)</i> on page 963	

#### Inherited members from IParserDocument

Modifier and Type	Member	Description
public static final String	<i>ATTRIBUTE_ETAG</i> on page 386	Name of the appropriate OData element.
public static final String	<i>ATTRIBUTE_VALUEPREFIX_EDMTYPE</i> on page 386	Value prefix for EDM Type type values.

Modifier and Type	Member	Description
public static Map< String, String >	<i>DEFAULT_PREFIXMAP-PING</i> on page 386	The default XML Namespace-to-Prefix mapping used for building XMLS.
public static final String[]	<i>EDMDATETIME_PATTERNS</i> on page 386	Possible EDM DateTime patterns Note: Some pattern are not supported by OData specification but still widely used.
public static final String[]	<i>EDMDATETIMEOFFSET_PATTERNS</i> on page 386	Possible EDM TimeOffset patterns Note: Some pattern are not supported by OData specification but still widely used.
public static final String	<i>EDMTIME_PATTERN</i> on page 386	EDM Time pattern.
public static String	<i>ELEMENT_FEED</i> on page 386	Name of the appropriate OData element.
public static final String	<i>ELEMENT_ID</i> on page 387	Name of the appropriate OData element.
public static final String	<i>ROOT_DOCUMENT_NAME</i> on page 387	The default root element name for a new document.
public static final String	<i>XMLNS_APPLICATION_URI</i> on page 387	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/08/dataservices">http://schemas.microsoft.com/ado/2007/08/dataservices</a> .
public static final String	<i>XMLNS_ATOM_URI</i> on page 387	Constant for XMLNS URI: <a href="http://www.w3.org/2005/Atom">http://www.w3.org/2005/Atom</a> .
public static final String	<i>XMLNS_DATASERVICES_URI</i> on page 387	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/08/dataservices">http://schemas.microsoft.com/ado/2007/08/dataservices</a> .
public static final String	<i>XMLNS_EDM_URI</i> on page 387	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/05/edm">http://schemas.microsoft.com/ado/2007/05/edm</a> .
public static final String	<i>XMLNS_EDMX_URI</i> on page 387	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/06/edmx">http://schemas.microsoft.com/ado/2007/06/edmx</a> .

Modifier and Type	Member	Description
public static final String	<i>XMLNS_GENERICPLAYER_URI</i> on page 388	Constant for XMLNS URI: <a href="http://www.sap.com/Protocols/SAPData/GenericPlayer">http://www.sap.com/Protocols/SAPData/GenericPlayer</a> .
public static final String	<i>XMLNS_METADATA_URI</i> on page 388	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/08/dataservices/metadata">http://schemas.microsoft.com/ado/2007/08/dataservices/metadata</a> .
public static final String	<i>XMLNS_SAP_URI</i> on page 388	Constant for XMLNS URI: <a href="http://www.sap.com/Protocols/SAPData">http://www.sap.com/Protocols/SAPData</a> .

#### Inherited members from IPersistable

Modifier and Type	Member	Description
public void	<i>read(BufferedReader)</i> on page 389	
public void	<i>write(BufferedWriter)</i> on page 389	

#### Inherited members from IODataAssociationEnd

Modifier and Type	Member	Description
public static final String	<i>ATTRIBUTE_ENTITYSET</i> on page 149	Name of the appropriate OData attribute.
public static final String	<i>ATTRIBUTE_MULTIPLICITY</i> on page 150	Name of the appropriate OData attribute.
public static final String	<i>ATTRIBUTE_ROLE</i> on page 150	Name of the appropriate OData attribute.
public static final String	<i>ATTRIBUTE_TYPE</i> on page 150	Name of the appropriate OData attribute.

#### *IODataAssociationEnd()* constructor

##### Syntax

```
public IODataAssociationEnd ()
```

*ODataAssociationEnd(ParserDocument) constructor*

*Syntax*

```
public ODataAssociationEnd ( ParserDocument document )
```

*ODataAssociationEnd(int[], String[]) constructor*

*Syntax*

```
protected ODataAssociationEnd ( int[] routes , String[] values )
```

*getCollectionId() method*

*Syntax*

```
public String getCollectionId ()
```

*getEntitySet() method*

*Syntax*

```
public String getEntitySet ()
```

*getMultiplicity() method*

*Syntax*

```
public String getMultiplicity ()
```

*getRole() method*

*Syntax*

```
public String getRole ()
```

*getType() method*

*Syntax*

```
public String getType ()
```

*ODataAssociation() constructor*

*Syntax*

```
public ODataAssociation ()
```

*ODataAssociation(ParserDocument) constructor**Syntax*

```
public ODataAssociation ( ParserDocument document )
```

*ODataAssociation(int[], String[]) constructor**Syntax*

```
protected ODataAssociation ( int[] routes , String[] values )
```

*ODataAssociation(String) constructor**Syntax*

```
protected ODataAssociation ( String elementAssociationset )
```

*getAssociationEnd(String) method*

Returns the value of the appropriate Association End OData element with the given role.

*Syntax*

```
public IODataAssociationEnd getAssociationEnd ( String role )
```

*Parameters*

- **role** – The expected value of the appropriate OData attribute

*Returns*

the value of the appropriate Association End OData element

*getAssociationEnds() method*

Returns list of the appropriate OData elements.

*Syntax*

```
public List< IODataAssociationEnd > getAssociationEnds ( )
```

*Returns*

list of the appropriate OData elements

*getName() method*

Returns the value of the appropriate OData attribute.

*Syntax*

```
public String getName ( )
```

**Returns**

the value of the appropriate OData attribute

**ODataAssociationSet class****Syntax**

```
public class ODataAssociationSet extends ODataAssociation,
IODataAssociationSet
```

**Members**

All members of ODataAssociationSet, including inherited members. **Constructors**

Modifier and Type	Constructor	Description
public	<i>ODataAssociationSet()</i> on page 494	
public	<i>ODataAssociationSet(Parser-Document)</i> on page 494	
protected	<i>ODataAssociationSet(int[], String[])</i> on page 494	

**Methods**

Modifier and Type	Method	Description
public String	<i>getAssociation()</i> on page 494	Returns the value of appropriate OData element.

**Inherited members from ODataAssociation**

Modifier and Type	Member	Description
public IODataAssociationEnd	<i>getAssociationEnd(String)</i> on page 473	Returns the value of the appropriate Association End OData element with the given role.
public List< IODataAssociationEnd >	<i>getAssociationEnds()</i> on page 473	Returns list of the appropriate OData elements.
public String	<i>getName()</i> on page 473	Returns the value of the appropriate OData attribute.
public	<i>ODataAssociation()</i> on page 472	

Modifier and Type	Member	Description
protected	<i>ODataAssociation(int[], String[])</i> on page 473	
public	<i>ODataAssociation(ParserDocument)</i> on page 473	
protected	<i>ODataAssociation(String)</i> on page 473	

### Inherited members from ParserDocument

Modifier and Type	Member	Description
static transient final String	<i>ANY_STRING</i> on page 963	
static transient final int	<i>ATTRIBUTE_ID</i> on page 963	
static transient final String	<i>ATTRIBUTE_STRING</i> on page 963	
public ParserDocument	<i>clone()</i> on page 945	Creates a copy of this object.
protected Map< String, String >	<i>extensions</i> on page 963	
public String	<i>getAttribute(String...)</i> on page 945	Returns the value of the first attribute with the given route.
public List< String >	<i>getAttributes(String...)</i> on page 946	Returns all the values of attributes with the given route.
protected int	<i>getAttributesEndPosition(int[], int, int)</i> on page 946	
public Map< String, String >	<i>getChildAttributeMap(String...)</i> on page 946	Returns all the name-value pairs of attributes contained by the element with the given route.
public List< String >	<i>getChildAttributes(String...)</i> on page 947	Returns all the values of attributes contained by the element with the given route.
public List< IParserDocument >	<i>getChildDocuments(String...)</i> on page 947	Returns the elements contained by the element with the given route.

Modifier and Type	Member	Description
public List< IParserDocument >	<i>getChildDocumentsWithAttribute(String, String, String...)</i> on page 947	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public List< IParserDocument >	<i>getChildDocumentsWithAttribute(String, String, boolean, String...)</i> on page 948	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public ParserDocument	<i>getDocument(String...)</i> on page 948	Returns the first element with the given route.
protected List< int[] >	<i>getDocumentPositions(String[], int, boolean, boolean)</i> on page 949	
public List< IParserDocument >	<i>getDocuments(String...)</i> on page 949	Returns all the elements with the given route.
public List< IParserDocument >	<i>getDocumentsWithAttribute(String, String, String...)</i> on page 949	Returns the elements with the given route that contains the given attribute with the given value.
public List< IParserDocument >	<i>getDocumentsWithAttribute(String, String, boolean, String...)</i> on page 950	Returns the elements with the given route that contains the given attribute with the given value.
public IParserDocument	<i>getDocumentWithAttribute(String, String, String...)</i> on page 950	Returns the first element with the given route that contains the given attribute with the given value.
public IParserDocument	<i>getDocumentWithAttribute(String, String, boolean, String...)</i> on page 951	Returns the first element with the given route that contains the given attribute with the given value.
public String	<i>getElementName()</i> on page 951	Returns The name of the root element of this document.
public String	<i>getExtension(String)</i> on page 952	



Modifier and Type	Member	Description
public String	<i>getFunctionImportComplexProperty Value(String...)</i> on page 952	
static int	<i>getNameId(String, boolean, boolean)</i> on page 952	
public static List< String >	<i>getNameMap()</i> on page 952	
public static String	<i>getPrefix(String)</i> on page 952	
public String	<i>getPrefixForUri(String)</i> on page 952	Returns the appropriate name-space prefix for the given XML name-space URI.
public static Map< String, String >	<i>getPrefixMapping()</i> on page 953	
protected List< Integer >	<i>getStringPositions(String[], int, boolean, boolean)</i> on page 953	
public String[]	<i>getStrings()</i> on page 953	Returns all the string values contained by this document.
public String	<i>getValue(String...)</i> on page 953	Returns the value of the first element with the given route.
public List< String >	<i>getValues(String...)</i> on page 953	Returns all the values of elements with the given route.
protected int[]	<i>insertRoutePositions(int[], int, int[])</i> on page 954	
protected void	<i>insertRoutesPositions(int, int[])</i> on page 954	
protected void	<i>insertStringsPositions(int, String[])</i> on page 954	
protected String[]	<i>insertStringsPositions(String[], int, String[])</i> on page 954	
boolean	<i>isComplexEntity</i> on page 963	
boolean	<i>isJson</i> on page 963	
protected boolean	<i>isMatched(String, String)</i> on page 954	

Modifier and Type	Member	Description
static List< String >	<i>nameMap</i> on page 963	
	<i>ParserDocument()</i> on page 945	
	<i>ParserDocument(boolean)</i> on page 945	
public	<i>ParserDocument(String)</i> on page 944	
public	<i>ParserDocument(ParserDocument)</i> on page 944	
protected	<i>ParserDocument(int[], String[])</i> on page 945	
protected	<i>ParserDocument(String, boolean)</i> on page 945	
static Map< String, String >	<i>prefixMapping</i> on page 964	
public void	<i>putAttribute(String, String...)</i> on page 955	Sets the value of the attribute with the given route. If attribute does not exist it will be created as well as all other non existing elements in the route.
public void	<i>putDocument(IParserDocument, String...)</i> on page 955	Insert the document under the element with the given route. Inserted document will be placed before already existing documents with the same route name. All missing elements from the route will be created.
public void	<i>putExtension(String, String)</i> on page 955	
protected void	<i>putString(int, String, int, String...)</i> on page 956	
public void	<i>putValue(String, String...)</i> on page 956	Sets the value of the first element with the given route.
public void	<i>read(BufferedReader)</i> on page 956	

Modifier and Type	Member	Description
public void	<i>readExternal(ObjectInput)</i> on page 956	
public static void	<i>readNameMap(BufferedReader)</i> on page 957	
public boolean	<i>removeAttribute(String...)</i> on page 957	Removes first element with the given route.
public boolean	<i>removeAttributes(String...)</i> on page 957	Removes all the attribute with the given route.
public boolean	<i>removeDocument(String...)</i> on page 957	Removes first element with the given route For removing multiple element use setDocuemtns with null arguments.
public void	<i>removeExtension(String)</i> on page 958	
protected void	<i>removeRoutesPositions(int, int)</i> on page 958	
protected int[]	<i>removeRoutesPositions(int[], int, int)</i> on page 958	
protected boolean	<i>removeString(String...)</i> on page 958	
protected boolean	<i>removeStrings(String...)</i> on page 958	
protected void	<i>removeStringsPositions(int, int)</i> on page 958	
protected String[]	<i>removeStringsPositions(String[], int, int)</i> on page 958	
protected int	<i>replaceRoutesPositions(int, int, int[])</i> on page 959	
protected int[]	<i>replaceRoutesPositions(int[], int, int, int[])</i> on page 959	
protected int	<i>replaceStringsPositions(int, int, String[])</i> on page 959	

Modifier and Type	Member	Description
protected String[]	<i>replaceStringsPositions(String[], int, int, String[])</i> on page 959	
public static String	<i>resolveUrl(String, String)</i> on page 959	
protected int[]	<i>routes</i> on page 964	
public void	<i>setAttribute(String, String...)</i> on page 959	
public void	<i>setAttributes(List&lt;String&gt;, String...)</i> on page 960	Sets all the values of the attributes with the given route Values will be paired to attributes in order Attributes with greater or equals index than size of new values will be untouched Attributes paired with null values will be removed.
public boolean	<i>setDocument(IParserDocument, String...)</i> on page 960	
public void	<i>setDocuments(List&lt;IParserDocument&gt;, String...)</i> on page 960	Replaces all the elements with the given route Documents will be paired to elements in order Elements with greater or equals index than size of new elements will be untouched Element paired with null will be removed.
public void	<i>setElementName(String, String...)</i> on page 961	Sets the name of the root element with the given route Use empty route for setting root name of this document.
public static void	<i>setNameMap(List&lt;String&gt;)</i> on page 961	
public static void	<i>setPrefixMapping(Map&lt;String, String&gt;)</i> on page 961	
protected void	<i>setString(String, String...)</i> on page 961	

Modifier and Type	Member	Description
protected void	<i>setStrings(List&lt; String &gt;, String...)</i> on page 961	
public void	<i>setValue(String, String...)</i> on page 961	
public void	<i>setValues(List&lt; String &gt;, String...)</i> on page 962	Sets all the values of the elements with the given route Values will be paired to elements in order Elements with greater or equals index than size of new values will be untouched Null values will be treated as empty strings.
protected String[]	<i>strings</i> on page 964	
public String	<i>toXMLString()</i> on page 962	Returns the XML string representation of this object.
protected static final String	<i>URL_PROTOCOL_PREFIX</i> on page 964	
static transient final int	<i>VALUE_ID</i> on page 964	
static transient final String	<i>VALUE_STRING</i> on page 964	
public void	<i>write(BufferedWriter)</i> on page 962	
public void	<i>writeExternal(ObjectOutput)</i> on page 962	
public static void	<i>writeNameMap(BufferedWriter)</i> on page 963	

#### Inherited members from IParserDocument

Modifier and Type	Member	Description
public static final String	<i>ATTRIBUTE_ETAG</i> on page 386	Name of the appropriate OData element.
public static final String	<i>ATTRIBUTE_VALUEPREFIX_EDMTYPE</i> on page 386	Value prefix for EDM Type type values.

Modifier and Type	Member	Description
public static Map< String, String >	<i>DEFAULT_PREFIXMAP-PING</i> on page 386	The default XML Namespace-to-Prefix mapping used for building XMLS.
public static final String[]	<i>EDMDATETIME_PATTERNS</i> on page 386	Possible EDM DateTime patterns Note: Some pattern are not supported by OData specification but still widely used.
public static final String[]	<i>EDMDATETIMEOFFSET_PATTERNS</i> on page 386	Possible EDM TimeOffset patterns Note: Some pattern are not supported by OData specification but still widely used.
public static final String	<i>EDMTIME_PATTERN</i> on page 386	EDM Time pattern.
public static String	<i>ELEMENT_FEED</i> on page 386	Name of the appropriate OData element.
public static final String	<i>ELEMENT_ID</i> on page 387	Name of the appropriate OData element.
public static final String	<i>ROOT_DOCUMENT_NAME</i> on page 387	The default root element name for a new document.
public static final String	<i>XMLNS_APPLICATION_URI</i> on page 387	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/08/dataservices">http://schemas.microsoft.com/ado/2007/08/dataservices</a> .
public static final String	<i>XMLNS_ATOM_URI</i> on page 387	Constant for XMLNS URI: <a href="http://www.w3.org/2005/Atom">http://www.w3.org/2005/Atom</a> .
public static final String	<i>XMLNS_DATASERVICES_URI</i> on page 387	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/08/dataservices">http://schemas.microsoft.com/ado/2007/08/dataservices</a> .
public static final String	<i>XMLNS_EDM_URI</i> on page 387	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/05/edm">http://schemas.microsoft.com/ado/2007/05/edm</a> .
public static final String	<i>XMLNS_EDMX_URI</i> on page 387	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/06/edmx">http://schemas.microsoft.com/ado/2007/06/edmx</a> .

Modifier and Type	Member	Description
public static final String	<i>XMLNS_GENERICPLAYER_URI</i> on page 388	Constant for XMLNS URI: <a href="http://www.sap.com/Protocols/SAPData/GenericPlayer">http://www.sap.com/Protocols/SAPData/GenericPlayer</a> .
public static final String	<i>XMLNS_METADATA_URI</i> on page 388	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/08/dataservices/metadata">http://schemas.microsoft.com/ado/2007/08/dataservices/metadata</a> .
public static final String	<i>XMLNS_SAP_URI</i> on page 388	Constant for XMLNS URI: <a href="http://www.sap.com/Protocols/SAPData">http://www.sap.com/Protocols/SAPData</a> .

#### Inherited members from IPersistable

Modifier and Type	Member	Description
public void	<i>read(BufferedReader)</i> on page 389	
public void	<i>write(BufferedWriter)</i> on page 389	

#### Inherited members from IODataAssociation

Modifier and Type	Member	Description
public static final String	<i>ATTRIBUTE_ASSOCIATION</i> on page 151	Name of the appropriate OData attribute.
public static final String	<i>ATTRIBUTE_NAME</i> on page 151	Name of the appropriate OData attribute.
public static final String	<i>ELEMENT_ASSOCIATION</i> on page 151	Name of the appropriate OData element.
public static final String	<i>ELEMENT_ASSOCIATIONEND</i> on page 151	Name of the appropriate OData element.

#### Inherited members from IParserDocument

Modifier and Type	Member	Description
public static final String	<i>ATTRIBUTE_ETAG</i> on page 386	Name of the appropriate OData element.

Modifier and Type	Member	Description
public static final String	<i>ATTRIBUTE_VALUEPREFIX_EDMTYPE</i> on page 386	Value prefix for EDM Type type values.
public abstract IParserDocument	<i>clone()</i> on page 374	Creates a copy of this object.
public static Map< String, String >	<i>DEFAULT_PREFIXMAPPING</i> on page 386	The default XML Namespace-to-Prefix mapping used for building XMLS.
public static final String[]	<i>EDMDATETIME_PATTERNS</i> on page 386	Possible EDM DateTime patterns Note: Some pattern are not supported by OData specification but still widely used.
public static final String[]	<i>EDMDATETIMEOFFSET_PATTERNS</i> on page 386	Possible EDM TimeOffset patterns Note: Some pattern are not supported by OData specification but still widely used.
public static final String	<i>EDMTIME_PATTERN</i> on page 386	EDM Time pattern.
public static String	<i>ELEMENT_FEED</i> on page 386	Name of the appropriate OData element.
public static final String	<i>ELEMENT_ID</i> on page 387	Name of the appropriate OData element.
public abstract String	<i>getAttribute(String...)</i> on page 374	Returns the value of the first attribute with the given route.
public abstract List< String >	<i>getAttributes(String...)</i> on page 374	Returns all the values of attributes with the given route.
public abstract Map< String, String >	<i>getChildAttributeMap(String...)</i> on page 375	Returns all the name-value pairs of attributes contained by the element with the given route.
public abstract List< String >	<i>getChildAttributes(String...)</i> on page 375	Returns all the values of attributes contained by the element with the given route.
public abstract List< IParserDocument >	<i>getChildDocuments(String...)</i> on page 375	Returns the elements contained by the element with the given route.



Modifier and Type	Member	Description
public abstract List<IParserDocument >	<i>getChildDocumentsWithAttribute(String, String, String...)</i> on page 376	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public abstract List<IParserDocument >	<i>getChildDocumentsWithAttribute(String, String, boolean, String...)</i> on page 376	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public abstract IParserDocument	<i>getDocument(String...)</i> on page 377	Returns the first element with the given route.
public abstract List<IParserDocument >	<i>getDocuments(String...)</i> on page 377	Returns all the elements with the given route.
public abstract List<IParserDocument >	<i>getDocumentsWithAttribute(String, String, String...)</i> on page 378	Returns the elements with the given route that contains the given attribute with the given value.
public abstract List<IParserDocument >	<i>getDocumentsWithAttribute(String, String, boolean, String...)</i> on page 378	Returns the elements with the given route that contains the given attribute with the given value.
public abstract IParserDocument	<i>getDocumentWithAttribute(String, String, String...)</i> on page 379	Returns the first element with the given route that contains the given attribute with the given value.
public abstract IParserDocument	<i>getDocumentWithAttribute(String, String, boolean, String...)</i> on page 379	Returns the first element with the given route that contains the given attribute with the given value.
public abstract String	<i>getElementName()</i> on page 380	Returns The name of the root element of this document.
public abstract String	<i>getFunctionImportComplexPropertyValue(String...)</i> on page 380	
public abstract String	<i>getPrefixForUri(String)</i> on page 380	Returns the appropriate namespace prefix for the given XML name-space URI.

Modifier and Type	Member	Description
public abstract String[]	<i>getStrings()</i> on page 381	Returns all the string values contained by this document.
public abstract String	<i>getValue(String...)</i> on page 381	Returns the value of the first element with the given route.
public abstract List< String >	<i>getValues(String...)</i> on page 381	Returns all the values of elements with the given route.
public abstract void	<i>putAttribute(String, String...)</i> on page 382	Sets the value of the attribute with the given route If attribute does not exist it will be created as well as all other non existing elements in the route.
public abstract void	<i>putDocument(IParserDocument, String...)</i> on page 382	Insert the document under the element with the given route inserted document will be placed before already existing documents with the same route name under All missing elements from the route will be created.
public abstract void	<i>putValue(String, String...)</i> on page 382	Sets the value of the first element with the given route.
public abstract boolean	<i>removeAttribute(String...)</i> on page 383	Removes first element with the given route.
public abstract boolean	<i>removeAttributes(String...)</i> on page 383	Removes all the attribute with the given route.
public abstract boolean	<i>removeDocument(String...)</i> on page 383	Removes first element with the given route For removing multiple element use setDocuemtns with null arguments.
public static final String	<i>ROOT_DOCUMENT_NAME</i> on page 387	The default root element name for a new document.

Modifier and Type	Member	Description
public abstract void	<i>setAttributes(List&lt; String &gt;, String...)</i> on page 384	Sets all the values of the attributes with the given route Values will be paired to attributes in order Attributes with greater or equals index than size of new values will be untouched Attributes paired with null values will be removed.
public abstract void	<i>setDocuments(List&lt; IParser-Document &gt;, String...)</i> on page 384	Replaces all the elements with the given route Documents will be paired to elements in order Elements with greater or equals index than size of new elements will be untouched Element paired with null will be removed.
public abstract void	<i>setElementName(String, String...)</i> on page 385	Sets the name of the root element with the given route Use empty route for setting root name of this document.
public abstract void	<i>setValues(List&lt; String &gt;, String...)</i> on page 385	Sets all the values of the elements with the given rout Values will be paired to elements in order Elements with greater or equals index than size of new values will be untouched Null values will be treated as empty strings.
public abstract String	<i>toXMLString()</i> on page 385	Returns the XML string representation of this object.
public static final String	<i>XMLNS_APPLICATION_URI</i> on page 387	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/08/dataservices">http://schemas.microsoft.com/ado/2007/08/dataservices</a> .
public static final String	<i>XMLNS_ATOM_URI</i> on page 387	Constant for XMLNS URI: <a href="http://www.w3.org/2005/Atom">http://www.w3.org/2005/Atom</a> .

Modifier and Type	Member	Description
public static final String	<i>XMLNS_DATA_SERVICES_URI</i> on page 387	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/08/dataservices">http://schemas.microsoft.com/ado/2007/08/dataservices</a> .
public static final String	<i>XMLNS_EDM_URI</i> on page 387	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/05/edm">http://schemas.microsoft.com/ado/2007/05/edm</a> .
public static final String	<i>XMLNS_EDMX_URI</i> on page 387	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/06/edmx">http://schemas.microsoft.com/ado/2007/06/edmx</a> .
public static final String	<i>XMLNS_GENERICPLAYER_URI</i> on page 388	Constant for XMLNS URI: <a href="http://www.sap.com/Protocols/SAPData/GenericPlayer">http://www.sap.com/Protocols/SAPData/GenericPlayer</a> .
public static final String	<i>XMLNS_METADATA_URI</i> on page 388	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/08/dataservices/metadata">http://schemas.microsoft.com/ado/2007/08/dataservices/metadata</a> .
public static final String	<i>XMLNS_SAP_URI</i> on page 388	Constant for XMLNS URI: <a href="http://www.sap.com/Protocols/SAPData">http://www.sap.com/Protocols/SAPData</a> .

#### Inherited members from IPersistable

Modifier and Type	Member	Description
public void	<i>read(BufferedReader)</i> on page 389	
public void	<i>write(BufferedWriter)</i> on page 389	

#### Inherited members from IODataAssociationSet

Modifier and Type	Member	Description
public static final String	<i>ELEMENT_ASSOCIATION_SET</i> on page 158	Name of the appropriate OData element.

#### Inherited members from IODataAssociation

Modifier and Type	Member	Description
public static final String	<i>ATTRIBUTE_ASSOCIATION</i> on page 151	Name of the appropriate OData attribute.
public static final String	<i>ATTRIBUTE_NAME</i> on page 151	Name of the appropriate OData attribute.
public static final String	<i>ELEMENT_ASSOCIATION</i> on page 151	Name of the appropriate OData element.
public static final String	<i>ELEMENT_ASSOCIATION_END</i> on page 151	Name of the appropriate OData element.
public abstract IODataAssociationEnd	<i>getAssociationEnd(String)</i> on page 150	Returns the value of the appropriate Association End OData element with the given role.
public abstract List< IODataAssociationEnd >	<i>getAssociationEnds()</i> on page 150	Returns list of the appropriate OData elements.
public abstract String	<i>getName()</i> on page 151	Returns the value of the appropriate OData attribute.

#### Inherited members from IParserDocument

Modifier and Type	Member	Description
public static final String	<i>ATTRIBUTE_ETAG</i> on page 386	Name of the appropriate OData element.
public static final String	<i>ATTRIBUTE_VALUEPREFIX_EDMTYPE</i> on page 386	Value prefix for EDM Type type values.
public abstract IParserDocument	<i>clone()</i> on page 374	Creates a copy of this object.
public static Map< String, String >	<i>DEFAULT_PREFIXMAPPING</i> on page 386	The default XML Namespace-to-Prefix mapping used for building XMLS.
public static final String[]	<i>EDMDATETIME_PATTERNS</i> on page 386	Possible EDM DateTime patterns Note: Some pattern are not supported by OData specification but still widely used.

Modifier and Type	Member	Description
public static final String[]	<i>EDMDATETIMEOFFSET_PATTERNS</i> on page 386	Possible EDM TimeOffset patterns Note: Some pattern are not supported by OData specification but still widely used.
public static final String	<i>EDMTIME_PATTERN</i> on page 386	EDM Time pattern.
public static String	<i>ELEMENT_FEED</i> on page 386	Name of the appropriate OData element.
public static final String	<i>ELEMENT_ID</i> on page 387	Name of the appropriate OData element.
public abstract String	<i>getAttribute(String...)</i> on page 374	Returns the value of the first attribute with the given route.
public abstract List< String >	<i>getAttributes(String...)</i> on page 374	Returns all the values of attributes with the given route.
public abstract Map< String, String >	<i>getChildAttributeMap(String...)</i> on page 375	Returns all the name-value pairs of attributes contained by the element with the given route.
public abstract List< String >	<i>getChildAttributes(String...)</i> on page 375	Returns all the values of attributes contained by the element with the given route.
public abstract List< IParserDocument >	<i>getChildDocuments(String...)</i> on page 375	Returns the elements contained by the element with the given route.
public abstract List< IParserDocument >	<i>getChildDocumentsWithAttribute(String, String, String...)</i> on page 376	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public abstract List< IParserDocument >	<i>getChildDocumentsWithAttribute(String, String, boolean, String...)</i> on page 376	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public abstract IParserDocument	<i>getDocument(String...)</i> on page 377	Returns the first element with the given route.
public abstract List< IParserDocument >	<i>getDocuments(String...)</i> on page 377	Returns all the elements with the given route.

Modifier and Type	Member	Description
public abstract List<IParserDocument >	<i>getDocumentsWithAttribute(String, String, String...)</i> on page 378	Returns the elements with the given route that contains the given attribute with the given value.
public abstract List<IParserDocument >	<i>getDocumentsWithAttribute(String, String, boolean, String...)</i> on page 378	Returns the elements with the given route that contains the given attribute with the given value.
public abstract IParserDocument	<i>getDocumentWithAttribute(String, String, String...)</i> on page 379	Returns the first element with the given route that contains the given attribute with the given value.
public abstract IParserDocument	<i>getDocumentWithAttribute(String, String, boolean, String...)</i> on page 379	Returns the first element with the given route that contains the given attribute with the given value.
public abstract String	<i>getElementName()</i> on page 380	Returns The name of the root element of this document.
public abstract String	<i>getFunctionImportComplexPropertyValue(String...)</i> on page 380	
public abstract String	<i>getPrefixForUri(String)</i> on page 380	Returns the appropriate namespace prefix for the given XML name-space URI.
public abstract String[]	<i>getStrings()</i> on page 381	Returns all the string values contained by this document.
public abstract String	<i>getValue(String...)</i> on page 381	Returns the value of the first element with the given route.
public abstract List<String >	<i>getValues(String...)</i> on page 381	Returns all the values of elements with the given route.
public abstract void	<i>putAttribute(String, String...)</i> on page 382	Sets the value of the attribute with the given route If attribute does not exist it will be created as well as all other non existing elements in the route.

Modifier and Type	Member	Description
public abstract void	<i>putDocument(IParserDocument, String...)</i> on page 382	Insert the document under the element with the given route inserted document will be placed before already existing documents with the same route name under All missing elements from the route will be created.
public abstract void	<i>putValue(String, String...)</i> on page 382	Sets the value of the first element with the given route.
public abstract boolean	<i>removeAttribute(String...)</i> on page 383	Removes first element with the given route.
public abstract boolean	<i>removeAttributes(String...)</i> on page 383	Removes all the attribute with the given route.
public abstract boolean	<i>removeDocument(String...)</i> on page 383	Removes first element with the given route For removing multiple element use setDocuemtns with null arguments.
public static final String	<i>ROOT_DOCUMENT_NAME</i> on page 387	The default root element name for a new document.
public abstract void	<i>setAttributes(List&lt;String&gt;, String...)</i> on page 384	Sets all the values of the attributes with the given route Values will be paired to attributes in order Attributes with greater or equals index than size of new values will be untouched Attributes paired with null values will be removed.
public abstract void	<i>setDocuments(List&lt;IParserDocument&gt;, String...)</i> on page 384	Replaces all the elements with the given route Documents will be paired to elements in order Elements with greater or equals index than size of new elements will be untouched Element paired with null will be removed.



Modifier and Type	Member	Description
public abstract void	<i>setElementName(String, String...)</i> on page 385	Sets the name of the root element with the given route Use empty route for setting root name of this document.
public abstract void	<i>setValues(List&lt; String &gt;, String...)</i> on page 385	Sets all the values of the elements with the given rout Values will be paired to elements in order Elements with greater or equals index than size of new values will be untouched Null values will be treated as empty strings.
public abstract String	<i>toXMLString()</i> on page 385	Returns the XML string representation of this object.
public static final String	<i>XMLNS_APPLICATION_URI</i> on page 387	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/08/dataservices">http://schemas.microsoft.com/ado/2007/08/dataservices</a> .
public static final String	<i>XMLNS_ATOM_URI</i> on page 387	Constant for XMLNS URI: <a href="http://www.w3.org/2005/Atom">http://www.w3.org/2005/Atom</a> .
public static final String	<i>XMLNS_DATASERVICES_URI</i> on page 387	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/08/dataservices">http://schemas.microsoft.com/ado/2007/08/dataservices</a> .
public static final String	<i>XMLNS_EDM_URI</i> on page 387	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/05/edm">http://schemas.microsoft.com/ado/2007/05/edm</a> .
public static final String	<i>XMLNS_EDMX_URI</i> on page 387	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/06/edmx">http://schemas.microsoft.com/ado/2007/06/edmx</a> .
public static final String	<i>XMLNS_GENERICPLAYER_URI</i> on page 388	Constant for XMLNS URI: <a href="http://www.sap.com/Protocols/SAPData/GenericPlayer">http://www.sap.com/Protocols/SAPData/GenericPlayer</a> .
public static final String	<i>XMLNS_METADATA_URI</i> on page 388	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/08/dataservices/metadata">http://schemas.microsoft.com/ado/2007/08/dataservices/metadata</a> .

Modifier and Type	Member	Description
public static final String	<i>XMLNS_SAP_URI</i> on page 388	Constant for XMLNS URI: <a href="http://www.sap.com/Protocols/SAPData">http://www.sap.com/Protocols/SAPData</a> .

**Inherited members from IPersistable**

Modifier and Type	Member	Description
public void	<i>read(BufferedReader)</i> on page 389	
public void	<i>write(BufferedWriter)</i> on page 389	

*ODataAssociationSet()* constructor*Syntax*

```
public ODataAssociationSet ()
```

*ODataAssociationSet(ParserDocument)* constructor*Syntax*

```
public ODataAssociationSet ( ParserDocument document )
```

*ODataAssociationSet(int[], String[])* constructor*Syntax*

```
protected ODataAssociationSet ( int[] routes , String[] values )
```

*getAssociation()* method

Returns the value of appropriate OData element.

*Syntax*

```
public String getAssociation ()
```

*Returns*

the value of appropriate OData element

*ODataCollection* class*Syntax*

```
public class ODataCollection extends ParserDocument,
IODataCollection
```

### Members

All members of `ODataCollection`, including inherited members. **Variables**

Modifier and Type	Variable	Description
protected String	<i>baseUrl</i> on page 516	
protected String	<i>collectionName</i> on page 516	
protected boolean	<i>isJson</i> on page 516	

### Constructors

Modifier and Type	Constructor	Description
public	<i>ODataCollection()</i> on page 511	
public	<i>ODataCollection(ParserDocument)</i> on page 511	
public	<i>ODataCollection(String)</i> on page 511	
protected	<i>ODataCollection(int[], String[])</i> on page 511	

### Methods

Modifier and Type	Method	Description
public int	<i>getDisplayOrder()</i> on page 511	Returns the value of the appropriate OData extension attribute.
public String	<i>getHref()</i> on page 511	Returns the value of the 'href' OData attribute.
public List< IODataIcon >	<i>getIcons()</i> on page 511	Returns list of the appropriate OData elements.
public String	<i>getId()</i> on page 512	Returns the value of the 'href' OData attribute as a relative href (matchable with appropriate entitySet)
public List< IODataLink >	<i>getLinks()</i> on page 512	Returns the value of the appropriate OData elements.

Modifier and Type	Method	Description
public String	<i>getMemberTitle()</i> on page 512	Returns the value of the appropriate OData element.
public IODataLink	<i>getSearchLink()</i> on page 512	Returns OData Link object that should be used for retrieving Open Search Description XML.
public String	<i>getSemantics()</i> on page 513	Returns the value of the appropriate OData attribute.
public IODataLink	<i>getSubscriptionLink()</i> on page 513	Returns OData Link object that should be used for subscription or null if there is no subscription link defined.
public String	<i>getTitle()</i> on page 513	Returns the value of the appropriate OData element.
public String	<i>getUrl()</i> on page 513	Returns OData Link object that should be used for self related operations.
public boolean	<i>isCreatable()</i> on page 513	Returns the value of the appropriate OData attribute.
public boolean	<i>isDeletable()</i> on page 514	Returns the value of the appropriate OData attribute.
public boolean	<i>isFilterable()</i> on page 514	Returns the value of the appropriate OData attribute.
public boolean	<i>isSearchable()</i> on page 514	Returns the value of the appropriate OData attribute.
public boolean	<i>isUpdatable()</i> on page 514	Returns the value of the appropriate OData attribute.
public void	<i>read(BufferedReader)</i> on page 515	
protected void	<i>setBaseUrl(String)</i> on page 515	
public void	<i>setEntitySet(IODataEntitySet)</i> on page 515	Sets the data held by the appropriate element of the OData Schema.

Modifier and Type	Method	Description
public void	<i>write(BufferedWriter)</i> on page 515	

### Inherited members from ParserDocument

Modifier and Type	Member	Description
static transient final String	<i>ANY_STRING</i> on page 963	
static transient final int	<i>ATTRIBUTE_ID</i> on page 963	
static transient final String	<i>ATTRIBUTE_STRING</i> on page 963	
public ParserDocument	<i>clone()</i> on page 945	Creates a copy of this object.
protected Map< String, String >	<i>extensions</i> on page 963	
public String	<i>getAttribute(String...)</i> on page 945	Returns the value of the first attribute with the given route.
public List< String >	<i>getAttributes(String...)</i> on page 946	Returns all the values of attributes with the given route.
protected int	<i>getAttributesEndPosition(int[], int, int)</i> on page 946	
public Map< String, String >	<i>getChildAttributeMap(String...)</i> on page 946	Returns all the name-value pairs of attributes contained by the element with the given route.
public List< String >	<i>getChildAttributes(String...)</i> on page 947	Returns all the values of attributes contained by the element with the given route.
public List< IParserDocument >	<i>getChildDocuments(String...)</i> on page 947	Returns the elements contained by the element with the given route.
public List< IParserDocument >	<i>getChildDocumentsWithAttribute(String, String, String...)</i> on page 947	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public List< IParserDocument >	<i>getChildDocumentsWithAttribute(String, String, boolean, String...)</i> on page 948	Returns the elements contained by the element with the given route and having the given attribute with the given value.

Modifier and Type	Member	Description
public ParserDocument	<i>getDocument(String...)</i> on page 948	Returns the first element with the given route.
protected List< int[]>	<i>getDocumentPositions(String[], int, boolean, boolean)</i> on page 949	
public List< IParserDocument >	<i>getDocuments(String...)</i> on page 949	Returns all the elements with the given route.
public List< IParserDocument >	<i>getDocumentsWithAttribute(String, String, String...)</i> on page 949	Returns the elements with the given route that contains the given attribute with the given value.
public List< IParserDocument >	<i>getDocumentsWithAttribute(String, String, boolean, String...)</i> on page 950	Returns the elements with the given route that contains the given attribute with the given value.
public IParserDocument	<i>getDocumentWithAttribute(String, String, String...)</i> on page 950	Returns the first element with the given route that contains the given attribute with the given value.
public IParserDocument	<i>getDocumentWithAttribute(String, String, boolean, String...)</i> on page 951	Returns the first element with the given route that contains the given attribute with the given value.
public String	<i>getElementName()</i> on page 951	Returns The name of the root element of this document.
public String	<i>getExtension(String)</i> on page 952	
public String	<i>getFunctionImportComplexProperty Value(String...)</i> on page 952	
static int	<i>getNameId(String, boolean, boolean)</i> on page 952	
public static List< String >	<i>getNameMap()</i> on page 952	
public static String	<i>getPrefix(String)</i> on page 952	

Modifier and Type	Member	Description
public String	<i>getPrefixForUri(String)</i> on page 952	Returns the appropriate name-space prefix for the given XML name-space URI.
public static Map< String, String >	<i>getPrefixMapping()</i> on page 953	
protected List< Integer >	<i>getStringPositions(String[], int, boolean, boolean)</i> on page 953	
public String[]	<i>getStrings()</i> on page 953	Returns all the string values contained by this document.
public String	<i>getValue(String...)</i> on page 953	Returns the value of the first element with the given route.
public List< String >	<i>getValues(String...)</i> on page 953	Returns all the values of elements with the given route.
protected int[]	<i>insertRoutePositions(int[], int, int[])</i> on page 954	
protected void	<i>insertRoutesPositions(int, int[])</i> on page 954	
protected void	<i>insertStringsPositions(int, String[])</i> on page 954	
protected String[]	<i>insertStringsPositions(String[], int, String[])</i> on page 954	
boolean	<i>isComplexEntity</i> on page 963	
protected boolean	<i>isMatched(String, String)</i> on page 954	
static List< String >	<i>nameMap</i> on page 963	
	<i>ParserDocument()</i> on page 945	
	<i>ParserDocument(boolean)</i> on page 945	
public	<i>ParserDocument(String)</i> on page 944	

Modifier and Type	Member	Description
public	<i>ParserDocument(ParserDocu-ment)</i> on page 944	
protected	<i>ParserDocument(int[], String[])</i> on page 945	
protected	<i>ParserDocument(String, boo-lean)</i> on page 945	
static Map< String, String >	<i>prefixMapping</i> on page 964	
public void	<i>putAttribute(String, String...)</i> on page 955	Sets the value of the attribute with the given route If attribute does not exist it will be created as well as all other non existing elements in the route.
public void	<i>putDocument(IParserDocu-ment, String...)</i> on page 955	Insert the document under the element with the given route in-serted document will be placed before already existing docu-ments with the same route name under All missing elements from the route will be created.
public void	<i>putExtension(String, String)</i> on page 955	
protected void	<i>putString(int, String, int, String...)</i> on page 956	
public void	<i>putValue(String, String...)</i> on page 956	Sets the value of the first ele-ment with the given route.
public void	<i>readExternal(ObjectInput)</i> on page 956	
public static void	<i>readNameMap(BufferedReader)</i> on page 957	
public boolean	<i>removeAttribute(String...)</i> on page 957	Removes first element with the given route.
public boolean	<i>removeAttributes(String...)</i> on page 957	Removes all the attribute with the given route.



Modifier and Type	Member	Description
public boolean	<i>removeDocument(String...)</i> on page 957	Removes first element with the given route For removing multiple element use setDocuemtns with null arguments.
public void	<i>removeExtension(String)</i> on page 958	
protected void	<i>removeRoutesPositions(int, int)</i> on page 958	
protected int[]	<i>removeRoutesPositions(int[], int, int)</i> on page 958	
protected boolean	<i>removeString(String...)</i> on page 958	
protected boolean	<i>removeStrings(String...)</i> on page 958	
protected void	<i>removeStringsPositions(int, int)</i> on page 958	
protected String[]	<i>removeStringsPositions(String[], int, int)</i> on page 958	
protected int	<i>replaceRoutesPositions(int, int, int[])</i> on page 959	
protected int[]	<i>replaceRoutesPositions(int[], int, int, int[])</i> on page 959	
protected int	<i>replaceStringsPositions(int, int, String[])</i> on page 959	
protected String[]	<i>replaceStringsPositions(String[], int, int, String[])</i> on page 959	
public static String	<i>resolveUrl(String, String)</i> on page 959	
protected int[]	<i>routes</i> on page 964	
public void	<i>setAttribute(String, String...)</i> on page 959	

Modifier and Type	Member	Description
public void	<i>setAttributes(List&lt; String &gt;, String...)</i> on page 960	Sets all the values of the attributes with the given route Values will be paired to attributes in order Attributes with greater or equals index than size of new values will be untouched Attributes paired with null values will be removed.
public boolean	<i>setDocument(IParserDocument, String...)</i> on page 960	
public void	<i>setDocuments(List&lt; IParserDocument &gt;, String...)</i> on page 960	Replaces all the elements with the given route Documents will be paired to elements in order Elements with greater or equals index than size of new elements will be untouched Element paired with null will be removed.
public void	<i>setElementName(String, String...)</i> on page 961	Sets the name of the root element with the given route Use empty route for setting root name of this document.
public static void	<i>setNameMap(List&lt; String &gt;)</i> on page 961	
public static void	<i>setPrefixMapping(Map&lt; String, String &gt;)</i> on page 961	
protected void	<i>setString(String, String...)</i> on page 961	
protected void	<i>setStrings(List&lt; String &gt;, String...)</i> on page 961	
public void	<i>setValue(String, String...)</i> on page 961	

Modifier and Type	Member	Description
public void	<i>setValues(List&lt;String&gt;, String...)</i> on page 962	Sets all the values of the elements with the given route. Values will be paired to elements in order. Elements with greater or equals index than size of new values will be untouched. Null values will be treated as empty strings.
protected String[]	<i>strings</i> on page 964	
public String	<i>toXMLString()</i> on page 962	Returns the XML string representation of this object.
protected static final String	<i>URL_PROTOCOL_PREFIX</i> on page 964	
static transient final int	<i>VALUE_ID</i> on page 964	
static transient final String	<i>VALUE_STRING</i> on page 964	
public void	<i>writeExternal(ObjectOutput)</i> on page 962	
public static void	<i>writeNameMap(BufferedWriter)</i> on page 963	

#### Inherited members from IParserDocument

Modifier and Type	Member	Description
public static final String	<i>ATTRIBUTE_ETAG</i> on page 386	Name of the appropriate OData element.
public static final String	<i>ATTRIBUTE_VALUEPREFIX_EDMTYPE</i> on page 386	Value prefix for EDM Type type values.
public static Map<String, String>	<i>DEFAULT_PREFIXMAPPING</i> on page 386	The default XML Namespace-to-Prefix mapping used for building XMLS.
public static final String[]	<i>EDMDATETIME_PATTERNS</i> on page 386	Possible EDM DateTime patterns. Note: Some patterns are not supported by OData specification but still widely used.

Modifier and Type	Member	Description
public static final String[]	<i>EDMDATETIMEOFFSET_PATTERNS</i> on page 386	Possible EDM TimeOffset patterns Note: Some pattern are not supported by OData specification but still widely used.
public static final String	<i>EDMTIME_PATTERN</i> on page 386	EDM Time pattern.
public static String	<i>ELEMENT_FEED</i> on page 386	Name of the appropriate OData element.
public static final String	<i>ELEMENT_ID</i> on page 387	Name of the appropriate OData element.
public static final String	<i>ROOT_DOCUMENT_NAME</i> on page 387	The default root element name for a new document.
public static final String	<i>XMLNS_APPLICATION_URI</i> on page 387	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/08/dataservices">http://schemas.microsoft.com/ado/2007/08/dataservices</a> .
public static final String	<i>XMLNS_ATOM_URI</i> on page 387	Constant for XMLNS URI: <a href="http://www.w3.org/2005/Atom">http://www.w3.org/2005/Atom</a> .
public static final String	<i>XMLNS_DATASERVICES_URI</i> on page 387	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/08/dataservices">http://schemas.microsoft.com/ado/2007/08/dataservices</a> .
public static final String	<i>XMLNS_EDM_URI</i> on page 387	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/05/edm">http://schemas.microsoft.com/ado/2007/05/edm</a> .
public static final String	<i>XMLNS_EDMX_URI</i> on page 387	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/06/edmx">http://schemas.microsoft.com/ado/2007/06/edmx</a> .
public static final String	<i>XMLNS_GENERICPLAYER_URI</i> on page 388	Constant for XMLNS URI: <a href="http://www.sap.com/Protocols/SAPData/GenericPlayer">http://www.sap.com/Protocols/SAPData/GenericPlayer</a> .
public static final String	<i>XMLNS_METADATA_URI</i> on page 388	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/08/dataservices/metadata">http://schemas.microsoft.com/ado/2007/08/dataservices/metadata</a> .

Modifier and Type	Member	Description
public static final String	<i>XMLNS_SAP_URI</i> on page 388	Constant for XMLNS URI: <a href="http://www.sap.com/Protocols/SAPData">http://www.sap.com/Protocols/SAPData</a> .

**Inherited members from IPersistable**

Modifier and Type	Member	Description
public void	<i>read(BufferedReader)</i> on page 389	
public void	<i>write(BufferedWriter)</i> on page 389	

**Inherited members from IODataCollection**

Modifier and Type	Member	Description
public static final String	<i>ATTRIBUTE_CREATABLE</i> on page 169	Name of the appropriate OData attribute.
public static final String	<i>ATTRIBUTE_DELETABLE</i> on page 169	Name of the appropriate OData attribute.
public static final String	<i>ATTRIBUTE_DISPLAYORDER</i> on page 169	Name of the appropriate OData extension attribute.
public static final String	<i>ATTRIBUTE_FILTERABLE</i> on page 169	Name of the appropriate OData attribute.
public static final String	<i>ATTRIBUTE_HREF</i> on page 170	Name of the appropriate OData attribute.
public static final String	<i>ATTRIBUTE_SEARCHABLE</i> on page 170	Name of the appropriate OData attribute.
public static final String	<i>ATTRIBUTE_SEMANTICS</i> on page 170	Name of the appropriate OData attribute.
public static final String	<i>ATTRIBUTE_UPDATABLE</i> on page 170	Name of the appropriate OData attribute.
public static final String	<i>ATTRIBUTE_VALUE_REL_SEARCH</i> on page 170	Possible value of the appropriate OData attribute.

Modifier and Type	Member	Description
public static final String	<i>ELEMENT_COLLECTION</i> on page 170	Name of the appropriate OData element.
public static final String	<i>ELEMENT_LINK</i> on page 170	Name of the appropriate OData element.
public static final String	<i>ELEMENT_MEMBERTITLE</i> on page 171	Name of the appropriate OData element.
public static final String	<i>ELEMENT_TITLE</i> on page 171	Name of the appropriate OData element.

### Inherited members from *IParserDocument*

Modifier and Type	Member	Description
public static final String	<i>ATTRIBUTE_ETAG</i> on page 386	Name of the appropriate OData element.
public static final String	<i>ATTRIBUTE_VALUEPREFIX_EDMTYPE</i> on page 386	Value prefix for EDM Type type values.
public abstract <i>IParserDocument</i>	<i>clone()</i> on page 374	Creates a copy of this object.
public static Map< String, String >	<i>DEFAULT_PREFIXMAPPING</i> on page 386	The default XML Namespace-to-Prefix mapping used for building XMLS.
public static final String[]	<i>EDMDATETIME_PATTERNS</i> on page 386	Possible EDM DateTime patterns Note: Some pattern are not supported by OData specification but still widely used.
public static final String[]	<i>EDMDATETIMEOFFSET_PATTERNS</i> on page 386	Possible EDM DateTimeOffset patterns Note: Some pattern are not supported by OData specification but still widely used.
public static final String	<i>EDMTIME_PATTERN</i> on page 386	EDM Time pattern.
public static String	<i>ELEMENT_FEED</i> on page 386	Name of the appropriate OData element.
public static final String	<i>ELEMENT_ID</i> on page 387	Name of the appropriate OData element.

Modifier and Type	Member	Description
public abstract String	<i>getAttribute(String...)</i> on page 374	Returns the value of the first attribute with the given route.
public abstract List< String >	<i>getAttributes(String...)</i> on page 374	Returns all the values of attributes with the given route.
public abstract Map< String, String >	<i>getChildAttributeMap(String...)</i> on page 375	Returns all the name-value pairs of attributes contained by the element with the given route.
public abstract List< String >	<i>getChildAttributes(String...)</i> on page 375	Returns all the values of attributes contained by the element with the given route.
public abstract List< IParseDocument >	<i>getChildDocuments(String...)</i> on page 375	Returns the elements contained by the element with the given route.
public abstract List< IParseDocument >	<i>getChildDocumentsWithAttribute(String, String, String...)</i> on page 376	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public abstract List< IParseDocument >	<i>getChildDocumentsWithAttribute(String, String, boolean, String...)</i> on page 376	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public abstract IParseDocument	<i>getDocument(String...)</i> on page 377	Returns the first element with the given route.
public abstract List< IParseDocument >	<i>getDocuments(String...)</i> on page 377	Returns all the elements with the given route.
public abstract List< IParseDocument >	<i>getDocumentsWithAttribute(String, String, String...)</i> on page 378	Returns the elements with the given route that contains the given attribute with the given value.
public abstract List< IParseDocument >	<i>getDocumentsWithAttribute(String, String, boolean, String...)</i> on page 378	Returns the elements with the given route that contains the given attribute with the given value.

Modifier and Type	Member	Description
public abstract IParserDocument	<i>getDocumentWithAttribute(String, String, String...)</i> on page 379	Returns the first element with the given route that contains the given attribute with the given value.
public abstract IParserDocument	<i>getDocumentWithAttribute(String, String, boolean, String...)</i> on page 379	Returns the first element with the given route that contains the given attribute with the given value.
public abstract String	<i>getElementName()</i> on page 380	Returns The name of the root element of this document.
public abstract String	<i>getFunctionImportComplexProperty Value(String...)</i> on page 380	
public abstract String	<i>getPrefixForUri(String)</i> on page 380	Returns the appropriate namespace prefix for the given XML name-space URI.
public abstract String[]	<i>getStrings()</i> on page 381	Returns all the string values contained by this document.
public abstract String	<i>getValue(String...)</i> on page 381	Returns the value of the first element with the given route.
public abstract List< String >	<i>getValues(String...)</i> on page 381	Returns all the values of elements with the given route.
public abstract void	<i>putAttribute(String, String...)</i> on page 382	Sets the value of the attribute with the given route If attribute does not exist it will be created as well as all other non existing elements in the route.
public abstract void	<i>putDocument(IParserDocument, String...)</i> on page 382	Insert the document under the element with the given route inserted document will be placed before already existing documents with the same route name under All missing elements from the route will be created.
public abstract void	<i>putValue(String, String...)</i> on page 382	Sets the value of the first element with the given route.



Modifier and Type	Member	Description
public abstract boolean	<i>removeAttribute(String...)</i> on page 383	Removes first element with the given route.
public abstract boolean	<i>removeAttributes(String...)</i> on page 383	Removes all the attribute with the given route.
public abstract boolean	<i>removeDocument(String...)</i> on page 383	Removes first element with the given route For removing multiple element use setDocuemtns with null arguments.
public static final String	<i>ROOT_DOCUMENT_NAME</i> on page 387	The default root element name for a new document.
public abstract void	<i>setAttributes(List&lt;String&gt;, String...)</i> on page 384	Sets all the values of the attributes with the given route Values will be paired to attributes in order Attributes with greater or equals index than size of new values will be untouched Attributes paired with null values will be removed.
public abstract void	<i>setDocuments(List&lt;IParserDocument&gt;, String...)</i> on page 384	Replaces all the elements with the given route Documents will be paired to elements in order Elements with greater or equals index than size of new elements will be untouched Element paired with null will be removed.
public abstract void	<i>setElementName(String, String...)</i> on page 385	Sets the name of the root element with the given route Use empty route for setting root name of this document.
public abstract void	<i>setValues(List&lt;String&gt;, String...)</i> on page 385	Sets all the values of the elements with the given rout Values will be paired to elements in order Elements with greater or equals index than size of new values will be untouched Null values will be treated as empty strings.

Modifier and Type	Member	Description
public abstract String	<i>toXMLString()</i> on page 385	Returns the XML string representation of this object.
public static final String	<i>XMLNS_APPLICATION_URI</i> on page 387	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/08/dataservices">http://schemas.microsoft.com/ado/2007/08/dataservices</a> .
public static final String	<i>XMLNS_ATOM_URI</i> on page 387	Constant for XMLNS URI: <a href="http://www.w3.org/2005/Atom">http://www.w3.org/2005/Atom</a> .
public static final String	<i>XMLNS_DATASERVICES_URI</i> on page 387	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/08/dataservices">http://schemas.microsoft.com/ado/2007/08/dataservices</a> .
public static final String	<i>XMLNS_EDM_URI</i> on page 387	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/05/edm">http://schemas.microsoft.com/ado/2007/05/edm</a> .
public static final String	<i>XMLNS_EDMX_URI</i> on page 387	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/06/edmx">http://schemas.microsoft.com/ado/2007/06/edmx</a> .
public static final String	<i>XMLNS_GENERICPLAYER_URI</i> on page 388	Constant for XMLNS URI: <a href="http://www.sap.com/Protocols/SAPData/GenericPlayer">http://www.sap.com/Protocols/SAPData/GenericPlayer</a> .
public static final String	<i>XMLNS_METADATA_URI</i> on page 388	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/08/dataservices/metadata">http://schemas.microsoft.com/ado/2007/08/dataservices/metadata</a> .
public static final String	<i>XMLNS_SAP_URI</i> on page 388	Constant for XMLNS URI: <a href="http://www.sap.com/Protocols/SAPData">http://www.sap.com/Protocols/SAPData</a> .

#### Inherited members from IPersistable

Modifier and Type	Member	Description
public void	<i>read(BufferedReader)</i> on page 389	
public void	<i>write(BufferedWriter)</i> on page 389	

*ODataCollection()* constructor**Syntax**

```
public ODataCollection ()
```

*ODataCollection(ParserDocument)* constructor**Syntax**

```
public ODataCollection ( ParserDocument document )
```

*ODataCollection(String)* constructor**Syntax**

```
public ODataCollection ( String string )
```

*ODataCollection(int[], String[])* constructor**Syntax**

```
protected ODataCollection ( int[] routes , String[] values )
```

*getDisplayOrder()* method

Returns the value of the appropriate OData extension attribute.

**Syntax**

```
public int getDisplayOrder ()
```

**Returns**

The value of the appropriate OData extension attribute

*getHref()* method

Returns the value of the 'href' OData attribute.

**Syntax**

```
public String getHref ()
```

**Returns**

The value of the 'href' OData attribute

*getIcons()* method

Returns list of the appropriate OData elements.

**Syntax**

```
public List< IODataIcon > getIcons ()
```

### *Returns*

list of the appropriate OData elements

### *getId() method*

Returns the value of the 'href' OData attribute as a relative href (matchable with appropriate entitySet)

### *Syntax*

```
public String getId ()
```

### *Returns*

The value of the 'href' OData attribute

### *getLinks() method*

Returns the value of the appropriate OData elements.

### *Syntax*

```
public List< IODataLink > getLinks ()
```

### *Returns*

The value of the appropriate OData elements

### *getMemberTitle() method*

Returns the value of the appropriate OData element.

### *Syntax*

```
public String getMemberTitle ()
```

### *Returns*

The value of the appropriate OData element

### *getSearchLink() method*

Returns OData Link object that should be used for retrieving Open Search Description XML.

### *Syntax*

```
public IODataLink getSearchLink ()
```

### *Returns*

OData Link for search

*getSemantics() method*

Returns the value of the appropriate OData attribute.

*Syntax*

```
public String getSemantics ()
```

*Returns*

The value of the appropriate OData attribute

*getSubscriptionLink() method*

Returns OData Link object that should be used for subscription or null if there is no subscription link defined.

*Syntax*

```
public IODataLink getSubscriptionLink ()
```

*Returns*

OData Link for subscribe

*getTitle() method*

Returns the value of the appropriate OData element.

*Syntax*

```
public String getTitle ()
```

*Returns*

The value of the appropriate OData element

*getUrl() method*

Returns OData Link object that should be used for self related operations.

*Syntax*

```
public String getUrl ()
```

*Returns*

OData Link for self Returns the full URL of the collectionThe full URL of the collection

*isCreatable() method*

Returns the value of the appropriate OData attribute.

*Syntax*

```
public boolean isCreatable ()
```

### *Returns*

The value of the appropriate OData attribute

### *isDeletable() method*

Returns the value of the appropriate OData attribute.

### *Syntax*

```
public boolean isDeletable ()
```

### *Returns*

The value of the appropriate OData attribute

### *isFilterable() method*

Returns the value of the appropriate OData attribute.

### *Syntax*

```
public boolean isFilterable ()
```

### *Returns*

The value of the appropriate OData attribute

### *isSearchable() method*

Returns the value of the appropriate OData attribute.

### *Syntax*

```
public boolean isSearchable ()
```

### *Returns*

The value of the appropriate OData attribute

### *isUpdatable() method*

Returns the value of the appropriate OData attribute.

### *Syntax*

```
public boolean isUpdatable ()
```

### *Returns*

The value of the appropriate OData attribute

*read(BufferedReader) method**Syntax*

```
public void read (BufferedReader reader) throws
PersistenceException
```

*Parameters*

- **reader** – The buffered reader to read the object from.

*Exceptions*

- **PersistenceException** – if data can not be loaded from the reader.

*setBaseUrl(String) method**Syntax*

```
protected void setBaseUrl (String baseUrl)
```

*setEntitySet(IODataEntitySet) method*

Sets the data held by the appropriate element of the OData Schema.

*Syntax*

```
public void setEntitySet ( IODataEntitySet entitySet)
```

*Parameters*

- **entitySet** – The OData EntitySet to use the data from.

*Usage*

If EntitySet is set base attributes of collection will be overwritten with the appropriate values of the EntitySet.

*write(BufferedWriter) method**Syntax*

```
public void write (BufferedWriter writer) throws
PersistenceException
```

*Parameters*

- **writer** – The buffered writer that object data needs to be written into.

*Exceptions*

- **PersistenceException** – if data can not be written into the writer

*baseUrl variable*

*Syntax*

```
protected String baseUrl
```

*collectionName variable*

*Syntax*

```
protected String collectionName
```

*isJson variable*

*Syntax*

```
protected boolean isJson
```

*ODataComplexType class*

*Syntax*

```
public class ODataComplexType extends ParserDocument,
IODataComplexType
```

*Members*

All members of ODataComplexType, including inherited members. **Constructors**

Modifier and Type	Constructor	Description
public	<i>ODataComplexType()</i> on page 530	
public	<i>ODataComplexType(ParserDocument)</i> on page 530	
protected	<i>ODataComplexType(int[], String[])</i> on page 531	

**Methods**

Modifier and Type	Method	Description
public String	<i>getName()</i> on page 531	Returns the value of the appropriate OData element.



Modifier and Type	Method	Description
public List< IODataProperty >	<i>getProperties()</i> on page 531	Returns the list of the appropriate OData elements.

### Inherited members from ParserDocument

Modifier and Type	Member	Description
static transient final String	<i>ANY_STRING</i> on page 963	
static transient final int	<i>ATTRIBUTE_ID</i> on page 963	
static transient final String	<i>ATTRIBUTE_STRING</i> on page 963	
public ParserDocument	<i>clone()</i> on page 945	Creates a copy of this object.
protected Map< String, String >	<i>extensions</i> on page 963	
public String	<i>getAttribute(String...)</i> on page 945	Returns the value of the first attribute with the given route.
public List< String >	<i>getAttributes(String...)</i> on page 946	Returns all the values of attributes with the given route.
protected int	<i>getAttributesEndPosition(int[], int, int)</i> on page 946	
public Map< String, String >	<i>getChildAttributeMap(String...)</i> on page 946	Returns all the name-value pairs of attributes contained by the element with the given route.
public List< String >	<i>getChildAttributes(String...)</i> on page 947	Returns all the values of attributes contained by the element with the given route.
public List< IParserDocument >	<i>getChildDocuments(String...)</i> on page 947	Returns the elements contained by the element with the given route.
public List< IParserDocument >	<i>getChildDocumentsWithAttribute(String, String, String...)</i> on page 947	Returns the elements contained by the element with the given route and having the given attribute with the given value.

Modifier and Type	Member	Description
public List< IParserDocument >	<i>getChildDocumentsWithAttribute(String, String, boolean, String...)</i> on page 948	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public ParserDocument	<i>getDocument(String...)</i> on page 948	Returns the first element with the given route.
protected List< int[] >	<i>getDocumentPositions(String[], int, boolean, boolean)</i> on page 949	
public List< IParserDocument >	<i>getDocuments(String...)</i> on page 949	Returns all the elements with the given route.
public List< IParserDocument >	<i>getDocumentsWithAttribute(String, String, String...)</i> on page 949	Returns the elements with the given route that contains the given attribute with the given value.
public List< IParserDocument >	<i>getDocumentsWithAttribute(String, String, boolean, String...)</i> on page 950	Returns the elements with the given route that contains the given attribute with the given value.
public IParserDocument	<i>getDocumentWithAttribute(String, String, String...)</i> on page 950	Returns the first element with the given route that contains the given attribute with the given value.
public IParserDocument	<i>getDocumentWithAttribute(String, String, boolean, String...)</i> on page 951	Returns the first element with the given route that contains the given attribute with the given value.
public String	<i>getElementName()</i> on page 951	Returns The name of the root element of this document.
public String	<i>getExtension(String)</i> on page 952	
public String	<i>getFunctionImportComplexProperty Value(String...)</i> on page 952	

Modifier and Type	Member	Description
static int	<i>getNameId(String, boolean, boolean)</i> on page 952	
public static List< String >	<i>getNameMap()</i> on page 952	
public static String	<i>getPrefix(String)</i> on page 952	
public String	<i>getPrefixForUri(String)</i> on page 952	Returns the appropriate name-space prefix for the given XML name-space URI.
public static Map< String, String >	<i>getPrefixMapping()</i> on page 953	
protected List< Integer >	<i>getStringPositions(String[], int, boolean, boolean)</i> on page 953	
public String[]	<i>getStrings()</i> on page 953	Returns all the string values contained by this document.
public String	<i>getValue(String...)</i> on page 953	Returns the value of the first element with the given route.
public List< String >	<i>getValues(String...)</i> on page 953	Returns all the values of elements with the given route.
protected int[]	<i>insertRoutePositions(int[], int, int[])</i> on page 954	
protected void	<i>insertRoutesPositions(int, int[])</i> on page 954	
protected void	<i>insertStringsPositions(int, String[])</i> on page 954	
protected String[]	<i>insertStringsPositions(String[], int, String[])</i> on page 954	
boolean	<i>isComplexEntity</i> on page 963	
boolean	<i>isJson</i> on page 963	
protected boolean	<i>isMatched(String, String)</i> on page 954	

Modifier and Type	Member	Description
static List< String >	<i>nameMap</i> on page 963	
	<i>ParserDocument()</i> on page 945	
	<i>ParserDocument(boolean)</i> on page 945	
public	<i>ParserDocument(String)</i> on page 944	
public	<i>ParserDocument(ParserDocument)</i> on page 944	
protected	<i>ParserDocument(int[], String[])</i> on page 945	
protected	<i>ParserDocument(String, boolean)</i> on page 945	
static Map< String, String >	<i>prefixMapping</i> on page 964	
public void	<i>putAttribute(String, String...)</i> on page 955	Sets the value of the attribute with the given route. If attribute does not exist it will be created as well as all other non existing elements in the route.
public void	<i>putDocument(IParserDocument, String...)</i> on page 955	Insert the document under the element with the given route. Inserted document will be placed before already existing documents with the same route name under. All missing elements from the route will be created.
public void	<i>putExtension(String, String)</i> on page 955	
protected void	<i>putString(int, String, int, String...)</i> on page 956	
public void	<i>putValue(String, String...)</i> on page 956	Sets the value of the first element with the given route.
public void	<i>read(BufferedReader)</i> on page 956	

Modifier and Type	Member	Description
public void	<i>readExternal(ObjectInput)</i> on page 956	
public static void	<i>readNameMap(BufferedReader)</i> on page 957	
public boolean	<i>removeAttribute(String...)</i> on page 957	Removes first element with the given route.
public boolean	<i>removeAttributes(String...)</i> on page 957	Removes all the attribute with the given route.
public boolean	<i>removeDocument(String...)</i> on page 957	Removes first element with the given route For removing multiple element use setDocuemtns with null arguments.
public void	<i>removeExtension(String)</i> on page 958	
protected void	<i>removeRoutesPositions(int, int)</i> on page 958	
protected int[]	<i>removeRoutesPositions(int[], int, int)</i> on page 958	
protected boolean	<i>removeString(String...)</i> on page 958	
protected boolean	<i>removeStrings(String...)</i> on page 958	
protected void	<i>removeStringsPositions(int, int)</i> on page 958	
protected String[]	<i>removeStringsPositions(String[], int, int)</i> on page 958	
protected int	<i>replaceRoutesPositions(int, int, int[])</i> on page 959	
protected int[]	<i>replaceRoutesPositions(int[], int, int, int[])</i> on page 959	
protected int	<i>replaceStringsPositions(int, int, String[])</i> on page 959	

Modifier and Type	Member	Description
protected String[]	<i>replaceStringsPositions(String[], int, int, String[])</i> on page 959	
public static String	<i>resolveUrl(String, String)</i> on page 959	
protected int[]	<i>routes</i> on page 964	
public void	<i>setAttribute(String, String...)</i> on page 959	
public void	<i>setAttributes(List&lt;String&gt;, String...)</i> on page 960	Sets all the values of the attributes with the given route Values will be paired to attributes in order Attributes with greater or equals index than size of new values will be untouched Attributes paired with null values will be removed.
public boolean	<i>setDocument(IParserDocument, String...)</i> on page 960	
public void	<i>setDocuments(List&lt;IParserDocument&gt;, String...)</i> on page 960	Replaces all the elements with the given route Documents will be paired to elements in order Elements with greater or equals index than size of new elements will be untouched Element paired with null will be removed.
public void	<i>setElementName(String, String...)</i> on page 961	Sets the name of the root element with the given route Use empty route for setting root name of this document.
public static void	<i>setNameMap(List&lt;String&gt;)</i> on page 961	
public static void	<i>setPrefixMapping(Map&lt;String, String&gt;)</i> on page 961	
protected void	<i>setString(String, String...)</i> on page 961	

Modifier and Type	Member	Description
protected void	<i>setStrings(List&lt; String &gt;, String...)</i> on page 961	
public void	<i>setValue(String, String...)</i> on page 961	
public void	<i>setValues(List&lt; String &gt;, String...)</i> on page 962	Sets all the values of the elements with the given route Values will be paired to elements in order Elements with greater or equals index than size of new values will be untouched Null values will be treated as empty strings.
protected String[]	<i>strings</i> on page 964	
public String	<i>toXMLString()</i> on page 962	Returns the XML string representation of this object.
protected static final String	<i>URL_PROTOCOL_PREFIX</i> on page 964	
static transient final int	<i>VALUE_ID</i> on page 964	
static transient final String	<i>VALUE_STRING</i> on page 964	
public void	<i>write(BufferedWriter)</i> on page 962	
public void	<i>writeExternal(ObjectOutput)</i> on page 962	
public static void	<i>writeNameMap(BufferedWriter)</i> on page 963	

#### Inherited members from IParserDocument

Modifier and Type	Member	Description
public static final String	<i>ATTRIBUTE_ETAG</i> on page 386	Name of the appropriate OData element.
public static final String	<i>ATTRIBUTE_VALUEPREFIX_EDMTYPE</i> on page 386	Value prefix for EDM Type type values.

Modifier and Type	Member	Description
public static Map< String, String >	<i>DEFAULT_PREFIXMAP-PING</i> on page 386	The default XML Namespace-to-Prefix mapping used for building XMLS.
public static final String[]	<i>EDMDATETIME_PATTERNS</i> on page 386	Possible EDM DateTime patterns Note: Some pattern are not supported by OData specification but still widely used.
public static final String[]	<i>EDMDATETIMEOFFSET_PATTERNS</i> on page 386	Possible EDM TimeOffset patterns Note: Some pattern are not supported by OData specification but still widely used.
public static final String	<i>EDMTIME_PATTERN</i> on page 386	EDM Time pattern.
public static String	<i>ELEMENT_FEED</i> on page 386	Name of the appropriate OData element.
public static final String	<i>ELEMENT_ID</i> on page 387	Name of the appropriate OData element.
public static final String	<i>ROOT_DOCUMENT_NAME</i> on page 387	The default root element name for a new document.
public static final String	<i>XMLNS_APPLICATION_URI</i> on page 387	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/08/dataservices">http://schemas.microsoft.com/ado/2007/08/dataservices</a> .
public static final String	<i>XMLNS_ATOM_URI</i> on page 387	Constant for XMLNS URI: <a href="http://www.w3.org/2005/Atom">http://www.w3.org/2005/Atom</a> .
public static final String	<i>XMLNS_DATASERVICES_URI</i> on page 387	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/08/dataservices">http://schemas.microsoft.com/ado/2007/08/dataservices</a> .
public static final String	<i>XMLNS_EDM_URI</i> on page 387	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/05/edm">http://schemas.microsoft.com/ado/2007/05/edm</a> .
public static final String	<i>XMLNS_EDMX_URI</i> on page 387	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/06/edmx">http://schemas.microsoft.com/ado/2007/06/edmx</a> .



Modifier and Type	Member	Description
public static final String	<i>XMLNS_GENERICPLAYER_URI</i> on page 388	Constant for XMLNS URI: <a href="http://www.sap.com/Protocols/SAPData/GenericPlayer">http://www.sap.com/Protocols/SAPData/GenericPlayer</a> .
public static final String	<i>XMLNS_METADATA_URI</i> on page 388	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/08/dataservices/metadata">http://schemas.microsoft.com/ado/2007/08/dataservices/metadata</a> .
public static final String	<i>XMLNS_SAP_URI</i> on page 388	Constant for XMLNS URI: <a href="http://www.sap.com/Protocols/SAPData">http://www.sap.com/Protocols/SAPData</a> .

#### Inherited members from IPersistable

Modifier and Type	Member	Description
public void	<i>read(BufferedReader)</i> on page 389	
public void	<i>write(BufferedWriter)</i> on page 389	

#### Inherited members from IODataComplexType

Modifier and Type	Member	Description
public static final String	<i>ATTRIBUTE_NAME</i> on page 177	Name of the appropriate OData attribute.
public static final String	<i>ELEMENT_COMPLEXTYPE</i> on page 177	Name of the appropriate OData element.
public static final String	<i>ELEMENT_PROPERTY</i> on page 177	Name of the appropriate OData element.

#### Inherited members from IParserDocument

Modifier and Type	Member	Description
public static final String	<i>ATTRIBUTE_ETAG</i> on page 386	Name of the appropriate OData element.
public static final String	<i>ATTRIBUTE_VALUEPREFIX_EDMTYPE</i> on page 386	Value prefix for EDM Type type values.

Modifier and Type	Member	Description
public abstract IParserDocument	<i>clone()</i> on page 374	Creates a copy of this object.
public static Map< String, String >	<i>DEFAULT_PREFIXMAP-PING</i> on page 386	The default XML Namespace-to-Prefix mapping used for building XMLS.
public static final String[]	<i>EDMDATETIME_PATTERNS</i> on page 386	Possible EDM DateTime patterns Note: Some pattern are not supported by OData specification but still widely used.
public static final String[]	<i>EDMDATETIMEOFFSET_PATTERNS</i> on page 386	Possible EDM TimeOffset patterns Note: Some pattern are not supported by OData specification but still widely used.
public static final String	<i>EDMTIME_PATTERN</i> on page 386	EDM Time pattern.
public static String	<i>ELEMENT_FEED</i> on page 386	Name of the appropriate OData element.
public static final String	<i>ELEMENT_ID</i> on page 387	Name of the appropriate OData element.
public abstract String	<i>getAttribute(String...)</i> on page 374	Returns the value of the first attribute with the given route.
public abstract List< String >	<i>getAttributes(String...)</i> on page 374	Returns all the values of attributes with the given route.
public abstract Map< String, String >	<i>getChildAttribute-Map(String...)</i> on page 375	Returns all the name-value pairs of attributes contained by the element with the given route.
public abstract List< String >	<i>getChildAttributes(String...)</i> on page 375	Returns all the values of attributes contained by the element with the given route.
public abstract List< IParserDocument >	<i>getChildDocuments(String...)</i> on page 375	Returns the elements contained by the element with the given route.

Modifier and Type	Member	Description
public abstract List<IParserDocument >	<i>getChildDocumentsWithAttribute(String, String, String...)</i> on page 376	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public abstract List<IParserDocument >	<i>getChildDocumentsWithAttribute(String, String, boolean, String...)</i> on page 376	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public abstract IParserDocument	<i>getDocument(String...)</i> on page 377	Returns the first element with the given route.
public abstract List<IParserDocument >	<i>getDocuments(String...)</i> on page 377	Returns all the elements with the given route.
public abstract List<IParserDocument >	<i>getDocumentsWithAttribute(String, String, String...)</i> on page 378	Returns the elements with the given route that contains the given attribute with the given value.
public abstract List<IParserDocument >	<i>getDocumentsWithAttribute(String, String, boolean, String...)</i> on page 378	Returns the elements with the given route that contains the given attribute with the given value.
public abstract IParserDocument	<i>getDocumentWithAttribute(String, String, String...)</i> on page 379	Returns the first element with the given route that contains the given attribute with the given value.
public abstract IParserDocument	<i>getDocumentWithAttribute(String, String, boolean, String...)</i> on page 379	Returns the first element with the given route that contains the given attribute with the given value.
public abstract String	<i>getElementName()</i> on page 380	Returns The name of the root element of this document.
public abstract String	<i>getFunctionImportComplexPropertyValue(String...)</i> on page 380	
public abstract String	<i>getPrefixForUri(String)</i> on page 380	Returns the appropriate namespace prefix for the given XML name-space URI.

Modifier and Type	Member	Description
public abstract String[]	<i>getStrings()</i> on page 381	Returns all the string values contained by this document.
public abstract String	<i>getValue(String...)</i> on page 381	Returns the value of the first element with the given route.
public abstract List< String >	<i>getValues(String...)</i> on page 381	Returns all the values of elements with the given route.
public abstract void	<i>putAttribute(String, String...)</i> on page 382	Sets the value of the attribute with the given route If attribute does not exist it will be created as well as all other non existing elements in the route.
public abstract void	<i>putDocument(IParserDocument, String...)</i> on page 382	Insert the document under the element with the given route inserted document will be placed before already existing documents with the same route name under All missing elements from the route will be created.
public abstract void	<i>putValue(String, String...)</i> on page 382	Sets the value of the first element with the given route.
public abstract boolean	<i>removeAttribute(String...)</i> on page 383	Removes first element with the given route.
public abstract boolean	<i>removeAttributes(String...)</i> on page 383	Removes all the attribute with the given route.
public abstract boolean	<i>removeDocument(String...)</i> on page 383	Removes first element with the given route For removing multiple element use setDocuemtns with null arguments.
public static final String	<i>ROOT_DOCUMENT_NAME</i> on page 387	The default root element name for a new document.

Modifier and Type	Member	Description
public abstract void	<i>setAttributes(List&lt; String &gt;, String...)</i> on page 384	Sets all the values of the attributes with the given route Values will be paired to attributes in order Attributes with greater or equals index than size of new values will be untouched Attributes paired with null values will be removed.
public abstract void	<i>setDocuments(List&lt; IParser-Document &gt;, String...)</i> on page 384	Replaces all the elements with the given route Documents will be paired to elements in order Elements with greater or equals index than size of new elements will be untouched Element paired with null will be removed.
public abstract void	<i>setElementName(String, String...)</i> on page 385	Sets the name of the root element with the given route Use empty route for setting root name of this document.
public abstract void	<i>setValues(List&lt; String &gt;, String...)</i> on page 385	Sets all the values of the elements with the given rout Values will be paired to elements in order Elements with greater or equals index than size of new values will be untouched Null values will be treated as empty strings.
public abstract String	<i>toXMLString()</i> on page 385	Returns the XML string representation of this object.
public static final String	<i>XMLNS_APPLICATION_URI</i> on page 387	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/08/dataservices">http://schemas.microsoft.com/ado/2007/08/dataservices</a> .
public static final String	<i>XMLNS_ATOM_URI</i> on page 387	Constant for XMLNS URI: <a href="http://www.w3.org/2005/Atom">http://www.w3.org/2005/Atom</a> .

Modifier and Type	Member	Description
public static final String	<i>XMLNS_DATASERVICES_URI</i> on page 387	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/08/dataservices">http://schemas.microsoft.com/ado/2007/08/dataservices</a> .
public static final String	<i>XMLNS_EDM_URI</i> on page 387	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/05/edm">http://schemas.microsoft.com/ado/2007/05/edm</a> .
public static final String	<i>XMLNS_EDMX_URI</i> on page 387	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/06/edmx">http://schemas.microsoft.com/ado/2007/06/edmx</a> .
public static final String	<i>XMLNS_GENERICPLAYER_URI</i> on page 388	Constant for XMLNS URI: <a href="http://www.sap.com/Protocols/SAPData/GenericPlayer">http://www.sap.com/Protocols/SAPData/GenericPlayer</a> .
public static final String	<i>XMLNS_METADATA_URI</i> on page 388	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/08/dataservices/metadata">http://schemas.microsoft.com/ado/2007/08/dataservices/metadata</a> .
public static final String	<i>XMLNS_SAP_URI</i> on page 388	Constant for XMLNS URI: <a href="http://www.sap.com/Protocols/SAPData">http://www.sap.com/Protocols/SAPData</a> .

#### Inherited members from IPersistable

Modifier and Type	Member	Description
public void	<i>read(BufferedReader)</i> on page 389	
public void	<i>write(BufferedWriter)</i> on page 389	

#### *ODataComplexType()* constructor

##### Syntax

```
public ODataComplexType ()
```

#### *ODataComplexType(ParserDocument)* constructor

##### Syntax

```
public ODataComplexType ( ParserDocument document )
```

*ODataComplexType(int[], String[]) constructor***Syntax**

```
protected ODataComplexType ( int[] routes , String[] values )
```

*getName() method*

Returns the value of the appropriate OData element.

**Syntax**

```
public String getName ()
```

**Returns**

The value of the appropriate OData element

*getProperties() method*

Returns the list of the appropriate OData elements.

**Syntax**

```
public List< IODataProperty > getProperties ()
```

**Returns**

The list of the appropriate OData elements

*ODataEntitySet class***Syntax**

```
public class ODataEntitySet extends ParserDocument,
IODataEntitySet
```

**Members**

All members of ODataEntitySet, including inherited members. **Constructors**

Modifier and Type	Constructor	Description
public	<i>ODataEntitySet()</i> on page 545	
public	<i>ODataEntitySet(ParserDocument)</i> on page 546	
protected	<i>ODataEntitySet(int[], String[])</i> on page 546	

**Methods**

Modifier and Type	Method	Description
public String	<i>getName()</i> on page 546	
public boolean	<i>isCreatable()</i> on page 546	
public boolean	<i>isDeletable()</i> on page 546	
public boolean	<i>isSearchable()</i> on page 546	
public boolean	<i>isSearchable(String)</i> on page 547	Returns the value of the given OData attribute.
public boolean	<i>isUpdatable()</i> on page 547	

### Inherited members from ParserDocument

Modifier and Type	Member	Description
static transient final String	<i>ANY_STRING</i> on page 963	
static transient final int	<i>ATTRIBUTE_ID</i> on page 963	
static transient final String	<i>ATTRIBUTE_STRING</i> on page 963	
public ParserDocument	<i>clone()</i> on page 945	Creates a copy of this object.
protected Map< String, String >	<i>extensions</i> on page 963	
public String	<i>getAttribute(String...)</i> on page 945	Returns the value of the first attribute with the given route.
public List< String >	<i>getAttributes(String...)</i> on page 946	Returns all the values of attributes with the given route.
protected int	<i>getAttributesEndPosition(int[], int, int)</i> on page 946	
public Map< String, String >	<i>getChildAttributeMap(String...)</i> on page 946	Returns all the name-value pairs of attributes contained by the element with the given route.
public List< String >	<i>getChildAttributes(String...)</i> on page 947	Returns all the values of attributes contained by the element with the given route.
public List< IParserDocument >	<i>getChildDocuments(String...)</i> on page 947	Returns the elements contained by the element with the given route.



Modifier and Type	Member	Description
public List< IParserDocument >	<i>getChildDocumentsWithAttribute(String, String, String...)</i> on page 947	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public List< IParserDocument >	<i>getChildDocumentsWithAttribute(String, String, boolean, String...)</i> on page 948	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public ParserDocument	<i>getDocument(String...)</i> on page 948	Returns the first element with the given route.
protected List< int[] >	<i>getDocumentPositions(String[], int, boolean, boolean)</i> on page 949	
public List< IParserDocument >	<i>getDocuments(String...)</i> on page 949	Returns all the elements with the given route.
public List< IParserDocument >	<i>getDocumentsWithAttribute(String, String, String...)</i> on page 949	Returns the elements with the given route that contains the given attribute with the given value.
public List< IParserDocument >	<i>getDocumentsWithAttribute(String, String, boolean, String...)</i> on page 950	Returns the elements with the given route that contains the given attribute with the given value.
public IParserDocument	<i>getDocumentWithAttribute(String, String, String...)</i> on page 950	Returns the first element with the given route that contains the given attribute with the given value.
public IParserDocument	<i>getDocumentWithAttribute(String, String, boolean, String...)</i> on page 951	Returns the first element with the given route that contains the given attribute with the given value.
public String	<i>getElementName()</i> on page 951	Returns The name of the root element of this document.
public String	<i>getExtension(String)</i> on page 952	

Modifier and Type	Member	Description
public String	<i>getFunctionImportComplexProperty Value(String...)</i> on page 952	
static int	<i>getNameId(String, boolean, boolean)</i> on page 952	
public static List< String >	<i>getNameMap()</i> on page 952	
public static String	<i>getPrefix(String)</i> on page 952	
public String	<i>getPrefixForUri(String)</i> on page 952	Returns the appropriate namespace prefix for the given XML name-space URI.
public static Map< String, String >	<i>getPrefixMapping()</i> on page 953	
protected List< Integer >	<i>getStringPositions(String[], int, boolean, boolean)</i> on page 953	
public String[]	<i>getStrings()</i> on page 953	Returns all the string values contained by this document.
public String	<i>getValue(String...)</i> on page 953	Returns the value of the first element with the given route.
public List< String >	<i>getValues(String...)</i> on page 953	Returns all the values of elements with the given route.
protected int[]	<i>insertRoutePositions(int[], int, int[])</i> on page 954	
protected void	<i>insertRoutesPositions(int, int[])</i> on page 954	
protected void	<i>insertStringsPositions(int, String[])</i> on page 954	
protected String[]	<i>insertStringsPositions(String[], int, String[])</i> on page 954	
boolean	<i>isComplexEntity</i> on page 963	
boolean	<i>isJson</i> on page 963	

Modifier and Type	Member	Description
protected boolean	<i>isMatched(String, String)</i> on page 954	
static List< String >	<i>nameMap</i> on page 963	
	<i>ParserDocument()</i> on page 945	
	<i>ParserDocument(boolean)</i> on page 945	
public	<i>ParserDocument(String)</i> on page 944	
public	<i>ParserDocument(ParserDocument)</i> on page 944	
protected	<i>ParserDocument(int[], String[])</i> on page 945	
protected	<i>ParserDocument(String, boolean)</i> on page 945	
static Map< String, String >	<i>prefixMapping</i> on page 964	
public void	<i>putAttribute(String, String...)</i> on page 955	Sets the value of the attribute with the given route If attribute does not exist it will be created as well as all other non existing elements in the route.
public void	<i>putDocument(IParserDocument, String...)</i> on page 955	Insert the document under the element with the given route inserted document will be placed before already existing documents with the same route name under All missing elements from the route will be created.
public void	<i>putExtension(String, String)</i> on page 955	
protected void	<i>putString(int, String, int, String...)</i> on page 956	
public void	<i>putValue(String, String...)</i> on page 956	Sets the value of the first element with the given route.

Modifier and Type	Member	Description
public void	<i>read(BufferedReader)</i> on page 956	
public void	<i>readExternal(ObjectInput)</i> on page 956	
public static void	<i>readNameMap(BufferedReader)</i> on page 957	
public boolean	<i>removeAttribute(String...)</i> on page 957	Removes first element with the given route.
public boolean	<i>removeAttributes(String...)</i> on page 957	Removes all the attribute with the given route.
public boolean	<i>removeDocument(String...)</i> on page 957	Removes first element with the given route For removing multiple element use setDocuemtns with null arguments.
public void	<i>removeExtension(String)</i> on page 958	
protected void	<i>removeRoutesPositions(int, int)</i> on page 958	
protected int[]	<i>removeRoutesPositions(int[], int, int)</i> on page 958	
protected boolean	<i>removeString(String...)</i> on page 958	
protected boolean	<i>removeStrings(String...)</i> on page 958	
protected void	<i>removeStringsPositions(int, int)</i> on page 958	
protected String[]	<i>removeStringsPositions(String[], int, int)</i> on page 958	
protected int	<i>replaceRoutesPositions(int, int, int[])</i> on page 959	
protected int[]	<i>replaceRoutesPositions(int[], int, int, int[])</i> on page 959	

Modifier and Type	Member	Description
protected int	<i>replaceStringsPositions(int, int, String[])</i> on page 959	
protected String[]	<i>replaceStringsPositions(String[], int, int, String[])</i> on page 959	
public static String	<i>resolveUrl(String, String)</i> on page 959	
protected int[]	<i>routes</i> on page 964	
public void	<i>setAttribute(String, String...)</i> on page 959	
public void	<i>setAttributes(List&lt;String&gt;, String...)</i> on page 960	Sets all the values of the attributes with the given route Values will be paired to attributes in order Attributes with greater or equals index than size of new values will be untouched Attributes paired with null values will be removed.
public boolean	<i>setDocument(IParserDocument, String...)</i> on page 960	
public void	<i>setDocuments(List&lt;IParserDocument&gt;, String...)</i> on page 960	Replaces all the elements with the given route Documents will be paired to elements in order Elements with greater or equals index than size of new elements will be untouched Element paired with null will be removed.
public void	<i>setElementName(String, String...)</i> on page 961	Sets the name of the root element with the given route Use empty route for setting root name of this document.
public static void	<i>setNameMap(List&lt;String&gt;)</i> on page 961	
public static void	<i>setPrefixMapping(Map&lt;String, String&gt;)</i> on page 961	

Modifier and Type	Member	Description
protected void	<i>setString(String, String...)</i> on page 961	
protected void	<i>setStrings(List&lt; String &gt;, String...)</i> on page 961	
public void	<i>setValue(String, String...)</i> on page 961	
public void	<i>setValues(List&lt; String &gt;, String...)</i> on page 962	Sets all the values of the elements with the given route values will be paired to elements in order Elements with greater or equals index than size of new values will be untouched Null values will be treated as empty strings.
protected String[]	<i>strings</i> on page 964	
public String	<i>toXMLString()</i> on page 962	Returns the XML string representation of this object.
protected static final String	<i>URL_PROTOCOL_PREFIX</i> on page 964	
static transient final int	<i>VALUE_ID</i> on page 964	
static transient final String	<i>VALUE_STRING</i> on page 964	
public void	<i>write(BufferedWriter)</i> on page 962	
public void	<i>writeExternal(ObjectOutput)</i> on page 962	
public static void	<i>writeNameMap(BufferedWriter)</i> on page 963	

#### Inherited members from IParserDocument

Modifier and Type	Member	Description
public static final String	<i>ATTRIBUTE_ETAG</i> on page 386	Name of the appropriate OData element.

Modifier and Type	Member	Description
public static final String	<i>ATTRIBUTE_VALUEPREFIX_EDMTYPE</i> on page 386	Value prefix for EDM Type type values.
public static Map< String, String >	<i>DEFAULT_PREFIXMAPPING</i> on page 386	The default XML Namespace-to-Prefix mapping used for building XMLS.
public static final String[]	<i>EDMDATETIME_PATTERNS</i> on page 386	Possible EDM DateTime patterns Note: Some pattern are not supported by OData specification but still widely used.
public static final String[]	<i>EDMDATETIMEOFFSET_PATTERNS</i> on page 386	Possible EDM TimeOffset patterns Note: Some pattern are not supported by OData specification but still widely used.
public static final String	<i>EDMTIME_PATTERN</i> on page 386	EDM Time pattern.
public static String	<i>ELEMENT_FEED</i> on page 386	Name of the appropriate OData element.
public static final String	<i>ELEMENT_ID</i> on page 387	Name of the appropriate OData element.
public static final String	<i>ROOT_DOCUMENT_NAME</i> on page 387	The default root element name for a new document.
public static final String	<i>XMLNS_APPLICATION_URI</i> on page 387	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/08/dataservices">http://schemas.microsoft.com/ado/2007/08/dataservices</a> .
public static final String	<i>XMLNS_ATOM_URI</i> on page 387	Constant for XMLNS URI: <a href="http://www.w3.org/2005/Atom">http://www.w3.org/2005/Atom</a> .
public static final String	<i>XMLNS_DATASERVICES_URI</i> on page 387	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/08/dataservices">http://schemas.microsoft.com/ado/2007/08/dataservices</a> .
public static final String	<i>XMLNS_EDM_URI</i> on page 387	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/05/edm">http://schemas.microsoft.com/ado/2007/05/edm</a> .

Modifier and Type	Member	Description
public static final String	<i>XMLNS_EDMX_URI</i> on page 387	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/06/edmx">http://schemas.microsoft.com/ado/2007/06/edmx</a> .
public static final String	<i>XMLNS_GENERICPLAYER_URI</i> on page 388	Constant for XMLNS URI: <a href="http://www.sap.com/Protocols/SAPData/GenericPlayer">http://www.sap.com/Protocols/SAPData/GenericPlayer</a> .
public static final String	<i>XMLNS_METADATA_URI</i> on page 388	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/08/dataservices/metadata">http://schemas.microsoft.com/ado/2007/08/dataservices/metadata</a> .
public static final String	<i>XMLNS_SAP_URI</i> on page 388	Constant for XMLNS URI: <a href="http://www.sap.com/Protocols/SAPData">http://www.sap.com/Protocols/SAPData</a> .

#### Inherited members from IPersistable

Modifier and Type	Member	Description
public void	<i>read(BufferedReader)</i> on page 389	
public void	<i>write(BufferedWriter)</i> on page 389	

#### Inherited members from IODataEntitySet

Modifier and Type	Member	Description
public static final String	<i>ATTRIBUTE_CREATABLE</i> on page 184	Name of the appropriate OData attribute.
public static final String	<i>ATTRIBUTE_DELETABLE</i> on page 184	Name of the appropriate OData attribute.
public static final String	<i>ATTRIBUTE_NAME</i> on page 185	Name of the appropriate OData attribute.
public static final String	<i>ATTRIBUTE_SEARCHABLE</i> on page 185	Name of the appropriate OData attribute.
public static final String	<i>ATTRIBUTE_UPDATABLE</i> on page 185	Name of the appropriate OData attribute.



Modifier and Type	Member	Description
public static final String	<i>ELEMENT_ENTITYSET</i> on page 185	Name of the appropriate OData element.

### Inherited members from IParserDocument

Modifier and Type	Member	Description
public static final String	<i>ATTRIBUTE_ETAG</i> on page 386	Name of the appropriate OData element.
public static final String	<i>ATTRIBUTE_VALUEPREFIX_EDMTYPE</i> on page 386	Value prefix for EDM Type type values.
public abstract IParserDocument	<i>clone()</i> on page 374	Creates a copy of this object.
public static Map< String, String >	<i>DEFAULT_PREFIXMAPPING</i> on page 386	The default XML Namespace-to-Prefix mapping used for building XMLS.
public static final String[]	<i>EDMDATETIME_PATTERNS</i> on page 386	Possible EDM DateTime patterns Note: Some pattern are not supported by OData specification but still widely used.
public static final String[]	<i>EDMDATETIMEOFFSET_PATTERNS</i> on page 386	Possible EDM TimeOffset patterns Note: Some pattern are not supported by OData specification but still widely used.
public static final String	<i>EDMTIME_PATTERN</i> on page 386	EDM Time pattern.
public static String	<i>ELEMENT_FEED</i> on page 386	Name of the appropriate OData element.
public static final String	<i>ELEMENT_ID</i> on page 387	Name of the appropriate OData element.
public abstract String	<i>getAttribute(String...)</i> on page 374	Returns the value of the first attribute with the given route.
public abstract List< String >	<i>getAttributes(String...)</i> on page 374	Returns all the values of attributes with the given route.

Modifier and Type	Member	Description
public abstract Map< String, String >	<i>getChildAttributeMap(String...)</i> on page 375	Returns all the name-value pairs of attributes contained by the element with the given route.
public abstract List< String >	<i>getChildAttributes(String...)</i> on page 375	Returns all the values of attributes contained by the element with the given route.
public abstract List< IParserDocument >	<i>getChildDocuments(String...)</i> on page 375	Returns the elements contained by the element with the given route.
public abstract List< IParserDocument >	<i>getChildDocumentsWithAttribute(String, String, String...)</i> on page 376	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public abstract List< IParserDocument >	<i>getChildDocumentsWithAttribute(String, String, boolean, String...)</i> on page 376	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public abstract IParserDocument	<i>getDocument(String...)</i> on page 377	Returns the first element with the given route.
public abstract List< IParserDocument >	<i>getDocuments(String...)</i> on page 377	Returns all the elements with the given route.
public abstract List< IParserDocument >	<i>getDocumentsWithAttribute(String, String, String...)</i> on page 378	Returns the elements with the given route that contains the given attribute with the given value.
public abstract List< IParserDocument >	<i>getDocumentsWithAttribute(String, String, boolean, String...)</i> on page 378	Returns the elements with the given route that contains the given attribute with the given value.
public abstract IParserDocument	<i>getDocumentWithAttribute(String, String, String...)</i> on page 379	Returns the first element with the given route that contains the given attribute with the given value.

Modifier and Type	Member	Description
public abstract IParserDocument	<i>getDocumentWithAttribute(String, String, boolean, String...)</i> on page 379	Returns the first element with the given route that contains the given attribute with the given value.
public abstract String	<i>getElementName()</i> on page 380	Returns The name of the root element of this document.
public abstract String	<i>getFunctionImportComplexPropertyValue(String...)</i> on page 380	
public abstract String	<i>getPrefixForUri(String)</i> on page 380	Returns the appropriate namespace prefix for the given XML name-space URI.
public abstract String[]	<i>getStrings()</i> on page 381	Returns all the string values contained by this document.
public abstract String	<i>getValue(String...)</i> on page 381	Returns the value of the first element with the given route.
public abstract List< String >	<i>getValues(String...)</i> on page 381	Returns all the values of elements with the given route.
public abstract void	<i>putAttribute(String, String...)</i> on page 382	Sets the value of the attribute with the given route If attribute does not exist it will be created as well as all other non existing elements in the route.
public abstract void	<i>putDocument(IParserDocument, String...)</i> on page 382	Insert the document under the element with the given route inserted document will be placed before already existing documents with the same route name under All missing elements from the route will be created.
public abstract void	<i>putValue(String, String...)</i> on page 382	Sets the value of the first element with the given route.
public abstract boolean	<i>removeAttribute(String...)</i> on page 383	Removes first element with the given route.

Modifier and Type	Member	Description
public abstract boolean	<i>removeAttributes(String...)</i> on page 383	Removes all the attribute with the given route.
public abstract boolean	<i>removeDocument(String...)</i> on page 383	Removes first element with the given route For removing multiple element use setDocuemtns with null arguments.
public static final String	<i>ROOT_DOCUMENT_NAME</i> on page 387	The default root element name for a new document.
public abstract void	<i>setAttributes(List&lt; String &gt;, String...)</i> on page 384	Sets all the values of the attributes with the given route Values will be paired to attributes in order Attributes with greater or equals index than size of new values will be untouched Attributes paired with null values will be removed.
public abstract void	<i>setDocuments(List&lt; IParser-Document &gt;, String...)</i> on page 384	Replaces all the elements with the given route Documents will be paired to elements in order Elements with greater or equals index than size of new elements will be untouched Element paired with null will be removed.
public abstract void	<i>setElementName(String, String...)</i> on page 385	Sets the name of the root element with the given route Use empty route for setting root name of this document.
public abstract void	<i>setValues(List&lt; String &gt;, String...)</i> on page 385	Sets all the values of the elements with the given rout Values will be paired to elements in order Elements with greater or equals index than size of new values will be untouched Null values will be treated as empty strings.
public abstract String	<i>toXMLString()</i> on page 385	Returns the XML string representation of this object.

Modifier and Type	Member	Description
public static final String	<i>XMLNS_APPLICATION_URI</i> on page 387	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/08/dataservices">http://schemas.microsoft.com/ado/2007/08/dataservices</a> .
public static final String	<i>XMLNS_ATOM_URI</i> on page 387	Constant for XMLNS URI: <a href="http://www.w3.org/2005/Atom">http://www.w3.org/2005/Atom</a> .
public static final String	<i>XMLNS_DATASERVICES_URI</i> on page 387	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/08/dataservices">http://schemas.microsoft.com/ado/2007/08/dataservices</a> .
public static final String	<i>XMLNS_EDM_URI</i> on page 387	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/05/edm">http://schemas.microsoft.com/ado/2007/05/edm</a> .
public static final String	<i>XMLNS_EDMX_URI</i> on page 387	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/06/edmx">http://schemas.microsoft.com/ado/2007/06/edmx</a> .
public static final String	<i>XMLNS_GENERICPLAYER_URI</i> on page 388	Constant for XMLNS URI: <a href="http://www.sap.com/Protocols/SAPData/GenericPlayer">http://www.sap.com/Protocols/SAPData/GenericPlayer</a> .
public static final String	<i>XMLNS_METADATA_URI</i> on page 388	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/08/dataservices/metadata">http://schemas.microsoft.com/ado/2007/08/dataservices/metadata</a> .
public static final String	<i>XMLNS_SAP_URI</i> on page 388	Constant for XMLNS URI: <a href="http://www.sap.com/Protocols/SAPData">http://www.sap.com/Protocols/SAPData</a> .

#### Inherited members from IPersistable

Modifier and Type	Member	Description
public void	<i>read(BufferedReader)</i> on page 389	
public void	<i>write(BufferedWriter)</i> on page 389	

#### *ODataEntitySet()* constructor

##### Syntax

```
public ODataEntitySet ()
```

*ODataEntitySet(ParserDocument) constructor*

*Syntax*

```
public ODataEntitySet ( ParserDocument document )
```

*ODataEntitySet(int[], String[]) constructor*

*Syntax*

```
protected ODataEntitySet ( int[] routes , String[] values )
```

*getName() method*

*Syntax*

```
public String getName ()
```

*Returns*

The value of the appropriate OData attribute

*isCreatable() method*

*Syntax*

```
public boolean isCreatable ()
```

*Returns*

The value of the appropriate OData attribute

*isDeletable() method*

*Syntax*

```
public boolean isDeletable ()
```

*Returns*

The value of the appropriate OData attribute

*isSearchable() method*

*Syntax*

```
public boolean isSearchable ()
```

*Returns*

The value of the appropriate OData attribute

*isSearchable(String) method*

Returns the value of the given OData attribute.

*Syntax*

```
public boolean isSearchable ( String searchAttributeName )
```

*Parameters*

- **searchAttributeName** – The name of the OData attribute

*Returns*

The value of the given OData attribute

*isUpdatable() method**Syntax*

```
public boolean isUpdatable ()
```

*Returns*

The value of the appropriate OData attribute

*ODataEntityType class**Syntax*

```
public class ODataEntityType extends ParserDocument,  
IODataEntityType
```

*Derived classes*

- *ODataReturnEntityType* on page 795

*Members*

All members of ODataEntityType, including inherited members. **Constructors**

Modifier and Type	Constructor	Description
public	<i>ODataEntityType()</i> on page 563	
public	<i>ODataEntityType(ParserDocument)</i> on page 563	
protected	<i>ODataEntityType(int[], String[])</i> on page 563	

**Methods**

Modifier and Type	Method	Description
public List< IODataProperty >	<i>getGPUseInSearchPropertiesData()</i> on page 563	Returns The list of appropriate OData elements with 'true' use-in-search (Generic Player names-pace) attribute value.
public List< IODataProperty >	<i>getGPVisibleInDetailPropertiesData()</i> on page 564	Returns The list of appropriate OData elements with 'true' visible-in-detail (Generic Player names-pace) attribute value.
public List< IODataProperty >	<i>getGPVisibleInListPropertiesData()</i> on page 564	Returns The list of appropriate OData elements with 'true' visible-in-list (Generic Player names-pace) attribute value.
public List< String >	<i>getKeyPropertyNames()</i> on page 564	Returns the list of the values of the 'PropertyRef' OData element contained by the 'Key' OData element.
public String	<i>getName()</i> on page 564	Returns The value of the appropriate OData attribute.
public List< IODataNavigationProperty >	<i>getNavigationProperties()</i> on page 565	Returns The list of appropriate OData elements.
public IODataNavigationProperty	<i>getNavigationProperty(String)</i> on page 565	Returns The appropriate OData element with the given name.
public List< IODataProperty >	<i>getProperties()</i> on page 565	Returns The list of appropriate OData elements.
public List< IODataProperty >	<i>getPropertiesWithAttribute(String, String)</i> on page 565	Returns The list of appropriate OData elements with given attribute value.
public List< IODataProperty >	<i>getPropertiesWithAttribute(String, String, boolean)</i> on page 566	Returns The list of appropriate OData elements with given attribute value.
public IODataProperty	<i>getProperty(String)</i> on page 566	Returns The appropriate OData element with the given name.



Modifier and Type	Method	Description
public List< IODataProperty >	<i>getSAPSearchablePropertiesData()</i> on page 566	Returns The list of appropriate OData elements with 'true' searchable (SAP names-pace) attribute value.
protected IODataSchema	<i>getSchema()</i> on page 566	
public List< IODataProperty >	<i>getSearchablePropertiesData(String)</i> on page 567	Returns The list of appropriate OData elements with 'true' attribute value of the given attribute.
public boolean	<i>hasStream()</i> on page 567	Returns The value of the appropriate OData attribute.
protected void	<i>setSchema(IODataSchema)</i> on page 567	

#### Inherited members from ParserDocument

Modifier and Type	Member	Description
static transient final String	<i>ANY_STRING</i> on page 963	
static transient final int	<i>ATTRIBUTE_ID</i> on page 963	
static transient final String	<i>ATTRIBUTE_STRING</i> on page 963	
public ParserDocument	<i>clone()</i> on page 945	Creates a copy of this object.
protected Map< String, String >	<i>extensions</i> on page 963	
public String	<i>getAttribute(String...)</i> on page 945	Returns the value of the first attribute with the given route.
public List< String >	<i>getAttributes(String...)</i> on page 946	Returns all the values of attributes with the given route.
protected int	<i>getAttributesEndPosition(int[], int, int)</i> on page 946	
public Map< String, String >	<i>getChildAttributeMap(String...)</i> on page 946	Returns all the name-value pairs of attributes contained by the element with the given route.

Modifier and Type	Member	Description
public List< String >	<i>getChildAttributes(String...)</i> on page 947	Returns all the values of attributes contained by the element with the given route.
public List< IParserDocument >	<i>getChildDocuments(String...)</i> on page 947	Returns the elements contained by the element with the given route.
public List< IParserDocument >	<i>getChildDocumentsWithAttribute(String, String, String...)</i> on page 947	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public List< IParserDocument >	<i>getChildDocumentsWithAttribute(String, String, boolean, String...)</i> on page 948	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public ParserDocument	<i>getDocument(String...)</i> on page 948	Returns the first element with the given route.
protected List< int[] >	<i>getDocumentPositions(String[], int, boolean, boolean)</i> on page 949	
public List< IParserDocument >	<i>getDocuments(String...)</i> on page 949	Returns all the elements with the given route.
public List< IParserDocument >	<i>getDocumentsWithAttribute(String, String, String...)</i> on page 949	Returns the elements with the given route that contains the given attribute with the given value.
public List< IParserDocument >	<i>getDocumentsWithAttribute(String, String, boolean, String...)</i> on page 950	Returns the elements with the given route that contains the given attribute with the given value.
public IParserDocument	<i>getDocumentWithAttribute(String, String, String...)</i> on page 950	Returns the first element with the given route that contains the given attribute with the given value.

Modifier and Type	Member	Description
public IParserDocument	<i>getDocumentWithAttribute(String, String, boolean, String...)</i> on page 951	Returns the first element with the given route that contains the given attribute with the given value.
public String	<i>getElementName()</i> on page 951	Returns The name of the root element of this document.
public String	<i>getExtension(String)</i> on page 952	
public String	<i>getFunctionImportComplexProperty Value(String...)</i> on page 952	
static int	<i>getNameId(String, boolean, boolean)</i> on page 952	
public static List< String >	<i>getNameMap()</i> on page 952	
public static String	<i>getPrefix(String)</i> on page 952	
public String	<i>getPrefixForUri(String)</i> on page 952	Returns the appropriate namespace prefix for the given XML name-space URI.
public static Map< String, String >	<i>getPrefixMapping()</i> on page 953	
protected List< Integer >	<i>getStringPositions(String[], int, boolean, boolean)</i> on page 953	
public String[]	<i>getStrings()</i> on page 953	Returns all the string values contained by this document.
public String	<i>getValue(String...)</i> on page 953	Returns the value of the first element with the given route.
public List< String >	<i>getValues(String...)</i> on page 953	Returns all the values of elements with the given route.
protected int[]	<i>insertRoutePositions(int[], int, int[])</i> on page 954	
protected void	<i>insertRoutesPositions(int, int[])</i> on page 954	

Modifier and Type	Member	Description
protected void	<i>insertStringsPositions(int, String[])</i> on page 954	
protected String[]	<i>insertStringsPositions(String[], int, String[])</i> on page 954	
boolean	<i>isComplexEntity</i> on page 963	
boolean	<i>isJson</i> on page 963	
protected boolean	<i>isMatched(String, String)</i> on page 954	
static List< String >	<i>nameMap</i> on page 963	
	<i>ParserDocument()</i> on page 945	
	<i>ParserDocument(boolean)</i> on page 945	
public	<i>ParserDocument(String)</i> on page 944	
public	<i>ParserDocument(ParserDocument)</i> on page 944	
protected	<i>ParserDocument(int[], String[])</i> on page 945	
protected	<i>ParserDocument(String, boolean)</i> on page 945	
static Map< String, String >	<i>prefixMapping</i> on page 964	
public void	<i>putAttribute(String, String...)</i> on page 955	Sets the value of the attribute with the given route. If attribute does not exist it will be created as well as all other non existing elements in the route.

Modifier and Type	Member	Description
public void	<i>putDocument(IParserDocument, String...)</i> on page 955	Insert the document under the element with the given route inserted document will be placed before already existing documents with the same route name under All missing elements from the route will be created.
public void	<i>putExtension(String, String)</i> on page 955	
protected void	<i>putString(int, String, int, String...)</i> on page 956	
public void	<i>putValue(String, String...)</i> on page 956	Sets the value of the first element with the given route.
public void	<i>read(BufferedReader)</i> on page 956	
public void	<i>readExternal(ObjectInput)</i> on page 956	
public static void	<i>readNameMap(BufferedReader)</i> on page 957	
public boolean	<i>removeAttribute(String...)</i> on page 957	Removes first element with the given route.
public boolean	<i>removeAttributes(String...)</i> on page 957	Removes all the attribute with the given route.
public boolean	<i>removeDocument(String...)</i> on page 957	Removes first element with the given route For removing multiple element use setDocuemtns with null arguments.
public void	<i>removeExtension(String)</i> on page 958	
protected void	<i>removeRoutesPositions(int, int)</i> on page 958	
protected int[]	<i>removeRoutesPositions(int[], int, int)</i> on page 958	

Modifier and Type	Member	Description
protected boolean	<i>removeString(String...)</i> on page 958	
protected boolean	<i>removeStrings(String...)</i> on page 958	
protected void	<i>removeStringsPositions(int, int)</i> on page 958	
protected String[]	<i>removeStringsPositions(String[], int, int)</i> on page 958	
protected int	<i>replaceRoutesPositions(int, int, int[])</i> on page 959	
protected int[]	<i>replaceRoutesPositions(int[], int, int, int[])</i> on page 959	
protected int	<i>replaceStringsPositions(int, int, String[])</i> on page 959	
protected String[]	<i>replaceStringsPositions(String[], int, int, String[])</i> on page 959	
public static String	<i>resolveUrl(String, String)</i> on page 959	
protected int[]	<i>routes</i> on page 964	
public void	<i>setAttribute(String, String...)</i> on page 959	
public void	<i>setAttributes(List&lt;String&gt;, String...)</i> on page 960	Sets all the values of the attributes with the given route Values will be paired to attributes in order Attributes with greater or equals index than size of new values will be untouched Attributes paired with null values will be removed.
public boolean	<i>setDocument(IParserDocument, String...)</i> on page 960	

Modifier and Type	Member	Description
public void	<i>setDocuments(List&lt; IParser-Document &gt;, String...)</i> on page 960	Replaces all the elements with the given route Documents will be paired to elements in order Elements with greater or equals index than size of new elements will be untouched Element paired with null will be removed.
public void	<i>setElementName(String, String...)</i> on page 961	Sets the name of the root element with the given route Use empty route for setting root name of this document.
public static void	<i>setNameMap(List&lt;String &gt;)</i> on page 961	
public static void	<i>setPrefixMapping(Map&lt;String, String &gt;)</i> on page 961	
protected void	<i>setString(String, String...)</i> on page 961	
protected void	<i>setStrings(List&lt;String &gt;, String...)</i> on page 961	
public void	<i>setValue(String, String...)</i> on page 961	
public void	<i>setValues(List&lt;String &gt;, String...)</i> on page 962	Sets all the values of the elements with the given route Values will be paired to elements in order Elements with greater or equals index than size of new values will be untouched Null values will be treated as empty strings.
protected String[]	<i>strings</i> on page 964	
public String	<i>toXMLString()</i> on page 962	Returns the XML string representation of this object.
protected static final String	<i>URL_PROTOCOL_PREFIX</i> on page 964	

Modifier and Type	Member	Description
static transient final int	<i>VALUE_ID</i> on page 964	
static transient final String	<i>VALUE_STRING</i> on page 964	
public void	<i>write(BufferedWriter)</i> on page 962	
public void	<i>writeExternal(ObjectOutput)</i> on page 962	
public static void	<i>writeNameMap(BufferedWriter)</i> on page 963	

### Inherited members from *IParserDocument*

Modifier and Type	Member	Description
public static final String	<i>ATTRIBUTE_ETAG</i> on page 386	Name of the appropriate OData element.
public static final String	<i>ATTRIBUTE_VALUEPREFIX_EDMTYPE</i> on page 386	Value prefix for EDM Type type values.
public static Map< String, String >	<i>DEFAULT_PREFIXMAPPING</i> on page 386	The default XML Namespace-to-Prefix mapping used for building XMLS.
public static final String[]	<i>EDMDATETIME_PATTERNS</i> on page 386	Possible EDM DateTime patterns Note: Some pattern are not supported by OData specification but still widely used.
public static final String[]	<i>EDMDATETIMEOFFSET_PATTERNS</i> on page 386	Possible EDM TimeOffset patterns Note: Some pattern are not supported by OData specification but still widely used.
public static final String	<i>EDMTIME_PATTERN</i> on page 386	EDM Time pattern.
public static String	<i>ELEMENT_FEED</i> on page 386	Name of the appropriate OData element.
public static final String	<i>ELEMENT_ID</i> on page 387	Name of the appropriate OData element.



Modifier and Type	Member	Description
public static final String	<i>ROOT_DOCUMENT_NAME</i> on page 387	The default root element name for a new document.
public static final String	<i>XMLNS_APPLICATION_URI</i> on page 387	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/08/dataservices">http://schemas.microsoft.com/ado/2007/08/dataservices</a> .
public static final String	<i>XMLNS_ATOM_URI</i> on page 387	Constant for XMLNS URI: <a href="http://www.w3.org/2005/Atom">http://www.w3.org/2005/Atom</a> .
public static final String	<i>XMLNS_DATASERVICES_URI</i> on page 387	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/08/dataservices">http://schemas.microsoft.com/ado/2007/08/dataservices</a> .
public static final String	<i>XMLNS_EDM_URI</i> on page 387	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/05/edm">http://schemas.microsoft.com/ado/2007/05/edm</a> .
public static final String	<i>XMLNS_EDMX_URI</i> on page 387	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/06/edmx">http://schemas.microsoft.com/ado/2007/06/edmx</a> .
public static final String	<i>XMLNS_GENERICPLAYER_URI</i> on page 388	Constant for XMLNS URI: <a href="http://www.sap.com/Protocols/SAPData/GenericPlayer">http://www.sap.com/Protocols/SAPData/GenericPlayer</a> .
public static final String	<i>XMLNS_METADATA_URI</i> on page 388	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/08/dataservices/metadata">http://schemas.microsoft.com/ado/2007/08/dataservices/metadata</a> .
public static final String	<i>XMLNS_SAP_URI</i> on page 388	Constant for XMLNS URI: <a href="http://www.sap.com/Protocols/SAPData">http://www.sap.com/Protocols/SAPData</a> .

#### Inherited members from IPersistable

Modifier and Type	Member	Description
public void	<i>read(BufferedReader)</i> on page 389	
public void	<i>write(BufferedWriter)</i> on page 389	

#### Inherited members from IODataEntityType

Modifier and Type	Member	Description
public static final String	<i>ATTRIBUTE_HASSTREAM</i> on page 196	Name of the appropriate OData attribute.
public static final String	<i>ATTRIBUTE_NAME</i> on page 196	Name of the appropriate OData attribute.
public static final String	<i>ELEMENT_ENTITYTYPE</i> on page 196	Name of the appropriate OData element.
public static final String	<i>ELEMENT_KEY</i> on page 196	Name of the appropriate OData element.
public static final String	<i>ELEMENT_PROPERTY</i> on page 196	Name of the appropriate OData element.
public static final String	<i>ELEMENT_PROPERTYREF</i> on page 196	Name of the appropriate OData element.

#### Inherited members from IParserDocument

Modifier and Type	Member	Description
public static final String	<i>ATTRIBUTE_ETAG</i> on page 386	Name of the appropriate OData element.
public static final String	<i>ATTRIBUTE_VALUEPREFIX_EDMTYPE</i> on page 386	Value prefix for EDM Type type values.
public abstract IParserDocument	<i>clone()</i> on page 374	Creates a copy of this object.
public static Map< String, String >	<i>DEFAULT_PREFIXMAPPING</i> on page 386	The default XML Namespace-to-Prefix mapping used for building XMLS.
public static final String[]	<i>EDMDATETIME_PATTERNS</i> on page 386	Possible EDM DateTime patterns Note: Some pattern are not supported by OData specification but still widely used.
public static final String[]	<i>EDMDATETIMEOFFSET_PATTERNS</i> on page 386	Possible EDM DateTimeOffset patterns Note: Some pattern are not supported by OData specification but still widely used.
public static final String	<i>EDMTIME_PATTERN</i> on page 386	EDM Time pattern.

Modifier and Type	Member	Description
public static String	<i>ELEMENT_FEED</i> on page 386	Name of the appropriate OData element.
public static final String	<i>ELEMENT_ID</i> on page 387	Name of the appropriate OData element.
public abstract String	<i>getAttribute(String...)</i> on page 374	Returns the value of the first attribute with the given route.
public abstract List< String >	<i>getAttributes(String...)</i> on page 374	Returns all the values of attributes with the given route.
public abstract Map< String, String >	<i>getChildAttributeMap(String...)</i> on page 375	Returns all the name-value pairs of attributes contained by the element with the given route.
public abstract List< String >	<i>getChildAttributes(String...)</i> on page 375	Returns all the values of attributes contained by the element with the given route.
public abstract List< IParserDocument >	<i>getChildDocuments(String...)</i> on page 375	Returns the elements contained by the element with the given route.
public abstract List< IParserDocument >	<i>getChildDocumentsWithAttribute(String, String, String...)</i> on page 376	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public abstract List< IParserDocument >	<i>getChildDocumentsWithAttribute(String, String, boolean, String...)</i> on page 376	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public abstract IParserDocument	<i>getDocument(String...)</i> on page 377	Returns the first element with the given route.
public abstract List< IParserDocument >	<i>getDocuments(String...)</i> on page 377	Returns all the elements with the given route.
public abstract List< IParserDocument >	<i>getDocumentsWithAttribute(String, String, String...)</i> on page 378	Returns the elements with the given route that contains the given attribute with the given value.

Modifier and Type	Member	Description
public abstract List<IParserDocument >	<i>getDocumentsWithAttribute(String, String, boolean, String...)</i> on page 378	Returns the elements with the given route that contains the given attribute with the given value.
public abstract IParserDocument	<i>getDocumentWithAttribute(String, String, String...)</i> on page 379	Returns the first element with the given route that contains the given attribute with the given value.
public abstract IParserDocument	<i>getDocumentWithAttribute(String, String, boolean, String...)</i> on page 379	Returns the first element with the given route that contains the given attribute with the given value.
public abstract String	<i>getElementName()</i> on page 380	Returns The name of the root element of this document.
public abstract String	<i>getFunctionImportComplexPropertyValue(String...)</i> on page 380	
public abstract String	<i>getPrefixForUri(String)</i> on page 380	Returns the appropriate namespace prefix for the given XML name-space URI.
public abstract String[]	<i>getStrings()</i> on page 381	Returns all the string values contained by this document.
public abstract String	<i>getValue(String...)</i> on page 381	Returns the value of the first element with the given route.
public abstract List< String >	<i>getValues(String...)</i> on page 381	Returns all the values of elements with the given route.
public abstract void	<i>putAttribute(String, String...)</i> on page 382	Sets the value of the attribute with the given route If attribute does not exist it will be created as well as all other non existing elements in the route.

Modifier and Type	Member	Description
public abstract void	<i>putDocument(IParserDocument, String...)</i> on page 382	Insert the document under the element with the given route inserted document will be placed before already existing documents with the same route name under All missing elements from the route will be created.
public abstract void	<i>putValue(String, String...)</i> on page 382	Sets the value of the first element with the given route.
public abstract boolean	<i>removeAttribute(String...)</i> on page 383	Removes first element with the given route.
public abstract boolean	<i>removeAttributes(String...)</i> on page 383	Removes all the attribute with the given route.
public abstract boolean	<i>removeDocument(String...)</i> on page 383	Removes first element with the given route For removing multiple element use setDocuemtns with null arguments.
public static final String	<i>ROOT_DOCUMENT_NAME</i> on page 387	The default root element name for a new document.
public abstract void	<i>setAttributes(List&lt;String&gt;, String...)</i> on page 384	Sets all the values of the attributes with the given route Values will be paired to attributes in order Attributes with greater or equals index than size of new values will be untouched Attributes paired with null values will be removed.
public abstract void	<i>setDocuments(List&lt;IParserDocument&gt;, String...)</i> on page 384	Replaces all the elements with the given route Documents will be paired to elements in order Elements with greater or equals index than size of new elements will be untouched Element paired with null will be removed.

Modifier and Type	Member	Description
public abstract void	<i>setElementName(String, String...)</i> on page 385	Sets the name of the root element with the given route Use empty route for setting root name of this document.
public abstract void	<i>setValues(List&lt; String &gt;, String...)</i> on page 385	Sets all the values of the elements with the given rout Values will be paired to elements in order Elements with greater or equals index than size of new values will be untouched Null values will be treated as empty strings.
public abstract String	<i>toXMLString()</i> on page 385	Returns the XML string representation of this object.
public static final String	<i>XMLNS_APPLICATION_URI</i> on page 387	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/08/dataservices">http://schemas.microsoft.com/ado/2007/08/dataservices</a> .
public static final String	<i>XMLNS_ATOM_URI</i> on page 387	Constant for XMLNS URI: <a href="http://www.w3.org/2005/Atom">http://www.w3.org/2005/Atom</a> .
public static final String	<i>XMLNS_DATASERVICES_URI</i> on page 387	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/08/dataservices">http://schemas.microsoft.com/ado/2007/08/dataservices</a> .
public static final String	<i>XMLNS_EDM_URI</i> on page 387	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/05/edm">http://schemas.microsoft.com/ado/2007/05/edm</a> .
public static final String	<i>XMLNS_EDMX_URI</i> on page 387	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/06/edmx">http://schemas.microsoft.com/ado/2007/06/edmx</a> .
public static final String	<i>XMLNS_GENERICPLAYER_URI</i> on page 388	Constant for XMLNS URI: <a href="http://www.sap.com/Protocols/SAPData/GenericPlayer">http://www.sap.com/Protocols/SAPData/GenericPlayer</a> .
public static final String	<i>XMLNS_METADATA_URI</i> on page 388	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/08/dataservices/metadata">http://schemas.microsoft.com/ado/2007/08/dataservices/metadata</a> .

Modifier and Type	Member	Description
public static final String	<i>XMLNS_SAP_URI</i> on page 388	Constant for XMLNS URI: <a href="http://www.sap.com/Protocols/SAPData">http://www.sap.com/Protocols/SAPData</a> .

**Inherited members from IPersistable**

Modifier and Type	Member	Description
public void	<i>read(BufferedReader)</i> on page 389	
public void	<i>write(BufferedWriter)</i> on page 389	

*ODataEntityType()* constructor*Syntax*

```
public ODataEntityType ()
```

*ODataEntityType(ParserDocument)* constructor*Syntax*

```
public ODataEntityType ( ParserDocument document )
```

*ODataEntityType(int[], String[])* constructor*Syntax*

```
protected ODataEntityType ( int[] routes , String[] values )
```

*getGPUseInSearchPropertiesData()* method

Returns The list of appropriate OData elements with 'true' use-in-search (Generic Player names-pace) attribute value.

*Syntax*

```
public List< IODataProperty > getGPUseInSearchPropertiesData  
( )
```

*Returns*

The list of appropriate OData elements with 'true' use-in-search (Generic Player names-pace) attribute value

### *getGPVisibleInDetailPropertiesData() method*

Returns The list of appropriate OData elements with 'true' visible-in-detail (Generic Player names-pace) attribute value.

#### *Syntax*

```
public List< IODataProperty >  
getGPVisibleInDetailPropertiesData ()
```

#### *Returns*

The list of appropriate OData elements with 'true' visible-in-detail (Generic Player names-pace) attribute value

### *getGPVisibleInListPropertiesData() method*

Returns The list of appropriate OData elements with 'true' visible-in-list (Generic Player names-pace) attribute value.

#### *Syntax*

```
public List< IODataProperty >  
getGPVisibleInListPropertiesData ()
```

#### *Returns*

The list of appropriate OData elements with 'true' visible-in-list (Generic Player names-pace) attribute value

### *getKeyPropertyNames() method*

Returns the list of the values of the 'PropertyRef' OData element contained by the 'Key' OData element.

#### *Syntax*

```
public List< String > getKeyPropertyNames ()
```

#### *Returns*

The list of the values of the 'PropertyRef' OData element

### *getName() method*

Returns The value of the appropriate OData attribute.

#### *Syntax*

```
public String getName ()
```

#### *Returns*

The value of the appropriate OData attribute



***getNavigationProperties() method***

Returns The list of appropriate OData elements.

***Syntax***

```
public List< IODataNavigationProperty >
getNavigationProperties ()
```

***Returns***

The list of appropriate OData elements

***getNavigationProperty(String) method***

Returns The appropriate OData element with the given name.

***Syntax***

```
public IODataNavigationProperty getNavigationProperty (String
name )
```

***Returns***

The appropriate OData element with the given name

***getProperties() method***

Returns The list of appropriate OData elements.

***Syntax***

```
public List< IODataProperty > getProperties ()
```

***Returns***

The list of appropriate OData elements

***getPropertiesWithAttribute(String, String) method***

Returns The list of appropriate OData elements with given attribute value.

***Syntax***

```
public List< IODataProperty > getPropertiesWithAttribute
( String attributeName , String attributeValue )
```

***Returns***

The list of appropriate OData elements with given attribute value

### *getPropertiesWithAttribute(String, String, boolean) method*

Returns The list of appropriate OData elements with given attribute value.

#### *Syntax*

```
public List< IODataProperty > getPropertiesWithAttribute  
( String attributeName , String attributeValue , boolean addByDefault )
```

#### *Returns*

The list of appropriate OData elements with given attribute value

### *getProperty(String) method*

Returns The appropriate OData element with the given name.

#### *Syntax*

```
public IODataProperty getProperty ( String propertyName )
```

#### *Returns*

The appropriate OData element with the given name

### *getSAPSearchablePropertiesData() method*

Returns The list of appropriate OData elements with 'true' searchable (SAP names-pace) attribute value.

#### *Syntax*

```
public List< IODataProperty > getSAPSearchablePropertiesData  
( )
```

#### *Returns*

The list of appropriate OData elements with 'true' searchable (SAP names-pace) attribute value

### *getSchema() method*

#### *Syntax*

```
protected IODataSchema getSchema ( )
```

#### *Returns*

the schema

*getSearchablePropertiesData(String) method*

Returns The list of appropriate OData elements with 'true' attribute value of the given attribute.

*Syntax*

```
public List< IODataProperty > getSearchablePropertiesData
( String searchAttributeName )
```

*Returns*

The list of appropriate OData elements with 'true' attribute value of the given attribute

*hasStream() method*

Returns The value of the appropriate OData attribute.

*Syntax*

```
public boolean hasStream ()
```

*Returns*

The value of the appropriate OData attribute

*setSchema(IODataSchema) method**Syntax*

```
protected void setSchema ( IODataSchema schema )
```

*Parameters*

- **schema** – the schema to set

*ODataEntry class**Syntax*

```
public class ODataEntry extends ParserDocument, IODataEntry,
Externalizable, Cloneable
```

*Derived classes*

- *ODataReturnTypeEntry* on page 752
- *ODataSubscriptionEntry* on page 853

*Members*

All members of ODataEntry, including inherited members. **Variables**

Modifier and Type	Variable	Description
protected Long	<i>cache_timestamp</i> on page 603	
protected cacheState	<i>Cachestate</i> on page 603	
protected String	<i>collectionId</i> on page 603	
protected static transient static final int	<i>FALSE</i> on page 603	
protected static transient static final String	<i>FILTER</i> on page 603	
protected static transient static final String	<i>FILTER_AND</i> on page 603	
protected static transient static final String	<i>FILTER_EQ</i> on page 604	
protected boolean	<i>isLocalEntry</i> on page 604	
protected transient JsonObject	<i>jsonObject</i> on page 604	JSON related variables
protected static transient static final int	<i>NOT_TESTED</i> on page 604	
protected transient IOData-Schema	<i>schema</i> on page 604	
protected static transient static final int	<i>TRUE</i> on page 604	

### Constructors

Modifier and Type	Constructor	Description
public	<i>ODataEntry()</i> on page 588	
public	<i>ODataEntry(boolean)</i> on page 588	
public	<i>ODataEntry(IODataSchema)</i> on page 588	
public	<i>ODataEntry(ParserDocument)</i> on page 588	
public	<i>ODataEntry(ParserDocument, IODataSchema)</i> on page 588	

Modifier and Type	Constructor	Description
public	<i>ODataEntry(JsonObject)</i> on page 589	Json Related
protected	<i>ODataEntry(int[], String[])</i> on page 589	

### Methods

Modifier and Type	Method	Description
protected void	<i>addPropertyValues(IODataProperty, Map&lt;String, String&gt;, String)</i> on page 589	
public ODataEntry	<i>clone()</i> on page 589	Creates a copy of this object.
protected void	<i>fillPropertyData(IODataProperty, String...)</i> on page 589	
protected void	<i>fillPropertyDataWithAttribute(IODataProperty, String, String, boolean, String...)</i> on page 589	
public List< IODataLink >	<i>getActionLinks()</i> on page 590	Returns OData Link objects that are set as action links (Has semantics (SAP name-space) attribute with value 'action')
public String	<i>getAuthorName()</i> on page 590	Returns The value of the 'name' OData element of the 'author' OData element.
public cacheState	<i>getCachestate()</i> on page 590	
public Long	<i>getCacheTimestamp()</i> on page 590	
public String	<i>getCollectionId()</i> on page 590	Returns the Id of the OCata Collection that this Entry belongs to.
public String	<i>getContentType()</i> on page 590	Returns the content type of the entry.

Modifier and Type	Method	Description
public String	<i>getEtag()</i> on page 591	Returns the Id of the OData Collection that this Entry belongs to.
public String	<i>getFilterUrl()</i> on page 591	Returns the full execution URL that can be used for filtering collection search for this single entry.
public List< IODataProperty >	<i>getGPUseInSearchPropertiesData()</i> on page 591	Returns the value and meta information (retrieved from OData Schema document) of the properties of this OData Entry document with 'true' use-in-search (Generic Player namespace) attribute value.
public List< IODataProperty >	<i>getGPVisibleInDetailPropertiesData()</i> on page 591	Returns the value and meta information (retrieved from OData Schema document) of the properties of this OData Entry document with 'true' visible-in-detail (Generic Player namespace) attribute value.
public List< IODataProperty >	<i>getGPVisibleInListPropertiesData()</i> on page 592	Returns the value and meta information (retrieved from OData Schema document) of the properties of this OData Entry document with 'true' visible-in-list (Generic Player namespace) attribute value.
public List< IODataIcon >	<i>getIcons()</i> on page 592	Returns the list of the appropriate OData elements.
public String	<i>getId()</i> on page 592	Returns The Id of this OData Entry (value of appropriate OData Id element)
public boolean	<i>getIsLocal()</i> on page 592	

Modifier and Type	Method	Description
public Map< String, String >	<i>getKeyPropertyValues()</i> on page 593	Returns the values of the properties that are marked as key properties in the OData Schema document.
public Date	<i>getLastUpdated()</i> on page 593	Returns The parsed value of the 'updated' OData Element.
public List< IODataLink >	<i>getLinks()</i> on page 593	Returns the list of the appropriate OData elements.
public String	<i>getMediaSrc()</i> on page 593	Returns the media source if the entry has a media content.
public List< IODataProperty >	<i>getPropertiesData()</i> on page 593	Returns the value and meta information (retrieved from OData Schema document) of the properties of this Odata Entry document.
public List< IODataProperty >	<i>getPropertiesDataWithAttribute(String, String)</i> on page 594	Returns the value and meta information (retrieved from OData Schema document) of the properties of this OData Entry document with the given attribute value.
public List< IODataProperty >	<i>getPropertiesDataWithAttribute(String, String, boolean)</i> on page 594	Returns the value and meta information (retrieved from OData Schema document) of the properties of this OData Entry document with the given attribute value.
public IParserDocument	<i>getPropertiesDocument()</i> on page 594	Returns the representer document of OData 'properties' (Metadata name-space) document This method is created for performance reasons mostly to use in search methods.
public String	<i>getPropertyValue(String...)</i> on page 595	Returns the value of the appropriate property.

Modifier and Type	Method	Description
public< T > T	<i>getPropertyValue-Parsed(String...)</i> on page 595	Returns the value of the appropriate property parsed to it's real type.
public List< String >	<i>getPropertyValues(List&lt;String[]&gt;)</i> on page 596	Return list of property values for the given property paths.
public Map< String, String >	<i>getPropertyValues()</i> on page 596	Returns the all the values of properties contained by this OData Entry document Key for the properties will be their name of their full path in case they are enclosed by Complex Types.
public List< IODataLink >	<i>getRelatedDataLinks()</i> on page 596	Returns OData Link objects that represents links to Related Data.
public List< IODataProperty >	<i>getSAPSearchableProperties-Data()</i> on page 597	Returns the value and meta information (retrieved from OData Schema document) of the properties of this OData Entry document with 'true' searchable (SAP name-space) attribute value.
public IODataSchema	<i>getSchema()</i> on page 597	Returns the appropriate OData Schema object.
public IODataLink	<i>getSelfLink()</i> on page 597	Returns OData Link object that should be used for self related operations (with 'rel' attribute value 'self' or 'edit')
public IODataLink	<i>getSubscriptionLink()</i> on page 597	Returns OData Link object that should be used for subscription or null if there is no subscription link defined.
public String	<i>getSummary()</i> on page 598	Returns The value of the appropriate OData element.
public String	<i>getTitle()</i> on page 598	Returns The value of the appropriate OData element.
protected void	<i>materialize()</i> on page 598	



Modifier and Type	Method	Description
protected void	<i>parseCollectionId()</i> on page 598	
protected long	<i>parseEdmTime(String)</i> on page 598	
public void	<i>putComplexPropertyValue(String, String...)</i> on page 598	Puts the new property element as a sub-element of the 'complex properties' OData element.
public void	<i>putContentType(String)</i> on page 599	Puts the content type for a new entry object.
public void	<i>putDocument(IParserDocument, String...)</i> on page 599	Insert the document under the element with the given route inserted document will be placed before already existing documents with the same route name under All missing elements from the route will be created.
public void	<i>putId(String)</i> on page 599	Sets id of this OData Entry document (value of appropriate OData Id element)
public void	<i>putMediaSrc(String)</i> on page 600	Puts the media source for a new entry object.
public void	<i>putPropertyValue(String, String)</i> on page 600	Puts the new property element as a sub-element of the 'properties' OData element.
public void	<i>putPropertyValue(String, String, boolean)</i> on page 600	Puts the new property element as a sub-element of the 'properties' OData element.
public void	<i>read(BufferedReader)</i> on page 601	
protected String	<i>resolveTargetCollection(IODataLink)</i> on page 601	
public void	<i>setAuthorName(String)</i> on page 601	Sets the value of the 'name' OData element of the 'author' OData element.

Modifier and Type	Method	Description
public void	<i>setCacheState(cacheState)</i> on page 601	
public void	<i>setCacheTimestamp(Long)</i> on page 601	
public void	<i>setCollectionId(String)</i> on page 602	Maintains the Id of the OData Collection that this Entry belongs to.
public void	<i>setIsLocal(boolean)</i> on page 602	
public void	<i>setSchema(IODataSchema)</i> on page 602	Maintains the reference to the appropriate OData Schema object.
public void	<i>setSummary(String)</i> on page 602	Sets the value of the appropriate OData element.
public void	<i>setTitle(String)</i> on page 602	Sets the value of the appropriate OData element.
public void	<i>write(BufferedWriter)</i> on page 603	

#### Inherited members from ParserDocument

Modifier and Type	Member	Description
static transient final String	<i>ANY_STRING</i> on page 963	
static transient final int	<i>ATTRIBUTE_ID</i> on page 963	
static transient final String	<i>ATTRIBUTE_STRING</i> on page 963	
protected Map< String, String >	<i>extensions</i> on page 963	
public String	<i>getAttribute(String...)</i> on page 945	Returns the value of the first attribute with the given route.
public List< String >	<i>getAttributes(String...)</i> on page 946	Returns all the values of attributes with the given route.
protected int	<i>getAttributesEndPosition(int[], int, int)</i> on page 946	

Modifier and Type	Member	Description
public Map< String, String >	<i>getChildAttribute-Map(String...)</i> on page 946	Returns all the name-value pairs of attributes contained by the element with the given route.
public List< String >	<i>getChildAttributes(String...)</i> on page 947	Returns all the values of attributes contained by the element with the given route.
public List< IParserDocument >	<i>getChildDocuments(String...)</i> on page 947	Returns the elements contained by the element with the given route.
public List< IParserDocument >	<i>getChildDocumentsWithAttribute(String, String, String...)</i> on page 947	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public List< IParserDocument >	<i>getChildDocumentsWithAttribute(String, String, boolean, String...)</i> on page 948	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public ParserDocument	<i>getDocument(String...)</i> on page 948	Returns the first element with the given route.
protected List< int[] >	<i>getDocumentPositions(String[], int, boolean, boolean)</i> on page 949	
public List< IParserDocument >	<i>getDocuments(String...)</i> on page 949	Returns all the elements with the given route.
public List< IParserDocument >	<i>getDocumentsWithAttribute(String, String, String...)</i> on page 949	Returns the elements with the given route that contains the given attribute with the given value.
public List< IParserDocument >	<i>getDocumentsWithAttribute(String, String, boolean, String...)</i> on page 950	Returns the elements with the given route that contains the given attribute with the given value.
public IParserDocument	<i>getDocumentWithAttribute(String, String, String...)</i> on page 950	Returns the first element with the given route that contains the given attribute with the given value.

Modifier and Type	Member	Description
public IParserDocument	<i>getDocumentWithAttribute(String, String, boolean, String...)</i> on page 951	Returns the first element with the given route that contains the given attribute with the given value.
public String	<i>getElementName()</i> on page 951	Returns The name of the root element of this document.
public String	<i>getExtension(String)</i> on page 952	
public String	<i>getFunctionImportComplexProperty Value(String...)</i> on page 952	
static int	<i>getNameId(String, boolean, boolean)</i> on page 952	
public static List< String >	<i>getNameMap()</i> on page 952	
public static String	<i>getPrefix(String)</i> on page 952	
public String	<i>getPrefixForUri(String)</i> on page 952	Returns the appropriate namespace prefix for the given XML name-space URI.
public static Map< String, String >	<i>getPrefixMapping()</i> on page 953	
protected List< Integer >	<i>getStringPositions(String[], int, boolean, boolean)</i> on page 953	
public String[]	<i>getStrings()</i> on page 953	Returns all the string values contained by this document.
public String	<i>getValue(String...)</i> on page 953	Returns the value of the first element with the given route.
public List< String >	<i>getValues(String...)</i> on page 953	Returns all the values of elements with the given route.
protected int[]	<i>insertRoutePositions(int[], int, int[])</i> on page 954	
protected void	<i>insertRoutesPositions(int, int[])</i> on page 954	

Modifier and Type	Member	Description
protected void	<i>insertStringsPositions(int, String[])</i> on page 954	
protected String[]	<i>insertStringsPositions(String[], int, String[])</i> on page 954	
boolean	<i>isComplexEntity</i> on page 963	
boolean	<i>isJson</i> on page 963	
protected boolean	<i>isMatched(String, String)</i> on page 954	
static List< String >	<i>nameMap</i> on page 963	
	<i>ParserDocument()</i> on page 945	
	<i>ParserDocument(boolean)</i> on page 945	
public	<i>ParserDocument(String)</i> on page 944	
public	<i>ParserDocument(ParserDocument)</i> on page 944	
protected	<i>ParserDocument(int[], String[])</i> on page 945	
protected	<i>ParserDocument(String, boolean)</i> on page 945	
static Map< String, String >	<i>prefixMapping</i> on page 964	
public void	<i>putAttribute(String, String...)</i> on page 955	Sets the value of the attribute with the given route If attribute does not exist it will be created as well as all other non existing elements in the route.
public void	<i>putExtension(String, String)</i> on page 955	
protected void	<i>putString(int, String, int, String...)</i> on page 956	

Modifier and Type	Member	Description
public void	<i>putValue(String, String...)</i> on page 956	Sets the value of the first element with the given route.
public static void	<i>readNameMap(BufferedReader)</i> on page 957	
public boolean	<i>removeAttribute(String...)</i> on page 957	Removes first element with the given route.
public boolean	<i>removeAttributes(String...)</i> on page 957	Removes all the attribute with the given route.
public boolean	<i>removeDocument(String...)</i> on page 957	Removes first element with the given route For removing multiple element use setDocuemtns with null arguments.
public void	<i>removeExtension(String)</i> on page 958	
protected void	<i>removeRoutesPositions(int, int)</i> on page 958	
protected int[]	<i>removeRoutesPositions(int[], int, int)</i> on page 958	
protected boolean	<i>removeString(String...)</i> on page 958	
protected boolean	<i>removeStrings(String...)</i> on page 958	
protected void	<i>removeStringsPositions(int, int)</i> on page 958	
protected String[]	<i>removeStringsPositions(String[], int, int)</i> on page 958	
protected int	<i>replaceRoutesPositions(int, int, int[])</i> on page 959	
protected int[]	<i>replaceRoutesPositions(int[], int, int, int[])</i> on page 959	
protected int	<i>replaceStringsPositions(int, int, String[])</i> on page 959	

Modifier and Type	Member	Description
protected String[]	<i>replaceStringsPositions(String[], int, int, String[])</i> on page 959	
public static String	<i>resolveUrl(String, String)</i> on page 959	
protected int[]	<i>routes</i> on page 964	
public void	<i>setAttribute(String, String...)</i> on page 959	
public void	<i>setAttributes(List&lt;String&gt;, String...)</i> on page 960	Sets all the values of the attributes with the given route Values will be paired to attributes in order Attributes with greater or equals index than size of new values will be untouched Attributes paired with null values will be removed.
public boolean	<i>setDocument(IParserDocument, String...)</i> on page 960	
public void	<i>setDocuments(List&lt;IParserDocument&gt;, String...)</i> on page 960	Replaces all the elements with the given route Documents will be paired to elements in order Elements with greater or equals index than size of new elements will be untouched Element paired with null will be removed.
public void	<i>setElementName(String, String...)</i> on page 961	Sets the name of the root element with the given route Use empty route for setting root name of this document.
public static void	<i>setNameMap(List&lt;String&gt;)</i> on page 961	
public static void	<i>setPrefixMapping(Map&lt;String, String&gt;)</i> on page 961	
protected void	<i>setString(String, String...)</i> on page 961	

Modifier and Type	Member	Description
protected void	<i>setStrings(List&lt; String &gt;, String...)</i> on page 961	
public void	<i>setValue(String, String...)</i> on page 961	
public void	<i>setValues(List&lt; String &gt;, String...)</i> on page 962	Sets all the values of the elements with the given rout Values will be paired to elements in order Elements with greater or equals index than size of new values will be untouched Null values will be treated as empty strings.
protected String[]	<i>strings</i> on page 964	
public String	<i>toXMLString()</i> on page 962	Returns the XML string representation of this object.
protected static final String	<i>URL_PROTOCOL_PREFIX</i> on page 964	
static transient final int	<i>VALUE_ID</i> on page 964	
static transient final String	<i>VALUE_STRING</i> on page 964	
public static void	<i>writeNameMap(BufferedWriter)</i> on page 963	

#### Inherited members from IParserDocument

Modifier and Type	Member	Description
public static final String	<i>ATTRIBUTE_ETAG</i> on page 386	Name of the appropriate OData element.
public static final String	<i>ATTRIBUTE_VALUEPREFIX_EDMTYPE</i> on page 386	Value prefix for EDM Type type values.
public static Map< String, String >	<i>DEFAULT_PREFIXMAPPING</i> on page 386	The default XML Namespace-to-Prefix mapping used for building XMLS.



Modifier and Type	Member	Description
public static final String[]	<i>EDMDATETIME_PATTERNS</i> on page 386	Possible EDM DateTime patterns Note: Some pattern are not supported by OData specification but still widely used.
public static final String[]	<i>EDMDATETIMEOFFSET_PATTERNS</i> on page 386	Possible EDM TimeOffset patterns Note: Some pattern are not supported by OData specification but still widely used.
public static final String	<i>EDMTIME_PATTERN</i> on page 386	EDM Time pattern.
public static String	<i>ELEMENT_FEED</i> on page 386	Name of the appropriate OData element.
public static final String	<i>ELEMENT_ID</i> on page 387	Name of the appropriate OData element.
public static final String	<i>ROOT_DOCUMENT_NAME</i> on page 387	The default root element name for a new document.
public static final String	<i>XMLNS_APPLICATION_URI</i> on page 387	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/08/dataservices">http://schemas.microsoft.com/ado/2007/08/dataservices</a> .
public static final String	<i>XMLNS_ATOM_URI</i> on page 387	Constant for XMLNS URI: <a href="http://www.w3.org/2005/Atom">http://www.w3.org/2005/Atom</a> .
public static final String	<i>XMLNS_DATASERVICES_URI</i> on page 387	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/08/dataservices">http://schemas.microsoft.com/ado/2007/08/dataservices</a> .
public static final String	<i>XMLNS_EDM_URI</i> on page 387	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/05/edm">http://schemas.microsoft.com/ado/2007/05/edm</a> .
public static final String	<i>XMLNS_EDMX_URI</i> on page 387	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/06/edmx">http://schemas.microsoft.com/ado/2007/06/edmx</a> .
public static final String	<i>XMLNS_GENERICPLAYER_URI</i> on page 388	Constant for XMLNS URI: <a href="http://www.sap.com/Protocols/SAPData/GenericPlayer">http://www.sap.com/Protocols/SAPData/GenericPlayer</a> .

Modifier and Type	Member	Description
public static final String	<i>XMLNS_METADATA_URI</i> on page 388	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/08/dataservices/metadata">http://schemas.microsoft.com/ado/2007/08/dataservices/metadata</a> .
public static final String	<i>XMLNS_SAP_URI</i> on page 388	Constant for XMLNS URI: <a href="http://www.sap.com/Protocols/SAPData">http://www.sap.com/Protocols/SAPData</a> .

**Inherited members from IPersistable**

Modifier and Type	Member	Description
public void	<i>read(BufferedReader)</i> on page 389	
public void	<i>write(BufferedWriter)</i> on page 389	

**Inherited members from IODataEntry**

Modifier and Type	Member	Description
public static final String	<i>ATTRIBUTE_SEMANTICS</i> on page 220	Name of the appropriate OData attribute.
public static final String	<i>ATTRIBUTE_TERM</i> on page 220	Name of the appropriate OData attribute.
public static final String	<i>ATTRIBUTE_VALUE_SEMANTICS_ACTION</i> on page 220	Value option for appropriate OData attribute.
public static final String	<i>ELEMENT_AUTHOR</i> on page 220	Name of the appropriate OData element.
public static final String	<i>ELEMENT_CATEGORY</i> on page 220	Name of the appropriate OData element.
public static final String	<i>ELEMENT_CONTENT</i> on page 220	Name of the appropriate OData element.
public static final String	<i>ELEMENT_ENTRY</i> on page 221	Name of the appropriate OData element.
public static final String	<i>ELEMENT_LINK</i> on page 221	Name of the appropriate OData element.

Modifier and Type	Member	Description
public static final String	<i>ELEMENT_NAME</i> on page 221	Name of the appropriate OData element.
public static final String	<i>ELEMENT_PROPERTIES</i> on page 221	Name of the appropriate OData element.
public static final String	<i>ELEMENT_SUMMARY</i> on page 221	Name of the appropriate OData element.
public static final String	<i>ELEMENT_TITLE</i> on page 221	Name of the appropriate OData element.
public static final String	<i>ELEMENT_UPDATED</i> on page 221	Name of the appropriate OData element.
public static final String	<i>PROPERTY_LEVEL_SEPARATOR</i> on page 222	

#### Inherited members from IParserDocument

Modifier and Type	Member	Description
public static final String	<i>ATTRIBUTE_ETAG</i> on page 386	Name of the appropriate OData element.
public static final String	<i>ATTRIBUTE_VALUEPREFIX_EDMTYPE</i> on page 386	Value prefix for EDM Type type values.
public abstract IParserDocument	<i>clone()</i> on page 374	Creates a copy of this object.
public static Map< String, String >	<i>DEFAULT_PREFIXMAPPING</i> on page 386	The default XML Namespace-to-Prefix mapping used for building XMLS.
public static final String[]	<i>EDMDATETIME_PATTERNS</i> on page 386	Possible EDM DateTime patterns Note: Some pattern are not supported by OData specification but still widely used.
public static final String[]	<i>EDMDATETIMEOFFSET_PATTERNS</i> on page 386	Possible EDM DateTimeOffset patterns Note: Some pattern are not supported by OData specification but still widely used.
public static final String	<i>EDMTIME_PATTERN</i> on page 386	EDM Time pattern.

Modifier and Type	Member	Description
public static String	<i>ELEMENT_FEED</i> on page 386	Name of the appropriate OData element.
public static final String	<i>ELEMENT_ID</i> on page 387	Name of the appropriate OData element.
public abstract String	<i>getAttribute(String...)</i> on page 374	Returns the value of the first attribute with the given route.
public abstract List< String >	<i>getAttributes(String...)</i> on page 374	Returns all the values of attributes with the given route.
public abstract Map< String, String >	<i>getChildAttributeMap(String...)</i> on page 375	Returns all the name-value pairs of attributes contained by the element with the given route.
public abstract List< String >	<i>getChildAttributes(String...)</i> on page 375	Returns all the values of attributes contained by the element with the given route.
public abstract List< IParserDocument >	<i>getChildDocuments(String...)</i> on page 375	Returns the elements contained by the element with the given route.
public abstract List< IParserDocument >	<i>getChildDocumentsWithAttribute(String, String, String...)</i> on page 376	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public abstract List< IParserDocument >	<i>getChildDocumentsWithAttribute(String, String, boolean, String...)</i> on page 376	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public abstract IParserDocument	<i>getDocument(String...)</i> on page 377	Returns the first element with the given route.
public abstract List< IParserDocument >	<i>getDocuments(String...)</i> on page 377	Returns all the elements with the given route.
public abstract List< IParserDocument >	<i>getDocumentsWithAttribute(String, String, String...)</i> on page 378	Returns the elements with the given route that contains the given attribute with the given value.

Modifier and Type	Member	Description
public abstract List<IParserDocument >	<i>getDocumentsWithAttribute(String, String, boolean, String...)</i> on page 378	Returns the elements with the given route that contains the given attribute with the given value.
public abstract IParserDocument	<i>getDocumentWithAttribute(String, String, String...)</i> on page 379	Returns the first element with the given route that contains the given attribute with the given value.
public abstract IParserDocument	<i>getDocumentWithAttribute(String, String, boolean, String...)</i> on page 379	Returns the first element with the given route that contains the given attribute with the given value.
public abstract String	<i>getElementName()</i> on page 380	Returns The name of the root element of this document.
public abstract String	<i>getFunctionImportComplexPropertyValue(String...)</i> on page 380	
public abstract String	<i>getPrefixForUri(String)</i> on page 380	Returns the appropriate namespace prefix for the given XML name-space URI.
public abstract String[]	<i>getStrings()</i> on page 381	Returns all the string values contained by this document.
public abstract String	<i>getValue(String...)</i> on page 381	Returns the value of the first element with the given route.
public abstract List< String >	<i>getValues(String...)</i> on page 381	Returns all the values of elements with the given route.
public abstract void	<i>putAttribute(String, String...)</i> on page 382	Sets the value of the attribute with the given route If attribute does not exist it will be created as well as all other non existing elements in the route.

Modifier and Type	Member	Description
public abstract void	<i>putDocument(IParserDocument, String...)</i> on page 382	Insert the document under the element with the given route inserted document will be placed before already existing documents with the same route name under All missing elements from the route will be created.
public abstract void	<i>putValue(String, String...)</i> on page 382	Sets the value of the first element with the given route.
public abstract boolean	<i>removeAttribute(String...)</i> on page 383	Removes first element with the given route.
public abstract boolean	<i>removeAttributes(String...)</i> on page 383	Removes all the attribute with the given route.
public abstract boolean	<i>removeDocument(String...)</i> on page 383	Removes first element with the given route For removing multiple element use setDocuemtns with null arguments.
public static final String	<i>ROOT_DOCUMENT_NAME</i> on page 387	The default root element name for a new document.
public abstract void	<i>setAttributes(List&lt;String&gt;, String...)</i> on page 384	Sets all the values of the attributes with the given route Values will be paired to attributes in order Attributes with greater or equals index than size of new values will be untouched Attributes paired with null values will be removed.
public abstract void	<i>setDocuments(List&lt;IParserDocument&gt;, String...)</i> on page 384	Replaces all the elements with the given route Documents will be paired to elements in order Elements with greater or equals index than size of new elements will be untouched Element paired with null will be removed.

Modifier and Type	Member	Description
public abstract void	<i>setElementName(String, String...)</i> on page 385	Sets the name of the root element with the given route Use empty route for setting root name of this document.
public abstract void	<i>setValues(List&lt; String &gt;, String...)</i> on page 385	Sets all the values of the elements with the given rout Values will be paired to elements in order Elements with greater or equals index than size of new values will be untouched Null values will be treated as empty strings.
public abstract String	<i>toXMLString()</i> on page 385	Returns the XML string representation of this object.
public static final String	<i>XMLNS_APPLICATION_URI</i> on page 387	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/08/dataservices">http://schemas.microsoft.com/ado/2007/08/dataservices</a> .
public static final String	<i>XMLNS_ATOM_URI</i> on page 387	Constant for XMLNS URI: <a href="http://www.w3.org/2005/Atom">http://www.w3.org/2005/Atom</a> .
public static final String	<i>XMLNS_DATASERVICES_URI</i> on page 387	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/08/dataservices">http://schemas.microsoft.com/ado/2007/08/dataservices</a> .
public static final String	<i>XMLNS_EDM_URI</i> on page 387	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/05/edm">http://schemas.microsoft.com/ado/2007/05/edm</a> .
public static final String	<i>XMLNS_EDMX_URI</i> on page 387	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/06/edmx">http://schemas.microsoft.com/ado/2007/06/edmx</a> .
public static final String	<i>XMLNS_GENERICPLAYER_URI</i> on page 388	Constant for XMLNS URI: <a href="http://www.sap.com/Protocols/SAPData/GenericPlayer">http://www.sap.com/Protocols/SAPData/GenericPlayer</a> .
public static final String	<i>XMLNS_METADATA_URI</i> on page 388	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/08/dataservices/metadata">http://schemas.microsoft.com/ado/2007/08/dataservices/metadata</a> .

Modifier and Type	Member	Description
public static final String	<i>XMLNS_SAP_URI</i> on page 388	Constant for XMLNS URI: <a href="http://www.sap.com/Protocols/SAPData">http://www.sap.com/Protocols/SAPData</a> .

**Inherited members from IPersistable**

Modifier and Type	Member	Description
public void	<i>read(BufferedReader)</i> on page 389	
public void	<i>write(BufferedWriter)</i> on page 389	

*ODataEntry()* constructor**Syntax**

```
public ODataEntry ()
```

*ODataEntry(boolean)* constructor**Syntax**

```
public ODataEntry ( boolean isComplex )
```

*ODataEntry(IODataSchema)* constructor**Syntax**

```
public ODataEntry ( IODataSchema schema )
```

*ODataEntry(ParserDocument)* constructor**Syntax**

```
public ODataEntry ( ParserDocument document )
```

*ODataEntry(ParserDocument, IODataSchema)* constructor**Syntax**

```
public ODataEntry ( ParserDocument document , IODataSchema schema )
```



*ODataEntry(JsonObject) constructor*

Json Related

*Syntax*

```
public ODataEntry ( JsonObject entry )
```

*ODataEntry(int[], String[]) constructor**Syntax*

```
protected ODataEntry ( int[] routes , String[] values )
```

*addPropertyValues(IODataProperty, Map< String, String >, String) method**Syntax*

```
protected void addPropertyValues ( IODataProperty property , Map< String, String > values , String pathString )
```

*clone() method*

Creates a copy of this object.

*Syntax*

```
public ODataEntry clone () throws CloneNotSupportedException
```

*Returns*

The new copy of this object

*fillPropertyData(IODataProperty, String...) method**Syntax*

```
protected void fillPropertyData ( IODataProperty property , String... path )
```

*fillPropertyDataWithAttribute(IODataProperty, String, String, boolean, String...) method**Syntax*

```
protected void fillPropertyDataWithAttribute ( IODataProperty property , String attributeName , String attributeValue , boolean addByefault , String... path )
```

### *getActionLinks() method*

Returns OData Link objects that are set as action links (Has semantics (SAP name-space) attribute with value 'action')

#### *Syntax*

```
public List< IODataLink > getActionLinks ()
```

#### *Returns*

List of OData Action Link documents

### *getAuthorName() method*

Returns The value of the 'name' OData element of the 'author' OData element.

#### *Syntax*

```
public String getAuthorName ()
```

#### *Returns*

The value of the 'name' OData element of the 'author' OData element

### *getCachestate() method*

#### *Syntax*

```
public cacheState getCachestate ()
```

### *getCacheTimestamp() method*

#### *Syntax*

```
public Long getCacheTimestamp ()
```

### *getCollectionId() method*

Returns the Id of the OCata Collection that this Entry belongs to.

#### *Syntax*

```
public String getCollectionId ()
```

#### *Returns*

The Id of the OCata Collection that this Entry belongs to

### *getContentType() method*

Returns the content type of the entry.

#### *Syntax*

```
public String getContentType ()
```

**Returns**

Content Type of the entry

***getEtag() method***

Returns the Id of the OData Collection that this Entry belongs to.

**Syntax**

```
public String getEtag ()
```

**Returns**

The Id of the OData Collection that this Entry belongs to

***getFilterUrl() method***

Returns the full execution URL hat can be used for filtering collection search for this single entry.

**Syntax**

```
public String getFilterUrl ()
```

**Returns**

The full filter URL

***getGPUseInSearchPropertiesData() method***

Returns the value and meta information (retrieved from OData Schema document) of the properties of this OData Entry document with 'true' use-in-search (Generic Player namespace) attribute value.

**Syntax**

```
public List< IODataProperty > getGPUseInSearchPropertiesData  
()
```

**Returns**

The meta-informations and values of the appropriate properties

***getGPVisibleInDetailPropertiesData() method***

Returns the value and meta information (retrieved from OData Schema document) of the properties of this OData Entry document with 'true' visible-in-detail (Generic Player namespace) attribute value.

**Syntax**

```
public List< IODataProperty >  
getGPVisibleInDetailPropertiesData ()
```

### *Returns*

The meta-informations and values of the appropriate properties

### *getGPVisibleInListPropertiesData() method*

Returns the value and meta information (retrieved from OData Schema document) of the properties of this OData Entry document with 'true' visible-in-list (Generic Player namespace) attribute value.

### *Syntax*

```
public List< IODataProperty >  
getGPVisibleInListPropertiesData ()
```

### *Returns*

The meta-informations and values of the appropriate properties

### *getIcons() method*

Returns the list of the appropriate OData elements.

### *Syntax*

```
public List< IODataIcon > getIcons ()
```

### *Returns*

The list of the appropriate OData elements

### *getId() method*

Returns The Id of this OData Entry (value of appropriate OData Id element)

### *Syntax*

```
public String getId ()
```

### *Returns*

The Id of this OData Entry

### *getIsLocal() method*

### *Syntax*

```
public boolean getIsLocal ()
```

*getKeyPropertyValues() method*

Returns the values of the properties that are marked as key properties in the OData Schema document.

*Syntax*

```
public Map< String, String > getKeyPropertyValues ()
```

*Returns*

The name-value pairs of the key properties

*getLastUpdated() method*

Returns The parsed value of the 'updated' OData Element.

*Syntax*

```
public Date getLastUpdated ()
```

*Returns*

The parsed value of the value of the 'updated' OData element or null is parsing failed

*getLinks() method*

Returns the list of the appropriate OData elements.

*Syntax*

```
public List< IODataLink > getLinks ()
```

*Returns*

The list of the appropriate OData elements

*getMediaSrc() method*

Returns the media source if the entry has a media content.

*Syntax*

```
public String getMediaSrc ()
```

*Returns*

Media source link of the entry

*getPropertiesData() method*

Returns the value and meta information (retrieved from OData Schema document) of the properties of this Odata Entry document.

*Syntax*

```
public List< IODataProperty > getPropertiesData ()
```

### *Returns*

The meta-informations and values of the contained properties

### *getPropertiesDataWithAttribute(String, String) method*

Returns the value and meta information (retrieved from OData Schema document) of the properties of this OData Entry document with the given attribute value.

### *Syntax*

```
public List< IODataProperty > getPropertiesDataWithAttribute  
( String attributeName , String attributeValue )
```

### *Parameters*

- **attributeName** – The name of the attribute
- **attributeValue** – The expected value of the attribute

### *Returns*

The meta-informations and values of the appropriate properties

### *getPropertiesDataWithAttribute(String, String, boolean) method*

Returns the value and meta information (retrieved from OData Schema document) of the properties of this OData Entry document with the given attribute value.

### *Syntax*

```
public List< IODataProperty > getPropertiesDataWithAttribute  
( String attributeName , String attributeValue , boolean addByDefault )
```

### *Parameters*

- **attributeName** – The name of the attribute
- **attributeValue** – The expected value of the attribute
- **addByDefault** – true if the Property should be add in case if there is no attribute with the given name

### *Returns*

The meta-informations and values of the appropriate properties

### *getPropertiesDocument() method*

Returns the representer document of OData 'properties' (Metadata name-space) document  
This method is created for performance reasons mostly to use in search methods.

### *Syntax*

```
public IParserDocument getPropertiesDocument ()
```

*Returns*

The ParseDocument representation of OData 'properties' (Metadata name-space) document

*getPropertyValue(String...) method*

Returns the value of the appropriate property.

*Syntax*

```
public String getPropertyValue (String... propertyPath )
```

*Parameters*

- **propertyPath** – The path to the property with or without the name-space prefix including names of the enclosing complex types if any (Without enclosing complex type this argument should be simple the name of the property)

*Returns*

The value of the property

*Exceptions*

- **IllegalArgumentException** – if the property name is null or ambiguous.

*Usage*

Name of property may or may not contain name-space prefix as long as the property name is not ambiguous

*getPropertyValueParsed(String...) method*

Returns the value of the appropriate property parsed to it's real type.

*Syntax*

```
public< T > T getPropertyValueParsed (String... propertyPath ) throws  
ClassCastException
```

*Parameters*

- **propertyPath** – The path to the property with or without the name-space prefix including names of the enclosing complex types if any (Without enclosing complex type this argument should be simple the name of the property)

*Returns*

The value of the property

*Exceptions*

- **IllegalArgumentException** – if the property name is null or ambiguous

- **ClassCastException** – if the property value can not be parsed to the expected type

### *Usage*

Name of property may or may not contain name-space prefix as long as the property name is not ambiguous

### *getPropertyValues(List< String[]>) method*

Return list of property values for the given property paths.

### *Syntax*

```
public List< String > getPropertyValues ( List< String[]>  
propertyPathes )
```

### *Parameters*

- **propertyPathes** – Name of the property or path including the name of the enclosing Complex Types

### *Returns*

The list of the values of the properties

### *getPropertyValues() method*

Returns the all the values of properties contained by this OData Entry document Key for the properties will be their name of their full path in case they are enclosed by Complex Types.

### *Syntax*

```
public Map< String, String > getPropertyValues ()
```

### *Returns*

The name/path and value pairs of the contained properties

### *Usage*

The name of the properties will contain their current name-space prefixes.

### *getRelatedDataLinks() method*

Returns OData Link objects that represents links to Related Data.

### *Syntax*

```
public List< IODataLink > getRelatedDataLinks ()
```

### *Returns*

List of OData Related Link documents



*getSAPSearchablePropertiesData() method*

Returns the value and meta information (retrieved from OData Schema document) of the properties of this OData Entry document with 'true' searchable (SAP name-space) attribute value.

*Syntax*

```
public List< IODataProperty > getSAPSearchablePropertiesData
()
```

*Returns*

The meta-informations and values of the appropriate properties

*getSchema() method*

Returns the appropriate OData Schema object.

*Syntax*

```
public IODataSchema getSchema ()
```

*Returns*

The appropriate OData Schema object.

*getSelfLink() method*

Returns OData Link object that should be used for self related operations (with 'rel' attribute value 'self' or 'edit')

*Syntax*

```
public IODataLink getSelfLink ()
```

*Returns*

OData self Link

*getSubscriptionLink() method*

Returns OData Link object that should be used for subscription or null if there is no subscription link defined.

*Syntax*

```
public IODataLink getSubscriptionLink ()
```

*Returns*

OData Link for subscribe

### *getSummary() method*

Returns The value of the appropriate OData element.

#### *Syntax*

```
public String getSummary ()
```

#### *Returns*

The value of the appropriate OData element

### *getTitle() method*

Returns The value of the appropriate OData element.

#### *Syntax*

```
public String getTitle ()
```

#### *Returns*

The value of the appropriate OData element

### *materialize() method*

#### *Syntax*

```
protected void materialize ()
```

### *parseCollectionId() method*

#### *Syntax*

```
protected void parseCollectionId ()
```

### *parseEdmTime(String) method*

#### *Syntax*

```
protected long parseEdmTime (String value )
```

### *putComplexPropertyValue(String, String...) method*

Puts the new property element as a sub-element of the 'complex properties' OData element.

#### *Syntax*

```
public void putComplexPropertyValue (String propertyValue ,  
String... propertyName )
```

*Parameters*

- **propertyName** – The route of the property with or without name-space until the complex type.
- **propertyValue** – The value of the property

*Usage*

An element with the same name will be overwritten by the new element. Not-prefixed property name will be automatically prefixed with the current prefix of DataServices XML name-space.

*putContentType(String) method*

Puts the content type for a new entry object.

*Syntax*

```
public void putContentType (String contentType)
```

*Parameters*

- **contentType** – - Content Type of the entry

*putDocument(IParserDocument, String...) method*

Insert the document under the element with the given route inserted document will be placed before already existing documents with the same route name under All missing elements from the route will be created.

*Syntax*

```
public void putDocument (IParserDocument document , String...  
route) throws IllegalArgumentException
```

*Parameters*

- **document** – The new document
- **route** – The route to the parent element of the new document

*Exceptions*

- **IllegalArgumentException** – if either of the arguments is null.

*putId(String) method*

Sets id of this OData Entry document (value of appropriate OData Id element)

*Syntax*

```
public void putId (String id)
```

### *Parameters*

- **id** – The new id.

### *putMediaSrc(String) method*

Puts the media source for a new entry object.

### *Syntax*

```
public void putMediaSrc ( String mediaSrc )
```

### *Parameters*

- **mediaSrc** – - Media source of the entry

### *putPropertyValue(String, String) method*

Puts the new property element as a sub-element of the 'properties' OData element.

### *Syntax*

```
public void putPropertyValue ( String propertyName , String propertyValue )
```

### *Parameters*

- **propertyName** – The name of the property with or without name-space.
- **propertyValue** – The value of the property

### *Usage*

An element with the same name will be overwritten by the new element. Not-prefixed property name will be automatically prefixed with the current prefix of DataServices XML name-space.

### *putPropertyValue(String, String, boolean) method*

Puts the new property element as a sub-element of the 'properties' OData element.

### *Syntax*

```
public void putPropertyValue ( String propertyName , String propertyValue , boolean useDefaultPrefix )
```

### *Parameters*

- **useDefaultPrefix** – If true not-prefixed property name will be automatically prefixed with the current prefix of DataServices XML names-pace.
- **propertyName** – The name of the property with or without name-space.
- **propertyValue** – The value of the property

### *Usage*

An element with the same name will be overwritten by the new element.

If name of the property is not prefixed and useDefaultPreix is false, name of the property should be prefixed by the caller. (Use getPrefix for get the valid prefix for a name-space URI)

### *read(BufferedReader) method*

#### *Syntax*

```
public void read (BufferedReader reader) throws  
PersistenceException
```

#### *Parameters*

- **reader** – The buffered reader to read the object from.

#### *Exceptions*

- **PersistenceException** – if data can not be loaded from the reader.

### *resolveTargetCollection(IONDataLink) method*

#### *Syntax*

```
protected String resolveTargetCollection (IONDataLink link)
```

### *setAuthorName(String) method*

Sets the value of the 'name' OData element of the 'author' OData element.

#### *Syntax*

```
public void setAuthorName (String authorName)
```

#### *Parameters*

- **authorName** – The new value of the element

### *setCachestate(cacheState) method*

#### *Syntax*

```
public void setCachestate (cacheState cachestate)
```

### *setCacheTimestamp(Long) method*

#### *Syntax*

```
public void setCacheTimestamp (Long timestamp)
```

### *setCollectionId(String) method*

Maintains the Id of the OCata Collection that this Entry belongs to.

#### *Syntax*

```
public void setCollectionId ( String collectionId )
```

#### *Parameters*

- **collectionId** – The Id of the OCata Collection that this Entry belongs to

### *setIsLocal(boolean) method*

#### *Syntax*

```
public void setIsLocal ( boolean isLocal )
```

### *setSchema(IODataSchema) method*

Maintains the reference to the appropriate OData Schema object.

#### *Syntax*

```
public void setSchema ( IODataSchema schema )
```

#### *Parameters*

- **schema** – The appropriate OData Schema object.

### *setSummary(String) method*

Sets the value of the appropriate OData element.

#### *Syntax*

```
public void setSummary ( String summary )
```

#### *Parameters*

- **summary** – The new value of the element

### *setTitle(String) method*

Sets the value of the appropriate OData element.

#### *Syntax*

```
public void setTitle ( String title )
```

#### *Parameters*

- **title** – The new value of the element

*write(BufferedWriter) method**Syntax*

```
public void write (BufferedWriter writer) throws
PersistenceException
```

*Parameters*

- **writer** – The buffered writer that object data needs to be written into.

*Exceptions*

- **PersistenceException** – if data can not be written into the writer

*cache\_timestamp variable**Syntax*

```
protected Long cache_timestamp
```

*Cachestate variable**Syntax*

```
protected cacheState Cachestate
```

*collectionId variable**Syntax*

```
protected String collectionId
```

*FALSE variable**Syntax*

```
protected static transient static final int FALSE
```

*FILTER variable**Syntax*

```
protected static transient static final String FILTER
```

*FILTER\_AND variable**Syntax*

```
protected static transient static final String FILTER_AND
```

*FILTER\_EQ variable*

*Syntax*

```
protected static transient static final String FILTER_EQ
```

*isLocalEntry variable*

*Syntax*

```
protected boolean isLocalEntry
```

*jsonObject variable*

JSON related variables

*Syntax*

```
protected transient JsonObject jsonObject
```

*NOT\_TESTED variable*

*Syntax*

```
protected static transient static final int NOT_TESTED
```

*schema variable*

*Syntax*

```
protected transient IODataSchema schema
```

*TRUE variable*

*Syntax*

```
protected static transient static final int TRUE
```

*ODataError class*

*Syntax*

```
public class ODataError extends ParserDocument, IODataError
```

*Members*

All members of ODataError, including inherited members. **Constructors**

Modifier and Type	Constructor	Description
public	<i>ODataError()</i> on page 619	



Modifier and Type	Constructor	Description
public	<i>ODataError(ParserDocument)</i> on page 619	
protected	<i>ODataError(int[], String[])</i> on page 619	

### Methods

Modifier and Type	Method	Description
public String	<i>getErrorCode()</i> on page 619	Returns The value of the 'code' OData element.
public String	<i>getLang()</i> on page 619	Returns The value of the appropriate OData attribute of the 'message' element.
public String	<i>getMessage()</i> on page 619	Return the localized error message.

### Inherited members from ParserDocument

Modifier and Type	Member	Description
static transient final String	<i>ANY_STRING</i> on page 963	
static transient final int	<i>ATTRIBUTE_ID</i> on page 963	
static transient final String	<i>ATTRIBUTE_STRING</i> on page 963	
public ParserDocument	<i>clone()</i> on page 945	Creates a copy of this object.
protected Map< String, String >	<i>extensions</i> on page 963	
public String	<i>getAttribute(String...)</i> on page 945	Returns the value of the first attribute with the given route.
public List< String >	<i>getAttributes(String...)</i> on page 946	Returns all the values of attributes with the given route.
protected int	<i>getAttributesEndPosition(int[], int, int)</i> on page 946	
public Map< String, String >	<i>getChildAttribute-Map(String...)</i> on page 946	Returns all the name-value pairs of attributes contained by the element with the given route.

Modifier and Type	Member	Description
public List< String >	<i>getChildAttributes(String...)</i> on page 947	Returns all the values of attributes contained by the element with the given route.
public List< IParserDocument >	<i>getChildDocuments(String...)</i> on page 947	Returns the elements contained by the element with the given route.
public List< IParserDocument >	<i>getChildDocumentsWithAttribute(String, String, String...)</i> on page 947	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public List< IParserDocument >	<i>getChildDocumentsWithAttribute(String, String, boolean, String...)</i> on page 948	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public ParserDocument	<i>getDocument(String...)</i> on page 948	Returns the first element with the given route.
protected List< int[] >	<i>getDocumentPositions(String[], int, boolean, boolean)</i> on page 949	
public List< IParserDocument >	<i>getDocuments(String...)</i> on page 949	Returns all the elements with the given route.
public List< IParserDocument >	<i>getDocumentsWithAttribute(String, String, String...)</i> on page 949	Returns the elements with the given route that contains the given attribute with the given value.
public List< IParserDocument >	<i>getDocumentsWithAttribute(String, String, boolean, String...)</i> on page 950	Returns the elements with the given route that contains the given attribute with the given value.
public IParserDocument	<i>getDocumentWithAttribute(String, String, String...)</i> on page 950	Returns the first element with the given route that contains the given attribute with the given value.

Modifier and Type	Member	Description
public IParserDocument	<i>getDocumentWithAttribute(String, String, boolean, String...)</i> on page 951	Returns the first element with the given route that contains the given attribute with the given value.
public String	<i>getElementName()</i> on page 951	Returns The name of the root element of this document.
public String	<i>getExtension(String)</i> on page 952	
public String	<i>getFunctionImportComplexProperty Value(String...)</i> on page 952	
static int	<i>getNameId(String, boolean, boolean)</i> on page 952	
public static List< String >	<i>getNameMap()</i> on page 952	
public static String	<i>getPrefix(String)</i> on page 952	
public String	<i>getPrefixForUri(String)</i> on page 952	Returns the appropriate namespace prefix for the given XML name-space URI.
public static Map< String, String >	<i>getPrefixMapping()</i> on page 953	
protected List< Integer >	<i>getStringPositions(String[], int, boolean, boolean)</i> on page 953	
public String[]	<i>getStrings()</i> on page 953	Returns all the string values contained by this document.
public String	<i>getValue(String...)</i> on page 953	Returns the value of the first element with the given route.
public List< String >	<i>getValues(String...)</i> on page 953	Returns all the values of elements with the given route.
protected int[]	<i>insertRoutePositions(int[], int, int[])</i> on page 954	
protected void	<i>insertRoutesPositions(int, int[])</i> on page 954	

Modifier and Type	Member	Description
protected void	<i>insertStringsPositions(int, String[])</i> on page 954	
protected String[]	<i>insertStringsPositions(String[], int, String[])</i> on page 954	
boolean	<i>isComplexEntity</i> on page 963	
boolean	<i>isJson</i> on page 963	
protected boolean	<i>isMatched(String, String)</i> on page 954	
static List< String >	<i>nameMap</i> on page 963	
	<i>ParserDocument()</i> on page 945	
	<i>ParserDocument(boolean)</i> on page 945	
public	<i>ParserDocument(String)</i> on page 944	
public	<i>ParserDocument(ParserDocument)</i> on page 944	
protected	<i>ParserDocument(int[], String[])</i> on page 945	
protected	<i>ParserDocument(String, boolean)</i> on page 945	
static Map< String, String >	<i>prefixMapping</i> on page 964	
public void	<i>putAttribute(String, String...)</i> on page 955	Sets the value of the attribute with the given route If attribute does not exist it will be created as well as all other non existing elements in the route.

Modifier and Type	Member	Description
public void	<i>putDocument(IParserDocument, String...)</i> on page 955	Insert the document under the element with the given route inserted document will be placed before already existing documents with the same route name under All missing elements from the route will be created.
public void	<i>putExtension(String, String)</i> on page 955	
protected void	<i>putString(int, String, int, String...)</i> on page 956	
public void	<i>putValue(String, String...)</i> on page 956	Sets the value of the first element with the given route.
public void	<i>read(BufferedReader)</i> on page 956	
public void	<i>readExternal(ObjectInput)</i> on page 956	
public static void	<i>readNameMap(BufferedReader)</i> on page 957	
public boolean	<i>removeAttribute(String...)</i> on page 957	Removes first element with the given route.
public boolean	<i>removeAttributes(String...)</i> on page 957	Removes all the attribute with the given route.
public boolean	<i>removeDocument(String...)</i> on page 957	Removes first element with the given route For removing multiple element use setDocuemtns with null arguments.
public void	<i>removeExtension(String)</i> on page 958	
protected void	<i>removeRoutesPositions(int, int)</i> on page 958	
protected int[]	<i>removeRoutesPositions(int[], int, int)</i> on page 958	

Modifier and Type	Member	Description
protected boolean	<i>removeString(String...)</i> on page 958	
protected boolean	<i>removeStrings(String...)</i> on page 958	
protected void	<i>removeStringsPositions(int, int)</i> on page 958	
protected String[]	<i>removeStringsPositions(String[], int, int)</i> on page 958	
protected int	<i>replaceRoutesPositions(int, int, int[])</i> on page 959	
protected int[]	<i>replaceRoutesPositions(int[], int, int, int[])</i> on page 959	
protected int	<i>replaceStringsPositions(int, int, String[])</i> on page 959	
protected String[]	<i>replaceStringsPositions(String[], int, int, String[])</i> on page 959	
public static String	<i>resolveUrl(String, String)</i> on page 959	
protected int[]	<i>routes</i> on page 964	
public void	<i>setAttribute(String, String...)</i> on page 959	
public void	<i>setAttributes(List&lt;String&gt;, String...)</i> on page 960	Sets all the values of the attributes with the given route Values will be paired to attributes in order Attributes with greater or equals index than size of new values will be untouched Attributes paired with null values will be removed.
public boolean	<i>setDocument(IParserDocument, String...)</i> on page 960	

Modifier and Type	Member	Description
public void	<i>setDocuments(List&lt; IParser-Document &gt;, String...)</i> on page 960	Replaces all the elements with the given route Documents will be paired to elements in order Elements with greater or equals index than size of new elements will be untouched Element paired with null will be removed.
public void	<i>setElementName(String, String...)</i> on page 961	Sets the name of the root element with the given route Use empty route for setting root name of this document.
public static void	<i>setNameMap(List&lt;String &gt;)</i> on page 961	
public static void	<i>setPrefixMapping(Map&lt;String, String &gt;)</i> on page 961	
protected void	<i>setString(String, String...)</i> on page 961	
protected void	<i>setStrings(List&lt;String &gt;, String...)</i> on page 961	
public void	<i>setValue(String, String...)</i> on page 961	
public void	<i>setValues(List&lt;String &gt;, String...)</i> on page 962	Sets all the values of the elements with the given route Values will be paired to elements in order Elements with greater or equals index than size of new values will be untouched Null values will be treated as empty strings.
protected String[]	<i>strings</i> on page 964	
public String	<i>toXMLString()</i> on page 962	Returns the XML string representation of this object.
protected static final String	<i>URL_PROTOCOL_PREFIX</i> on page 964	

Modifier and Type	Member	Description
static transient final int	<i>VALUE_ID</i> on page 964	
static transient final String	<i>VALUE_STRING</i> on page 964	
public void	<i>write(BufferedWriter)</i> on page 962	
public void	<i>writeExternal(ObjectOutput)</i> on page 962	
public static void	<i>writeNameMap(BufferedWriter)</i> on page 963	

### Inherited members from *IParserDocument*

Modifier and Type	Member	Description
public static final String	<i>ATTRIBUTE_ETAG</i> on page 386	Name of the appropriate OData element.
public static final String	<i>ATTRIBUTE_VALUEPREFIX_EDMTYPE</i> on page 386	Value prefix for EDM Type type values.
public static Map< String, String >	<i>DEFAULT_PREFIXMAPPING</i> on page 386	The default XML Namespace-to-Prefix mapping used for building XMLS.
public static final String[]	<i>EDMDATETIME_PATTERNS</i> on page 386	Possible EDM DateTime patterns Note: Some pattern are not supported by OData specification but still widely used.
public static final String[]	<i>EDMDATETIMEOFFSET_PATTERNS</i> on page 386	Possible EDM DateTimeOffset patterns Note: Some pattern are not supported by OData specification but still widely used.
public static final String	<i>EDMTIME_PATTERN</i> on page 386	EDM Time pattern.
public static String	<i>ELEMENT_FEED</i> on page 386	Name of the appropriate OData element.
public static final String	<i>ELEMENT_ID</i> on page 387	Name of the appropriate OData element.



Modifier and Type	Member	Description
public static final String	<i>ROOT_DOCUMENT_NAME</i> on page 387	The default root element name for a new document.
public static final String	<i>XMLNS_APPLICATION_URI</i> on page 387	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/08/dataservices">http://schemas.microsoft.com/ado/2007/08/dataservices</a> .
public static final String	<i>XMLNS_ATOM_URI</i> on page 387	Constant for XMLNS URI: <a href="http://www.w3.org/2005/Atom">http://www.w3.org/2005/Atom</a> .
public static final String	<i>XMLNS_DATASERVICES_URI</i> on page 387	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/08/dataservices">http://schemas.microsoft.com/ado/2007/08/dataservices</a> .
public static final String	<i>XMLNS_EDM_URI</i> on page 387	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/05/edm">http://schemas.microsoft.com/ado/2007/05/edm</a> .
public static final String	<i>XMLNS_EDMX_URI</i> on page 387	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/06/edmx">http://schemas.microsoft.com/ado/2007/06/edmx</a> .
public static final String	<i>XMLNS_GENERICPLAYER_URI</i> on page 388	Constant for XMLNS URI: <a href="http://www.sap.com/Protocols/SAPData/GenericPlayer">http://www.sap.com/Protocols/SAPData/GenericPlayer</a> .
public static final String	<i>XMLNS_METADATA_URI</i> on page 388	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/08/dataservices/metadata">http://schemas.microsoft.com/ado/2007/08/dataservices/metadata</a> .
public static final String	<i>XMLNS_SAP_URI</i> on page 388	Constant for XMLNS URI: <a href="http://www.sap.com/Protocols/SAPData">http://www.sap.com/Protocols/SAPData</a> .

#### Inherited members from IPersistable

Modifier and Type	Member	Description
public void	<i>read(BufferedReader)</i> on page 389	
public void	<i>write(BufferedWriter)</i> on page 389	

#### Inherited members from IODataError

Modifier and Type	Member	Description
public static final String	<i>ATTRIBUTE_LANGUAGE</i> on page 228	Name of the appropriate OData attribute.
public static final String	<i>ELEMENT_ERROR</i> on page 228	Name of the appropriate OData element.
public static final String	<i>ELEMENT_ERRORCODE</i> on page 228	Name of the appropriate OData element.
public static final String	<i>ELEMENT_MESSAGE</i> on page 228	Name of the appropriate OData element.

### Inherited members from *IParserDocument*

Modifier and Type	Member	Description
public static final String	<i>ATTRIBUTE_ETAG</i> on page 386	Name of the appropriate OData element.
public static final String	<i>ATTRIBUTE_VALUEPREFIX_EDMTYPE</i> on page 386	Value prefix for EDM Type type values.
public abstract <i>IParserDocument</i>	<i>clone()</i> on page 374	Creates a copy of this object.
public static Map< String, String >	<i>DEFAULT_PREFIXMAPPING</i> on page 386	The default XML Namespace-to-Prefix mapping used for building XMLS.
public static final String[]	<i>EDMDATETIME_PATTERNS</i> on page 386	Possible EDM DateTime patterns Note: Some pattern are not supported by OData specification but still widely used.
public static final String[]	<i>EDMDATETIMEOFFSET_PATTERNS</i> on page 386	Possible EDM TimeOffset patterns Note: Some pattern are not supported by OData specification but still widely used.
public static final String	<i>EDMTIME_PATTERN</i> on page 386	EDM Time pattern.
public static String	<i>ELEMENT_FEED</i> on page 386	Name of the appropriate OData element.
public static final String	<i>ELEMENT_ID</i> on page 387	Name of the appropriate OData element.

Modifier and Type	Member	Description
public abstract String	<i>getAttribute(String...)</i> on page 374	Returns the value of the first attribute with the given route.
public abstract List< String >	<i>getAttributes(String...)</i> on page 374	Returns all the values of attributes with the given route.
public abstract Map< String, String >	<i>getChildAttributeMap(String...)</i> on page 375	Returns all the name-value pairs of attributes contained by the element with the given route.
public abstract List< String >	<i>getChildAttributes(String...)</i> on page 375	Returns all the values of attributes contained by the element with the given route.
public abstract List< IParseDocument >	<i>getChildDocuments(String...)</i> on page 375	Returns the elements contained by the element with the given route.
public abstract List< IParseDocument >	<i>getChildDocumentsWithAttribute(String, String, String...)</i> on page 376	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public abstract List< IParseDocument >	<i>getChildDocumentsWithAttribute(String, String, boolean, String...)</i> on page 376	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public abstract IParseDocument	<i>getDocument(String...)</i> on page 377	Returns the first element with the given route.
public abstract List< IParseDocument >	<i>getDocuments(String...)</i> on page 377	Returns all the elements with the given route.
public abstract List< IParseDocument >	<i>getDocumentsWithAttribute(String, String, String...)</i> on page 378	Returns the elements with the given route that contains the given attribute with the given value.
public abstract List< IParseDocument >	<i>getDocumentsWithAttribute(String, String, boolean, String...)</i> on page 378	Returns the elements with the given route that contains the given attribute with the given value.

Modifier and Type	Member	Description
public abstract IParserDocument	<i>getDocumentWithAttribute(String, String, String...)</i> on page 379	Returns the first element with the given route that contains the given attribute with the given value.
public abstract IParserDocument	<i>getDocumentWithAttribute(String, String, boolean, String...)</i> on page 379	Returns the first element with the given route that contains the given attribute with the given value.
public abstract String	<i>getElementName()</i> on page 380	Returns The name of the root element of this document.
public abstract String	<i>getFunctionImportComplexProperty Value(String...)</i> on page 380	
public abstract String	<i>getPrefixForUri(String)</i> on page 380	Returns the appropriate namespace prefix for the given XML name-space URI.
public abstract String[]	<i>getStrings()</i> on page 381	Returns all the string values contained by this document.
public abstract String	<i>getValue(String...)</i> on page 381	Returns the value of the first element with the given route.
public abstract List< String >	<i>getValues(String...)</i> on page 381	Returns all the values of elements with the given route.
public abstract void	<i>putAttribute(String, String...)</i> on page 382	Sets the value of the attribute with the given route If attribute does not exist it will be created as well as all other non existing elements in the route.
public abstract void	<i>putDocument(IParserDocument, String...)</i> on page 382	Insert the document under the element with the given route inserted document will be placed before already existing documents with the same route name under All missing elements from the route will be created.
public abstract void	<i>putValue(String, String...)</i> on page 382	Sets the value of the first element with the given route.

Modifier and Type	Member	Description
public abstract boolean	<i>removeAttribute(String...)</i> on page 383	Removes first element with the given route.
public abstract boolean	<i>removeAttributes(String...)</i> on page 383	Removes all the attribute with the given route.
public abstract boolean	<i>removeDocument(String...)</i> on page 383	Removes first element with the given route For removing multiple element use setDocuemtns with null arguments.
public static final String	<i>ROOT_DOCUMENT_NAME</i> on page 387	The default root element name for a new document.
public abstract void	<i>setAttributes(List&lt;String&gt;, String...)</i> on page 384	Sets all the values of the attributes with the given route Values will be paired to attributes in order Attributes with greater or equals index than size of new values will be untouched Attributes paired with null values will be removed.
public abstract void	<i>setDocuments(List&lt;IParserDocument&gt;, String...)</i> on page 384	Replaces all the elements with the given route Documents will be paired to elements in order Elements with greater or equals index than size of new elements will be untouched Element paired with null will be removed.
public abstract void	<i>setElementName(String, String...)</i> on page 385	Sets the name of the root element with the given route Use empty route for setting root name of this document.
public abstract void	<i>setValues(List&lt;String&gt;, String...)</i> on page 385	Sets all the values of the elements with the given rout Values will be paired to elements in order Elements with greater or equals index than size of new values will be untouched Null values will be treated as empty strings.

Modifier and Type	Member	Description
public abstract String	<i>toXMLString()</i> on page 385	Returns the XML string representation of this object.
public static final String	<i>XMLNS_APPLICATION_URI</i> on page 387	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/08/dataservices">http://schemas.microsoft.com/ado/2007/08/dataservices</a> .
public static final String	<i>XMLNS_ATOM_URI</i> on page 387	Constant for XMLNS URI: <a href="http://www.w3.org/2005/Atom">http://www.w3.org/2005/Atom</a> .
public static final String	<i>XMLNS_DATASERVICES_URI</i> on page 387	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/08/dataservices">http://schemas.microsoft.com/ado/2007/08/dataservices</a> .
public static final String	<i>XMLNS_EDM_URI</i> on page 387	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/05/edm">http://schemas.microsoft.com/ado/2007/05/edm</a> .
public static final String	<i>XMLNS_EDMX_URI</i> on page 387	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/06/edmx">http://schemas.microsoft.com/ado/2007/06/edmx</a> .
public static final String	<i>XMLNS_GENERICPLAYER_URI</i> on page 388	Constant for XMLNS URI: <a href="http://www.sap.com/Protocols/SAPData/GenericPlayer">http://www.sap.com/Protocols/SAPData/GenericPlayer</a> .
public static final String	<i>XMLNS_METADATA_URI</i> on page 388	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/08/dataservices/metadata">http://schemas.microsoft.com/ado/2007/08/dataservices/metadata</a> .
public static final String	<i>XMLNS_SAP_URI</i> on page 388	Constant for XMLNS URI: <a href="http://www.sap.com/Protocols/SAPData">http://www.sap.com/Protocols/SAPData</a> .

#### Inherited members from IPersistable

Modifier and Type	Member	Description
public void	<i>read(BufferedReader)</i> on page 389	
public void	<i>write(BufferedWriter)</i> on page 389	

*OnError() constructor**Syntax*

```
public OnError ()
```

*OnError(ParserDocument) constructor**Syntax*

```
public OnError ( ParserDocument document )
```

*OnError(int[], String[]) constructor**Syntax*

```
protected OnError ( int[] routes , String[] values )
```

*getErrorCode() method*

Returns The value of the 'code' OData element.

*Syntax*

```
public String getErrorCode ()
```

*Returns*

The value of the 'code' OData element

*getLang() method*

Returns The value of the appropriate OData attribute of the 'message' element.

*Syntax*

```
public String getLang ()
```

*Returns*

The value of the appropriate OData attribute of the 'message' element

*getMessage() method*

Return the localized error message.

*Syntax*

```
public String getMessage ()
```

*Returns*

The value of the 'message' OData element

*ODataFeed class**Syntax*

```
public class ODataFeed extends IODataFeed
```

*Members*

All members of ODataFeed, including inherited members. **Methods**

Modifier and Type	Method	Description
public String	<i>getAuthor()</i> on page 620	Returns the name of the Author of the OData Feed.
public List< String >	<i>getDeletedEntries()</i> on page 621	Returns the list of links of the Deleted Entries.
public IODataLink	<i>getDeltaLink()</i> on page 621	Returns the latest delta link token.
public List< IODataEntry >	<i>getEntries()</i> on page 621	Returns the entries in the feed that have been updated/ entire list of entries in the collection.
public String	<i>getId()</i> on page 621	Returns the id of the OData Feed.
public String	<i>getLastUpdated()</i> on page 621	Returns the date/time of last update on the OData Feed.
public List< IODataLink >	<i>getLinks()</i> on page 622	
protected IODataSchema	<i>getSchema()</i> on page 622	
public String	<i>getTitle()</i> on page 622	Returns the Title of the OData Feed.
protected void	<i>setDeltaLink(IODataLink)</i> on page 622	
protected void	<i>setSchema(IODataSchema)</i> on page 622	

*getAuthor() method*

Returns the name of the Author of the OData Feed.

*Syntax*

```
public String getAuthor ()
```



**Returns**

String Author Name

***getDeletedEntries() method***

Returns the list of links of the Deleted Entries.

**Syntax**

```
public List< String > getDeletedEntries ()
```

**Returns**

List<ISDMODataLink> - List of links of the deleted entries

***getDeltaLink() method***

Returns the latest delta link token.

**Syntax**

```
public IODataLink getDeltaLink ()
```

***getEntries() method***

Returns the entries in the feed that have been updated/ entire list of entries in the collection.

**Syntax**

```
public List< IODataEntry > getEntries ()
```

**Returns**

List<ISDMODataEntry> - List of ODataEntries

***getId() method***

Returns the id of the OData Feed.

**Syntax**

```
public String getId ()
```

**Returns**

String Id

***getLastUpdated() method***

Returns the date/time of last update on the OData Feed.

**Syntax**

```
public String getLastUpdated ()
```

### *Returns*

String Date-time

### *getLinks() method*

#### *Syntax*

```
public List< IODataLink > getLinks ()
```

### *getSchema() method*

#### *Syntax*

```
protected IODataSchema getSchema ()
```

### *Returns*

the schema

### *getTitle() method*

Returns the Title of the OData Feed.

#### *Syntax*

```
public String getTitle ()
```

### *Returns*

String Title

### *setDeltaLink(IODataLink) method*

#### *Syntax*

```
protected void setDeltaLink ( IODataLink deltaLink2 )
```

#### *Parameters*

- **deltaLink2** – the deltaLink to set

### *setSchema(IODataSchema) method*

#### *Syntax*

```
protected void setSchema ( IODataSchema schema )
```

#### *Parameters*

- **schema** – the schema to set

*ODataFunctionImport* class**Syntax**

```
public class ODataFunctionImport extends ParserDocument,
IODataFunctionImport
```

**Members**

All members of *ODataFunctionImport*, including inherited members. **Variables**

Modifier and Type	Variable	Description
protected String	<i>baseUrl</i> on page 641	

**Constructors**

Modifier and Type	Constructor	Description
public	<i>ODataFunctionImport()</i> on page 638	
public	<i>ODataFunctionImport(ParserDocument)</i> on page 638	
protected	<i>ODataFunctionImport(int[], String[])</i> on page 638	

**Methods**

Modifier and Type	Method	Description
public String	<i>getActionFor()</i> on page 638	Returns The value of the appropriate OData attribute.
public String	<i>getCollectionId()</i> on page 638	Returns The value of the 'EntitySet' OData attribute.
public String	<i>getEntitySet()</i> on page 639	Returns The value of the 'EntitySet' OData attribute.
public String	<i>getExecutionUrl(Map&lt; String, String &gt;)</i> on page 639	Calculate the full execution URL for executing this Function Import according to the passed parameters.
public String	<i>getHTTPMethod()</i> on page 639	Returns The value of the appropriate OData attribute.

Modifier and Type	Method	Description
public List< String >	<i>getInputParameterNames()</i> on page 639	Returns The list of the appropriate OData element with 'In' or 'InOut' attribute value.
public String	<i>getName()</i> on page 640	Returns The value of the appropriate OData attribute.
public List< String >	<i>getOutputParameterNames()</i> on page 640	Returns The list of the appropriate OData element with 'Out' or 'InOut' attribute value.
public List< IODataParameter >	<i>getParameters()</i> on page 640	Returns The list of the appropriate OData element.
public String	<i>getReturnType()</i> on page 640	Returns The value of the appropriate OData attribute.
public RETURNTYPE_ENUM	<i>getReturnTypeEnum()</i> on page 640	Returns The return type of this Function Import OData document.
public void	<i>read(BufferedReader)</i> on page 641	
public void	<i>setBaseUrl(String)</i> on page 641	
public void	<i>write(BufferedWriter)</i> on page 641	

#### Inherited members from ParserDocument

Modifier and Type	Member	Description
static transient final String	<i>ANY_STRING</i> on page 963	
static transient final int	<i>ATTRIBUTE_ID</i> on page 963	
static transient final String	<i>ATTRIBUTE_STRING</i> on page 963	
public ParserDocument	<i>clone()</i> on page 945	Creates a copy of this object.
protected Map< String, String >	<i>extensions</i> on page 963	
public String	<i>getAttribute(String...)</i> on page 945	Returns the value of the first attribute with the given route.

Modifier and Type	Member	Description
public List< String >	<i>getAttributes(String...)</i> on page 946	Returns all the values of attributes with the given route.
protected int	<i>getAttributesEndPosition(int[], int, int)</i> on page 946	
public Map< String, String >	<i>getChildAttributeMap(String...)</i> on page 946	Returns all the name-value pairs of attributes contained by the element with the given route.
public List< String >	<i>getChildAttributes(String...)</i> on page 947	Returns all the values of attributes contained by the element with the given route.
public List< IParserDocument >	<i>getChildDocuments(String...)</i> on page 947	Returns the elements contained by the element with the given route.
public List< IParserDocument >	<i>getChildDocumentsWithAttribute(String, String, String...)</i> on page 947	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public List< IParserDocument >	<i>getChildDocumentsWithAttribute(String, String, boolean, String...)</i> on page 948	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public ParserDocument	<i>getDocument(String...)</i> on page 948	Returns the first element with the given route.
protected List< int[] >	<i>getDocumentPositions(String[], int, boolean, boolean)</i> on page 949	
public List< IParserDocument >	<i>getDocuments(String...)</i> on page 949	Returns all the elements with the given route.
public List< IParserDocument >	<i>getDocumentsWithAttribute(String, String, String...)</i> on page 949	Returns the elements with the given route that contains the given attribute with the given value.

Modifier and Type	Member	Description
public List< IParserDocument >	<i>getDocumentsWithAttribute(String, String, boolean, String...)</i> on page 950	Returns the elements with the given route that contains the given attribute with the given value.
public IParserDocument	<i>getDocumentWithAttribute(String, String, String...)</i> on page 950	Returns the first element with the given route that contains the given attribute with the given value.
public IParserDocument	<i>getDocumentWithAttribute(String, String, boolean, String...)</i> on page 951	Returns the first element with the given route that contains the given attribute with the given value.
public String	<i>getElementName()</i> on page 951	Returns The name of the root element of this document.
public String	<i>getExtension(String)</i> on page 952	
public String	<i>getFunctionImportComplexPropertyValue(String...)</i> on page 952	
static int	<i>getNameId(String, boolean, boolean)</i> on page 952	
public static List< String >	<i>getNameMap()</i> on page 952	
public static String	<i>getPrefix(String)</i> on page 952	
public String	<i>getPrefixForUri(String)</i> on page 952	Returns the appropriate namespace prefix for the given XML name-space URI.
public static Map< String, String >	<i>getPrefixMapping()</i> on page 953	
protected List< Integer >	<i>getStringPositions(String[], int, boolean, boolean)</i> on page 953	
public String[]	<i>getStrings()</i> on page 953	Returns all the string values contained by this document.

Modifier and Type	Member	Description
public String	<i>getValue(String...)</i> on page 953	Returns the value of the first element with the given route.
public List< String >	<i>getValues(String...)</i> on page 953	Returns all the values of elements with the given route.
protected int[]	<i>insertRoutePositions(int[], int, int[])</i> on page 954	
protected void	<i>insertRoutesPositions(int, int[])</i> on page 954	
protected void	<i>insertStringsPositions(int, String[])</i> on page 954	
protected String[]	<i>insertStringsPositions(String[], int, String[])</i> on page 954	
boolean	<i>isComplexEntity</i> on page 963	
boolean	<i>isJson</i> on page 963	
protected boolean	<i>isMatched(String, String)</i> on page 954	
static List< String >	<i>nameMap</i> on page 963	
	<i>ParserDocument()</i> on page 945	
	<i>ParserDocument(boolean)</i> on page 945	
public	<i>ParserDocument(String)</i> on page 944	
public	<i>ParserDocument(ParserDocument)</i> on page 944	
protected	<i>ParserDocument(int[], String[])</i> on page 945	
protected	<i>ParserDocument(String, boolean)</i> on page 945	
static Map< String, String >	<i>prefixMapping</i> on page 964	

Modifier and Type	Member	Description
public void	<i>putAttribute(String, String...)</i> on page 955	Sets the value of the attribute with the given route. If attribute does not exist it will be created as well as all other non existing elements in the route.
public void	<i>putDocument(IParserDocument, String...)</i> on page 955	Insert the document under the element with the given route. Inserted document will be placed before already existing documents with the same route name under. All missing elements from the route will be created.
public void	<i>putExtension(String, String)</i> on page 955	
protected void	<i>putString(int, String, int, String...)</i> on page 956	
public void	<i>putValue(String, String...)</i> on page 956	Sets the value of the first element with the given route.
public void	<i>readExternal(ObjectInput)</i> on page 956	
public static void	<i>readNameMap(BufferedReader)</i> on page 957	
public boolean	<i>removeAttribute(String...)</i> on page 957	Removes first element with the given route.
public boolean	<i>removeAttributes(String...)</i> on page 957	Removes all the attribute with the given route.
public boolean	<i>removeDocument(String...)</i> on page 957	Removes first element with the given route. For removing multiple element use setDocuments with null arguments.
public void	<i>removeExtension(String)</i> on page 958	
protected void	<i>removeRoutesPositions(int, int)</i> on page 958	



Modifier and Type	Member	Description
protected int[]	<i>removeRoutesPositions(int[], int, int)</i> on page 958	
protected boolean	<i>removeString(String...)</i> on page 958	
protected boolean	<i>removeStrings(String...)</i> on page 958	
protected void	<i>removeStringsPositions(int, int)</i> on page 958	
protected String[]	<i>removeStringsPositions(String[], int, int)</i> on page 958	
protected int	<i>replaceRoutesPositions(int, int, int[])</i> on page 959	
protected int[]	<i>replaceRoutesPositions(int[], int, int, int[])</i> on page 959	
protected int	<i>replaceStringsPositions(int, int, String[])</i> on page 959	
protected String[]	<i>replaceStringsPositions(String[], int, int, String[])</i> on page 959	
public static String	<i>resolveUrl(String, String)</i> on page 959	
protected int[]	<i>routes</i> on page 964	
public void	<i>setAttribute(String, String...)</i> on page 959	
public void	<i>setAttributes(List&lt;String&gt;, String...)</i> on page 960	Sets all the values of the attributes with the given route Values will be paired to attributes in order Attributes with greater or equals index than size of new values will be untouched Attributes paired with null values will be removed.

Modifier and Type	Member	Description
public boolean	<i>setDocument(IParserDocument, String...)</i> on page 960	
public void	<i>setDocuments(List&lt;IParserDocument &gt;, String...)</i> on page 960	Replaces all the elements with the given route Documents will be paired to elements in order Elements with greater or equals index than size of new elements will be untouched Element paired with null will be removed.
public void	<i>setElementName(String, String...)</i> on page 961	Sets the name of the root element with the given route Use empty route for setting root name of this document.
public static void	<i>setNameMap(List&lt;String &gt;)</i> on page 961	
public static void	<i>setPrefixMapping(Map&lt;String, String &gt;)</i> on page 961	
protected void	<i>setString(String, String...)</i> on page 961	
protected void	<i>setStrings(List&lt;String &gt;, String...)</i> on page 961	
public void	<i>setValue(String, String...)</i> on page 961	
public void	<i>setValues(List&lt;String &gt;, String...)</i> on page 962	Sets all the values of the elements with the given rout Values will be paired to elements in order Elements with greater or equals index than size of new values will be untouched Null values will be treated as empty strings.
protected String[]	<i>strings</i> on page 964	
public String	<i>toXMLString()</i> on page 962	Returns the XML string representation of this object.

Modifier and Type	Member	Description
protected static final String	<i>URL_PROTOCOL_PREFIX</i> on page 964	
static transient final int	<i>VALUE_ID</i> on page 964	
static transient final String	<i>VALUE_STRING</i> on page 964	
public void	<i>writeExternal(ObjectOutput)</i> on page 962	
public static void	<i>writeNameMap(BufferedWriter)</i> on page 963	

### Inherited members from *IParserDocument*

Modifier and Type	Member	Description
public static final String	<i>ATTRIBUTE_ETAG</i> on page 386	Name of the appropriate OData element.
public static final String	<i>ATTRIBUTE_VALUEPREFIX_EDMTYPE</i> on page 386	Value prefix for EDM Type type values.
public static Map< String, String >	<i>DEFAULT_PREFIXMAPPING</i> on page 386	The default XML Namespace-to-Prefix mapping used for building XMLS.
public static final String[]	<i>EDMDATETIME_PATTERNS</i> on page 386	Possible EDM DateTime patterns Note: Some pattern are not supported by OData specification but still widely used.
public static final String[]	<i>EDMDATETIMEOFFSET_PATTERNS</i> on page 386	Possible EDM TimeOffset patterns Note: Some pattern are not supported by OData specification but still widely used.
public static final String	<i>EDMTIME_PATTERN</i> on page 386	EDM Time pattern.
public static String	<i>ELEMENT_FEED</i> on page 386	Name of the appropriate OData element.
public static final String	<i>ELEMENT_ID</i> on page 387	Name of the appropriate OData element.

Modifier and Type	Member	Description
public static final String	<i>ROOT_DOCUMENT_NAME</i> on page 387	The default root element name for a new document.
public static final String	<i>XMLNS_APPLICATION_URI</i> on page 387	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/08/dataservices">http://schemas.microsoft.com/ado/2007/08/dataservices</a> .
public static final String	<i>XMLNS_ATOM_URI</i> on page 387	Constant for XMLNS URI: <a href="http://www.w3.org/2005/Atom">http://www.w3.org/2005/Atom</a> .
public static final String	<i>XMLNS_DATASERVICES_URI</i> on page 387	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/08/dataservices">http://schemas.microsoft.com/ado/2007/08/dataservices</a> .
public static final String	<i>XMLNS_EDM_URI</i> on page 387	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/05/edm">http://schemas.microsoft.com/ado/2007/05/edm</a> .
public static final String	<i>XMLNS_EDMX_URI</i> on page 387	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/06/edmx">http://schemas.microsoft.com/ado/2007/06/edmx</a> .
public static final String	<i>XMLNS_GENERICPLAYER_URI</i> on page 388	Constant for XMLNS URI: <a href="http://www.sap.com/Protocols/SAPData/GenericPlayer">http://www.sap.com/Protocols/SAPData/GenericPlayer</a> .
public static final String	<i>XMLNS_METADATA_URI</i> on page 388	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/08/dataservices/metadata">http://schemas.microsoft.com/ado/2007/08/dataservices/metadata</a> .
public static final String	<i>XMLNS_SAP_URI</i> on page 388	Constant for XMLNS URI: <a href="http://www.sap.com/Protocols/SAPData">http://www.sap.com/Protocols/SAPData</a> .

#### Inherited members from IPersistable

Modifier and Type	Member	Description
public void	<i>read(BufferedReader)</i> on page 389	
public void	<i>write(BufferedWriter)</i> on page 389	

#### Inherited members from IODataFunctionImport

Modifier and Type	Member	Description
public static final String	<i>ATTRIBUTE_ACTION_FOR</i> on page 241	Name of the appropriate OData attribute.
public static final String	<i>ATTRIBUTE_ENTITYSET</i> on page 241	Name of the appropriate OData attribute.
public static final String	<i>ATTRIBUTE_HTTPMETHOD</i> on page 241	Name of the appropriate OData attribute.
public static final String	<i>ATTRIBUTE_NAME</i> on page 242	Name of the appropriate OData attribute.
public static final String	<i>ATTRIBUTE_RETURNTYPE</i> on page 242	Name of the appropriate OData attribute.
public static final String	<i>ELEMENT_FUNCTIONAL_IMPORT</i> on page 242	Name of the appropriate OData element.
public static final String	<i>ELEMENT_PARAMETER</i> on page 242	Name of the appropriate OData element.

#### Inherited members from *IParserDocument*

Modifier and Type	Member	Description
public static final String	<i>ATTRIBUTE_ETAG</i> on page 386	Name of the appropriate OData element.
public static final String	<i>ATTRIBUTE_VALUEPREFIX_EDMTYPE</i> on page 386	Value prefix for EDM Type type values.
public abstract <i>IParserDocument</i>	<i>clone()</i> on page 374	Creates a copy of this object.
public static Map< String, String >	<i>DEFAULT_PREFIX_MAPPING</i> on page 386	The default XML Namespace-to-Prefix mapping used for building XMLS.
public static final String[]	<i>EDMDATETIME_PATTERNS</i> on page 386	Possible EDM DateTime patterns Note: Some pattern are not supported by OData specification but still widely used.
public static final String[]	<i>EDMDATETIMEOFFSET_PATTERNS</i> on page 386	Possible EDM TimeOffset patterns Note: Some pattern are not supported by OData specification but still widely used.

Modifier and Type	Member	Description
public static final String	<i>EDMTIME_PATTERN</i> on page 386	EDM Time pattern.
public static String	<i>ELEMENT_FEED</i> on page 386	Name of the appropriate OData element.
public static final String	<i>ELEMENT_ID</i> on page 387	Name of the appropriate OData element.
public abstract String	<i>getAttribute(String...)</i> on page 374	Returns the value of the first attribute with the given route.
public abstract List< String >	<i>getAttributes(String...)</i> on page 374	Returns all the values of attributes with the given route.
public abstract Map< String, String >	<i>getChildAttribute-Map(String...)</i> on page 375	Returns all the name-value pairs of attributes contained by the element with the given route.
public abstract List< String >	<i>getChildAttributes(String...)</i> on page 375	Returns all the values of attributes contained by the element with the given route.
public abstract List< IParserDocument >	<i>getChildDocuments(String...)</i> on page 375	Returns the elements contained by the element with the given route.
public abstract List< IParserDocument >	<i>getChildDocumentsWithAttribute(String, String, String...)</i> on page 376	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public abstract List< IParserDocument >	<i>getChildDocumentsWithAttribute(String, String, boolean, String...)</i> on page 376	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public abstract IParserDocument	<i>getDocument(String...)</i> on page 377	Returns the first element with the given route.
public abstract List< IParserDocument >	<i>getDocuments(String...)</i> on page 377	Returns all the elements with the given route.
public abstract List< IParserDocument >	<i>getDocumentsWithAttribute(String, String, String...)</i> on page 378	Returns the elements with the given route that contains the given attribute with the given value.

Modifier and Type	Member	Description
public abstract List<IParserDocument >	<i>getDocumentsWithAttribute(String, String, boolean, String...)</i> on page 378	Returns the elements with the given route that contains the given attribute with the given value.
public abstract IParserDocument	<i>getDocumentWithAttribute(String, String, String...)</i> on page 379	Returns the first element with the given route that contains the given attribute with the given value.
public abstract IParserDocument	<i>getDocumentWithAttribute(String, String, boolean, String...)</i> on page 379	Returns the first element with the given route that contains the given attribute with the given value.
public abstract String	<i>getElementName()</i> on page 380	Returns The name of the root element of this document.
public abstract String	<i>getFunctionImportComplexPropertyValue(String...)</i> on page 380	
public abstract String	<i>getPrefixForUri(String)</i> on page 380	Returns the appropriate namespace prefix for the given XML name-space URI.
public abstract String[]	<i>getStrings()</i> on page 381	Returns all the string values contained by this document.
public abstract String	<i>getValue(String...)</i> on page 381	Returns the value of the first element with the given route.
public abstract List< String >	<i>getValues(String...)</i> on page 381	Returns all the values of elements with the given route.
public abstract void	<i>putAttribute(String, String...)</i> on page 382	Sets the value of the attribute with the given route If attribute does not exist it will be created as well as all other non existing elements in the route.

Modifier and Type	Member	Description
public abstract void	<i>putDocument(IParserDocument, String...)</i> on page 382	Insert the document under the element with the given route inserted document will be placed before already existing documents with the same route name under All missing elements from the route will be created.
public abstract void	<i>putValue(String, String...)</i> on page 382	Sets the value of the first element with the given route.
public abstract boolean	<i>removeAttribute(String...)</i> on page 383	Removes first element with the given route.
public abstract boolean	<i>removeAttributes(String...)</i> on page 383	Removes all the attribute with the given route.
public abstract boolean	<i>removeDocument(String...)</i> on page 383	Removes first element with the given route For removing multiple element use setDocuemtns with null arguments.
public static final String	<i>ROOT_DOCUMENT_NAME</i> on page 387	The default root element name for a new document.
public abstract void	<i>setAttributes(List&lt;String&gt;, String...)</i> on page 384	Sets all the values of the attributes with the given route Values will be paired to attributes in order Attributes with greater or equals index than size of new values will be untouched Attributes paired with null values will be removed.
public abstract void	<i>setDocuments(List&lt;IParserDocument&gt;, String...)</i> on page 384	Replaces all the elements with the given route Documents will be paired to elements in order Elements with greater or equals index than size of new elements will be untouched Element paired with null will be removed.



Modifier and Type	Member	Description
public abstract void	<i>setElementName(String, String...)</i> on page 385	Sets the name of the root element with the given route Use empty route for setting root name of this document.
public abstract void	<i>setValues(List&lt; String &gt;, String...)</i> on page 385	Sets all the values of the elements with the given rout Values will be paired to elements in order Elements with greater or equals index than size of new values will be untouched Null values will be treated as empty strings.
public abstract String	<i>toXMLString()</i> on page 385	Returns the XML string representation of this object.
public static final String	<i>XMLNS_APPLICATION_URI</i> on page 387	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/08/dataservices">http://schemas.microsoft.com/ado/2007/08/dataservices</a> .
public static final String	<i>XMLNS_ATOM_URI</i> on page 387	Constant for XMLNS URI: <a href="http://www.w3.org/2005/Atom">http://www.w3.org/2005/Atom</a> .
public static final String	<i>XMLNS_DATASERVICES_URI</i> on page 387	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/08/dataservices">http://schemas.microsoft.com/ado/2007/08/dataservices</a> .
public static final String	<i>XMLNS_EDM_URI</i> on page 387	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/05/edm">http://schemas.microsoft.com/ado/2007/05/edm</a> .
public static final String	<i>XMLNS_EDMX_URI</i> on page 387	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/06/edmx">http://schemas.microsoft.com/ado/2007/06/edmx</a> .
public static final String	<i>XMLNS_GENERICPLAYER_URI</i> on page 388	Constant for XMLNS URI: <a href="http://www.sap.com/Protocols/SAPData/GenericPlayer">http://www.sap.com/Protocols/SAPData/GenericPlayer</a> .
public static final String	<i>XMLNS_METADATA_URI</i> on page 388	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/08/dataservices/metadata">http://schemas.microsoft.com/ado/2007/08/dataservices/metadata</a> .

Modifier and Type	Member	Description
public static final String	<i>XMLNS_SAP_URI</i> on page 388	Constant for XMLNS URI: <a href="http://www.sap.com/Protocols/SAPData">http://www.sap.com/Protocols/SAPData</a> .

**Inherited members from IPersistable**

Modifier and Type	Member	Description
public void	<i>read(BufferedReader)</i> on page 389	
public void	<i>write(BufferedWriter)</i> on page 389	

*ODataFunctionImport()* constructor*Syntax*

```
public ODataFunctionImport ()
```

*ODataFunctionImport(ParserDocument)* constructor*Syntax*

```
public ODataFunctionImport ( ParserDocument document )
```

*ODataFunctionImport(int[], String[])* constructor*Syntax*

```
protected ODataFunctionImport ( int[] routes , String[] values )
```

*getActionFor()* method

Returns The value of the appropriate OData attribute.

*Syntax*

```
public String getActionFor ()
```

*Returns*

The value of the appropriate OData attribute

*getCollectionId()* method

Returns The value of the 'EntitySet' OData attribute.

*Syntax*

```
public String getCollectionId ()
```

**Returns**

The value of the 'EntitySet' OData attribute

***getEntitySet() method***

Returns The value of the 'EntitySet' OData attribute.

**Syntax**

```
public String getEntitySet ()
```

**Returns**

The value of the 'EntitySet' OData attribute

***getExecutionUrl(Map< String, String >) method***

Calculate the full execution URL for executing this Function Import according to the passed paramteres.

**Syntax**

```
public String getExecutionUrl (Map< String, String >
parameters )
```

**Returns**

The full execution URL

***getHTTPMethod() method***

Returns The value of the appropriate OData attribute.

**Syntax**

```
public String getHTTPMethod ()
```

**Returns**

The value of the appropriate OData attribute

***getInputParameterNames() method***

Returns The list of the appropriate OData element with 'In' or 'InOut' attribute value.

**Syntax**

```
public List< String > getInputParameterNames ()
```

**Returns**

The list of the appropriate OData element with 'In' or 'InOut' attribute value

### *getName() method*

Returns The value of the appropriate OData attribute.

#### *Syntax*

```
public String getName ()
```

#### *Returns*

The value of the appropriate OData attribute

### *getOutputParameterNames() method*

Returns The list of the appropriate OData element with 'Out' or 'InOut' attribute value.

#### *Syntax*

```
public List< String > getOutputParameterNames ()
```

#### *Returns*

The list of the appropriate OData element with 'Out' or 'InOut' attribute value

### *getParameters() method*

Returns The list of the appropriate OData element.

#### *Syntax*

```
public List< IODataParameter > getParameters ()
```

#### *Returns*

The list of the appropriate OData element

### *getReturnType() method*

Returns The value of the appropriate OData attribute.

#### *Syntax*

```
public String getReturnType ()
```

#### *Returns*

The value of the appropriate OData attribute

### *getReturnTypeEnum() method*

Returns The return type of this Function Import OData document.

#### *Syntax*

```
public RETURNNTYPE_ENUM getReturnTypeEnum ()
```

*Returns*

The return type of this Function Import OData document

*read(BufferedReader) method**Syntax*

```
public void read (BufferedReader reader) throws
PersistenceException
```

*Parameters*

- **reader** – The buffered reader to read the object from.

*Exceptions*

- **PersistenceException** – if data can not be loaded from the reader.

*setBaseUrl(String) method**Syntax*

```
public void setBaseUrl (String baseUrl)
```

*write(BufferedWriter) method**Syntax*

```
public void write (BufferedWriter writer) throws
PersistenceException
```

*Parameters*

- **writer** – The buffered writer that object data needs to be written into.

*Exceptions*

- **PersistenceException** – if data can not be written into the writer

*baseUrl variable**Syntax*

```
protected String baseUrl
```

*ODataIcon class**Syntax*

```
public class ODataIcon extends ParserDocument, IODataIcon
```

*Members*All members of `ODataIcon`, including inherited members. **Variables**

Modifier and Type	Variable	Description
protected String	<i>baseUrl</i> on page 658	

**Constructors**

Modifier and Type	Constructor	Description
public	<i>ODataIcon()</i> on page 656	
public	<i>ODataIcon(ParserDocument)</i> on page 656	
protected	<i>ODataIcon(int[], String[])</i> on page 656	

**Methods**

Modifier and Type	Method	Description
public int	<i>getHeight()</i> on page 656	Returns The value of the appropriate OData attribute.
public String	<i>getUrl()</i> on page 657	Returns The value of the appropriate OData attribute.
public int	<i>getWidth()</i> on page 657	Returns The value of the appropriate OData attribute.
public void	<i>read(BufferedReader)</i> on page 657	
protected void	<i>setBaseUrl(String)</i> on page 657	
public void	<i>write(BufferedWriter)</i> on page 657	

**Inherited members from ParserDocument**

Modifier and Type	Member	Description
static transient final String	<i>ANY_STRING</i> on page 963	
static transient final int	<i>ATTRIBUTE_ID</i> on page 963	

Modifier and Type	Member	Description
static transient final String	<i>ATTRIBUTE_STRING</i> on page 963	
public ParserDocument	<i>clone()</i> on page 945	Creates a copy of this object.
protected Map< String, String >	<i>extensions</i> on page 963	
public String	<i>getAttribute(String...)</i> on page 945	Returns the value of the first attribute with the given route.
public List< String >	<i>getAttributes(String...)</i> on page 946	Returns all the values of attributes with the given route.
protected int	<i>getAttributesEndPosition(int[], int, int)</i> on page 946	
public Map< String, String >	<i>getChildAttributeMap(String...)</i> on page 946	Returns all the name-value pairs of attributes contained by the element with the given route.
public List< String >	<i>getChildAttributes(String...)</i> on page 947	Returns all the values of attributes contained by the element with the given route.
public List< IParserDocument >	<i>getChildDocuments(String...)</i> on page 947	Returns the elements contained by the element with the given route.
public List< IParserDocument >	<i>getChildDocumentsWithAttribute(String, String, String...)</i> on page 947	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public List< IParserDocument >	<i>getChildDocumentsWithAttribute(String, String, boolean, String...)</i> on page 948	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public ParserDocument	<i>getDocument(String...)</i> on page 948	Returns the first element with the given route.
protected List< int[] >	<i>getDocumentPositions(String[], int, boolean, boolean)</i> on page 949	
public List< IParserDocument >	<i>getDocuments(String...)</i> on page 949	Returns all the elements with the given route.

Modifier and Type	Member	Description
public List< IParserDocument >	<i>getDocumentsWithAttribute(String, String, String...)</i> on page 949	Returns the elements with the given route that contains the given attribute with the given value.
public List< IParserDocument >	<i>getDocumentsWithAttribute(String, String, boolean, String...)</i> on page 950	Returns the elements with the given route that contains the given attribute with the given value.
public IParserDocument	<i>getDocumentWithAttribute(String, String, String...)</i> on page 950	Returns the first element with the given route that contains the given attribute with the given value.
public IParserDocument	<i>getDocumentWithAttribute(String, String, boolean, String...)</i> on page 951	Returns the first element with the given route that contains the given attribute with the given value.
public String	<i>getElementName()</i> on page 951	Returns The name of the root element of this document.
public String	<i>getExtension(String)</i> on page 952	
public String	<i>getFunctionImportComplexProperty Value(String...)</i> on page 952	
static int	<i>getNameId(String, boolean, boolean)</i> on page 952	
public static List< String >	<i>getNameMap()</i> on page 952	
public static String	<i>getPrefix(String)</i> on page 952	
public String	<i>getPrefixForUri(String)</i> on page 952	Returns the appropriate namespace prefix for the given XML name-space URI.
public static Map< String, String >	<i>getPrefixMapping()</i> on page 953	



Modifier and Type	Member	Description
protected List< Integer >	<i>getStringPositions(String[], int, boolean, boolean)</i> on page 953	
public String[]	<i>getStrings()</i> on page 953	Returns all the string values contained by this document.
public String	<i>getValue(String...)</i> on page 953	Returns the value of the first element with the given route.
public List< String >	<i>getValues(String...)</i> on page 953	Returns all the values of elements with the given route.
protected int[]	<i>insertRoutePositions(int[], int, int[])</i> on page 954	
protected void	<i>insertRoutesPositions(int, int[])</i> on page 954	
protected void	<i>insertStringsPositions(int, String[])</i> on page 954	
protected String[]	<i>insertStringsPositions(String[], int, String[])</i> on page 954	
boolean	<i>isComplexEntity</i> on page 963	
boolean	<i>isJson</i> on page 963	
protected boolean	<i>isMatched(String, String)</i> on page 954	
static List< String >	<i>nameMap</i> on page 963	
	<i>ParserDocument()</i> on page 945	
	<i>ParserDocument(boolean)</i> on page 945	
public	<i>ParserDocument(String)</i> on page 944	
public	<i>ParserDocument(ParserDocument)</i> on page 944	

Modifier and Type	Member	Description
protected	<i>ParserDocument(int[], String[])</i> on page 945	
protected	<i>ParserDocument(String, boolean)</i> on page 945	
static Map< String, String >	<i>prefixMapping</i> on page 964	
public void	<i>putAttribute(String, String...)</i> on page 955	Sets the value of the attribute with the given route If attribute does not exist it will be created as well as all other non existing elements in the route.
public void	<i>putDocument(IParserDocument, String...)</i> on page 955	Insert the document under the element with the given route inserted document will be placed before already existing documents with the same route name under All missing elements from the route will be created.
public void	<i>putExtension(String, String)</i> on page 955	
protected void	<i>putString(int, String, int, String...)</i> on page 956	
public void	<i>putValue(String, String...)</i> on page 956	Sets the value of the first element with the given route.
public void	<i>readExternal(ObjectInput)</i> on page 956	
public static void	<i>readNameMap(BufferedReader)</i> on page 957	
public boolean	<i>removeAttribute(String...)</i> on page 957	Removes first element with the given route.
public boolean	<i>removeAttributes(String...)</i> on page 957	Removes all the attribute with the given route.
public boolean	<i>removeDocument(String...)</i> on page 957	Removes first element with the given route For removing multiple element use setDocuemtns with null arguments.

Modifier and Type	Member	Description
public void	<i>removeExtension(String)</i> on page 958	
protected void	<i>removeRoutesPositions(int, int)</i> on page 958	
protected int[]	<i>removeRoutesPositions(int[], int, int)</i> on page 958	
protected boolean	<i>removeString(String...)</i> on page 958	
protected boolean	<i>removeStrings(String...)</i> on page 958	
protected void	<i>removeStringsPositions(int, int)</i> on page 958	
protected String[]	<i>removeStringsPositions(String[], int, int)</i> on page 958	
protected int	<i>replaceRoutesPositions(int, int, int[])</i> on page 959	
protected int[]	<i>replaceRoutesPositions(int[], int, int, int[])</i> on page 959	
protected int	<i>replaceStringsPositions(int, int, String[])</i> on page 959	
protected String[]	<i>replaceStringsPositions(String[], int, int, String[])</i> on page 959	
public static String	<i>resolveUrl(String, String)</i> on page 959	
protected int[]	<i>routes</i> on page 964	
public void	<i>setAttribute(String, String...)</i> on page 959	

Modifier and Type	Member	Description
public void	<i>setAttributes(List&lt; String &gt;, String...)</i> on page 960	Sets all the values of the attributes with the given route Values will be paired to attributes in order Attributes with greater or equals index than size of new values will be untouched Attributes paired with null values will be removed.
public boolean	<i>setDocument(IParserDocument, String...)</i> on page 960	
public void	<i>setDocuments(List&lt; IParserDocument &gt;, String...)</i> on page 960	Replaces all the elements with the given route Documents will be paired to elements in order Elements with greater or equals index than size of new elements will be untouched Element paired with null will be removed.
public void	<i>setElementName(String, String...)</i> on page 961	Sets the name of the root element with the given route Use empty route for setting root name of this document.
public static void	<i>setNameMap(List&lt; String &gt;)</i> on page 961	
public static void	<i>setPrefixMapping(Map&lt; String, String &gt;)</i> on page 961	
protected void	<i>setString(String, String...)</i> on page 961	
protected void	<i>setStrings(List&lt; String &gt;, String...)</i> on page 961	
public void	<i>setValue(String, String...)</i> on page 961	

Modifier and Type	Member	Description
public void	<i>setValues(List&lt;String&gt;, String...)</i> on page 962	Sets all the values of the elements with the given route. Values will be paired to elements in order. Elements with greater or equals index than size of new values will be untouched. Null values will be treated as empty strings.
protected String[]	<i>strings</i> on page 964	
public String	<i>toXMLString()</i> on page 962	Returns the XML string representation of this object.
protected static final String	<i>URL_PROTOCOL_PREFIX</i> on page 964	
static transient final int	<i>VALUE_ID</i> on page 964	
static transient final String	<i>VALUE_STRING</i> on page 964	
public void	<i>writeExternal(ObjectOutput)</i> on page 962	
public static void	<i>writeNameMap(BufferedWriter)</i> on page 963	

#### Inherited members from IParserDocument

Modifier and Type	Member	Description
public static final String	<i>ATTRIBUTE_ETAG</i> on page 386	Name of the appropriate OData element.
public static final String	<i>ATTRIBUTE_VALUEPREFIX_EDMTYPE</i> on page 386	Value prefix for EDM Type type values.
public static Map<String, String>	<i>DEFAULT_PREFIXMAPPING</i> on page 386	The default XML Namespace-to-Prefix mapping used for building XMLS.
public static final String[]	<i>EDMDATETIME_PATTERNS</i> on page 386	Possible EDM DateTime patterns. Note: Some patterns are not supported by OData specification but still widely used.

Modifier and Type	Member	Description
public static final String[]	<i>EDMDATETIMEOFFSET_PATTERNS</i> on page 386	Possible EDM TimeOffset patterns Note: Some pattern are not supported by OData specification but still widely used.
public static final String	<i>EDMTIME_PATTERN</i> on page 386	EDM Time pattern.
public static String	<i>ELEMENT_FEED</i> on page 386	Name of the appropriate OData element.
public static final String	<i>ELEMENT_ID</i> on page 387	Name of the appropriate OData element.
public static final String	<i>ROOT_DOCUMENT_NAME</i> on page 387	The default root element name for a new document.
public static final String	<i>XMLNS_APPLICATION_URI</i> on page 387	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/08/dataservices">http://schemas.microsoft.com/ado/2007/08/dataservices</a> .
public static final String	<i>XMLNS_ATOM_URI</i> on page 387	Constant for XMLNS URI: <a href="http://www.w3.org/2005/Atom">http://www.w3.org/2005/Atom</a> .
public static final String	<i>XMLNS_DATASERVICES_URI</i> on page 387	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/08/dataservices">http://schemas.microsoft.com/ado/2007/08/dataservices</a> .
public static final String	<i>XMLNS_EDM_URI</i> on page 387	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/05/edm">http://schemas.microsoft.com/ado/2007/05/edm</a> .
public static final String	<i>XMLNS_EDMX_URI</i> on page 387	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/06/edmx">http://schemas.microsoft.com/ado/2007/06/edmx</a> .
public static final String	<i>XMLNS_GENERICPLAYER_URI</i> on page 388	Constant for XMLNS URI: <a href="http://www.sap.com/Protocols/SAPData/GenericPlayer">http://www.sap.com/Protocols/SAPData/GenericPlayer</a> .
public static final String	<i>XMLNS_METADATA_URI</i> on page 388	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/08/dataservices/metadata">http://schemas.microsoft.com/ado/2007/08/dataservices/metadata</a> .

Modifier and Type	Member	Description
public static final String	<i>XMLNS_SAP_URI</i> on page 388	Constant for XMLNS URI: <a href="http://www.sap.com/Protocols/SAPData">http://www.sap.com/Protocols/SAPData</a> .

**Inherited members from IPersistable**

Modifier and Type	Member	Description
public void	<i>read(BufferedReader)</i> on page 389	
public void	<i>write(BufferedWriter)</i> on page 389	

**Inherited members from IODataIcon**

Modifier and Type	Member	Description
public static final String	<i>ATTRIBUTE_HEIGHT</i> on page 249	Name of the appropriate OData attribute.
public static final String	<i>ATTRIBUTE_WIDTH</i> on page 249	Name of the appropriate OData attribute.
public static final String	<i>ELEMENT_ICON</i> on page 249	Name of the appropriate OData element.

**Inherited members from IParserDocument**

Modifier and Type	Member	Description
public static final String	<i>ATTRIBUTE_ETAG</i> on page 386	Name of the appropriate OData element.
public static final String	<i>ATTRIBUTE_VALUEPREFIX_EDMTYPE</i> on page 386	Value prefix for EDM Type type values.
public abstract IParserDocument	<i>clone()</i> on page 374	Creates a copy of this object.
public static Map< String, String >	<i>DEFAULT_PREFIXMAPPING</i> on page 386	The default XML Namespace-to-Prefix mapping used for building XMLS.

Modifier and Type	Member	Description
public static final String[]	<i>EDMDATETIME_PATTERNS</i> on page 386	Possible EDM DateTime patterns Note: Some pattern are not supported by OData specification but still widely used.
public static final String[]	<i>EDMDATETIMEOFFSET_PATTERNS</i> on page 386	Possible EDM DateTimeOffset patterns Note: Some pattern are not supported by OData specification but still widely used.
public static final String	<i>EDMTIME_PATTERN</i> on page 386	EDM Time pattern.
public static String	<i>ELEMENT_FEED</i> on page 386	Name of the appropriate OData element.
public static final String	<i>ELEMENT_ID</i> on page 387	Name of the appropriate OData element.
public abstract String	<i>getAttribute(String...)</i> on page 374	Returns the value of the first attribute with the given route.
public abstract List< String >	<i>getAttributes(String...)</i> on page 374	Returns all the values of attributes with the given route.
public abstract Map< String, String >	<i>getChildAttributeMap(String...)</i> on page 375	Returns all the name-value pairs of attributes contained by the element with the given route.
public abstract List< String >	<i>getChildAttributes(String...)</i> on page 375	Returns all the values of attributes contained by the element with the given route.
public abstract List< IParserDocument >	<i>getChildDocuments(String...)</i> on page 375	Returns the elements contained by the element with the given route.
public abstract List< IParserDocument >	<i>getChildDocumentsWithAttribute(String, String, String...)</i> on page 376	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public abstract List< IParserDocument >	<i>getChildDocumentsWithAttribute(String, String, boolean, String...)</i> on page 376	Returns the elements contained by the element with the given route and having the given attribute with the given value.



Modifier and Type	Member	Description
public abstract IParserDocument	<i>getDocument(String...)</i> on page 377	Returns the first element with the given route.
public abstract List<IParserDocument >	<i>getDocuments(String...)</i> on page 377	Returns all the elements with the given route.
public abstract List<IParserDocument >	<i>getDocumentsWithAttribute(String, String, String...)</i> on page 378	Returns the elements with the given route that contains the given attribute with the given value.
public abstract List<IParserDocument >	<i>getDocumentsWithAttribute(String, String, boolean, String...)</i> on page 378	Returns the elements with the given route that contains the given attribute with the given value.
public abstract IParserDocument	<i>getDocumentWithAttribute(String, String, String...)</i> on page 379	Returns the first element with the given route that contains the given attribute with the given value.
public abstract IParserDocument	<i>getDocumentWithAttribute(String, String, boolean, String...)</i> on page 379	Returns the first element with the given route that contains the given attribute with the given value.
public abstract String	<i>getElementName()</i> on page 380	Returns The name of the root element of this document.
public abstract String	<i>getFunctionImportComplexPropertyValue(String...)</i> on page 380	
public abstract String	<i>getPrefixForUri(String)</i> on page 380	Returns the appropriate name-space prefix for the given XML name-space URI.
public abstract String[]	<i>getStrings()</i> on page 381	Returns all the string values contained by this document.
public abstract String	<i>getValue(String...)</i> on page 381	Returns the value of the first element with the given route.
public abstract List<String >	<i>getValues(String...)</i> on page 381	Returns all the values of elements with the given route.

Modifier and Type	Member	Description
public abstract void	<i>putAttribute(String, String...)</i> on page 382	Sets the value of the attribute with the given route. If attribute does not exist it will be created as well as all other non existing elements in the route.
public abstract void	<i>putDocument(IParserDocument, String...)</i> on page 382	Insert the document under the element with the given route. Inserted document will be placed before already existing documents with the same route name. All missing elements from the route will be created.
public abstract void	<i>putValue(String, String...)</i> on page 382	Sets the value of the first element with the given route.
public abstract boolean	<i>removeAttribute(String...)</i> on page 383	Removes first element with the given route.
public abstract boolean	<i>removeAttributes(String...)</i> on page 383	Removes all the attribute with the given route.
public abstract boolean	<i>removeDocument(String...)</i> on page 383	Removes first element with the given route. For removing multiple element use <code>setDocuments</code> with null arguments.
public static final String	<i>ROOT_DOCUMENT_NAME</i> on page 387	The default root element name for a new document.
public abstract void	<i>setAttributes(List&lt;String&gt;, String...)</i> on page 384	Sets all the values of the attributes with the given route. Values will be paired to attributes in order. Attributes with greater or equals index than size of new values will be untouched. Attributes paired with null values will be removed.

Modifier and Type	Member	Description
public abstract void	<i>setDocuments(List&lt; IParser-Document &gt;, String...)</i> on page 384	Replaces all the elements with the given route Documents will be paired to elements in order Elements with greater or equals index than size of new elements will be untouched Element paired with null will be removed.
public abstract void	<i>setElementName(String, String...)</i> on page 385	Sets the name of the root element with the given route Use empty route for setting root name of this document.
public abstract void	<i>setValues(List&lt; String &gt;, String...)</i> on page 385	Sets all the values of the elements with the given route Values will be paired to elements in order Elements with greater or equals index than size of new values will be untouched Null values will be treated as empty strings.
public abstract String	<i>toXMLString()</i> on page 385	Returns the XML string representation of this object.
public static final String	<i>XMLNS_APPLICATION_URI</i> on page 387	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/08/dataservices">http://schemas.microsoft.com/ado/2007/08/dataservices</a> .
public static final String	<i>XMLNS_ATOM_URI</i> on page 387	Constant for XMLNS URI: <a href="http://www.w3.org/2005/Atom">http://www.w3.org/2005/Atom</a> .
public static final String	<i>XMLNS_DATASERVICES_URI</i> on page 387	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/08/dataservices">http://schemas.microsoft.com/ado/2007/08/dataservices</a> .
public static final String	<i>XMLNS_EDM_URI</i> on page 387	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/05/edm">http://schemas.microsoft.com/ado/2007/05/edm</a> .
public static final String	<i>XMLNS_EDMX_URI</i> on page 387	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/06/edmx">http://schemas.microsoft.com/ado/2007/06/edmx</a> .

Modifier and Type	Member	Description
public static final String	<i>XMLNS_GENERICPLAYER_URI</i> on page 388	Constant for XMLNS URI: <a href="http://www.sap.com/Protocols/SAPData/GenericPlayer">http://www.sap.com/Protocols/SAPData/GenericPlayer</a> .
public static final String	<i>XMLNS_METADATA_URI</i> on page 388	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/08/dataservices/metadata">http://schemas.microsoft.com/ado/2007/08/dataservices/metadata</a> .
public static final String	<i>XMLNS_SAP_URI</i> on page 388	Constant for XMLNS URI: <a href="http://www.sap.com/Protocols/SAPData">http://www.sap.com/Protocols/SAPData</a> .

**Inherited members from IPersistable**

Modifier and Type	Member	Description
public void	<i>read(BufferedReader)</i> on page 389	
public void	<i>write(BufferedWriter)</i> on page 389	

*ODataIcon()* constructor*Syntax*

```
public ODataIcon ()
```

*ODataIcon(ParserDocument)* constructor*Syntax*

```
public ODataIcon ( ParserDocument document )
```

*ODataIcon(int[], String[])* constructor*Syntax*

```
protected ODataIcon ( int[] routes , String[] values )
```

*getHeight()* method

Returns The value of the appropriate OData attribute.

*Syntax*

```
public int getHeight ()
```

*Returns*

The value of the appropriate OData attribute

*getUrl() method*

Returns The value of the appropriate OData attribute.

*Syntax*

```
public String getUrl ()
```

*Returns*

The value of the appropriate OData attribute

*getWidth() method*

Returns The value of the appropriate OData attribute.

*Syntax*

```
public int getWidth ()
```

*Returns*

The value of the appropriate OData attribute

*read(BufferedReader) method**Syntax*

```
public void read (BufferedReader reader) throws  
PersistenceException
```

*Parameters*

- **reader** – The buffered reader to read the object from.

*Exceptions*

- **PersistenceException** – if data can not be loaded from the reader.

*setBaseUrl(String) method**Syntax*

```
protected void setBaseUrl (String baseUrl)
```

*write(BufferedWriter) method**Syntax*

```
public void write (BufferedWriter writer) throws  
PersistenceException
```

*Parameters*

- **writer** – The buffered writer that object data needs to be written into.

*Exceptions*

- **PersistenceException** – if data can not be written into the writer

*baseUrl variable*

*Syntax*

```
protected String baseUrl
```

*ODataLink class*

*Syntax*

```
public class ODataLink extends ParserDocument, IODataLink
```

*Members*

All members of ODataLink, including inherited members. **Variables**

Modifier and Type	Variable	Description
protected String	<i>baseUrl</i> on page 678	
protected IODataSchema	<i>schema</i> on page 678	
protected String	<i>targetCollectionId</i> on page 678	

**Constructors**

Modifier and Type	Constructor	Description
public	<i>ODataLink()</i> on page 674	
public	<i>ODataLink(ParserDocument)</i> on page 674	
protected	<i>ODataLink(int[], String[])</i> on page 674	

**Methods**

Modifier and Type	Method	Description
public String	<i>getHref()</i> on page 674	Returns the value of the appropriate OData attribute.
public List< IODataEntry >	<i>getInlineEntries()</i> on page 674	Returns the list of OData Entries contained by the appropriate OData 'inline' element.
public List< String >	<i>getInputParameterNames()</i> on page 675	Returns the list of the appropriate OData Parameter elements that should be used as input parameter.
public List< String >	<i>getOutputParameterNames()</i> on page 675	Returns the list of the appropriate OData Parameter elements that should be used as output parameter.
public List< IODataParameter >	<i>getParameters()</i> on page 675	Returns the list of the appropriate OData Parameter elements.
public String	<i>getRel()</i> on page 675	Returns the value of the appropriate OData attribute.
public IODataSchema	<i>getSchema()</i> on page 676	Returns the Schema that is to be used for 'Inline entries'.
public String	<i>getSemantics()</i> on page 676	Returns The value of the appropriate OData extension (vCard) attribute.
public String	<i>getTargetCollectionId()</i> on page 676	Returns the Id of the collection that this link points to (if any)
public String	<i>getTitle()</i> on page 676	Returns the value of the appropriate OData attribute.
public String	<i>getUrl()</i> on page 676	Returns the full URL for this OData Link object without parameters.
public String	<i>getUrlWithParameters(Map&lt; String, String &gt;)</i> on page 677	Returns the full URL for this OData Link object extended with the given parameter names and values.
public void	<i>read(BufferedReader)</i> on page 677	

Modifier and Type	Method	Description
protected void	<i>setBaseUrl(String)</i> on page 677	
public void	<i>setSchema(IODataSchema)</i> on page 677	Sets the Schema that is to be used for 'Inline entries'.
public void	<i>setTargetCollectionId(String)</i> on page 678	Maintains the Id of the collection that this link points to (if any)
public void	<i>write(BufferedWriter)</i> on page 678	

### Inherited members from ParserDocument

Modifier and Type	Member	Description
static transient final String	<i>ANY_STRING</i> on page 963	
static transient final int	<i>ATTRIBUTE_ID</i> on page 963	
static transient final String	<i>ATTRIBUTE_STRING</i> on page 963	
public ParserDocument	<i>clone()</i> on page 945	Creates a copy of this object.
protected Map< String, String >	<i>extensions</i> on page 963	
public String	<i>getAttribute(String...)</i> on page 945	Returns the value of the first attribute with the given route.
public List< String >	<i>getAttributes(String...)</i> on page 946	Returns all the values of attributes with the given route.
protected int	<i>getAttributesEndPosition(int[], int, int)</i> on page 946	
public Map< String, String >	<i>getChildAttribute-Map(String...)</i> on page 946	Returns all the name-value pairs of attributes contained by the element with the given route.
public List< String >	<i>getChildAttributes(String...)</i> on page 947	Returns all the values of attributes contained by the element with the given route.



Modifier and Type	Member	Description
public List< IParserDocument >	<i>getChildDocuments(String...)</i> on page 947	Returns the elements contained by the element with the given route.
public List< IParserDocument >	<i>getChildDocumentsWithAttribute(String, String, String...)</i> on page 947	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public List< IParserDocument >	<i>getChildDocumentsWithAttribute(String, String, boolean, String...)</i> on page 948	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public ParserDocument	<i>getDocument(String...)</i> on page 948	Returns the first element with the given route.
protected List< int[] >	<i>getDocumentPositions(String[], int, boolean, boolean)</i> on page 949	
public List< IParserDocument >	<i>getDocuments(String...)</i> on page 949	Returns all the elements with the given route.
public List< IParserDocument >	<i>getDocumentsWithAttribute(String, String, String...)</i> on page 949	Returns the elements with the given route that contains the given attribute with the given value.
public List< IParserDocument >	<i>getDocumentsWithAttribute(String, String, boolean, String...)</i> on page 950	Returns the elements with the given route that contains the given attribute with the given value.
public IParserDocument	<i>getDocumentWithAttribute(String, String, String...)</i> on page 950	Returns the first element with the given route that contains the given attribute with the given value.
public IParserDocument	<i>getDocumentWithAttribute(String, String, boolean, String...)</i> on page 951	Returns the first element with the given route that contains the given attribute with the given value.
public String	<i>getElementName()</i> on page 951	Returns The name of the root element of this document.

Modifier and Type	Member	Description
public String	<i>getExtension(String)</i> on page 952	
public String	<i>getFunctionImportComplexProperty Value(String...)</i> on page 952	
static int	<i>getNameId(String, boolean, boolean)</i> on page 952	
public static List< String >	<i>getNameMap()</i> on page 952	
public static String	<i>getPrefix(String)</i> on page 952	
public String	<i>getPrefixForUri(String)</i> on page 952	Returns the appropriate namespace prefix for the given XML name-space URI.
public static Map< String, String >	<i>getPrefixMapping()</i> on page 953	
protected List< Integer >	<i>getStringPositions(String[], int, boolean, boolean)</i> on page 953	
public String[]	<i>getStrings()</i> on page 953	Returns all the string values contained by this document.
public String	<i>getValue(String...)</i> on page 953	Returns the value of the first element with the given route.
public List< String >	<i>getValues(String...)</i> on page 953	Returns all the values of elements with the given route.
protected int[]	<i>insertRoutePositions(int[], int, int[])</i> on page 954	
protected void	<i>insertRoutesPositions(int, int[])</i> on page 954	
protected void	<i>insertStringsPositions(int, String[])</i> on page 954	
protected String[]	<i>insertStringsPositions(String[], int, String[])</i> on page 954	

Modifier and Type	Member	Description
boolean	<i>isComplexEntity</i> on page 963	
boolean	<i>isJson</i> on page 963	
protected boolean	<i>isMatched(String, String)</i> on page 954	
static List< String >	<i>nameMap</i> on page 963	
	<i>ParserDocument()</i> on page 945	
	<i>ParserDocument(boolean)</i> on page 945	
public	<i>ParserDocument(String)</i> on page 944	
public	<i>ParserDocument(ParserDocument)</i> on page 944	
protected	<i>ParserDocument(int[], String[])</i> on page 945	
protected	<i>ParserDocument(String, boolean)</i> on page 945	
static Map< String, String >	<i>prefixMapping</i> on page 964	
public void	<i>putAttribute(String, String...)</i> on page 955	Sets the value of the attribute with the given route. If attribute does not exist it will be created as well as all other non existing elements in the route.
public void	<i>putDocument(IParserDocument, String...)</i> on page 955	Insert the document under the element with the given route. Inserted document will be placed before already existing documents with the same route name. All missing elements from the route will be created.
public void	<i>putExtension(String, String)</i> on page 955	

Modifier and Type	Member	Description
protected void	<i>putString(int, String, int, String...)</i> on page 956	
public void	<i>putValue(String, String...)</i> on page 956	Sets the value of the first element with the given route.
public void	<i>readExternal(ObjectInput)</i> on page 956	
public static void	<i>readNameMap(BufferedReader)</i> on page 957	
public boolean	<i>removeAttribute(String...)</i> on page 957	Removes first element with the given route.
public boolean	<i>removeAttributes(String...)</i> on page 957	Removes all the attribute with the given route.
public boolean	<i>removeDocument(String...)</i> on page 957	Removes first element with the given route For removing multiple element use setDocuemtns with null arguments.
public void	<i>removeExtension(String)</i> on page 958	
protected void	<i>removeRoutesPositions(int, int)</i> on page 958	
protected int[]	<i>removeRoutesPositions(int[], int, int)</i> on page 958	
protected boolean	<i>removeString(String...)</i> on page 958	
protected boolean	<i>removeStrings(String...)</i> on page 958	
protected void	<i>removeStringsPositions(int, int)</i> on page 958	
protected String[]	<i>removeStringsPositions(String[], int, int)</i> on page 958	
protected int	<i>replaceRoutesPositions(int, int, int[])</i> on page 959	

Modifier and Type	Member	Description
protected int[]	<i>replaceRoutesPositions(int[], int, int, int[])</i> on page 959	
protected int	<i>replaceStringsPositions(int, int, String[])</i> on page 959	
protected String[]	<i>replaceStringsPositions(String[], int, int, String[])</i> on page 959	
public static String	<i>resolveUrl(String, String)</i> on page 959	
protected int[]	<i>routes</i> on page 964	
public void	<i>setAttribute(String, String...)</i> on page 959	
public void	<i>setAttributes(List&lt;String&gt;, String...)</i> on page 960	Sets all the values of the attributes with the given route Values will be paired to attributes in order Attributes with greater or equals index than size of new values will be untouched Attributes paired with null values will be removed.
public boolean	<i>setDocument(IParserDocument, String...)</i> on page 960	
public void	<i>setDocuments(List&lt;IParserDocument&gt;, String...)</i> on page 960	Replaces all the elements with the given route Documents will be paired to elements in order Elements with greater or equals index than size of new elements will be untouched Element paired with null will be removed.
public void	<i>setElementName(String, String...)</i> on page 961	Sets the name of the root element with the given route Use empty route for setting root name of this document.
public static void	<i>setNameMap(List&lt;String&gt;)</i> on page 961	

Modifier and Type	Member	Description
public static void	<i>setPrefixMapping</i> ( <i>Map</i> < <i>String</i> , <i>String</i> >) on page 961	
protected void	<i>setString</i> ( <i>String</i> , <i>String</i> ...) on page 961	
protected void	<i>setStrings</i> ( <i>List</i> < <i>String</i> >, <i>String</i> ...) on page 961	
public void	<i>setValue</i> ( <i>String</i> , <i>String</i> ...) on page 961	
public void	<i>setValues</i> ( <i>List</i> < <i>String</i> >, <i>String</i> ...) on page 962	Sets all the values of the elements with the given rout Values will be paired to elements in order Elements with greater or equals index than size of new values will be untouched Null values will be treated as empty strings.
protected <i>String</i> []	<i>strings</i> on page 964	
public <i>String</i>	<i>toXMLString</i> () on page 962	Returns the XML string representation of this object.
protected static final <i>String</i>	<i>URL_PROTOCOL_PREFIX</i> on page 964	
static transient final int	<i>VALUE_ID</i> on page 964	
static transient final <i>String</i>	<i>VALUE_STRING</i> on page 964	
public void	<i>writeExternal</i> ( <i>ObjectOutput</i> ) on page 962	
public static void	<i>writeNameMap</i> ( <i>BufferedWriter</i> ) on page 963	

#### Inherited members from *IParserDocument*

Modifier and Type	Member	Description
public static final <i>String</i>	<i>ATTRIBUTE_ETAG</i> on page 386	Name of the appropriate OData element.

Modifier and Type	Member	Description
public static final String	<i>ATTRIBUTE_VALUEPREFIX_EDMTYPE</i> on page 386	Value prefix for EDM Type type values.
public static Map< String, String >	<i>DEFAULT_PREFIXMAPPING</i> on page 386	The default XML Namespace-to-Prefix mapping used for building XMLS.
public static final String[]	<i>EDMDATETIME_PATTERNS</i> on page 386	Possible EDM DateTime patterns Note: Some pattern are not supported by OData specification but still widely used.
public static final String[]	<i>EDMDATETIMEOFFSET_PATTERNS</i> on page 386	Possible EDM TimeOffset patterns Note: Some pattern are not supported by OData specification but still widely used.
public static final String	<i>EDMTIME_PATTERN</i> on page 386	EDM Time pattern.
public static String	<i>ELEMENT_FEED</i> on page 386	Name of the appropriate OData element.
public static final String	<i>ELEMENT_ID</i> on page 387	Name of the appropriate OData element.
public static final String	<i>ROOT_DOCUMENT_NAME</i> on page 387	The default root element name for a new document.
public static final String	<i>XMLNS_APPLICATION_URI</i> on page 387	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/08/dataservices">http://schemas.microsoft.com/ado/2007/08/dataservices</a> .
public static final String	<i>XMLNS_ATOM_URI</i> on page 387	Constant for XMLNS URI: <a href="http://www.w3.org/2005/Atom">http://www.w3.org/2005/Atom</a> .
public static final String	<i>XMLNS_DATASERVICES_URI</i> on page 387	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/08/dataservices">http://schemas.microsoft.com/ado/2007/08/dataservices</a> .
public static final String	<i>XMLNS_EDM_URI</i> on page 387	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/05/edm">http://schemas.microsoft.com/ado/2007/05/edm</a> .

Modifier and Type	Member	Description
public static final String	<i>XMLNS_EDMX_URI</i> on page 387	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/06/edmx">http://schemas.microsoft.com/ado/2007/06/edmx</a> .
public static final String	<i>XMLNS_GENERICPLAYER_URI</i> on page 388	Constant for XMLNS URI: <a href="http://www.sap.com/Protocols/SAPData/GenericPlayer">http://www.sap.com/Protocols/SAPData/GenericPlayer</a> .
public static final String	<i>XMLNS_METADATA_URI</i> on page 388	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/08/dataservices/metadata">http://schemas.microsoft.com/ado/2007/08/dataservices/metadata</a> .
public static final String	<i>XMLNS_SAP_URI</i> on page 388	Constant for XMLNS URI: <a href="http://www.sap.com/Protocols/SAPData">http://www.sap.com/Protocols/SAPData</a> .

#### Inherited members from IPersistable

Modifier and Type	Member	Description
public void	<i>read(BufferedReader)</i> on page 389	
public void	<i>write(BufferedWriter)</i> on page 389	

#### Inherited members from IODataLink

Modifier and Type	Member	Description
public static final String	<i>ATTRIBUTE_HREF</i> on page 260	Name of the appropriate OData attribute.
public static final String	<i>ATTRIBUTE_REL</i> on page 260	Name of the appropriate OData attribute.
public static final String	<i>ATTRIBUTE_REL_VALUE_EDIT</i> on page 260	Value option for the appropriate OData parameter.
public static final String	<i>ATTRIBUTE_REL_VALUE_SELF</i> on page 260	Value option for the appropriate OData parameter.
public static final String	<i>ATTRIBUTE_SEMANTICS</i> on page 260	Name of the appropriate OData attribute.



Modifier and Type	Member	Description
public static final String	<i>ATTRIBUTE_TITLE</i> on page 260	Name of the appropriate OData attribute.
public static final String	<i>ATTRIBUTE_VALUE-PART_DELTA</i> on page 260	String that should be part of every rel attribute of a Delta.
public static final String	<i>ATTRIBUTE_VALUE-PART_RELATED</i> on page 261	String that should be part of every rel attribute of a Related Data Link.
public static final String	<i>ATTRIBUTE_VALUESUFFIX_SUBSCRIPTION</i> on page 261	String that should be end of every rel attribute of a Subscription Link.
public static final String	<i>ELEMENT_INLINE</i> on page 261	Name of the appropriate OData element.
public static final String	<i>ELEMENT_LINK</i> on page 261	Name of the appropriate OData element.
public static final String	<i>ELEMENT_PARAMETER</i> on page 261	Name of the appropriate OData element.
public static final String	<i>ELEMENT_PARAMETER-SET</i> on page 261	Name of the appropriate OData element.

#### Inherited members from `IParserDocument`

Modifier and Type	Member	Description
public static final String	<i>ATTRIBUTE_ETAG</i> on page 386	Name of the appropriate OData element.
public static final String	<i>ATTRIBUTE_VALUEPREFIX_EDMTYPE</i> on page 386	Value prefix for EDM Type type values.
public abstract <code>IParserDocument</code>	<i>clone()</i> on page 374	Creates a copy of this object.
public static <code>Map&lt; String, String &gt;</code>	<i>DEFAULT_PREFIXMAPPING</i> on page 386	The default XML Namespace-to-Prefix mapping used for building XMLS.
public static final <code>String[]</code>	<i>EDMDATETIME_PATTERNS</i> on page 386	Possible EDM DateTime patterns Note: Some pattern are not supported by OData specification but still widely used.

Modifier and Type	Member	Description
public static final String[]	<i>EDMDATETIMEOFFSET_PATTERNS</i> on page 386	Possible EDM TimeOffset patterns Note: Some pattern are not supported by OData specification but still widely used.
public static final String	<i>EDMTIME_PATTERN</i> on page 386	EDM Time pattern.
public static String	<i>ELEMENT_FEED</i> on page 386	Name of the appropriate OData element.
public static final String	<i>ELEMENT_ID</i> on page 387	Name of the appropriate OData element.
public abstract String	<i>getAttribute(String...)</i> on page 374	Returns the value of the first attribute with the given route.
public abstract List< String >	<i>getAttributes(String...)</i> on page 374	Returns all the values of attributes with the given route.
public abstract Map< String, String >	<i>getChildAttributeMap(String...)</i> on page 375	Returns all the name-value pairs of attributes contained by the element with the given route.
public abstract List< String >	<i>getChildAttributes(String...)</i> on page 375	Returns all the values of attributes contained by the element with the given route.
public abstract List< IParserDocument >	<i>getChildDocuments(String...)</i> on page 375	Returns the elements contained by the element with the given route.
public abstract List< IParserDocument >	<i>getChildDocumentsWithAttribute(String, String, String...)</i> on page 376	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public abstract List< IParserDocument >	<i>getChildDocumentsWithAttribute(String, String, boolean, String...)</i> on page 376	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public abstract IParserDocument	<i>getDocument(String...)</i> on page 377	Returns the first element with the given route.
public abstract List< IParserDocument >	<i>getDocuments(String...)</i> on page 377	Returns all the elements with the given route.

Modifier and Type	Member	Description
public abstract List<IParserDocument >	<i>getDocumentsWithAttribute(String, String, String...)</i> on page 378	Returns the elements with the given route that contains the given attribute with the given value.
public abstract List<IParserDocument >	<i>getDocumentsWithAttribute(String, String, boolean, String...)</i> on page 378	Returns the elements with the given route that contains the given attribute with the given value.
public abstract IParserDocument	<i>getDocumentWithAttribute(String, String, String...)</i> on page 379	Returns the first element with the given route that contains the given attribute with the given value.
public abstract IParserDocument	<i>getDocumentWithAttribute(String, String, boolean, String...)</i> on page 379	Returns the first element with the given route that contains the given attribute with the given value.
public abstract String	<i>getElementName()</i> on page 380	Returns The name of the root element of this document.
public abstract String	<i>getFunctionImportComplexPropertyValue(String...)</i> on page 380	
public abstract String	<i>getPrefixForUri(String)</i> on page 380	Returns the appropriate namespace prefix for the given XML name-space URI.
public abstract String[]	<i>getStrings()</i> on page 381	Returns all the string values contained by this document.
public abstract String	<i>getValue(String...)</i> on page 381	Returns the value of the first element with the given route.
public abstract List<String >	<i>getValues(String...)</i> on page 381	Returns all the values of elements with the given route.
public abstract void	<i>putAttribute(String, String...)</i> on page 382	Sets the value of the attribute with the given route If attribute does not exist it will be created as well as all other non existing elements in the route.

Modifier and Type	Member	Description
public abstract void	<i>putDocument(IParserDocument, String...)</i> on page 382	Insert the document under the element with the given route inserted document will be placed before already existing documents with the same route name under All missing elements from the route will be created.
public abstract void	<i>putValue(String, String...)</i> on page 382	Sets the value of the first element with the given route.
public abstract boolean	<i>removeAttribute(String...)</i> on page 383	Removes first element with the given route.
public abstract boolean	<i>removeAttributes(String...)</i> on page 383	Removes all the attribute with the given route.
public abstract boolean	<i>removeDocument(String...)</i> on page 383	Removes first element with the given route For removing multiple element use setDocuemtns with null arguments.
public static final String	<i>ROOT_DOCUMENT_NAME</i> on page 387	The default root element name for a new document.
public abstract void	<i>setAttributes(List&lt;String&gt;, String...)</i> on page 384	Sets all the values of the attributes with the given route Values will be paired to attributes in order Attributes with greater or equals index than size of new values will be untouched Attributes paired with null values will be removed.
public abstract void	<i>setDocuments(List&lt;IParserDocument&gt;, String...)</i> on page 384	Replaces all the elements with the given route Documents will be paired to elements in order Elements with greater or equals index than size of new elements will be untouched Element paired with null will be removed.

Modifier and Type	Member	Description
public abstract void	<i>setElementName(String, String...)</i> on page 385	Sets the name of the root element with the given route Use empty route for setting root name of this document.
public abstract void	<i>setValues(List&lt; String &gt;, String...)</i> on page 385	Sets all the values of the elements with the given rout Values will be paired to elements in order Elements with greater or equals index than size of new values will be untouched Null values will be treated as empty strings.
public abstract String	<i>toXMLString()</i> on page 385	Returns the XML string representation of this object.
public static final String	<i>XMLNS_APPLICATION_URI</i> on page 387	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/08/dataservices">http://schemas.microsoft.com/ado/2007/08/dataservices</a> .
public static final String	<i>XMLNS_ATOM_URI</i> on page 387	Constant for XMLNS URI: <a href="http://www.w3.org/2005/Atom">http://www.w3.org/2005/Atom</a> .
public static final String	<i>XMLNS_DATASERVICES_URI</i> on page 387	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/08/dataservices">http://schemas.microsoft.com/ado/2007/08/dataservices</a> .
public static final String	<i>XMLNS_EDM_URI</i> on page 387	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/05/edm">http://schemas.microsoft.com/ado/2007/05/edm</a> .
public static final String	<i>XMLNS_EDMX_URI</i> on page 387	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/06/edmx">http://schemas.microsoft.com/ado/2007/06/edmx</a> .
public static final String	<i>XMLNS_GENERICPLAYER_URI</i> on page 388	Constant for XMLNS URI: <a href="http://www.sap.com/Protocols/SAPData/GenericPlayer">http://www.sap.com/Protocols/SAPData/GenericPlayer</a> .
public static final String	<i>XMLNS_METADATA_URI</i> on page 388	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/08/dataservices/metadata">http://schemas.microsoft.com/ado/2007/08/dataservices/metadata</a> .

Modifier and Type	Member	Description
public static final String	<i>XMLNS_SAP_URI</i> on page 388	Constant for XMLNS URI: <a href="http://www.sap.com/Protocols/SAPData">http://www.sap.com/Protocols/SAPData</a> .

**Inherited members from IPersistable**

Modifier and Type	Member	Description
public void	<i>read(BufferedReader)</i> on page 389	
public void	<i>write(BufferedWriter)</i> on page 389	

*ODataLink()* constructor*Syntax*

```
public ODataLink ()
```

*ODataLink(ParserDocument)* constructor*Syntax*

```
public ODataLink ( ParserDocument document )
```

*ODataLink(int[], String[])* constructor*Syntax*

```
protected ODataLink ( int[] routes , String[] values )
```

*getHref()* method

Returns the value of the appropriate OData attribute.

*Syntax*

```
public String getHref ()
```

*Returns*

The value of the appropriate OData attribute

*getInlineEntries()* method

Returns the list of OData Entries contained by the appropriate OData 'inline' element.

*Syntax*

```
public List< IODataEntry > getInlineEntries ()
```

**Returns**

The List of 'inline' OData Entries

***getInputParameterNames() method***

Returns the list of the appropriate OData Parameter elements that should be used as input parameter.

**Syntax**

```
public List< String > getInputParameterNames ()
```

**Returns**

The list of the appropriate OData Parameter elements that should be used as input parameter

***getOutputParameterNames() method***

Returns the list of the appropriate OData Parameter elements that should be used as output parameter.

**Syntax**

```
public List< String > getOutputParameterNames ()
```

**Returns**

The list of the appropriate OData Parameter elements that should be used as output parameter

***getParameters() method***

Returns the list of the appropriate OData Parameter elements.

**Syntax**

```
public List< IODataParameter > getParameters ()
```

**Returns**

The list of the appropriate OData Parameter elements

***getRel() method***

Returns the value of the appropriate OData attribute.

**Syntax**

```
public String getRel ()
```

**Returns**

The value of the appropriate OData attribute

### *getSchema() method*

Returns the Schema that is to be used for 'Inline entries'.

#### *Syntax*

```
public IODataSchema getSchema ()
```

#### *Returns*

The relevant schema

### *getSemantics() method*

Returns The value of the appropriate OData extension (vCard) attribute.

#### *Syntax*

```
public String getSemantics ()
```

#### *Returns*

The value of the appropriate OData extension (vCard) attribute

### *getTargetCollectionId() method*

Returns the Id of the collection that this link points to (if any)

#### *Syntax*

```
public String getTargetCollectionId ()
```

#### *Returns*

The Id of the collection that this link points to

### *getTitle() method*

Returns the value of the appropriate OData attribute.

#### *Syntax*

```
public String getTitle ()
```

#### *Returns*

The value of the appropriate OData attribute

### *getUrl() method*

Returns the full URL for this OData Link object without parameters.

#### *Syntax*

```
public String getUrl ()
```



*Returns*

The full URL of this link without parameters

*getUrlWithParameters(Map< String, String >) method*

Returns the full URL for this OData Link object extended with the given parameter names and values.

*Syntax*

```
public String getUrlWithParameters (Map< String, String >
parameters )
```

*Returns*

The full URL of this link with parameters

*read(BufferedReader) method**Syntax*

```
public void read (BufferedReader reader) throws
PersistenceException
```

*Parameters*

- **reader** – The buffered reader to read the object from.

*Exceptions*

- **PersistenceException** – if data can not be loaded from the reader.

*setBaseUrl(String) method**Syntax*

```
protected void setBaseUrl (String baseUrl)
```

*setSchema(IODataSchema) method*

Sets the Schema that is to be used for 'Inline entries'.

*Syntax*

```
public void setSchema (IODataSchema schema)
```

*Parameters*

- **schema** – The relevant schema

### *setTargetCollectionId(String) method*

Maintains the Id of the collection that this link points to (if any)

#### *Syntax*

```
public void setTargetCollectionId ( String targetCollectionId )
```

#### *Parameters*

- **targetCollectionId** – The Id of the collection that this link points to

### *write(BufferedWriter) method*

#### *Syntax*

```
public void write ( BufferedWriter writer ) throws  
PersistenceException
```

#### *Parameters*

- **writer** – The buffered writer that object data needs to be written into.

#### *Exceptions*

- **PersistenceException** – if data can not be written into the writer

### *baseUrl variable*

#### *Syntax*

```
protected String baseUrl
```

### *schema variable*

#### *Syntax*

```
protected IODataSchema schema
```

### *targetCollectionId variable*

#### *Syntax*

```
protected String targetCollectionId
```

### *ODataNavigationProperty class*

#### *Syntax*

```
public class ODataNavigationProperty extends ParserDocument,  
IODataNavigationProperty
```

### Members

All members of `ODataNavigationProperty`, including inherited members. **Constructors**

Modifier and Type	Constructor	Description
public	<code>ODataNavigationProperty()</code> on page 693	
public	<code>ODataNavigationProperty(ParserDocument)</code> on page 693	
protected	<code>ODataNavigationProperty(int[], String[])</code> on page 694	

### Methods

Modifier and Type	Method	Description
public String	<code>getFromRole()</code> on page 694	Returns The value of the appropriate OData attribute.
public String	<code>getName()</code> on page 694	Returns The value of the appropriate OData attribute.
public String	<code>getRelationship()</code> on page 694	Returns The value of the appropriate OData attribute.
public String	<code>getToRole()</code> on page 694	Returns The value of the appropriate OData attribute.

### Inherited members from ParserDocument

Modifier and Type	Member	Description
static transient final String	<code>ANY_STRING</code> on page 963	
static transient final int	<code>ATTRIBUTE_ID</code> on page 963	
static transient final String	<code>ATTRIBUTE_STRING</code> on page 963	
public ParserDocument	<code>clone()</code> on page 945	Creates a copy of this object.
protected Map< String, String >	<code>extensions</code> on page 963	
public String	<code>getAttribute(String...)</code> on page 945	Returns the value of the first attribute with the given route.

Modifier and Type	Member	Description
public List< String >	<i>getAttributes(String...)</i> on page 946	Returns all the values of attributes with the given route.
protected int	<i>getAttributesEndPosition(int[], int, int)</i> on page 946	
public Map< String, String >	<i>getChildAttributeMap(String...)</i> on page 946	Returns all the name-value pairs of attributes contained by the element with the given route.
public List< String >	<i>getChildAttributes(String...)</i> on page 947	Returns all the values of attributes contained by the element with the given route.
public List< IParserDocument >	<i>getChildDocuments(String...)</i> on page 947	Returns the elements contained by the element with the given route.
public List< IParserDocument >	<i>getChildDocumentsWithAttribute(String, String, String...)</i> on page 947	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public List< IParserDocument >	<i>getChildDocumentsWithAttribute(String, String, boolean, String...)</i> on page 948	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public ParserDocument	<i>getDocument(String...)</i> on page 948	Returns the first element with the given route.
protected List< int[] >	<i>getDocumentPositions(String[], int, boolean, boolean)</i> on page 949	
public List< IParserDocument >	<i>getDocuments(String...)</i> on page 949	Returns all the elements with the given route.
public List< IParserDocument >	<i>getDocumentsWithAttribute(String, String, String...)</i> on page 949	Returns the elements with the given route that contains the given attribute with the given value.

Modifier and Type	Member	Description
public List< IParserDocument >	<i>getDocumentsWithAttribute(String, String, boolean, String...)</i> on page 950	Returns the elements with the given route that contains the given attribute with the given value.
public IParserDocument	<i>getDocumentWithAttribute(String, String, String...)</i> on page 950	Returns the first element with the given route that contains the given attribute with the given value.
public IParserDocument	<i>getDocumentWithAttribute(String, String, boolean, String...)</i> on page 951	Returns the first element with the given route that contains the given attribute with the given value.
public String	<i>getElementName()</i> on page 951	Returns The name of the root element of this document.
public String	<i>getExtension(String)</i> on page 952	
public String	<i>getFunctionImportComplexProperty Value(String...)</i> on page 952	
static int	<i>getNameId(String, boolean, boolean)</i> on page 952	
public static List< String >	<i>getNameMap()</i> on page 952	
public static String	<i>getPrefix(String)</i> on page 952	
public String	<i>getPrefixForUri(String)</i> on page 952	Returns the appropriate namespace prefix for the given XML name-space URI.
public static Map< String, String >	<i>getPrefixMapping()</i> on page 953	
protected List< Integer >	<i>getStringPositions(String[], int, boolean, boolean)</i> on page 953	
public String[]	<i>getStrings()</i> on page 953	Returns all the string values contained by this document.

Modifier and Type	Member	Description
public String	<i>getValue(String...)</i> on page 953	Returns the value of the first element with the given route.
public List< String >	<i>getValues(String...)</i> on page 953	Returns all the values of elements with the given route.
protected int[]	<i>insertRoutePositions(int[], int, int[])</i> on page 954	
protected void	<i>insertRoutesPositions(int, int[])</i> on page 954	
protected void	<i>insertStringsPositions(int, String[])</i> on page 954	
protected String[]	<i>insertStringsPositions(String[], int, String[])</i> on page 954	
boolean	<i>isComplexEntity</i> on page 963	
boolean	<i>isJson</i> on page 963	
protected boolean	<i>isMatched(String, String)</i> on page 954	
static List< String >	<i>nameMap</i> on page 963	
	<i>ParserDocument()</i> on page 945	
	<i>ParserDocument(boolean)</i> on page 945	
public	<i>ParserDocument(String)</i> on page 944	
public	<i>ParserDocument(ParserDocument)</i> on page 944	
protected	<i>ParserDocument(int[], String[])</i> on page 945	
protected	<i>ParserDocument(String, boolean)</i> on page 945	
static Map< String, String >	<i>prefixMapping</i> on page 964	

Modifier and Type	Member	Description
public void	<i>putAttribute(String, String...)</i> on page 955	Sets the value of the attribute with the given route. If attribute does not exist it will be created as well as all other non existing elements in the route.
public void	<i>putDocument(IParserDocument, String...)</i> on page 955	Insert the document under the element with the given route. Inserted document will be placed before already existing documents with the same route name under. All missing elements from the route will be created.
public void	<i>putExtension(String, String)</i> on page 955	
protected void	<i>putString(int, String, int, String...)</i> on page 956	
public void	<i>putValue(String, String...)</i> on page 956	Sets the value of the first element with the given route.
public void	<i>read(BufferedReader)</i> on page 956	
public void	<i>readExternal(ObjectInput)</i> on page 956	
public static void	<i>readNameMap(BufferedReader)</i> on page 957	
public boolean	<i>removeAttribute(String...)</i> on page 957	Removes first element with the given route.
public boolean	<i>removeAttributes(String...)</i> on page 957	Removes all the attribute with the given route.
public boolean	<i>removeDocument(String...)</i> on page 957	Removes first element with the given route. For removing multiple element use <code>setDocuments</code> with null arguments.
public void	<i>removeExtension(String)</i> on page 958	

Modifier and Type	Member	Description
protected void	<i>removeRoutesPositions(int, int)</i> on page 958	
protected int[]	<i>removeRoutesPositions(int[], int, int)</i> on page 958	
protected boolean	<i>removeString(String...)</i> on page 958	
protected boolean	<i>removeStrings(String...)</i> on page 958	
protected void	<i>removeStringsPositions(int, int)</i> on page 958	
protected String[]	<i>removeStringsPositions(String[], int, int)</i> on page 958	
protected int	<i>replaceRoutesPositions(int, int, int[])</i> on page 959	
protected int[]	<i>replaceRoutesPositions(int[], int, int, int[])</i> on page 959	
protected int	<i>replaceStringsPositions(int, int, String[])</i> on page 959	
protected String[]	<i>replaceStringsPositions(String[], int, int, String[])</i> on page 959	
public static String	<i>resolveUrl(String, String)</i> on page 959	
protected int[]	<i>routes</i> on page 964	
public void	<i>setAttribute(String, String...)</i> on page 959	



Modifier and Type	Member	Description
public void	<i>setAttributes(List&lt; String &gt;, String...)</i> on page 960	Sets all the values of the attributes with the given route Values will be paired to attributes in order Attributes with greater or equals index than size of new values will be untouched Attributes paired with null values will be removed.
public boolean	<i>setDocument(IParserDocument, String...)</i> on page 960	
public void	<i>setDocuments(List&lt; IParserDocument &gt;, String...)</i> on page 960	Replaces all the elements with the given route Documents will be paired to elements in order Elements with greater or equals index than size of new elements will be untouched Element paired with null will be removed.
public void	<i>setElementName(String, String...)</i> on page 961	Sets the name of the root element with the given route Use empty route for setting root name of this document.
public static void	<i>setNameMap(List&lt; String &gt;)</i> on page 961	
public static void	<i>setPrefixMapping(Map&lt; String, String &gt;)</i> on page 961	
protected void	<i>setString(String, String...)</i> on page 961	
protected void	<i>setStrings(List&lt; String &gt;, String...)</i> on page 961	
public void	<i>setValue(String, String...)</i> on page 961	

Modifier and Type	Member	Description
public void	<i>setValues(List&lt;String&gt;, String...)</i> on page 962	Sets all the values of the elements with the given route values will be paired to elements in order Elements with greater or equals index than size of new values will be untouched Null values will be treated as empty strings.
protected String[]	<i>strings</i> on page 964	
public String	<i>toXMLString()</i> on page 962	Returns the XML string representation of this object.
protected static final String	<i>URL_PROTOCOL_PREFIX</i> on page 964	
static transient final int	<i>VALUE_ID</i> on page 964	
static transient final String	<i>VALUE_STRING</i> on page 964	
public void	<i>write(BufferedWriter)</i> on page 962	
public void	<i>writeExternal(ObjectOutput)</i> on page 962	
public static void	<i>writeNameMap(BufferedWriter)</i> on page 963	

#### Inherited members from `IParserDocument`

Modifier and Type	Member	Description
public static final String	<i>ATTRIBUTE_ETAG</i> on page 386	Name of the appropriate OData element.
public static final String	<i>ATTRIBUTE_VALUEPREFIX_EDMTYPE</i> on page 386	Value prefix for EDM Type type values.
public static Map<String, String>	<i>DEFAULT_PREFIXMAPPING</i> on page 386	The default XML Namespace-to-Prefix mapping used for building XMLS.

Modifier and Type	Member	Description
public static final String[]	<i>EDMDATETIME_PATTERNS</i> on page 386	Possible EDM DateTime patterns Note: Some pattern are not supported by OData specification but still widely used.
public static final String[]	<i>EDMDATETIMEOFFSET_PATTERNS</i> on page 386	Possible EDM TimeOffset patterns Note: Some pattern are not supported by OData specification but still widely used.
public static final String	<i>EDMTIME_PATTERN</i> on page 386	EDM Time pattern.
public static String	<i>ELEMENT_FEED</i> on page 386	Name of the appropriate OData element.
public static final String	<i>ELEMENT_ID</i> on page 387	Name of the appropriate OData element.
public static final String	<i>ROOT_DOCUMENT_NAME</i> on page 387	The default root element name for a new document.
public static final String	<i>XMLNS_APPLICATION_URI</i> on page 387	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/08/dataservices">http://schemas.microsoft.com/ado/2007/08/dataservices</a> .
public static final String	<i>XMLNS_ATOM_URI</i> on page 387	Constant for XMLNS URI: <a href="http://www.w3.org/2005/Atom">http://www.w3.org/2005/Atom</a> .
public static final String	<i>XMLNS_DATASERVICES_URI</i> on page 387	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/08/dataservices">http://schemas.microsoft.com/ado/2007/08/dataservices</a> .
public static final String	<i>XMLNS_EDM_URI</i> on page 387	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/05/edm">http://schemas.microsoft.com/ado/2007/05/edm</a> .
public static final String	<i>XMLNS_EDMX_URI</i> on page 387	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/06/edmx">http://schemas.microsoft.com/ado/2007/06/edmx</a> .
public static final String	<i>XMLNS_GENERICPLAYER_URI</i> on page 388	Constant for XMLNS URI: <a href="http://www.sap.com/Protocols/SAPData/GenericPlayer">http://www.sap.com/Protocols/SAPData/GenericPlayer</a> .

Modifier and Type	Member	Description
public static final String	<i>XMLNS_METADATA_URI</i> on page 388	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/08/dataservices/metadata">http://schemas.microsoft.com/ado/2007/08/dataservices/metadata</a> .
public static final String	<i>XMLNS_SAP_URI</i> on page 388	Constant for XMLNS URI: <a href="http://www.sap.com/Protocols/SAPData">http://www.sap.com/Protocols/SAPData</a> .

**Inherited members from IPersistable**

Modifier and Type	Member	Description
public void	<i>read(BufferedReader)</i> on page 389	
public void	<i>write(BufferedWriter)</i> on page 389	

**Inherited members from IODataNavigationProperty**

Modifier and Type	Member	Description
public static final String	<i>ATTRIBUTE_FROMROLE</i> on page 268	Name of the appropriate OData attribute.
public static final String	<i>ATTRIBUTE_NAME</i> on page 268	Name of the appropriate OData attribute.
public static final String	<i>ATTRIBUTE_RELATIONSHIP</i> on page 269	Name of the appropriate OData attribute.
public static final String	<i>ATTRIBUTE_TOROLE</i> on page 269	Name of the appropriate OData attribute.
public static final String	<i>ELEMENT_NAVIGATIONPROPERTY</i> on page 269	Name of the appropriate OData element.

**Inherited members from IParserDocument**

Modifier and Type	Member	Description
public static final String	<i>ATTRIBUTE_ETAG</i> on page 386	Name of the appropriate OData element.
public static final String	<i>ATTRIBUTE_VALUEPREFIX_EDMTYPE</i> on page 386	Value prefix for EDM Type type values.

Modifier and Type	Member	Description
public abstract IParserDocument	<i>clone()</i> on page 374	Creates a copy of this object.
public static Map< String, String >	<i>DEFAULT_PREFIXMAP-PING</i> on page 386	The default XML Namespace-to-Prefix mapping used for building XMLS.
public static final String[]	<i>EDMDATETIME_PATTERNS</i> on page 386	Possible EDM DateTime patterns Note: Some pattern are not supported by OData specification but still widely used.
public static final String[]	<i>EDMDATETIMEOFFSET_PATTERNS</i> on page 386	Possible EDM TimeOffset patterns Note: Some pattern are not supported by OData specification but still widely used.
public static final String	<i>EDMTIME_PATTERN</i> on page 386	EDM Time pattern.
public static String	<i>ELEMENT_FEED</i> on page 386	Name of the appropriate OData element.
public static final String	<i>ELEMENT_ID</i> on page 387	Name of the appropriate OData element.
public abstract String	<i>getAttribute(String...)</i> on page 374	Returns the value of the first attribute with the given route.
public abstract List< String >	<i>getAttributes(String...)</i> on page 374	Returns all the values of attributes with the given route.
public abstract Map< String, String >	<i>getChildAttribute-Map(String...)</i> on page 375	Returns all the name-value pairs of attributes contained by the element with the given route.
public abstract List< String >	<i>getChildAttributes(String...)</i> on page 375	Returns all the values of attributes contained by the element with the given route.
public abstract List< IParserDocument >	<i>getChildDocuments(String...)</i> on page 375	Returns the elements contained by the element with the given route.

Modifier and Type	Member	Description
public abstract List<IParserDocument >	<i>getChildDocumentsWithAttribute(String, String, String...)</i> on page 376	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public abstract List<IParserDocument >	<i>getChildDocumentsWithAttribute(String, String, boolean, String...)</i> on page 376	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public abstract IParserDocument	<i>getDocument(String...)</i> on page 377	Returns the first element with the given route.
public abstract List<IParserDocument >	<i>getDocuments(String...)</i> on page 377	Returns all the elements with the given route.
public abstract List<IParserDocument >	<i>getDocumentsWithAttribute(String, String, String...)</i> on page 378	Returns the elements with the given route that contains the given attribute with the given value.
public abstract List<IParserDocument >	<i>getDocumentsWithAttribute(String, String, boolean, String...)</i> on page 378	Returns the elements with the given route that contains the given attribute with the given value.
public abstract IParserDocument	<i>getDocumentWithAttribute(String, String, String...)</i> on page 379	Returns the first element with the given route that contains the given attribute with the given value.
public abstract IParserDocument	<i>getDocumentWithAttribute(String, String, boolean, String...)</i> on page 379	Returns the first element with the given route that contains the given attribute with the given value.
public abstract String	<i>getElementName()</i> on page 380	Returns The name of the root element of this document.
public abstract String	<i>getFunctionImportComplexPropertyValue(String...)</i> on page 380	
public abstract String	<i>getPrefixForUri(String)</i> on page 380	Returns the appropriate namespace prefix for the given XML name-space URI.

Modifier and Type	Member	Description
public abstract String[]	<i>getStrings()</i> on page 381	Returns all the string values contained by this document.
public abstract String	<i>getValue(String...)</i> on page 381	Returns the value of the first element with the given route.
public abstract List< String >	<i>getValues(String...)</i> on page 381	Returns all the values of elements with the given route.
public abstract void	<i>putAttribute(String, String...)</i> on page 382	Sets the value of the attribute with the given route If attribute does not exist it will be created as well as all other non existing elements in the route.
public abstract void	<i>putDocument(IParserDocument, String...)</i> on page 382	Insert the document under the element with the given route inserted document will be placed before already existing documents with the same route name under All missing elements from the route will be created.
public abstract void	<i>putValue(String, String...)</i> on page 382	Sets the value of the first element with the given route.
public abstract boolean	<i>removeAttribute(String...)</i> on page 383	Removes first element with the given route.
public abstract boolean	<i>removeAttributes(String...)</i> on page 383	Removes all the attribute with the given route.
public abstract boolean	<i>removeDocument(String...)</i> on page 383	Removes first element with the given route For removing multiple element use setDocuemtns with null arguments.
public static final String	<i>ROOT_DOCUMENT_NAME</i> on page 387	The default root element name for a new document.

Modifier and Type	Member	Description
public abstract void	<i>setAttributes(List&lt; String &gt;, String...)</i> on page 384	Sets all the values of the attributes with the given route Values will be paired to attributes in order Attributes with greater or equals index than size of new values will be untouched Attributes paired with null values will be removed.
public abstract void	<i>setDocuments(List&lt; IParser-Document &gt;, String...)</i> on page 384	Replaces all the elements with the given route Documents will be paired to elements in order Elements with greater or equals index than size of new elements will be untouched Element paired with null will be removed.
public abstract void	<i>setElementName(String, String...)</i> on page 385	Sets the name of the root element with the given route Use empty route for setting root name of this document.
public abstract void	<i>setValues(List&lt; String &gt;, String...)</i> on page 385	Sets all the values of the elements with the given rout Values will be paired to elements in order Elements with greater or equals index than size of new values will be untouched Null values will be treated as empty strings.
public abstract String	<i>toXMLString()</i> on page 385	Returns the XML string representation of this object.
public static final String	<i>XMLNS_APPLICATION_URI</i> on page 387	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/08/dataservices">http://schemas.microsoft.com/ado/2007/08/dataservices</a> .
public static final String	<i>XMLNS_ATOM_URI</i> on page 387	Constant for XMLNS URI: <a href="http://www.w3.org/2005/Atom">http://www.w3.org/2005/Atom</a> .



Modifier and Type	Member	Description
public static final String	<i>XMLNS_DATASERVICES_URI</i> on page 387	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/08/dataservices">http://schemas.microsoft.com/ado/2007/08/dataservices</a> .
public static final String	<i>XMLNS_EDM_URI</i> on page 387	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/05/edm">http://schemas.microsoft.com/ado/2007/05/edm</a> .
public static final String	<i>XMLNS_EDMX_URI</i> on page 387	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/06/edmx">http://schemas.microsoft.com/ado/2007/06/edmx</a> .
public static final String	<i>XMLNS_GENERICPLAYER_URI</i> on page 388	Constant for XMLNS URI: <a href="http://www.sap.com/Protocols/SAPData/GenericPlayer">http://www.sap.com/Protocols/SAPData/GenericPlayer</a> .
public static final String	<i>XMLNS_METADATA_URI</i> on page 388	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/08/dataservices/metadata">http://schemas.microsoft.com/ado/2007/08/dataservices/metadata</a> .
public static final String	<i>XMLNS_SAP_URI</i> on page 388	Constant for XMLNS URI: <a href="http://www.sap.com/Protocols/SAPData">http://www.sap.com/Protocols/SAPData</a> .

#### Inherited members from IPersistable

Modifier and Type	Member	Description
public void	<i>read(BufferedReader)</i> on page 389	
public void	<i>write(BufferedWriter)</i> on page 389	

#### *ONavigationProperty()* constructor

##### Syntax

```
public ONavigationProperty ()
```

#### *ONavigationProperty(ParserDocument)* constructor

##### Syntax

```
public ONavigationProperty ( ParserDocument document )
```

*ODataNavigationProperty(int[], String[]) constructor*

**Syntax**

```
protected ODataNavigationProperty ( int[] routes , String[] values )
```

*getFromRole() method*

Returns The value of the appropriate OData attribute.

**Syntax**

```
public String getFromRole ()
```

**Returns**

The value of the appropriate OData attribute

*getName() method*

Returns The value of the appropriate OData attribute.

**Syntax**

```
public String getName ()
```

**Returns**

The value of the appropriate OData attribute

*getRelationship() method*

Returns The value of the appropriate OData attribute.

**Syntax**

```
public String getRelationship ()
```

**Returns**

The value of the appropriate OData attribute

*getToRole() method*

Returns The value of the appropriate OData attribute.

**Syntax**

```
public String getToRole ()
```

**Returns**

The value of the appropriate OData attribute

*ODataOpenSearchDescription class***Syntax**

```
public class ODataOpenSearchDescription extends
ParserDocument, IODataOpenSearchDescription
```

**Members**

All members of ODataOpenSearchDescription, including inherited members. **Variables**

Modifier and Type	Variable	Description
protected String	<i>baseUrl</i> on page 711	

**Constructors**

Modifier and Type	Constructor	Description
public	<i>ODataOpenSearchDescription()</i> on page 709	
public	<i>ODataOpenSearchDescription(ParserDocument)</i> on page 709	
protected	<i>ODataOpenSearchDescription(int[], String[])</i> on page 709	

**Methods**

Modifier and Type	Method	Description
public String	<i>getDescription()</i> on page 709	Returns The value of the appropriate OData element.
public String	<i>getShortName()</i> on page 710	Returns The value of the appropriate OData element.
public List< IODataURL >	<i>getUrls()</i> on page 710	Returns The list of the appropriate OData element.
public void	<i>read(BufferedReader)</i> on page 710	
protected void	<i>setBaseUrl(String)</i> on page 710	

Modifier and Type	Method	Description
public void	<i>write(BufferedWriter)</i> on page 710	

**Inherited members from ParserDocument**

Modifier and Type	Member	Description
static transient final String	<i>ANY_STRING</i> on page 963	
static transient final int	<i>ATTRIBUTE_ID</i> on page 963	
static transient final String	<i>ATTRIBUTE_STRING</i> on page 963	
public ParserDocument	<i>clone()</i> on page 945	Creates a copy of this object.
protected Map< String, String >	<i>extensions</i> on page 963	
public String	<i>getAttribute(String...)</i> on page 945	Returns the value of the first attribute with the given route.
public List< String >	<i>getAttributes(String...)</i> on page 946	Returns all the values of attributes with the given route.
protected int	<i>getAttributesEndPosition(int[], int, int)</i> on page 946	
public Map< String, String >	<i>getChildAttributeMap(String...)</i> on page 946	Returns all the name-value pairs of attributes contained by the element with the given route.
public List< String >	<i>getChildAttributes(String...)</i> on page 947	Returns all the values of attributes contained by the element with the given route.
public List< IParserDocument >	<i>getChildDocuments(String...)</i> on page 947	Returns the elements contained by the element with the given route.
public List< IParserDocument >	<i>getChildDocumentsWithAttribute(String, String, String...)</i> on page 947	Returns the elements contained by the element with the given route and having the given attribute with the given value.

Modifier and Type	Member	Description
public List< IParserDocument >	<i>getChildDocumentsWithAttribute(String, String, boolean, String...)</i> on page 948	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public ParserDocument	<i>getDocument(String...)</i> on page 948	Returns the first element with the given route.
protected List< int[] >	<i>getDocumentPositions(String[], int, boolean, boolean)</i> on page 949	
public List< IParserDocument >	<i>getDocuments(String...)</i> on page 949	Returns all the elements with the given route.
public List< IParserDocument >	<i>getDocumentsWithAttribute(String, String, String...)</i> on page 949	Returns the elements with the given route that contains the given attribute with the given value.
public List< IParserDocument >	<i>getDocumentsWithAttribute(String, String, boolean, String...)</i> on page 950	Returns the elements with the given route that contains the given attribute with the given value.
public IParserDocument	<i>getDocumentWithAttribute(String, String, String...)</i> on page 950	Returns the first element with the given route that contains the given attribute with the given value.
public IParserDocument	<i>getDocumentWithAttribute(String, String, boolean, String...)</i> on page 951	Returns the first element with the given route that contains the given attribute with the given value.
public String	<i>getElementName()</i> on page 951	Returns The name of the root element of this document.
public String	<i>getExtension(String)</i> on page 952	
public String	<i>getFunctionImportComplexProperty Value(String...)</i> on page 952	

Modifier and Type	Member	Description
static int	<i>getNameId(String, boolean, boolean)</i> on page 952	
public static List< String >	<i>getNameMap()</i> on page 952	
public static String	<i>getPrefix(String)</i> on page 952	
public String	<i>getPrefixForUri(String)</i> on page 952	Returns the appropriate name-space prefix for the given XML name-space URI.
public static Map< String, String >	<i>getPrefixMapping()</i> on page 953	
protected List< Integer >	<i>getStringPositions(String[], int, boolean, boolean)</i> on page 953	
public String[]	<i>getStrings()</i> on page 953	Returns all the string values contained by this document.
public String	<i>getValue(String...)</i> on page 953	Returns the value of the first element with the given route.
public List< String >	<i>getValues(String...)</i> on page 953	Returns all the values of elements with the given route.
protected int[]	<i>insertRoutePositions(int[], int, int[])</i> on page 954	
protected void	<i>insertRoutesPositions(int, int[])</i> on page 954	
protected void	<i>insertStringsPositions(int, String[])</i> on page 954	
protected String[]	<i>insertStringsPositions(String[], int, String[])</i> on page 954	
boolean	<i>isComplexEntity</i> on page 963	
boolean	<i>isJson</i> on page 963	
protected boolean	<i>isMatched(String, String)</i> on page 954	

Modifier and Type	Member	Description
static List< String >	<i>nameMap</i> on page 963	
	<i>ParserDocument()</i> on page 945	
	<i>ParserDocument(boolean)</i> on page 945	
public	<i>ParserDocument(String)</i> on page 944	
public	<i>ParserDocument(ParserDocument)</i> on page 944	
protected	<i>ParserDocument(int[], String[])</i> on page 945	
protected	<i>ParserDocument(String, boolean)</i> on page 945	
static Map< String, String >	<i>prefixMapping</i> on page 964	
public void	<i>putAttribute(String, String...)</i> on page 955	Sets the value of the attribute with the given route. If attribute does not exist it will be created as well as all other non existing elements in the route.
public void	<i>putDocument(IParserDocument, String...)</i> on page 955	Insert the document under the element with the given route. Inserted document will be placed before already existing documents with the same route name. All missing elements from the route will be created.
public void	<i>putExtension(String, String)</i> on page 955	
protected void	<i>putString(int, String, int, String...)</i> on page 956	
public void	<i>putValue(String, String...)</i> on page 956	Sets the value of the first element with the given route.
public void	<i>readExternal(ObjectInput)</i> on page 956	

Modifier and Type	Member	Description
public static void	<i>readNameMap(BufferedReader)</i> on page 957	
public boolean	<i>removeAttribute(String...)</i> on page 957	Removes first element with the given route.
public boolean	<i>removeAttributes(String...)</i> on page 957	Removes all the attribute with the given route.
public boolean	<i>removeDocument(String...)</i> on page 957	Removes first element with the given route For removing multiple element use setDocuemtns with null arguments.
public void	<i>removeExtension(String)</i> on page 958	
protected void	<i>removeRoutesPositions(int, int)</i> on page 958	
protected int[]	<i>removeRoutesPositions(int[], int, int)</i> on page 958	
protected boolean	<i>removeString(String...)</i> on page 958	
protected boolean	<i>removeStrings(String...)</i> on page 958	
protected void	<i>removeStringsPositions(int, int)</i> on page 958	
protected String[]	<i>removeStringsPositions(String[], int, int)</i> on page 958	
protected int	<i>replaceRoutesPositions(int, int, int[])</i> on page 959	
protected int[]	<i>replaceRoutesPositions(int[], int, int, int[])</i> on page 959	
protected int	<i>replaceStringsPositions(int, int, String[])</i> on page 959	
protected String[]	<i>replaceStringsPositions(String[], int, int, String[])</i> on page 959	



Modifier and Type	Member	Description
public static String	<i>resolveUrl(String, String)</i> on page 959	
protected int[]	<i>routes</i> on page 964	
public void	<i>setAttribute(String, String...)</i> on page 959	
public void	<i>setAttributes(List&lt;String&gt;, String...)</i> on page 960	Sets all the values of the attributes with the given route Values will be paired to attributes in order Attributes with greater or equals index than size of new values will be untouched Attributes paired with null values will be removed.
public boolean	<i>setDocument(IParserDocument, String...)</i> on page 960	
public void	<i>setDocuments(List&lt;IParserDocument&gt;, String...)</i> on page 960	Replaces all the elements with the given route Documents will be paired to elements in order Elements with greater or equals index than size of new elements will be untouched Element paired with null will be removed.
public void	<i>setElementName(String, String...)</i> on page 961	Sets the name of the root element with the given route Use empty route for setting root name of this document.
public static void	<i>setNameMap(List&lt;String&gt;)</i> on page 961	
public static void	<i>setPrefixMapping(Map&lt;String, String&gt;)</i> on page 961	
protected void	<i>setString(String, String...)</i> on page 961	
protected void	<i>setStrings(List&lt;String&gt;, String...)</i> on page 961	

Modifier and Type	Member	Description
public void	<i>setValue(String, String...)</i> on page 961	
public void	<i>setValues(List&lt; String &gt;, String...)</i> on page 962	Sets all the values of the elements with the given rout Values will be paired to elements in order Elements with greater or equals index than size of new values will be untouched Null values will be treated as empty strings.
protected String[]	<i>strings</i> on page 964	
public String	<i>toXMLString()</i> on page 962	Returns the XML string representation of this object.
protected static final String	<i>URL_PROTOCOL_PREFIX</i> on page 964	
static transient final int	<i>VALUE_ID</i> on page 964	
static transient final String	<i>VALUE_STRING</i> on page 964	
public void	<i>writeExternal(ObjectOutput)</i> on page 962	
public static void	<i>writeNameMap(BufferedWriter)</i> on page 963	

#### Inherited members from IParserDocument

Modifier and Type	Member	Description
public static final String	<i>ATTRIBUTE_ETAG</i> on page 386	Name of the appropriate OData element.
public static final String	<i>ATTRIBUTE_VALUEPREFIX_EDMTYPE</i> on page 386	Value prefix for EDM Type type values.
public static Map< String, String >	<i>DEFAULT_PREFIXMAPPING</i> on page 386	The default XML Namespace-to-Prefix mapping used for building XMLS.

Modifier and Type	Member	Description
public static final String[]	<i>EDMDATETIME_PATTERNS</i> on page 386	Possible EDM DateTime patterns Note: Some pattern are not supported by OData specification but still widely used.
public static final String[]	<i>EDMDATETIMEOFFSET_PATTERNS</i> on page 386	Possible EDM TimeOffset patterns Note: Some pattern are not supported by OData specification but still widely used.
public static final String	<i>EDMTIME_PATTERN</i> on page 386	EDM Time pattern.
public static String	<i>ELEMENT_FEED</i> on page 386	Name of the appropriate OData element.
public static final String	<i>ELEMENT_ID</i> on page 387	Name of the appropriate OData element.
public static final String	<i>ROOT_DOCUMENT_NAME</i> on page 387	The default root element name for a new document.
public static final String	<i>XMLNS_APPLICATION_URI</i> on page 387	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/08/dataservices">http://schemas.microsoft.com/ado/2007/08/dataservices</a> .
public static final String	<i>XMLNS_ATOM_URI</i> on page 387	Constant for XMLNS URI: <a href="http://www.w3.org/2005/Atom">http://www.w3.org/2005/Atom</a> .
public static final String	<i>XMLNS_DATASERVICES_URI</i> on page 387	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/08/dataservices">http://schemas.microsoft.com/ado/2007/08/dataservices</a> .
public static final String	<i>XMLNS_EDM_URI</i> on page 387	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/05/edm">http://schemas.microsoft.com/ado/2007/05/edm</a> .
public static final String	<i>XMLNS_EDMX_URI</i> on page 387	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/06/edmx">http://schemas.microsoft.com/ado/2007/06/edmx</a> .
public static final String	<i>XMLNS_GENERICPLAYER_URI</i> on page 388	Constant for XMLNS URI: <a href="http://www.sap.com/Protocols/SAPData/GenericPlayer">http://www.sap.com/Protocols/SAPData/GenericPlayer</a> .

Modifier and Type	Member	Description
public static final String	<i>XMLNS_METADATA_URI</i> on page 388	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/08/dataservices/metadata">http://schemas.microsoft.com/ado/2007/08/dataservices/metadata</a> .
public static final String	<i>XMLNS_SAP_URI</i> on page 388	Constant for XMLNS URI: <a href="http://www.sap.com/Protocols/SAPData">http://www.sap.com/Protocols/SAPData</a> .

**Inherited members from IPersistable**

Modifier and Type	Member	Description
public void	<i>read(BufferedReader)</i> on page 389	
public void	<i>write(BufferedWriter)</i> on page 389	

**Inherited members from IODataOpenSearchDescription**

Modifier and Type	Member	Description
public static final String	<i>ELEMENT_DESCRIPTION</i> on page 275	Name of the appropriate OData element.
public static final String	<i>ELEMENT_OPENSEARCH-DESCRIPTION</i> on page 275	Name of the appropriate OData element.
public static final String	<i>ELEMENT_SHORTNAME</i> on page 276	Name of the appropriate OData element.
public static final String	<i>ELEMENT_URL</i> on page 276	Name of the appropriate OData element.

**Inherited members from IParserDocument**

Modifier and Type	Member	Description
public static final String	<i>ATTRIBUTE_ETAG</i> on page 386	Name of the appropriate OData element.
public static final String	<i>ATTRIBUTE_VALUEPREFIX_EDMTYPE</i> on page 386	Value prefix for EDM Type type values.
public abstract IParserDocument	<i>clone()</i> on page 374	Creates a copy of this object.

Modifier and Type	Member	Description
public static Map< String, String >	<i>DEFAULT_PREFIXMAP-PING</i> on page 386	The default XML Namespace-to-Prefix mapping used for building XMLS.
public static final String[]	<i>EDMDATETIME_PATTERNS</i> on page 386	Possible EDM DateTime patterns Note: Some pattern are not supported by OData specification but still widely used.
public static final String[]	<i>EDMDATETIMEOFFSET_PATTERNS</i> on page 386	Possible EDM TimeOffset patterns Note: Some pattern are not supported by OData specification but still widely used.
public static final String	<i>EDMTIME_PATTERN</i> on page 386	EDM Time pattern.
public static String	<i>ELEMENT_FEED</i> on page 386	Name of the appropriate OData element.
public static final String	<i>ELEMENT_ID</i> on page 387	Name of the appropriate OData element.
public abstract String	<i>getAttribute(String...)</i> on page 374	Returns the value of the first attribute with the given route.
public abstract List< String >	<i>getAttributes(String...)</i> on page 374	Returns all the values of attributes with the given route.
public abstract Map< String, String >	<i>getChildAttribute-Map(String...)</i> on page 375	Returns all the name-value pairs of attributes contained by the element with the given route.
public abstract List< String >	<i>getChildAttributes(String...)</i> on page 375	Returns all the values of attributes contained by the element with the given route.
public abstract List< IParseDocument >	<i>getChildDocuments(String...)</i> on page 375	Returns the elements contained by the element with the given route.
public abstract List< IParseDocument >	<i>getChildDocumentsWithAttribute(String, String, String...)</i> on page 376	Returns the elements contained by the element with the given route and having the given attribute with the given value.

Modifier and Type	Member	Description
public abstract List<IParserDocument >	<i>getChildDocumentsWithAttribute(String, String, boolean, String...)</i> on page 376	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public abstract IParserDocument	<i>getDocument(String...)</i> on page 377	Returns the first element with the given route.
public abstract List<IParserDocument >	<i>getDocuments(String...)</i> on page 377	Returns all the elements with the given route.
public abstract List<IParserDocument >	<i>getDocumentsWithAttribute(String, String, String...)</i> on page 378	Returns the elements with the given route that contains the given attribute with the given value.
public abstract List<IParserDocument >	<i>getDocumentsWithAttribute(String, String, boolean, String...)</i> on page 378	Returns the elements with the given route that contains the given attribute with the given value.
public abstract IParserDocument	<i>getDocumentWithAttribute(String, String, String...)</i> on page 379	Returns the first element with the given route that contains the given attribute with the given value.
public abstract IParserDocument	<i>getDocumentWithAttribute(String, String, boolean, String...)</i> on page 379	Returns the first element with the given route that contains the given attribute with the given value.
public abstract String	<i>getElementName()</i> on page 380	Returns The name of the root element of this document.
public abstract String	<i>getFunctionImportComplexProperty Value(String...)</i> on page 380	
public abstract String	<i>getPrefixForUri(String)</i> on page 380	Returns the appropriate namespace prefix for the given XML name-space URI.
public abstract String[]	<i>getStrings()</i> on page 381	Returns all the string values contained by this document.

Modifier and Type	Member	Description
public abstract String	<i>getValue(String...)</i> on page 381	Returns the value of the first element with the given route.
public abstract List< String >	<i>getValues(String...)</i> on page 381	Returns all the values of elements with the given route.
public abstract void	<i>putAttribute(String, String...)</i> on page 382	Sets the value of the attribute with the given route If attribute does not exist it will be created as well as all other non existing elements in the route.
public abstract void	<i>putDocument(IParserDocument, String...)</i> on page 382	Insert the document under the element with the given route inserted document will be placed before already existing documents with the same route name under All missing elements from the route will be created.
public abstract void	<i>putValue(String, String...)</i> on page 382	Sets the value of the first element with the given route.
public abstract boolean	<i>removeAttribute(String...)</i> on page 383	Removes first element with the given route.
public abstract boolean	<i>removeAttributes(String...)</i> on page 383	Removes all the attribute with the given route.
public abstract boolean	<i>removeDocument(String...)</i> on page 383	Removes first element with the given route For removing multiple element use setDocuemtns with null arguments.
public static final String	<i>ROOT_DOCUMENT_NAME</i> on page 387	The default root element name for a new document.
public abstract void	<i>setAttributes(List&lt; String &gt;, String...)</i> on page 384	Sets all the values of the attributes with the given route Values will be paired to attributes in order Attributes with greater or equals index than size of new values will be untouched Attributes paired with null values will be removed.

Modifier and Type	Member	Description
public abstract void	<i>setDocuments(List&lt; IParser-Document &gt;, String...)</i> on page 384	Replaces all the elements with the given route Documents will be paired to elements in order Elements with greater or equals index than size of new elements will be untouched Element paired with null will be removed.
public abstract void	<i>setElementName(String, String...)</i> on page 385	Sets the name of the root element with the given route Use empty route for setting root name of this document.
public abstract void	<i>setValues(List&lt; String &gt;, String...)</i> on page 385	Sets all the values of the elements with the given route Values will be paired to elements in order Elements with greater or equals index than size of new values will be untouched Null values will be treated as empty strings.
public abstract String	<i>toXMLString()</i> on page 385	Returns the XML string representation of this object.
public static final String	<i>XMLNS_APPLICATION_URI</i> on page 387	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/08/dataservices">http://schemas.microsoft.com/ado/2007/08/dataservices</a> .
public static final String	<i>XMLNS_ATOM_URI</i> on page 387	Constant for XMLNS URI: <a href="http://www.w3.org/2005/Atom">http://www.w3.org/2005/Atom</a> .
public static final String	<i>XMLNS_DATASERVICES_URI</i> on page 387	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/08/dataservices">http://schemas.microsoft.com/ado/2007/08/dataservices</a> .
public static final String	<i>XMLNS_EDM_URI</i> on page 387	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/05/edm">http://schemas.microsoft.com/ado/2007/05/edm</a> .
public static final String	<i>XMLNS_EDMX_URI</i> on page 387	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/06/edmx">http://schemas.microsoft.com/ado/2007/06/edmx</a> .



Modifier and Type	Member	Description
public static final String	<i>XMLNS_GENERICPLAYER_URI</i> on page 388	Constant for XMLNS URI: <a href="http://www.sap.com/Protocols/SAPData/GenericPlayer">http://www.sap.com/Protocols/SAPData/GenericPlayer</a> .
public static final String	<i>XMLNS_METADATA_URI</i> on page 388	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/08/dataservices/metadata">http://schemas.microsoft.com/ado/2007/08/dataservices/metadata</a> .
public static final String	<i>XMLNS_SAP_URI</i> on page 388	Constant for XMLNS URI: <a href="http://www.sap.com/Protocols/SAPData">http://www.sap.com/Protocols/SAPData</a> .

#### Inherited members from IPersistable

Modifier and Type	Member	Description
public void	<i>read(BufferedReader)</i> on page 389	
public void	<i>write(BufferedWriter)</i> on page 389	

#### *ODataOpenSearchDescription()* constructor

##### Syntax

```
public ODataOpenSearchDescription ()
```

#### *ODataOpenSearchDescription(ParserDocument)* constructor

##### Syntax

```
public ODataOpenSearchDescription ( ParserDocument document )
```

#### *ODataOpenSearchDescription(int[], String[])* constructor

##### Syntax

```
protected ODataOpenSearchDescription ( int[] routes , String[] values )
```

#### *getDescription()* method

Returns The value of the appropriate OData element.

##### Syntax

```
public String getDescription ()
```

### *Returns*

The value of the appropriate OData element

### *getShortName() method*

Returns The value of the appropriate OData element.

### *Syntax*

```
public String getShortName ()
```

### *Returns*

The value of the appropriate OData element

### *getUrls() method*

Returns The list of the appropriate OData element.

### *Syntax*

```
public List< IODataURL > getUrls ()
```

### *Returns*

The list of the appropriate OData element

### *read(BufferedReader) method*

### *Syntax*

```
public void read (BufferedReader reader) throws  
PersistenceException
```

### *Parameters*

- **reader** – The buffered reader to read the object from.

### *Exceptions*

- **PersistenceException** – if data can not be loaded from the reader.

### *setBaseUrl(String) method*

### *Syntax*

```
protected void setBaseUrl (String baseUrl)
```

### *write(BufferedWriter) method*

### *Syntax*

```
public void write (BufferedWriter writer) throws  
PersistenceException
```

### Parameters

- **writer** – The buffered writer that object data needs to be written into.

### Exceptions

- **PersistenceException** – if data can not be written into the writer

### baseUrl variable

### Syntax

```
protected String baseUrl
```

### ODataParameter class

### Syntax

```
public class ODataParameter extends ParserDocument,
IODataParameter
```

### Members

All members of ODataParameter, including inherited members. **Constructors**

Modifier and Type	Constructor	Description
public	<i>ODataParameter()</i> on page 725	
public	<i>ODataParameter(ParserDocument)</i> on page 725	
protected	<i>ODataParameter(int[], String[])</i> on page 726	

### Methods

Modifier and Type	Method	Description
public String	<i>getMode()</i> on page 726	Returns The value of the appropriate OData attribute.
public String	<i>getName()</i> on page 726	Returns The value of the appropriate OData attribute.
public String	<i>getType()</i> on page 726	Returns The value of the appropriate OData attribute.

### Inherited members from ParserDocument

Modifier and Type	Member	Description
static transient final String	<i>ANY_STRING</i> on page 963	
static transient final int	<i>ATTRIBUTE_ID</i> on page 963	
static transient final String	<i>ATTRIBUTE_STRING</i> on page 963	
public ParserDocument	<i>clone()</i> on page 945	Creates a copy of this object.
protected Map< String, String >	<i>extensions</i> on page 963	
public String	<i>getAttribute(String...)</i> on page 945	Returns the value of the first attribute with the given route.
public List< String >	<i>getAttributes(String...)</i> on page 946	Returns all the values of attributes with the given route.
protected int	<i>getAttributesEndPosition(int[], int, int)</i> on page 946	
public Map< String, String >	<i>getChildAttributeMap(String...)</i> on page 946	Returns all the name-value pairs of attributes contained by the element with the given route.
public List< String >	<i>getChildAttributes(String...)</i> on page 947	Returns all the values of attributes contained by the element with the given route.
public List< IParserDocument >	<i>getChildDocuments(String...)</i> on page 947	Returns the elements contained by the element with the given route.
public List< IParserDocument >	<i>getChildDocumentsWithAttribute(String, String, String...)</i> on page 947	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public List< IParserDocument >	<i>getChildDocumentsWithAttribute(String, String, boolean, String...)</i> on page 948	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public ParserDocument	<i>getDocument(String...)</i> on page 948	Returns the first element with the given route.

Modifier and Type	Member	Description
protected List< int[]>	<i>getDocumentPositions(String[], int, boolean, boolean)</i> on page 949	
public List< IParserDocument >	<i>getDocuments(String...)</i> on page 949	Returns all the elements with the given route.
public List< IParserDocument >	<i>getDocumentsWithAttribute(String, String, String...)</i> on page 949	Returns the elements with the given route that contains the given attribute with the given value.
public List< IParserDocument >	<i>getDocumentsWithAttribute(String, String, boolean, String...)</i> on page 950	Returns the elements with the given route that contains the given attribute with the given value.
public IParserDocument	<i>getDocumentWithAttribute(String, String, String...)</i> on page 950	Returns the first element with the given route that contains the given attribute with the given value.
public IParserDocument	<i>getDocumentWithAttribute(String, String, boolean, String...)</i> on page 951	Returns the first element with the given route that contains the given attribute with the given value.
public String	<i>getElementName()</i> on page 951	Returns The name of the root element of this document.
public String	<i>getExtension(String)</i> on page 952	
public String	<i>getFunctionImportComplexProperty Value(String...)</i> on page 952	
static int	<i>getNameId(String, boolean, boolean)</i> on page 952	
public static List< String >	<i>getNameMap()</i> on page 952	
public static String	<i>getPrefix(String)</i> on page 952	

Modifier and Type	Member	Description
public String	<i>getPrefixForUri(String)</i> on page 952	Returns the appropriate name-space prefix for the given XML name-space URI.
public static Map< String, String >	<i>getPrefixMapping()</i> on page 953	
protected List< Integer >	<i>getStringPositions(String[], int, boolean, boolean)</i> on page 953	
public String[]	<i>getStrings()</i> on page 953	Returns all the string values contained by this document.
public String	<i>getValue(String...)</i> on page 953	Returns the value of the first element with the given route.
public List< String >	<i>getValues(String...)</i> on page 953	Returns all the values of elements with the given route.
protected int[]	<i>insertRoutePositions(int[], int, int[])</i> on page 954	
protected void	<i>insertRoutesPositions(int, int[])</i> on page 954	
protected void	<i>insertStringsPositions(int, String[])</i> on page 954	
protected String[]	<i>insertStringsPositions(String[], int, String[])</i> on page 954	
boolean	<i>isComplexEntity</i> on page 963	
boolean	<i>isJson</i> on page 963	
protected boolean	<i>isMatched(String, String)</i> on page 954	
static List< String >	<i>nameMap</i> on page 963	
	<i>ParserDocument()</i> on page 945	
	<i>ParserDocument(boolean)</i> on page 945	

Modifier and Type	Member	Description
public	<i>ParserDocument(String)</i> on page 944	
public	<i>ParserDocument(ParserDocument)</i> on page 944	
protected	<i>ParserDocument(int[], String[])</i> on page 945	
protected	<i>ParserDocument(String, boolean)</i> on page 945	
static Map< String, String >	<i>prefixMapping</i> on page 964	
public void	<i>putAttribute(String, String...)</i> on page 955	Sets the value of the attribute with the given route. If attribute does not exist it will be created as well as all other non existing elements in the route.
public void	<i>putDocument(IParserDocument, String...)</i> on page 955	Insert the document under the element with the given route. Inserted document will be placed before already existing documents with the same route name under. All missing elements from the route will be created.
public void	<i>putExtension(String, String)</i> on page 955	
protected void	<i>putString(int, String, int, String...)</i> on page 956	
public void	<i>putValue(String, String...)</i> on page 956	Sets the value of the first element with the given route.
public void	<i>read(BufferedReader)</i> on page 956	
public void	<i>readExternal(ObjectInput)</i> on page 956	
public static void	<i>readNameMap(BufferedReader)</i> on page 957	

Modifier and Type	Member	Description
public boolean	<i>removeAttribute(String...)</i> on page 957	Removes first element with the given route.
public boolean	<i>removeAttributes(String...)</i> on page 957	Removes all the attribute with the given route.
public boolean	<i>removeDocument(String...)</i> on page 957	Removes first element with the given route For removing multiple element use setDocuemtns with null arguments.
public void	<i>removeExtension(String)</i> on page 958	
protected void	<i>removeRoutesPositions(int, int)</i> on page 958	
protected int[]	<i>removeRoutesPositions(int[], int, int)</i> on page 958	
protected boolean	<i>removeString(String...)</i> on page 958	
protected boolean	<i>removeStrings(String...)</i> on page 958	
protected void	<i>removeStringsPositions(int, int)</i> on page 958	
protected String[]	<i>removeStringsPositions(String[], int, int)</i> on page 958	
protected int	<i>replaceRoutesPositions(int, int, int[])</i> on page 959	
protected int[]	<i>replaceRoutesPositions(int[], int, int, int[])</i> on page 959	
protected int	<i>replaceStringsPositions(int, int, String[])</i> on page 959	
protected String[]	<i>replaceStringsPositions(String[], int, int, String[])</i> on page 959	
public static String	<i>resolveUrl(String, String)</i> on page 959	



Modifier and Type	Member	Description
protected int[]	<i>routes</i> on page 964	
public void	<i>setAttribute(String, String...)</i> on page 959	
public void	<i>setAttributes(List&lt;String&gt;, String...)</i> on page 960	Sets all the values of the attributes with the given route Values will be paired to attributes in order Attributes with greater or equals index than size of new values will be untouched Attributes paired with null values will be removed.
public boolean	<i>setDocument(IParserDocument, String...)</i> on page 960	
public void	<i>setDocuments(List&lt;IParserDocument&gt;, String...)</i> on page 960	Replaces all the elements with the given route Documents will be paired to elements in order Elements with greater or equals index than size of new elements will be untouched Element paired with null will be removed.
public void	<i>setElementName(String, String...)</i> on page 961	Sets the name of the root element with the given route Use empty route for setting root name of this document.
public static void	<i>setNameMap(List&lt;String&gt;)</i> on page 961	
public static void	<i>setPrefixMapping(Map&lt;String, String&gt;)</i> on page 961	
protected void	<i>setString(String, String...)</i> on page 961	
protected void	<i>setStrings(List&lt;String&gt;, String...)</i> on page 961	
public void	<i>setValue(String, String...)</i> on page 961	

Modifier and Type	Member	Description
public void	<i>setValues(List&lt;String&gt;, String...)</i> on page 962	Sets all the values of the elements with the given route values will be paired to elements in order. Elements with greater or equals index than size of new values will be untouched. Null values will be treated as empty strings.
protected String[]	<i>strings</i> on page 964	
public String	<i>toXMLString()</i> on page 962	Returns the XML string representation of this object.
protected static final String	<i>URL_PROTOCOL_PREFIX</i> on page 964	
static transient final int	<i>VALUE_ID</i> on page 964	
static transient final String	<i>VALUE_STRING</i> on page 964	
public void	<i>write(BufferedWriter)</i> on page 962	
public void	<i>writeExternal(ObjectOutput)</i> on page 962	
public static void	<i>writeNameMap(BufferedWriter)</i> on page 963	

#### Inherited members from `IParserDocument`

Modifier and Type	Member	Description
public static final String	<i>ATTRIBUTE_ETAG</i> on page 386	Name of the appropriate OData element.
public static final String	<i>ATTRIBUTE_VALUEPREFIX_EDMTYPE</i> on page 386	Value prefix for EDM Type type values.
public static Map<String, String>	<i>DEFAULT_PREFIX_MAPPING</i> on page 386	The default XML Namespace-to-Prefix mapping used for building XMLS.

Modifier and Type	Member	Description
public static final String[]	<i>EDMDATETIME_PATTERNS</i> on page 386	Possible EDM DateTime patterns Note: Some pattern are not supported by OData specification but still widely used.
public static final String[]	<i>EDMDATETIMEOFFSET_PATTERNS</i> on page 386	Possible EDM TimeOffset patterns Note: Some pattern are not supported by OData specification but still widely used.
public static final String	<i>EDMTIME_PATTERN</i> on page 386	EDM Time pattern.
public static String	<i>ELEMENT_FEED</i> on page 386	Name of the appropriate OData element.
public static final String	<i>ELEMENT_ID</i> on page 387	Name of the appropriate OData element.
public static final String	<i>ROOT_DOCUMENT_NAME</i> on page 387	The default root element name for a new document.
public static final String	<i>XMLNS_APPLICATION_URI</i> on page 387	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/08/dataservices">http://schemas.microsoft.com/ado/2007/08/dataservices</a> .
public static final String	<i>XMLNS_ATOM_URI</i> on page 387	Constant for XMLNS URI: <a href="http://www.w3.org/2005/Atom">http://www.w3.org/2005/Atom</a> .
public static final String	<i>XMLNS_DATASERVICES_URI</i> on page 387	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/08/dataservices">http://schemas.microsoft.com/ado/2007/08/dataservices</a> .
public static final String	<i>XMLNS_EDM_URI</i> on page 387	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/05/edm">http://schemas.microsoft.com/ado/2007/05/edm</a> .
public static final String	<i>XMLNS_EDMX_URI</i> on page 387	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/06/edmx">http://schemas.microsoft.com/ado/2007/06/edmx</a> .
public static final String	<i>XMLNS_GENERICPLAYER_URI</i> on page 388	Constant for XMLNS URI: <a href="http://www.sap.com/Protocols/SAPData/GenericPlayer">http://www.sap.com/Protocols/SAPData/GenericPlayer</a> .

Modifier and Type	Member	Description
public static final String	<i>XMLNS_METADATA_URI</i> on page 388	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/08/dataservices/metadata">http://schemas.microsoft.com/ado/2007/08/dataservices/metadata</a> .
public static final String	<i>XMLNS_SAP_URI</i> on page 388	Constant for XMLNS URI: <a href="http://www.sap.com/Protocols/SAPData">http://www.sap.com/Protocols/SAPData</a> .

**Inherited members from IPersistable**

Modifier and Type	Member	Description
public void	<i>read(BufferedReader)</i> on page 389	
public void	<i>write(BufferedWriter)</i> on page 389	

**Inherited members from IODataParameter**

Modifier and Type	Member	Description
public static final String	<i>ATTRIBUTE_MODE</i> on page 282	Name of the appropriate OData attribute.
public static final String	<i>ATTRIBUTE_NAME</i> on page 282	Name of the appropriate OData attribute.
public static final String	<i>ATTRIBUTE_TYPE</i> on page 283	Name of the appropriate OData attribute.
public static final String	<i>ELEMENT_PARAMETER</i> on page 283	Name of the appropriate OData element.
public static final String	<i>VALUE_MODE_IN</i> on page 283	Value option for the 'Mode' OData attribute.
public static final String	<i>VALUE_MODE_OUT</i> on page 283	Value option for the 'Mode' OData attribute.

**Inherited members from IParserDocument**

Modifier and Type	Member	Description
public static final String	<i>ATTRIBUTE_ETAG</i> on page 386	Name of the appropriate OData element.

Modifier and Type	Member	Description
public static final String	<i>ATTRIBUTE_VALUEPREFIX_EDMTYPE</i> on page 386	Value prefix for EDM Type type values.
public abstract IParserDocument	<i>clone()</i> on page 374	Creates a copy of this object.
public static Map< String, String >	<i>DEFAULT_PREFIXMAPPING</i> on page 386	The default XML Namespace-to-Prefix mapping used for building XMLS.
public static final String[]	<i>EDMDATETIME_PATTERNS</i> on page 386	Possible EDM DateTime patterns Note: Some pattern are not supported by OData specification but still widely used.
public static final String[]	<i>EDMDATETIMEOFFSET_PATTERNS</i> on page 386	Possible EDM TimeOffset patterns Note: Some pattern are not supported by OData specification but still widely used.
public static final String	<i>EDMTIME_PATTERN</i> on page 386	EDM Time pattern.
public static String	<i>ELEMENT_FEED</i> on page 386	Name of the appropriate OData element.
public static final String	<i>ELEMENT_ID</i> on page 387	Name of the appropriate OData element.
public abstract String	<i>getAttribute(String...)</i> on page 374	Returns the value of the first attribute with the given route.
public abstract List< String >	<i>getAttributes(String...)</i> on page 374	Returns all the values of attributes with the given route.
public abstract Map< String, String >	<i>getChildAttributeMap(String...)</i> on page 375	Returns all the name-value pairs of attributes contained by the element with the given route.
public abstract List< String >	<i>getChildAttributes(String...)</i> on page 375	Returns all the values of attributes contained by the element with the given route.
public abstract List< IParserDocument >	<i>getChildDocuments(String...)</i> on page 375	Returns the elements contained by the element with the given route.

Modifier and Type	Member	Description
public abstract List<IParserDocument >	<i>getChildDocumentsWithAttribute(String, String, String...)</i> on page 376	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public abstract List<IParserDocument >	<i>getChildDocumentsWithAttribute(String, String, boolean, String...)</i> on page 376	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public abstract IParserDocument	<i>getDocument(String...)</i> on page 377	Returns the first element with the given route.
public abstract List<IParserDocument >	<i>getDocuments(String...)</i> on page 377	Returns all the elements with the given route.
public abstract List<IParserDocument >	<i>getDocumentsWithAttribute(String, String, String...)</i> on page 378	Returns the elements with the given route that contains the given attribute with the given value.
public abstract List<IParserDocument >	<i>getDocumentsWithAttribute(String, String, boolean, String...)</i> on page 378	Returns the elements with the given route that contains the given attribute with the given value.
public abstract IParserDocument	<i>getDocumentWithAttribute(String, String, String...)</i> on page 379	Returns the first element with the given route that contains the given attribute with the given value.
public abstract IParserDocument	<i>getDocumentWithAttribute(String, String, boolean, String...)</i> on page 379	Returns the first element with the given route that contains the given attribute with the given value.
public abstract String	<i>getElementName()</i> on page 380	Returns The name of the root element of this document.
public abstract String	<i>getFunctionImportComplexPropertyValue(String...)</i> on page 380	
public abstract String	<i>getPrefixForUri(String)</i> on page 380	Returns the appropriate namespace prefix for the given XML name-space URI.

Modifier and Type	Member	Description
public abstract String[]	<i>getStrings()</i> on page 381	Returns all the string values contained by this document.
public abstract String	<i>getValue(String...)</i> on page 381	Returns the value of the first element with the given route.
public abstract List< String >	<i>getValues(String...)</i> on page 381	Returns all the values of elements with the given route.
public abstract void	<i>putAttribute(String, String...)</i> on page 382	Sets the value of the attribute with the given route If attribute does not exist it will be created as well as all other non existing elements in the route.
public abstract void	<i>putDocument(IParserDocument, String...)</i> on page 382	Insert the document under the element with the given route inserted document will be placed before already existing documents with the same route name under All missing elements from the route will be created.
public abstract void	<i>putValue(String, String...)</i> on page 382	Sets the value of the first element with the given route.
public abstract boolean	<i>removeAttribute(String...)</i> on page 383	Removes first element with the given route.
public abstract boolean	<i>removeAttributes(String...)</i> on page 383	Removes all the attribute with the given route.
public abstract boolean	<i>removeDocument(String...)</i> on page 383	Removes first element with the given route For removing multiple element use setDocuemtns with null arguments.
public static final String	<i>ROOT_DOCUMENT_NAME</i> on page 387	The default root element name for a new document.

Modifier and Type	Member	Description
public abstract void	<i>setAttributes(List&lt; String &gt;, String...)</i> on page 384	Sets all the values of the attributes with the given route Values will be paired to attributes in order Attributes with greater or equals index than size of new values will be untouched Attributes paired with null values will be removed.
public abstract void	<i>setDocuments(List&lt; IParser-Document &gt;, String...)</i> on page 384	Replaces all the elements with the given route Documents will be paired to elements in order Elements with greater or equals index than size of new elements will be untouched Element paired with null will be removed.
public abstract void	<i>setElementName(String, String...)</i> on page 385	Sets the name of the root element with the given route Use empty route for setting root name of this document.
public abstract void	<i>setValues(List&lt; String &gt;, String...)</i> on page 385	Sets all the values of the elements with the given rout Values will be paired to elements in order Elements with greater or equals index than size of new values will be untouched Null values will be treated as empty strings.
public abstract String	<i>toXMLString()</i> on page 385	Returns the XML string representation of this object.
public static final String	<i>XMLNS_APPLICATION_URI</i> on page 387	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/08/dataservices">http://schemas.microsoft.com/ado/2007/08/dataservices</a> .
public static final String	<i>XMLNS_ATOM_URI</i> on page 387	Constant for XMLNS URI: <a href="http://www.w3.org/2005/Atom">http://www.w3.org/2005/Atom</a> .



Modifier and Type	Member	Description
public static final String	<i>XMLNS_DATASERVICES_URI</i> on page 387	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/08/dataservices">http://schemas.microsoft.com/ado/2007/08/dataservices</a> .
public static final String	<i>XMLNS_EDM_URI</i> on page 387	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/05/edm">http://schemas.microsoft.com/ado/2007/05/edm</a> .
public static final String	<i>XMLNS_EDMX_URI</i> on page 387	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/06/edmx">http://schemas.microsoft.com/ado/2007/06/edmx</a> .
public static final String	<i>XMLNS_GENERICPLAYER_URI</i> on page 388	Constant for XMLNS URI: <a href="http://www.sap.com/Protocols/SAPData/GenericPlayer">http://www.sap.com/Protocols/SAPData/GenericPlayer</a> .
public static final String	<i>XMLNS_METADATA_URI</i> on page 388	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/08/dataservices/metadata">http://schemas.microsoft.com/ado/2007/08/dataservices/metadata</a> .
public static final String	<i>XMLNS_SAP_URI</i> on page 388	Constant for XMLNS URI: <a href="http://www.sap.com/Protocols/SAPData">http://www.sap.com/Protocols/SAPData</a> .

#### Inherited members from IPersistable

Modifier and Type	Member	Description
public void	<i>read(BufferedReader)</i> on page 389	
public void	<i>write(BufferedWriter)</i> on page 389	

#### *ODataParameter()* constructor

##### Syntax

```
public ODataParameter ()
```

#### *ODataParameter(ParserDocument)* constructor

##### Syntax

```
public ODataParameter ( ParserDocument document )
```

### *ODataParameter(int[], String[]) constructor*

#### *Syntax*

```
protected ODataParameter ( int[] routes , String[] values )
```

#### *getMode() method*

Returns The value of the appropriate OData attribute.

#### *Syntax*

```
public String getMode ()
```

#### *Returns*

The value of the appropriate OData attribute

#### *getName() method*

Returns The value of the appropriate OData attribute.

#### *Syntax*

```
public String getName ()
```

#### *Returns*

The value of the appropriate OData attribute

#### *getType() method*

Returns The value of the appropriate OData attribute.

#### *Syntax*

```
public String getType ()
```

#### *Returns*

The value of the appropriate OData attribute

### *ODataProperty class*

#### *Syntax*

```
public class ODataProperty extends ParserDocument,  
IODataProperty
```

#### *Members*

All members of ODataProperty, including inherited members. **Nested classes**

Modifier and Type	Class	Description
public class	<i>DetailDisplayOrderComparator</i> on page 744	
public class	<i>ListDisplayOrderComparator</i> on page 744	

### Constructors

Modifier and Type	Constructor	Description
public	<i>ODataProperty()</i> on page 745	
public	<i>ODataProperty(ParserDocument)</i> on page 745	
protected	<i>ODataProperty(int[], String[])</i> on page 745	

### Methods

Modifier and Type	Method	Description
public List< IODataProperty >	<i>getChildPropertiesData()</i> on page 745	Returns all the child properties added to this document with putChildProperty method.
public List< IODataProperty >	<i>getChildPropertiesDataWithAttribute(String, String)</i> on page 745	Returns list of appropriate contained Property OData elements with the given attribute value.
public List< IODataProperty >	<i>getChildPropertiesDataWithAttribute(String, String, boolean)</i> on page 746	Returns list of appropriate contained Property OData elements with the given attribute value.
public IODataProperty	<i>getChildPropertyData(String)</i> on page 746	Return a single child property added with putChildProperty method.
public String	<i>getCollation()</i> on page 746	Returns the value of the appropriate OData attribute.
public String	<i>getDefault Value()</i> on page 747	Returns the value of the appropriate OData attribute.

Modifier and Type	Method	Description
public int	<i>getDetailDisplayOrder()</i> on page 747	In current version it return the same value as <i>getListDisplayOrder</i> .
public String	<i>getLabel()</i> on page 747	Returns The value of the appropriate OData attribute.
public int	<i>getListDisplayOrder()</i> on page 747	In current version it returns the same value as <i>getDetailDisplayOrder</i> .
public int	<i>getMaxLength()</i> on page 748	Returns the value of the appropriate OData attribute with defaultValue = 0;.
public String	<i>getName()</i> on page 748	Returns The value of the appropriate OData attribute.
public String	<i>getPrecision()</i> on page 748	Returns the value of the appropriate OData attribute.
public String	<i>getScale()</i> on page 748	Returns the value of the appropriate OData attribute.
public String	<i>getSemantics()</i> on page 748	Returns the value of the appropriate OData attribute with defaultValue = 0;.
public String	<i>getType()</i> on page 749	Returns The value of the appropriate OData attribute.
public String	<i>getValue()</i> on page 749	Returns the value of the property if there is a single property instance that is represented by this object and value is set with <i>setValue</i> method.
public boolean	<i>hasFixedLength()</i> on page 749	Returns The value of the appropriate OData attribute.
public boolean	<i>isComplex()</i> on page 749	Returns if the property has complex type and has child properties.
public boolean	<i>isCreatable()</i> on page 750	Returns The value of the appropriate OData attribute.

Modifier and Type	Method	Description
public boolean	<i>isDeletable()</i> on page 750	Returns The value of the appropriate OData attribute.
public boolean	<i>isFilterable()</i> on page 750	Returns The value of the appropriate OData attribute.
public boolean	<i>isNullable()</i> on page 750	Returns The value of the appropriate OData attribute.
public boolean	<i>isSearchable()</i> on page 751	Returns The value of the appropriate OData attribute.
public boolean	<i>isUnicode()</i> on page 751	Returns the value of the appropriate OData attribute.
public boolean	<i>isUpdatable()</i> on page 751	Returns The value of the appropriate OData attribute.
public void	<i>putChildPropertyData(IODataProperty)</i> on page 751	Put new child property to this property document.
public void	<i>setValue(String)</i> on page 751	Sets the value of the property, represented by this object.

#### Inherited members from ParserDocument

Modifier and Type	Member	Description
static transient final String	<i>ANY_STRING</i> on page 963	
static transient final int	<i>ATTRIBUTE_ID</i> on page 963	
static transient final String	<i>ATTRIBUTE_STRING</i> on page 963	
public ParserDocument	<i>clone()</i> on page 945	Creates a copy of this object.
protected Map< String, String >	<i>extensions</i> on page 963	
public String	<i>getAttribute(String...)</i> on page 945	Returns the value of the first attribute with the given route.
public List< String >	<i>getAttributes(String...)</i> on page 946	Returns all the values of attributes with the given route.
protected int	<i>getAttributesEndPosition(int[], int, int)</i> on page 946	

Modifier and Type	Member	Description
public Map< String, String >	<i>getChildAttribute-Map(String...)</i> on page 946	Returns all the name-value pairs of attributes contained by the element with the given route.
public List< String >	<i>getChildAttributes(String...)</i> on page 947	Returns all the values of attributes contained by the element with the given route.
public List< IParserDocument >	<i>getChildDocuments(String...)</i> on page 947	Returns the elements contained by the element with the given route.
public List< IParserDocument >	<i>getChildDocumentsWithAttribute(String, String, String...)</i> on page 947	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public List< IParserDocument >	<i>getChildDocumentsWithAttribute(String, String, boolean, String...)</i> on page 948	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public ParserDocument	<i>getDocument(String...)</i> on page 948	Returns the first element with the given route.
protected List< int[] >	<i>getDocumentPositions(String[], int, boolean, boolean)</i> on page 949	
public List< IParserDocument >	<i>getDocuments(String...)</i> on page 949	Returns all the elements with the given route.
public List< IParserDocument >	<i>getDocumentsWithAttribute(String, String, String...)</i> on page 949	Returns the elements with the given route that contains the given attribute with the given value.
public List< IParserDocument >	<i>getDocumentsWithAttribute(String, String, boolean, String...)</i> on page 950	Returns the elements with the given route that contains the given attribute with the given value.
public IParserDocument	<i>getDocumentWithAttribute(String, String, String...)</i> on page 950	Returns the first element with the given route that contains the given attribute with the given value.

Modifier and Type	Member	Description
public IParserDocument	<i>getDocumentWithAttribute(String, String, boolean, String...)</i> on page 951	Returns the first element with the given route that contains the given attribute with the given value.
public String	<i>getElementName()</i> on page 951	Returns The name of the root element of this document.
public String	<i>getExtension(String)</i> on page 952	
public String	<i>getFunctionImportComplexProperty Value(String...)</i> on page 952	
static int	<i>getNameId(String, boolean, boolean)</i> on page 952	
public static List< String >	<i>getNameMap()</i> on page 952	
public static String	<i>getPrefix(String)</i> on page 952	
public String	<i>getPrefixForUri(String)</i> on page 952	Returns the appropriate namespace prefix for the given XML name-space URI.
public static Map< String, String >	<i>getPrefixMapping()</i> on page 953	
protected List< Integer >	<i>getStringPositions(String[], int, boolean, boolean)</i> on page 953	
public String[]	<i>getStrings()</i> on page 953	Returns all the string values contained by this document.
public String	<i>getValue(String...)</i> on page 953	Returns the value of the first element with the given route.
public List< String >	<i>getValues(String...)</i> on page 953	Returns all the values of elements with the given route.
protected int[]	<i>insertRoutePositions(int[], int, int[])</i> on page 954	
protected void	<i>insertRoutesPositions(int, int[])</i> on page 954	

Modifier and Type	Member	Description
protected void	<i>insertStringsPositions(int, String[])</i> on page 954	
protected String[]	<i>insertStringsPositions(String[], int, String[])</i> on page 954	
boolean	<i>isComplexEntity</i> on page 963	
boolean	<i>isJson</i> on page 963	
protected boolean	<i>isMatched(String, String)</i> on page 954	
static List< String >	<i>nameMap</i> on page 963	
	<i>ParserDocument()</i> on page 945	
	<i>ParserDocument(boolean)</i> on page 945	
public	<i>ParserDocument(String)</i> on page 944	
public	<i>ParserDocument(ParserDocument)</i> on page 944	
protected	<i>ParserDocument(int[], String[])</i> on page 945	
protected	<i>ParserDocument(String, boolean)</i> on page 945	
static Map< String, String >	<i>prefixMapping</i> on page 964	
public void	<i>putAttribute(String, String...)</i> on page 955	Sets the value of the attribute with the given route If attribute does not exist it will be created as well as all other non existing elements in the route.



Modifier and Type	Member	Description
public void	<i>putDocument(IParserDocument, String...)</i> on page 955	Insert the document under the element with the given route inserted document will be placed before already existing documents with the same route name under All missing elements from the route will be created.
public void	<i>putExtension(String, String)</i> on page 955	
protected void	<i>putString(int, String, int, String...)</i> on page 956	
public void	<i>putValue(String, String...)</i> on page 956	Sets the value of the first element with the given route.
public void	<i>read(BufferedReader)</i> on page 956	
public void	<i>readExternal(ObjectInput)</i> on page 956	
public static void	<i>readNameMap(BufferedReader)</i> on page 957	
public boolean	<i>removeAttribute(String...)</i> on page 957	Removes first element with the given route.
public boolean	<i>removeAttributes(String...)</i> on page 957	Removes all the attribute with the given route.
public boolean	<i>removeDocument(String...)</i> on page 957	Removes first element with the given route For removing multiple element use setDocuemtns with null arguments.
public void	<i>removeExtension(String)</i> on page 958	
protected void	<i>removeRoutesPositions(int, int)</i> on page 958	
protected int[]	<i>removeRoutesPositions(int[], int, int)</i> on page 958	

Modifier and Type	Member	Description
protected boolean	<i>removeString(String...)</i> on page 958	
protected boolean	<i>removeStrings(String...)</i> on page 958	
protected void	<i>removeStringsPositions(int, int)</i> on page 958	
protected String[]	<i>removeStringsPositions(String[], int, int)</i> on page 958	
protected int	<i>replaceRoutesPositions(int, int, int[])</i> on page 959	
protected int[]	<i>replaceRoutesPositions(int[], int, int, int[])</i> on page 959	
protected int	<i>replaceStringsPositions(int, int, String[])</i> on page 959	
protected String[]	<i>replaceStringsPositions(String[], int, int, String[])</i> on page 959	
public static String	<i>resolveUrl(String, String)</i> on page 959	
protected int[]	<i>routes</i> on page 964	
public void	<i>setAttribute(String, String...)</i> on page 959	
public void	<i>setAttributes(List&lt;String&gt;, String...)</i> on page 960	Sets all the values of the attributes with the given route Values will be paired to attributes in order Attributes with greater or equals index than size of new values will be untouched Attributes paired with null values will be removed.
public boolean	<i>setDocument(IParserDocument, String...)</i> on page 960	

Modifier and Type	Member	Description
public void	<i>setDocuments(List&lt; IParser-Document &gt;, String...)</i> on page 960	Replaces all the elements with the given route Documents will be paired to elements in order Elements with greater or equals index than size of new elements will be untouched Element paired with null will be removed.
public void	<i>setElementName(String, String...)</i> on page 961	Sets the name of the root element with the given route Use empty route for setting root name of this document.
public static void	<i>setNameMap(List&lt;String &gt;)</i> on page 961	
public static void	<i>setPrefixMapping(Map&lt;String, String &gt;)</i> on page 961	
protected void	<i>setString(String, String...)</i> on page 961	
protected void	<i>setStrings(List&lt;String &gt;, String...)</i> on page 961	
public void	<i>setValue(String, String...)</i> on page 961	
public void	<i>setValues(List&lt;String &gt;, String...)</i> on page 962	Sets all the values of the elements with the given route Values will be paired to elements in order Elements with greater or equals index than size of new values will be untouched Null values will be treated as empty strings.
protected String[]	<i>strings</i> on page 964	
public String	<i>toXMLString()</i> on page 962	Returns the XML string representation of this object.
protected static final String	<i>URL_PROTOCOL_PREFIX</i> on page 964	

Modifier and Type	Member	Description
static transient final int	<i>VALUE_ID</i> on page 964	
static transient final String	<i>VALUE_STRING</i> on page 964	
public void	<i>write(BufferedWriter)</i> on page 962	
public void	<i>writeExternal(ObjectOutput)</i> on page 962	
public static void	<i>writeNameMap(BufferedWriter)</i> on page 963	

### Inherited members from *IParserDocument*

Modifier and Type	Member	Description
public static final String	<i>ATTRIBUTE_ETAG</i> on page 386	Name of the appropriate OData element.
public static final String	<i>ATTRIBUTE_VALUEPREFIX_EDMTYPE</i> on page 386	Value prefix for EDM Type type values.
public static Map< String, String >	<i>DEFAULT_PREFIXMAPPING</i> on page 386	The default XML Namespace-to-Prefix mapping used for building XMLS.
public static final String[]	<i>EDMDATETIME_PATTERNS</i> on page 386	Possible EDM DateTime patterns Note: Some pattern are not supported by OData specification but still widely used.
public static final String[]	<i>EDMDATETIMEOFFSET_PATTERNS</i> on page 386	Possible EDM DateTimeOffset patterns Note: Some pattern are not supported by OData specification but still widely used.
public static final String	<i>EDMTIME_PATTERN</i> on page 386	EDM Time pattern.
public static String	<i>ELEMENT_FEED</i> on page 386	Name of the appropriate OData element.
public static final String	<i>ELEMENT_ID</i> on page 387	Name of the appropriate OData element.

Modifier and Type	Member	Description
public static final String	<i>ROOT_DOCUMENT_NAME</i> on page 387	The default root element name for a new document.
public static final String	<i>XMLNS_APPLICATION_URI</i> on page 387	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/08/dataservices">http://schemas.microsoft.com/ado/2007/08/dataservices</a> .
public static final String	<i>XMLNS_ATOM_URI</i> on page 387	Constant for XMLNS URI: <a href="http://www.w3.org/2005/Atom">http://www.w3.org/2005/Atom</a> .
public static final String	<i>XMLNS_DATASERVICES_URI</i> on page 387	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/08/dataservices">http://schemas.microsoft.com/ado/2007/08/dataservices</a> .
public static final String	<i>XMLNS_EDM_URI</i> on page 387	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/05/edm">http://schemas.microsoft.com/ado/2007/05/edm</a> .
public static final String	<i>XMLNS_EDMX_URI</i> on page 387	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/06/edmx">http://schemas.microsoft.com/ado/2007/06/edmx</a> .
public static final String	<i>XMLNS_GENERICPLAYER_URI</i> on page 388	Constant for XMLNS URI: <a href="http://www.sap.com/Protocols/SAPData/GenericPlayer">http://www.sap.com/Protocols/SAPData/GenericPlayer</a> .
public static final String	<i>XMLNS_METADATA_URI</i> on page 388	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/08/dataservices/metadata">http://schemas.microsoft.com/ado/2007/08/dataservices/metadata</a> .
public static final String	<i>XMLNS_SAP_URI</i> on page 388	Constant for XMLNS URI: <a href="http://www.sap.com/Protocols/SAPData">http://www.sap.com/Protocols/SAPData</a> .

#### Inherited members from IPersistable

Modifier and Type	Member	Description
public void	<i>read(BufferedReader)</i> on page 389	
public void	<i>write(BufferedWriter)</i> on page 389	

#### Inherited members from IODataProperty

<b>Modifier and Type</b>	<b>Member</b>	<b>Description</b>
public static final String	<i>ATTRIBUTE_COLLATION</i> on page 299	Name of the appropriate OData attribute.
public static final String	<i>ATTRIBUTE_CREATABLE</i> on page 299	Name of the appropriate OData attribute.
public static final String	<i>ATTRIBUTE_DEFAULTVALUE</i> on page 299	Name of the appropriate OData attribute.
public static final String	<i>ATTRIBUTE_DELETABLE</i> on page 299	Name of the appropriate OData attribute.
public static final String	<i>ATTRIBUTE_DETAIL_DISPLAYORDER</i> on page 299	Name of the display-order OData attribute.
public static final String	<i>ATTRIBUTE_FILTERABLE</i> on page 299	Name of the appropriate OData attribute.
public static final String	<i>ATTRIBUTE_FIXEDLENGTH</i> on page 299	Name of the appropriate OData attribute.
public static final String	<i>ATTRIBUTE_LABEL</i> on page 300	Name of the appropriate OData attribute.
public static final String	<i>ATTRIBUTE_LIST_DISPLAYORDER</i> on page 300	Name of the display-order OData attribute.
public static final String	<i>ATTRIBUTE_MAXLENGTH</i> on page 300	Name of the appropriate OData attribute.
public static final String	<i>ATTRIBUTE_NAME</i> on page 300	Name of the appropriate OData attribute.
public static final String	<i>ATTRIBUTE_NULLABLE</i> on page 300	Name of the appropriate OData attribute.
public static final String	<i>ATTRIBUTE_PRECISION</i> on page 300	Name of the appropriate OData attribute.
public static final String	<i>ATTRIBUTE_SCALE</i> on page 300	Name of the appropriate OData attribute.
public static final String	<i>ATTRIBUTE_SEARCHABLE</i> on page 301	Name of the appropriate OData attribute.
public static final String	<i>ATTRIBUTE_SEMANTICS</i> on page 301	Name of the appropriate OData attribute.

Modifier and Type	Member	Description
public static final String	<i>ATTRIBUTE_TYPE</i> on page 301	Name of the appropriate OData attribute.
public static final String	<i>ATTRIBUTE_UNICODE</i> on page 301	Name of the appropriate OData attribute.
public static final String	<i>ATTRIBUTE_UPDATABLE</i> on page 301	Name of the appropriate OData attribute.
public static final String	<i>ATTRIBUTE_USEIN-SEARCH</i> on page 301	Name of the appropriate OData attribute.
public static final String	<i>ATTRIBUTE_VISIBLEINDE-TAIL</i> on page 301	Name of the appropriate OData attribute.
public static final String	<i>ATTRIBUTE_VISIBLEIN-LIST</i> on page 302	Name of the appropriate OData attribute.
public static final String	<i>ELEMENT_PROPERTY</i> on page 302	Name of the appropriate OData element.

#### Inherited members from IParserDocument

Modifier and Type	Member	Description
public static final String	<i>ATTRIBUTE_ETAG</i> on page 386	Name of the appropriate OData element.
public static final String	<i>ATTRIBUTE_VALUEPRE-FIX_EDMTYPE</i> on page 386	Value prefix for EDM Type type values.
public abstract IParserDocu-ment	<i>clone()</i> on page 374	Creates a copy of this object.
public static Map< String, String >	<i>DEFAULT_PREFIXMAP-PING</i> on page 386	The default XML Namespace-to-Prefix mapping used for building XMLS.
public static final String[]	<i>EDMDATETIME_PATTERNS</i> on page 386	Possible EDM DateTime patterns Note: Some pattern are not supported by OData specifica-tion but still widely used.
public static final String[]	<i>EDMDATETIMEOFF-SET_PATTERNS</i> on page 386	Possible EDM TimeOffset pat-terns Note: Some pattern are not supported by OData specifica-tion but still widely used.

Modifier and Type	Member	Description
public static final String	<i>EDMTIME_PATTERN</i> on page 386	EDM Time pattern.
public static String	<i>ELEMENT_FEED</i> on page 386	Name of the appropriate OData element.
public static final String	<i>ELEMENT_ID</i> on page 387	Name of the appropriate OData element.
public abstract String	<i>getAttribute(String...)</i> on page 374	Returns the value of the first attribute with the given route.
public abstract List< String >	<i>getAttributes(String...)</i> on page 374	Returns all the values of attributes with the given route.
public abstract Map< String, String >	<i>getChildAttributeMap(String...)</i> on page 375	Returns all the name-value pairs of attributes contained by the element with the given route.
public abstract List< String >	<i>getChildAttributes(String...)</i> on page 375	Returns all the values of attributes contained by the element with the given route.
public abstract List< IParserDocument >	<i>getChildDocuments(String...)</i> on page 375	Returns the elements contained by the element with the given route.
public abstract List< IParserDocument >	<i>getChildDocumentsWithAttribute(String, String, String...)</i> on page 376	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public abstract List< IParserDocument >	<i>getChildDocumentsWithAttribute(String, String, boolean, String...)</i> on page 376	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public abstract IParserDocument	<i>getDocument(String...)</i> on page 377	Returns the first element with the given route.
public abstract List< IParserDocument >	<i>getDocuments(String...)</i> on page 377	Returns all the elements with the given route.
public abstract List< IParserDocument >	<i>getDocumentsWithAttribute(String, String, String...)</i> on page 378	Returns the elements with the given route that contains the given attribute with the given value.



Modifier and Type	Member	Description
public abstract List<IParserDocument >	<i>getDocumentsWithAttribute(String, String, boolean, String...)</i> on page 378	Returns the elements with the given route that contains the given attribute with the given value.
public abstract IParserDocument	<i>getDocumentWithAttribute(String, String, String...)</i> on page 379	Returns the first element with the given route that contains the given attribute with the given value.
public abstract IParserDocument	<i>getDocumentWithAttribute(String, String, boolean, String...)</i> on page 379	Returns the first element with the given route that contains the given attribute with the given value.
public abstract String	<i>getElementName()</i> on page 380	Returns The name of the root element of this document.
public abstract String	<i>getFunctionImportComplexPropertyValue(String...)</i> on page 380	
public abstract String	<i>getPrefixForUri(String)</i> on page 380	Returns the appropriate namespace prefix for the given XML name-space URI.
public abstract String[]	<i>getStrings()</i> on page 381	Returns all the string values contained by this document.
public abstract String	<i>getValue(String...)</i> on page 381	Returns the value of the first element with the given route.
public abstract List< String >	<i>getValues(String...)</i> on page 381	Returns all the values of elements with the given route.
public abstract void	<i>putAttribute(String, String...)</i> on page 382	Sets the value of the attribute with the given route If attribute does not exist it will be created as well as all other non existing elements in the route.

Modifier and Type	Member	Description
public abstract void	<i>putDocument(IParserDocument, String...)</i> on page 382	Insert the document under the element with the given route inserted document will be placed before already existing documents with the same route name under All missing elements from the route will be created.
public abstract void	<i>putValue(String, String...)</i> on page 382	Sets the value of the first element with the given route.
public abstract boolean	<i>removeAttribute(String...)</i> on page 383	Removes first element with the given route.
public abstract boolean	<i>removeAttributes(String...)</i> on page 383	Removes all the attribute with the given route.
public abstract boolean	<i>removeDocument(String...)</i> on page 383	Removes first element with the given route For removing multiple element use setDocuemtns with null arguments.
public static final String	<i>ROOT_DOCUMENT_NAME</i> on page 387	The default root element name for a new document.
public abstract void	<i>setAttributes(List&lt;String&gt;, String...)</i> on page 384	Sets all the values of the attributes with the given route Values will be paired to attributes in order Attributes with greater or equals index than size of new values will be untouched Attributes paired with null values will be removed.
public abstract void	<i>setDocuments(List&lt;IParserDocument&gt;, String...)</i> on page 384	Replaces all the elements with the given route Documents will be paired to elements in order Elements with greater or equals index than size of new elements will be untouched Element paired with null will be removed.

Modifier and Type	Member	Description
public abstract void	<i>setElementName(String, String...)</i> on page 385	Sets the name of the root element with the given route Use empty route for setting root name of this document.
public abstract void	<i>setValues(List&lt; String &gt;, String...)</i> on page 385	Sets all the values of the elements with the given rout Values will be paired to elements in order Elements with greater or equals index than size of new values will be untouched Null values will be treated as empty strings.
public abstract String	<i>toXMLString()</i> on page 385	Returns the XML string representation of this object.
public static final String	<i>XMLNS_APPLICATION_URI</i> on page 387	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/08/dataservices">http://schemas.microsoft.com/ado/2007/08/dataservices</a> .
public static final String	<i>XMLNS_ATOM_URI</i> on page 387	Constant for XMLNS URI: <a href="http://www.w3.org/2005/Atom">http://www.w3.org/2005/Atom</a> .
public static final String	<i>XMLNS_DATASERVICES_URI</i> on page 387	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/08/dataservices">http://schemas.microsoft.com/ado/2007/08/dataservices</a> .
public static final String	<i>XMLNS_EDM_URI</i> on page 387	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/05/edm">http://schemas.microsoft.com/ado/2007/05/edm</a> .
public static final String	<i>XMLNS_EDMX_URI</i> on page 387	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/06/edmx">http://schemas.microsoft.com/ado/2007/06/edmx</a> .
public static final String	<i>XMLNS_GENERICPLAYER_URI</i> on page 388	Constant for XMLNS URI: <a href="http://www.sap.com/Protocols/SAPData/GenericPlayer">http://www.sap.com/Protocols/SAPData/GenericPlayer</a> .
public static final String	<i>XMLNS_METADATA_URI</i> on page 388	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/08/dataservices/metadata">http://schemas.microsoft.com/ado/2007/08/dataservices/metadata</a> .

Modifier and Type	Member	Description
public static final String	<i>XMLNS_SAP_URI</i> on page 388	Constant for XMLNS URI: <a href="http://www.sap.com/Protocols/SAPData">http://www.sap.com/Protocols/SAPData</a> .

**Inherited members from IPersistable**

Modifier and Type	Member	Description
public void	<i>read(BufferedReader)</i> on page 389	
public void	<i>write(BufferedWriter)</i> on page 389	

*ODataProperty.DetailDisplayOrderComparator* class**Syntax**

```
public class DetailDisplayOrderComparator extends
java.util.Comparator< IODataProperty >
```

**Members**

All members of DetailDisplayOrderComparator, including inherited members. **Methods**

Modifier and Type	Method	Description
public int	<i>compare(IODataProperty, IODataProperty)</i> on page 744	

*compare(IODataProperty, IODataProperty)* method**Syntax**

```
public int compare ( IODataProperty arg0 , IODataProperty arg1 )
```

*ODataProperty.ListDisplayOrderComparator* class**Syntax**

```
public class ListDisplayOrderComparator extends
java.util.Comparator< IODataProperty >
```

**Members**

All members of ListDisplayOrderComparator, including inherited members. **Methods**

Modifier and Type	Method	Description
public int	<i>compare(IODataProperty, IO-DataProperty)</i> on page 745	

*compare(IODataProperty, IODataProperty) method*

**Syntax**

```
public int compare ( IODataProperty arg0 , IODataProperty arg1 )
```

*ODataProperty() constructor*

**Syntax**

```
public ODataProperty ()
```

*ODataProperty(ParserDocument) constructor*

**Syntax**

```
public ODataProperty ( ParserDocument document )
```

*ODataProperty(int[], String[]) constructor*

**Syntax**

```
protected ODataProperty ( int[] routes , String[] values )
```

*getChildPropertiesData() method*

Returns all the child properties added to this document with putChildProperty method.

**Syntax**

```
public List< IODataProperty > getChildPropertiesData ()
```

**Returns**

List of child properties.

*getChildPropertiesDataWithAttribute(String, String) method*

Returns list of appropriate contained Property OData elements with the given attribute value.

**Syntax**

```
public List< IODataProperty >
getChildPropertiesDataWithAttribute ( String attributeName , String
attributeValue )
```

### *Parameters*

- **attributeName** – the name of the attribute that value should be checked
- **attributeValue** – expected value of the attribute

### *Returns*

list of appropriate contained Property OData elements with the given attribute value

### *getChildPropertiesDataWithAttribute(String, String, boolean) method*

Returns list of appropriate contained Property OData elements with the given attribute value.

### *Syntax*

```
public List< IODataProperty >  
getChildPropertiesDataWithAttribute (String attributeName , String  
attributeValue , boolean addByDefault )
```

### *Parameters*

- **attributeName** – the name of the attribute that value should be checked
- **attributeValue** – expected value of the attribute
- **addByDefault** – true if the child Property should be add in case if there is no attribute with the given name

### *Returns*

list of appropriate contained Property OData elements with the given attribute value

### *getChildPropertyData(String) method*

Return a single child property added with putChildProperty method.

### *Syntax*

```
public IODataProperty getChildPropertyData (String  
propertyName )
```

### *Parameters*

- **propertyName** – The name of the child property that should be returned.

### *Returns*

The found child property or null if there is no child property with the given name.

### *getCollation() method*

Returns the value of the appropriate OData attribute.

### *Syntax*

```
public String getCollation ()
```

**Returns**

The value of the appropriate OData attribute

***getDefaultValue() method***

Returns the value of the appropriate OData attribute.

**Syntax**

```
public String getDefaultValue ()
```

**Returns**

The value of the appropriate OData attribute

***getDetailDisplayOrder() method***

In current version it return the same value as getListDisplayOrder.

**Syntax**

```
public int getDetailDisplayOrder ()
```

**Returns**

The value of 'display-order' attribute with default value = 0;

***getLabel() method***

Returns The value of the appropriate OData attribute.

**Syntax**

```
public String getLabel ()
```

**Returns**

The value of the appropriate OData attribute

***getListDisplayOrder() method***

In current version it returns the same value as getDetailDisplayOrder.

**Syntax**

```
public int getListDisplayOrder ()
```

**Returns**

The value of 'display-order' attribute with default value = 0;

### *getMaxLength() method*

Returns the value of the appropriate OData attribute with defaultValue = 0;.

#### *Syntax*

```
public int getMaxLength ()
```

#### *Returns*

The value of the appropriate OData attribute with defaultValue = 0;

### *getName() method*

Returns The value of the appropriate OData attribute.

#### *Syntax*

```
public String getName ()
```

#### *Returns*

The value of the appropriate OData attribute

### *getPrecision() method*

Returns the value of the appropriate OData attribute.

#### *Syntax*

```
public String getPrecision ()
```

#### *Returns*

The value of the appropriate OData attribute

### *getScale() method*

Returns the value of the appropriate OData attribute.

#### *Syntax*

```
public String getScale ()
```

#### *Returns*

The value of the appropriate OData attribute

### *getSemantics() method*

Returns the value of the appropriate OData attribute with defaultValue = 0;.

#### *Syntax*

```
public String getSemantics ()
```



**Returns**

The value of the appropriate OData attribute with default Value = 0;

***getType() method***

Returns The value of the appropriate OData attribute.

**Syntax**

```
public String getType ()
```

**Returns**

The value of the appropriate OData attribute

***getValue() method***

Returns the value of the property if there is a single property instance that is represented by this object and value is set with setValue method.

**Syntax**

```
public String getValue ()
```

**Returns**

the value of the property instance represented by this object.

**Usage**

Otherwise it returns null.

Typically this object contains value only if this object was returned by an OData Entry.

***hasFixedLength() method***

Returns The value of the appropriate OData attribute.

**Syntax**

```
public boolean hasFixedLength ()
```

**Returns**

The value of the appropriate OData attribute

***isComplex() method***

Returns if the property has complex type and has child properties.

**Syntax**

```
public boolean isComplex ()
```

### *Returns*

true if the property has complex type and has child properties.

### *isCreatable() method*

Returns The value of the appropriate OData attribute.

### *Syntax*

```
public boolean isCreatable ()
```

### *Returns*

The value of the appropriate OData attribute

### *isDeletable() method*

Returns The value of the appropriate OData attribute.

### *Syntax*

```
public boolean isDeletable ()
```

### *Returns*

The value of the appropriate OData attribute

### *isFilterable() method*

Returns The value of the appropriate OData attribute.

### *Syntax*

```
public boolean isFilterable ()
```

### *Returns*

The value of the appropriate OData attribute

### *isNullable() method*

Returns The value of the appropriate OData attribute.

### *Syntax*

```
public boolean isNullable ()
```

### *Returns*

The value of the appropriate OData attribute

*isSearchable() method*

Returns The value of the appropriate OData attribute.

*Syntax*

```
public boolean isSearchable ()
```

*Returns*

The value of the appropriate OData attribute

*isUnicode() method*

Returns the value of the appropriate OData attribute.

*Syntax*

```
public boolean isUnicode ()
```

*Returns*

The value of the appropriate OData attribute

*isUpdatable() method*

Returns The value of the appropriate OData attribute.

*Syntax*

```
public boolean isUpdatable ()
```

*Returns*

The value of the appropriate OData attribute

*putChildPropertyData(IODataProperty) method*

Put new child property to this property document.

*Syntax*

```
public void putChildPropertyData ( IODataProperty property )
```

*Parameters*

- **property** – The child property

*setValue(String) method*

Sets the value of the property, represented by this object.

*Syntax*

```
public void setValue ( String value )
```

*Parameters*

- **value** – The value of the property instance represented by this object.

*Usage*

This method should be used only if there a property instance that is represented by this object.

Typically this method is used when property object is returned by an OData Entry object.

*ODataReturnTypeEntry class**Syntax*

```
public class ODataReturnTypeEntry extends ODataEntry,
IODataEntry
```

*Members*

All members of ODataReturnTypeEntry, including inherited members. **Nested classes**

Modifier and Type	Class	Description
protected class	<i>ODataReturnSchema</i> on page 778	

**Variables**

Modifier and Type	Variable	Description
protected static final String	<i>_RETURN_TYPE_COLLECTION</i> on page 814	

**Constructors**

Modifier and Type	Constructor	Description
public	<i>ODataReturnTypeEntry(boole- an)</i> on page 812	
public	<i>ODataReturnTypeEntry(Par- serDocument, IODataFunc- tionImport, IODataSchema, bo- olean)</i> on page 812	

**Methods**

Modifier and Type	Method	Description
public void	<i>putPropertyValue(String, String)</i> on page 812	Puts the new property element as a sub-element of the 'properties' OData element.
public void	<i>putPropertyValue(String, String, boolean)</i> on page 813	Puts the new property element as a sub-element of the 'properties' OData element.
public void	<i>read(BufferedReader)</i> on page 813	
public void	<i>setCollectionId(String)</i> on page 814	Maintains the Id of the OCata Collection that this Entry belongs to.
public void	<i>setSchema(IODataSchema)</i> on page 814	Maintains the reference to the appropriate OData Schema object.
public void	<i>write(BufferedWriter)</i> on page 814	

#### Inherited members from ODataEntry

Modifier and Type	Member	Description
protected void	<i>addPropertyValues(IODataProperty, Map&lt; String, String &gt;, String)</i> on page 589	
protected Long	<i>cache_timestamp</i> on page 603	
protected cacheState	<i>Cachestate</i> on page 603	
public ODataEntry	<i>clone()</i> on page 589	Creates a copy of this object.
protected String	<i>collectionId</i> on page 603	
protected static transient static final int	<i>FALSE</i> on page 603	
protected void	<i>fillPropertyData(IODataProperty, String...)</i> on page 589	
protected void	<i>fillPropertyDataWithAttribute(IODataProperty, String, String, boolean, String...)</i> on page 589	

Modifier and Type	Member	Description
protected static transient static final String	<i>FILTER</i> on page 603	
protected static transient static final String	<i>FILTER_AND</i> on page 603	
protected static transient static final String	<i>FILTER_EQ</i> on page 604	
public List< IODataLink >	<i>getActionLinks()</i> on page 590	Returns OData Link objects that are set as action links (Has semantics (SAP name-space) attribute with value 'action')
public String	<i>getAuthorName()</i> on page 590	Returns The value of the 'name' OData element of the 'author' OData element.
public cacheState	<i>getCachestate()</i> on page 590	
public Long	<i>getCacheTimestamp()</i> on page 590	
public String	<i>getCollectionId()</i> on page 590	Returns the Id of the OCata Collection that this Entry belongs to.
public String	<i>getContenttype()</i> on page 590	Returns the content type of the entry.
public String	<i>getEtag()</i> on page 591	Returns the Id of the OData Collection that this Entry belongs to.
public String	<i>getFilterUrl()</i> on page 591	Returns the full execution URL hat can be used for filtering collection search for this single entry.
public List< IODataProperty >	<i>getGPUseInSearchProperties-Data()</i> on page 591	Returns the value and meta information (retrieved from OData Schema document) of the properties of this OData Entry document with 'true' use-in-search (Generic Player name-space) attribute value.

Modifier and Type	Member	Description
public List< IODataProperty >	<i>getGPVisibleInDetailPropertiesData()</i> on page 591	Returns the value and meta information (retrieved from OData Schema document) of the properties of this OData Entry document with 'true' visible-in-detail (Generic Player namespace) attribute value.
public List< IODataProperty >	<i>getGPVisibleInListPropertiesData()</i> on page 592	Returns the value and meta information (retrieved from OData Schema document) of the properties of this OData Entry document with 'true' visible-in-list (Generic Player namespace) attribute value.
public List< IODataIcon >	<i>getIcons()</i> on page 592	Returns the list of the appropriate OData elements.
public String	<i>getId()</i> on page 592	Returns The Id of this OData Entry (value of appropriate OData Id element)
public boolean	<i>getIsLocal()</i> on page 592	
public Map< String, String >	<i>getKeyPropertyValues()</i> on page 593	Returns the values of the properties that are marked as key properties in the OData Schema document.
public Date	<i>getLastUpdated()</i> on page 593	Returns The parsed value of the 'updated' OData Element.
public List< IODataLink >	<i>getLinks()</i> on page 593	Returns the list of the appropriate OData elements.
public String	<i>getMediaSrc()</i> on page 593	Returns the media source if the entry has a media content.
public List< IODataProperty >	<i>getPropertiesData()</i> on page 593	Returns the value and meta information (retrieved from OData Schema document) of the properties of this Odata Entry document.

Modifier and Type	Member	Description
public List< IODataProperty >	<i>getPropertiesDataWithAttribute(String, String)</i> on page 594	Returns the value and meta information (retrieved from OData Schema document) of the properties of this OData Entry document with the given attribute value.
public List< IODataProperty >	<i>getPropertiesDataWithAttribute(String, String, boolean)</i> on page 594	Returns the value and meta information (retrieved from OData Schema document) of the properties of this OData Entry document with the given attribute value.
public IParserDocument	<i>getPropertiesDocument()</i> on page 594	Returns the representer document of OData 'properties' (Metadata name-space) document This method is created for performance reasons mostly to use in search methods.
public String	<i>getPropertyValue(String...)</i> on page 595	Returns the value of the appropriate property.
public< T > T	<i>getPropertyValueParsed(String...)</i> on page 595	Returns the value of the appropriate property parsed to it's real type.
public List< String >	<i>getPropertyValues(List&lt; String[]&gt;)</i> on page 596	Return list of property values for the given property paths.
public Map< String, String >	<i>getPropertyValues()</i> on page 596	Returns the all the values of properties contained by this OData Entry document Key for the properties will be their name of their full path in case they are enclosed by Complex Types.
public List< IODataLink >	<i>getRelatedDataLinks()</i> on page 596	Returns OData Link objects that represents links to Related Data.



Modifier and Type	Member	Description
public List< IODataProperty >	<i>getSAPSearchableProperties-Data()</i> on page 597	Returns the value and meta information (retrieved from OData Schema document) of the properties of this OData Entry document with 'true' searchable (SAP name-space) attribute value.
public IODataSchema	<i>getSchema()</i> on page 597	Returns the appropriate OData Schema object.
public IODataLink	<i>getSelfLink()</i> on page 597	Returns OData Link object that should be used for self related operations (with 'rel' attribute value 'self' or 'edit')
public IODataLink	<i>getSubscriptionLink()</i> on page 597	Returns OData Link object that should be used for subscription or null if there is no subscription link defined.
public String	<i>getSummary()</i> on page 598	Returns The value of the appropriate OData element.
public String	<i>getTitle()</i> on page 598	Returns The value of the appropriate OData element.
protected boolean	<i>isLocalEntry</i> on page 604	
protected transient JsonObject	<i>jsonObject</i> on page 604	JSON related variables
protected void	<i>materialize()</i> on page 598	
protected static transient static final int	<i>NOT_TESTED</i> on page 604	
public	<i>ODataEntry()</i> on page 588	
public	<i>ODataEntry(boolean)</i> on page 588	
protected	<i>ODataEntry(int[], String[])</i> on page 589	
public	<i>ODataEntry(IODataSchema)</i> on page 588	

Modifier and Type	Member	Description
public	<i>ODataEntry(ParserDocument)</i> on page 588	
public	<i>ODataEntry(ParserDocument, IODataSchema)</i> on page 588	
public	<i>ODataEntry(JsonObject)</i> on page 589	Json Related
protected void	<i>parseCollectionId()</i> on page 598	
protected long	<i>parseEdmTime(String)</i> on page 598	
public void	<i>putComplexPropertyValue(String, String...)</i> on page 598	Puts the new property element as a sub-element of the 'complex properties' OData element.
public void	<i>putContentType(String)</i> on page 599	Puts the content type for a new entry object.
public void	<i>putDocument(IParserDocument, String...)</i> on page 599	Insert the document under the element with the given route inserted document will be placed before already existing documents with the same route name under All missing elements from the route will be created.
public void	<i>putId(String)</i> on page 599	Sets id of this OData Entry document (value of appropriate OData Id element)
public void	<i>putMediaSrc(String)</i> on page 600	Puts the media source for a new entry object.
protected String	<i>resolveTargetCollection(IODataLink)</i> on page 601	
protected transient IODataSchema	<i>schema</i> on page 604	
public void	<i>setAuthorName(String)</i> on page 601	Sets the value of the 'name' OData element of the 'author' OData element.

Modifier and Type	Member	Description
public void	<i>setCacheState(cacheState)</i> on page 601	
public void	<i>setCacheTimestamp(Long)</i> on page 601	
public void	<i>setIsLocal(boolean)</i> on page 602	
public void	<i>setSummary(String)</i> on page 602	Sets the value of the appropriate OData element.
public void	<i>setTitle(String)</i> on page 602	Sets the value of the appropriate OData element.
protected static transient static final int	<i>TRUE</i> on page 604	

#### Inherited members from ParserDocument

Modifier and Type	Member	Description
static transient final String	<i>ANY_STRING</i> on page 963	
static transient final int	<i>ATTRIBUTE_ID</i> on page 963	
static transient final String	<i>ATTRIBUTE_STRING</i> on page 963	
protected Map< String, String >	<i>extensions</i> on page 963	
public String	<i>getAttribute(String...)</i> on page 945	Returns the value of the first attribute with the given route.
public List< String >	<i>getAttributes(String...)</i> on page 946	Returns all the values of attributes with the given route.
protected int	<i>getAttributesEndPosition(int[], int, int)</i> on page 946	
public Map< String, String >	<i>getChildAttributeMap(String...)</i> on page 946	Returns all the name-value pairs of attributes contained by the element with the given route.
public List< String >	<i>getChildAttributes(String...)</i> on page 947	Returns all the values of attributes contained by the element with the given route.

Modifier and Type	Member	Description
public List< IParserDocument >	<i>getChildDocuments(String...)</i> on page 947	Returns the elements contained by the element with the given route.
public List< IParserDocument >	<i>getChildDocumentsWithAttribute(String, String, String...)</i> on page 947	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public List< IParserDocument >	<i>getChildDocumentsWithAttribute(String, String, boolean, String...)</i> on page 948	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public ParserDocument	<i>getDocument(String...)</i> on page 948	Returns the first element with the given route.
protected List< int[] >	<i>getDocumentPositions(String[], int, boolean, boolean)</i> on page 949	
public List< IParserDocument >	<i>getDocuments(String...)</i> on page 949	Returns all the elements with the given route.
public List< IParserDocument >	<i>getDocumentsWithAttribute(String, String, String...)</i> on page 949	Returns the elements with the given route that contains the given attribute with the given value.
public List< IParserDocument >	<i>getDocumentsWithAttribute(String, String, boolean, String...)</i> on page 950	Returns the elements with the given route that contains the given attribute with the given value.
public IParserDocument	<i>getDocumentWithAttribute(String, String, String...)</i> on page 950	Returns the first element with the given route that contains the given attribute with the given value.
public IParserDocument	<i>getDocumentWithAttribute(String, String, boolean, String...)</i> on page 951	Returns the first element with the given route that contains the given attribute with the given value.
public String	<i>getElementName()</i> on page 951	Returns The name of the root element of this document.

Modifier and Type	Member	Description
public String	<i>getExtension(String)</i> on page 952	
public String	<i>getFunctionImportComplexProperty Value(String...)</i> on page 952	
static int	<i>getNameId(String, boolean, boolean)</i> on page 952	
public static List< String >	<i>getNameMap()</i> on page 952	
public static String	<i>getPrefix(String)</i> on page 952	
public String	<i>getPrefixForUri(String)</i> on page 952	Returns the appropriate namespace prefix for the given XML name-space URI.
public static Map< String, String >	<i>getPrefixMapping()</i> on page 953	
protected List< Integer >	<i>getStringPositions(String[], int, boolean, boolean)</i> on page 953	
public String[]	<i>getStrings()</i> on page 953	Returns all the string values contained by this document.
public String	<i>getValue(String...)</i> on page 953	Returns the value of the first element with the given route.
public List< String >	<i>getValues(String...)</i> on page 953	Returns all the values of elements with the given route.
protected int[]	<i>insertRoutePositions(int[], int, int[])</i> on page 954	
protected void	<i>insertRoutesPositions(int, int[])</i> on page 954	
protected void	<i>insertStringsPositions(int, String[])</i> on page 954	
protected String[]	<i>insertStringsPositions(String[], int, String[])</i> on page 954	

Modifier and Type	Member	Description
boolean	<i>isComplexEntity</i> on page 963	
boolean	<i>isJson</i> on page 963	
protected boolean	<i>isMatched(String, String)</i> on page 954	
static List< String >	<i>nameMap</i> on page 963	
	<i>ParserDocument()</i> on page 945	
	<i>ParserDocument(boolean)</i> on page 945	
public	<i>ParserDocument(String)</i> on page 944	
public	<i>ParserDocument(ParserDocument)</i> on page 944	
protected	<i>ParserDocument(int[], String[])</i> on page 945	
protected	<i>ParserDocument(String, boolean)</i> on page 945	
static Map< String, String >	<i>prefixMapping</i> on page 964	
public void	<i>putAttribute(String, String...)</i> on page 955	Sets the value of the attribute with the given route. If attribute does not exist it will be created as well as all other non existing elements in the route.
public void	<i>putExtension(String, String)</i> on page 955	
protected void	<i>putString(int, String, int, String...)</i> on page 956	
public void	<i>putValue(String, String...)</i> on page 956	Sets the value of the first element with the given route.
public static void	<i>readNameMap(BufferedReader)</i> on page 957	

Modifier and Type	Member	Description
public boolean	<i>removeAttribute(String...)</i> on page 957	Removes first element with the given route.
public boolean	<i>removeAttributes(String...)</i> on page 957	Removes all the attribute with the given route.
public boolean	<i>removeDocument(String...)</i> on page 957	Removes first element with the given route For removing multiple element use setDocuemtns with null arguments.
public void	<i>removeExtension(String)</i> on page 958	
protected void	<i>removeRoutesPositions(int, int)</i> on page 958	
protected int[]	<i>removeRoutesPositions(int[], int, int)</i> on page 958	
protected boolean	<i>removeString(String...)</i> on page 958	
protected boolean	<i>removeStrings(String...)</i> on page 958	
protected void	<i>removeStringsPositions(int, int)</i> on page 958	
protected String[]	<i>removeStringsPositions(String[], int, int)</i> on page 958	
protected int	<i>replaceRoutesPositions(int, int, int[])</i> on page 959	
protected int[]	<i>replaceRoutesPositions(int[], int, int, int[])</i> on page 959	
protected int	<i>replaceStringsPositions(int, int, String[])</i> on page 959	
protected String[]	<i>replaceStringsPositions(String[], int, int, String[])</i> on page 959	
public static String	<i>resolveUrl(String, String)</i> on page 959	

Modifier and Type	Member	Description
protected int[]	<i>routes</i> on page 964	
public void	<i>setAttribute(String, String...)</i> on page 959	
public void	<i>setAttributes(List&lt;String&gt;, String...)</i> on page 960	Sets all the values of the attributes with the given route Values will be paired to attributes in order Attributes with greater or equals index than size of new values will be untouched Attributes paired with null values will be removed.
public boolean	<i>setDocument(IParserDocument, String...)</i> on page 960	
public void	<i>setDocuments(List&lt;IParserDocument&gt;, String...)</i> on page 960	Replaces all the elements with the given route Documents will be paired to elements in order Elements with greater or equals index than size of new elements will be untouched Element paired with null will be removed.
public void	<i>setElementName(String, String...)</i> on page 961	Sets the name of the root element with the given route Use empty route for setting root name of this document.
public static void	<i>setNameMap(List&lt;String&gt;)</i> on page 961	
public static void	<i>setPrefixMapping(Map&lt;String, String&gt;)</i> on page 961	
protected void	<i>setString(String, String...)</i> on page 961	
protected void	<i>setStrings(List&lt;String&gt;, String...)</i> on page 961	
public void	<i>setValue(String, String...)</i> on page 961	



Modifier and Type	Member	Description
public void	<i>setValues(List&lt;String&gt;, String...)</i> on page 962	Sets all the values of the elements with the given route values will be paired to elements in order Elements with greater or equals index than size of new values will be untouched Null values will be treated as empty strings.
protected String[]	<i>strings</i> on page 964	
public String	<i>toXMLString()</i> on page 962	Returns the XML string representation of this object.
protected static final String	<i>URL_PROTOCOL_PREFIX</i> on page 964	
static transient final int	<i>VALUE_ID</i> on page 964	
static transient final String	<i>VALUE_STRING</i> on page 964	
public static void	<i>writeNameMap(BufferedWriter)</i> on page 963	

#### Inherited members from IParserDocument

Modifier and Type	Member	Description
public static final String	<i>ATTRIBUTE_ETAG</i> on page 386	Name of the appropriate OData element.
public static final String	<i>ATTRIBUTE_VALUEPREFIX_EDMTYPE</i> on page 386	Value prefix for EDM Type type values.
public static Map<String, String>	<i>DEFAULT_PREFIX_MAPPING</i> on page 386	The default XML Namespace-to-Prefix mapping used for building XMLS.
public static final String[]	<i>EDMDATETIME_PATTERNS</i> on page 386	Possible EDM DateTime patterns Note: Some pattern are not supported by OData specification but still widely used.

Modifier and Type	Member	Description
public static final String[]	<i>EDMDATETIMEOFFSET_PATTERNS</i> on page 386	Possible EDM TimeOffset patterns Note: Some pattern are not supported by OData specification but still widely used.
public static final String	<i>EDMTIME_PATTERN</i> on page 386	EDM Time pattern.
public static String	<i>ELEMENT_FEED</i> on page 386	Name of the appropriate OData element.
public static final String	<i>ELEMENT_ID</i> on page 387	Name of the appropriate OData element.
public static final String	<i>ROOT_DOCUMENT_NAME</i> on page 387	The default root element name for a new document.
public static final String	<i>XMLNS_APPLICATION_URI</i> on page 387	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/08/dataservices">http://schemas.microsoft.com/ado/2007/08/dataservices</a> .
public static final String	<i>XMLNS_ATOM_URI</i> on page 387	Constant for XMLNS URI: <a href="http://www.w3.org/2005/Atom">http://www.w3.org/2005/Atom</a> .
public static final String	<i>XMLNS_DATASERVICES_URI</i> on page 387	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/08/dataservices">http://schemas.microsoft.com/ado/2007/08/dataservices</a> .
public static final String	<i>XMLNS_EDM_URI</i> on page 387	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/05/edm">http://schemas.microsoft.com/ado/2007/05/edm</a> .
public static final String	<i>XMLNS_EDMX_URI</i> on page 387	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/06/edmx">http://schemas.microsoft.com/ado/2007/06/edmx</a> .
public static final String	<i>XMLNS_GENERICPLAYER_URI</i> on page 388	Constant for XMLNS URI: <a href="http://www.sap.com/Protocols/SAPData/GenericPlayer">http://www.sap.com/Protocols/SAPData/GenericPlayer</a> .
public static final String	<i>XMLNS_METADATA_URI</i> on page 388	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/08/dataservices/metadata">http://schemas.microsoft.com/ado/2007/08/dataservices/metadata</a> .

Modifier and Type	Member	Description
public static final String	<i>XMLNS_SAP_URI</i> on page 388	Constant for XMLNS URI: <a href="http://www.sap.com/Protocols/SAPData">http://www.sap.com/Protocols/SAPData</a> .

**Inherited members from IPersistable**

Modifier and Type	Member	Description
public void	<i>read(BufferedReader)</i> on page 389	
public void	<i>write(BufferedWriter)</i> on page 389	

**Inherited members from IODataEntry**

Modifier and Type	Member	Description
public static final String	<i>ATTRIBUTE_SEMANTICS</i> on page 220	Name of the appropriate OData attribute.
public static final String	<i>ATTRIBUTE_TERM</i> on page 220	Name of the appropriate OData attribute.
public static final String	<i>ATTRIBUTE_VALUE_SEMANTICS_ACTION</i> on page 220	Value option for appropriate OData attribute.
public static final String	<i>ELEMENT_AUTHOR</i> on page 220	Name of the appropriate OData element.
public static final String	<i>ELEMENT_CATEGORY</i> on page 220	Name of the appropriate OData element.
public static final String	<i>ELEMENT_CONTENT</i> on page 220	Name of the appropriate OData element.
public static final String	<i>ELEMENT_ENTRY</i> on page 221	Name of the appropriate OData element.
public static final String	<i>ELEMENT_LINK</i> on page 221	Name of the appropriate OData element.
public static final String	<i>ELEMENT_NAME</i> on page 221	Name of the appropriate OData element.

Modifier and Type	Member	Description
public static final String	<i>ELEMENT_PROPERTIES</i> on page 221	Name of the appropriate OData element.
public static final String	<i>ELEMENT_SUMMARY</i> on page 221	Name of the appropriate OData element.
public static final String	<i>ELEMENT_TITLE</i> on page 221	Name of the appropriate OData element.
public static final String	<i>ELEMENT_UPDATED</i> on page 221	Name of the appropriate OData element.
public static final String	<i>PROPERTY_LEVEL_SEPARATOR</i> on page 222	

#### Inherited members from *IParserDocument*

Modifier and Type	Member	Description
public static final String	<i>ATTRIBUTE_ETAG</i> on page 386	Name of the appropriate OData element.
public static final String	<i>ATTRIBUTE_VALUEPREFIX_EDMTYPE</i> on page 386	Value prefix for EDM Type type values.
public abstract <i>IParserDocument</i>	<i>clone()</i> on page 374	Creates a copy of this object.
public static Map< String, String >	<i>DEFAULT_PREFIXMAPPING</i> on page 386	The default XML Namespace-to-Prefix mapping used for building XMLS.
public static final String[]	<i>EDMDATETIME_PATTERNS</i> on page 386	Possible EDM DateTime patterns Note: Some pattern are not supported by OData specification but still widely used.
public static final String[]	<i>EDMDATETIMEOFFSET_PATTERNS</i> on page 386	Possible EDM TimeOffset patterns Note: Some pattern are not supported by OData specification but still widely used.
public static final String	<i>EDMTIME_PATTERN</i> on page 386	EDM Time pattern.
public static String	<i>ELEMENT_FEED</i> on page 386	Name of the appropriate OData element.

Modifier and Type	Member	Description
public static final String	<i>ELEMENT_ID</i> on page 387	Name of the appropriate OData element.
public abstract String	<i>getAttribute(String...)</i> on page 374	Returns the value of the first attribute with the given route.
public abstract List< String >	<i>getAttributes(String...)</i> on page 374	Returns all the values of attributes with the given route.
public abstract Map< String, String >	<i>getChildAttributeMap(String...)</i> on page 375	Returns all the name-value pairs of attributes contained by the element with the given route.
public abstract List< String >	<i>getChildAttributes(String...)</i> on page 375	Returns all the values of attributes contained by the element with the given route.
public abstract List< IParserDocument >	<i>getChildDocuments(String...)</i> on page 375	Returns the elements contained by the element with the given route.
public abstract List< IParserDocument >	<i>getChildDocumentsWithAttribute(String, String, String...)</i> on page 376	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public abstract List< IParserDocument >	<i>getChildDocumentsWithAttribute(String, String, boolean, String...)</i> on page 376	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public abstract IParserDocument	<i>getDocument(String...)</i> on page 377	Returns the first element with the given route.
public abstract List< IParserDocument >	<i>getDocuments(String...)</i> on page 377	Returns all the elements with the given route.
public abstract List< IParserDocument >	<i>getDocumentsWithAttribute(String, String, String...)</i> on page 378	Returns the elements with the given route that contains the given attribute with the given value.
public abstract List< IParserDocument >	<i>getDocumentsWithAttribute(String, String, boolean, String...)</i> on page 378	Returns the elements with the given route that contains the given attribute with the given value.

Modifier and Type	Member	Description
public abstract IParserDocument	<i>getDocumentWithAttribute(String, String, String...)</i> on page 379	Returns the first element with the given route that contains the given attribute with the given value.
public abstract IParserDocument	<i>getDocumentWithAttribute(String, String, boolean, String...)</i> on page 379	Returns the first element with the given route that contains the given attribute with the given value.
public abstract String	<i>getElementName()</i> on page 380	Returns The name of the root element of this document.
public abstract String	<i>getFunctionImportComplexProperty Value(String...)</i> on page 380	
public abstract String	<i>getPrefixForUri(String)</i> on page 380	Returns the appropriate namespace prefix for the given XML name-space URI.
public abstract String[]	<i>getStrings()</i> on page 381	Returns all the string values contained by this document.
public abstract String	<i>getValue(String...)</i> on page 381	Returns the value of the first element with the given route.
public abstract List< String >	<i>getValues(String...)</i> on page 381	Returns all the values of elements with the given route.
public abstract void	<i>putAttribute(String, String...)</i> on page 382	Sets the value of the attribute with the given route If attribute does not exist it will be created as well as all other non existing elements in the route.
public abstract void	<i>putDocument(IParserDocument, String...)</i> on page 382	Insert the document under the element with the given route inserted document will be placed before already existing documents with the same route name under All missing elements from the route will be created.
public abstract void	<i>putValue(String, String...)</i> on page 382	Sets the value of the first element with the given route.

Modifier and Type	Member	Description
public abstract boolean	<i>removeAttribute(String...)</i> on page 383	Removes first element with the given route.
public abstract boolean	<i>removeAttributes(String...)</i> on page 383	Removes all the attribute with the given route.
public abstract boolean	<i>removeDocument(String...)</i> on page 383	Removes first element with the given route For removing multiple element use setDocuemtns with null arguments.
public static final String	<i>ROOT_DOCUMENT_NAME</i> on page 387	The default root element name for a new document.
public abstract void	<i>setAttributes(List&lt;String&gt;, String...)</i> on page 384	Sets all the values of the attributes with the given route Values will be paired to attributes in order Attributes with greater or equals index than size of new values will be untouched Attributes paired with null values will be removed.
public abstract void	<i>setDocuments(List&lt;IParserDocument&gt;, String...)</i> on page 384	Replaces all the elements with the given route Documents will be paired to elements in order Elements with greater or equals index than size of new elements will be untouched Element paired with null will be removed.
public abstract void	<i>setElementName(String, String...)</i> on page 385	Sets the name of the root element with the given route Use empty route for setting root name of this document.
public abstract void	<i>setValues(List&lt;String&gt;, String...)</i> on page 385	Sets all the values of the elements with the given rout Values will be paired to elements in order Elements with greater or equals index than size of new values will be untouched Null values will be treated as empty strings.

Modifier and Type	Member	Description
public abstract String	<i>toXMLString()</i> on page 385	Returns the XML string representation of this object.
public static final String	<i>XMLNS_APPLICATION_URI</i> on page 387	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/08/dataservices">http://schemas.microsoft.com/ado/2007/08/dataservices</a> .
public static final String	<i>XMLNS_ATOM_URI</i> on page 387	Constant for XMLNS URI: <a href="http://www.w3.org/2005/Atom">http://www.w3.org/2005/Atom</a> .
public static final String	<i>XMLNS_DATASERVICES_URI</i> on page 387	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/08/dataservices">http://schemas.microsoft.com/ado/2007/08/dataservices</a> .
public static final String	<i>XMLNS_EDM_URI</i> on page 387	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/05/edm">http://schemas.microsoft.com/ado/2007/05/edm</a> .
public static final String	<i>XMLNS_EDMX_URI</i> on page 387	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/06/edmx">http://schemas.microsoft.com/ado/2007/06/edmx</a> .
public static final String	<i>XMLNS_GENERICPLAYER_URI</i> on page 388	Constant for XMLNS URI: <a href="http://www.sap.com/Protocols/SAPData/GenericPlayer">http://www.sap.com/Protocols/SAPData/GenericPlayer</a> .
public static final String	<i>XMLNS_METADATA_URI</i> on page 388	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/08/dataservices/metadata">http://schemas.microsoft.com/ado/2007/08/dataservices/metadata</a> .
public static final String	<i>XMLNS_SAP_URI</i> on page 388	Constant for XMLNS URI: <a href="http://www.sap.com/Protocols/SAPData">http://www.sap.com/Protocols/SAPData</a> .

#### Inherited members from IPersistable

Modifier and Type	Member	Description
public void	<i>read(BufferedReader)</i> on page 389	
public void	<i>write(BufferedWriter)</i> on page 389	

#### Inherited members from IODataEntry



Modifier and Type	Member	Description
public static final String	<i>ATTRIBUTE_SEMANTICS</i> on page 220	Name of the appropriate OData attribute.
public static final String	<i>ATTRIBUTE_TERM</i> on page 220	Name of the appropriate OData attribute.
public static final String	<i>ATTRIBUTE_VALUE_SEMANTICS_ACTION</i> on page 220	Value option for appropriate OData attribute.
public static final String	<i>ELEMENT_AUTHOR</i> on page 220	Name of the appropriate OData element.
public static final String	<i>ELEMENT_CATEGORY</i> on page 220	Name of the appropriate OData element.
public static final String	<i>ELEMENT_CONTENT</i> on page 220	Name of the appropriate OData element.
public static final String	<i>ELEMENT_ENTRY</i> on page 221	Name of the appropriate OData element.
public static final String	<i>ELEMENT_LINK</i> on page 221	Name of the appropriate OData element.
public static final String	<i>ELEMENT_NAME</i> on page 221	Name of the appropriate OData element.
public static final String	<i>ELEMENT_PROPERTIES</i> on page 221	Name of the appropriate OData element.
public static final String	<i>ELEMENT_SUMMARY</i> on page 221	Name of the appropriate OData element.
public static final String	<i>ELEMENT_TITLE</i> on page 221	Name of the appropriate OData element.
public static final String	<i>ELEMENT_UPDATED</i> on page 221	Name of the appropriate OData element.
public static final String	<i>PROPERTY_LEVEL_SEPARATOR</i> on page 222	

### Inherited members from `IParserDocument`

Modifier and Type	Member	Description
public static final String	<i>ATTRIBUTE_ETAG</i> on page 386	Name of the appropriate OData element.
public static final String	<i>ATTRIBUTE_VALUEPREFIX_EDMTYPE</i> on page 386	Value prefix for EDM Type type values.
public abstract IParserDocument	<i>clone()</i> on page 374	Creates a copy of this object.
public static Map< String, String >	<i>DEFAULT_PREFIXMAPPING</i> on page 386	The default XML Namespace-to-Prefix mapping used for building XMLS.
public static final String[]	<i>EDMDATETIME_PATTERNS</i> on page 386	Possible EDM DateTime patterns Note: Some pattern are not supported by OData specification but still widely used.
public static final String[]	<i>EDMDATETIMEOFFSET_PATTERNS</i> on page 386	Possible EDM DateTimeOffset patterns Note: Some pattern are not supported by OData specification but still widely used.
public static final String	<i>EDMTIME_PATTERN</i> on page 386	EDM Time pattern.
public static String	<i>ELEMENT_FEED</i> on page 386	Name of the appropriate OData element.
public static final String	<i>ELEMENT_ID</i> on page 387	Name of the appropriate OData element.
public abstract String	<i>getAttribute(String...)</i> on page 374	Returns the value of the first attribute with the given route.
public abstract List< String >	<i>getAttributes(String...)</i> on page 374	Returns all the values of attributes with the given route.
public abstract Map< String, String >	<i>getChildAttributeMap(String...)</i> on page 375	Returns all the name-value pairs of attributes contained by the element with the given route.
public abstract List< String >	<i>getChildAttributes(String...)</i> on page 375	Returns all the values of attributes contained by the element with the given route.

Modifier and Type	Member	Description
public abstract List<IParserDocument >	<i>getChildDocuments(String...)</i> on page 375	Returns the elements contained by the element with the given route.
public abstract List<IParserDocument >	<i>getChildDocumentsWithAttribute(String, String, String...)</i> on page 376	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public abstract List<IParserDocument >	<i>getChildDocumentsWithAttribute(String, String, boolean, String...)</i> on page 376	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public abstract IParserDocument	<i>getDocument(String...)</i> on page 377	Returns the first element with the given route.
public abstract List<IParserDocument >	<i>getDocuments(String...)</i> on page 377	Returns all the elements with the given route.
public abstract List<IParserDocument >	<i>getDocumentsWithAttribute(String, String, String...)</i> on page 378	Returns the elements with the given route that contains the given attribute with the given value.
public abstract List<IParserDocument >	<i>getDocumentsWithAttribute(String, String, boolean, String...)</i> on page 378	Returns the elements with the given route that contains the given attribute with the given value.
public abstract IParserDocument	<i>getDocumentWithAttribute(String, String, String...)</i> on page 379	Returns the first element with the given route that contains the given attribute with the given value.
public abstract IParserDocument	<i>getDocumentWithAttribute(String, String, boolean, String...)</i> on page 379	Returns the first element with the given route that contains the given attribute with the given value.
public abstract String	<i>getElementName()</i> on page 380	Returns The name of the root element of this document.
public abstract String	<i>getFunctionImportComplexPropertyValue(String...)</i> on page 380	

Modifier and Type	Member	Description
public abstract String	<i>getPrefixForUri(String)</i> on page 380	Returns the appropriate name-space prefix for the given XML name-space URI.
public abstract String[]	<i>getStrings()</i> on page 381	Returns all the string values contained by this document.
public abstract String	<i>getValue(String...)</i> on page 381	Returns the value of the first element with the given route.
public abstract List< String >	<i>getValues(String...)</i> on page 381	Returns all the values of elements with the given route.
public abstract void	<i>putAttribute(String, String...)</i> on page 382	Sets the value of the attribute with the given route If attribute does not exist it will be created as well as all other non existing elements in the route.
public abstract void	<i>putDocument(IParserDocument, String...)</i> on page 382	Insert the document under the element with the given route inserted document will be placed before already existing documents with the same route name under All missing elements from the route will be created.
public abstract void	<i>putValue(String, String...)</i> on page 382	Sets the value of the first element with the given route.
public abstract boolean	<i>removeAttribute(String...)</i> on page 383	Removes first element with the given route.
public abstract boolean	<i>removeAttributes(String...)</i> on page 383	Removes all the attribute with the given route.
public abstract boolean	<i>removeDocument(String...)</i> on page 383	Removes first element with the given route For removing multiple element use setDocuemtns with null arguments.
public static final String	<i>ROOT_DOCUMENT_NAME</i> on page 387	The default root element name for a new document.

Modifier and Type	Member	Description
public abstract void	<i>setAttributes(List&lt; String &gt;, String...)</i> on page 384	Sets all the values of the attributes with the given route Values will be paired to attributes in order Attributes with greater or equals index than size of new values will be untouched Attributes paired with null values will be removed.
public abstract void	<i>setDocuments(List&lt; IParser-Document &gt;, String...)</i> on page 384	Replaces all the elements with the given route Documents will be paired to elements in order Elements with greater or equals index than size of new elements will be untouched Element paired with null will be removed.
public abstract void	<i>setElementName(String, String...)</i> on page 385	Sets the name of the root element with the given route Use empty route for setting root name of this document.
public abstract void	<i>setValues(List&lt; String &gt;, String...)</i> on page 385	Sets all the values of the elements with the given rout Values will be paired to elements in order Elements with greater or equals index than size of new values will be untouched Null values will be treated as empty strings.
public abstract String	<i>toXMLString()</i> on page 385	Returns the XML string representation of this object.
public static final String	<i>XMLNS_APPLICATION_URI</i> on page 387	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/08/dataservices">http://schemas.microsoft.com/ado/2007/08/dataservices</a> .
public static final String	<i>XMLNS_ATOM_URI</i> on page 387	Constant for XMLNS URI: <a href="http://www.w3.org/2005/Atom">http://www.w3.org/2005/Atom</a> .

Modifier and Type	Member	Description
public static final String	<i>XMLNS_DATASERVICES_URI</i> on page 387	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/08/dataservices">http://schemas.microsoft.com/ado/2007/08/dataservices</a> .
public static final String	<i>XMLNS_EDM_URI</i> on page 387	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/05/edm">http://schemas.microsoft.com/ado/2007/05/edm</a> .
public static final String	<i>XMLNS_EDMX_URI</i> on page 387	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/06/edmx">http://schemas.microsoft.com/ado/2007/06/edmx</a> .
public static final String	<i>XMLNS_GENERICPLAYER_URI</i> on page 388	Constant for XMLNS URI: <a href="http://www.sap.com/Protocols/SAPData/GenericPlayer">http://www.sap.com/Protocols/SAPData/GenericPlayer</a> .
public static final String	<i>XMLNS_METADATA_URI</i> on page 388	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/08/dataservices/metadata">http://schemas.microsoft.com/ado/2007/08/dataservices/metadata</a> .
public static final String	<i>XMLNS_SAP_URI</i> on page 388	Constant for XMLNS URI: <a href="http://www.sap.com/Protocols/SAPData">http://www.sap.com/Protocols/SAPData</a> .

#### Inherited members from IPersistable

Modifier and Type	Member	Description
public void	<i>read(BufferedReader)</i> on page 389	
public void	<i>write(BufferedWriter)</i> on page 389	

#### *ODataReturnEntry.ODataReturnSchema* class

##### Syntax

```
protected class ODataReturnSchema extends ODataSchema,
    ILocalSchema
```

##### Members

All members of *ODataReturnSchema*, including inherited members. **Nested classes**

Modifier and Type	Class	Description
protected class	<i>ODataReturnEntityType</i> on page 795	

### Variables

Modifier and Type	Variable	Description
protected ODataComplexType	<i>complexType</i> on page 812	
protected List<IODataProperty >	<i>referenceProperties</i> on page 812	

### Constructors

Modifier and Type	Constructor	Description
public	<i>ODataReturnSchema()</i> on page 811	
public	<i>ODataReturnSchema(List&lt;IODataProperty &gt;)</i> on page 811	
public	<i>ODataReturnSchema(List&lt;IODataProperty &gt;, ODataComplexType)</i> on page 811	

### Methods

Modifier and Type	Method	Description
public void	<i>addProperty(IODataProperty)</i> on page 811	
public ODataComplexType	<i>getComplexType(String)</i> on page 811	
public ODataEntityType	<i>getEntityTypeForCollection(String)</i> on page 811	
public void	<i>read(BufferedReader)</i> on page 812	
public void	<i>write(BufferedWriter)</i> on page 812	

### Inherited members from ODataSchema

Modifier and Type	Member	Description
public ODataAssociation	<i>getAssociation(String)</i> on page 831	Returns the appropriate OData Association element with the given relationship attribute.
public List< IODataAssociation >	<i>getAssociations()</i> on page 831	Returns the list of the appropriate OData elements.
public ODataAssociationSet	<i>getAssociationSet(String)</i> on page 831	Returns the appropriate AssociationSet with for given association.
public List< IODataAssociationSet >	<i>getAssociationSets()</i> on page 831	Returns the list of the appropriate OData elements.
public List< IODataComplexType >	<i>getComplexTypes()</i> on page 832	Returns The list of the appropriate OData element.
public ODataEntitySet	<i>getEntitySet(String)</i> on page 832	Returns The appropriate OData EntitySet.
public ODataEntityType	<i>getEntityType(String)</i> on page 832	Returns The 'EntityType' OData element associated with the reference argument.
public List< IODataFunctionImport >	<i>getFunctionImports()</i> on page 833	Returns The list of the 'FunctionImport' OData element.
public List< IODataFunctionImport >	<i>getFunctionImportsForCollection(String)</i> on page 833	Returns List of FunctionImports valid for the appropriate collection.
public IODataServiceDocument	<i>getServiceDocument()</i> on page 834	Returns the appropriate OData Service Document.
public String	<i>getTargetCollectionIdForNavigationProperty(String, String)</i> on page 834	Resolves the target collection Id of the given OData Navigation Property element.
public	<i>ODataSchema()</i> on page 830	
protected	<i>ODataSchema(int[], String[])</i> on page 831	
public	<i>ODataSchema(ParserDocument)</i> on page 830	
protected IODataServiceDocument	<i>serviceDocument</i> on page 834	



Modifier and Type	Member	Description
public void	<i>setServiceDocument(IOData-ServiceDocument)</i> on page 834	Maintains reference to the appropriate OData Service Document.

### Inherited members from ParserDocument

Modifier and Type	Member	Description
static transient final String	<i>ANY_STRING</i> on page 963	
static transient final int	<i>ATTRIBUTE_ID</i> on page 963	
static transient final String	<i>ATTRIBUTE_STRING</i> on page 963	
public ParserDocument	<i>clone()</i> on page 945	Creates a copy of this object.
protected Map< String, String >	<i>extensions</i> on page 963	
public String	<i>getAttribute(String...)</i> on page 945	Returns the value of the first attribute with the given route.
public List< String >	<i>getAttributes(String...)</i> on page 946	Returns all the values of attributes with the given route.
protected int	<i>getAttributesEndPosition(int[], int, int)</i> on page 946	
public Map< String, String >	<i>getChildAttributeMap(String...)</i> on page 946	Returns all the name-value pairs of attributes contained by the element with the given route.
public List< String >	<i>getChildAttributes(String...)</i> on page 947	Returns all the values of attributes contained by the element with the given route.
public List< IParserDocument >	<i>getChildDocuments(String...)</i> on page 947	Returns the elements contained by the element with the given route.
public List< IParserDocument >	<i>getChildDocumentsWithAttribute(String, String, String...)</i> on page 947	Returns the elements contained by the element with the given route and having the given attribute with the given value.

Modifier and Type	Member	Description
public List< IParserDocument >	<i>getChildDocumentsWithAttribute(String, String, boolean, String...)</i> on page 948	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public ParserDocument	<i>getDocument(String...)</i> on page 948	Returns the first element with the given route.
protected List< int[] >	<i>getDocumentPositions(String[], int, boolean, boolean)</i> on page 949	
public List< IParserDocument >	<i>getDocuments(String...)</i> on page 949	Returns all the elements with the given route.
public List< IParserDocument >	<i>getDocumentsWithAttribute(String, String, String...)</i> on page 949	Returns the elements with the given route that contains the given attribute with the given value.
public List< IParserDocument >	<i>getDocumentsWithAttribute(String, String, boolean, String...)</i> on page 950	Returns the elements with the given route that contains the given attribute with the given value.
public IParserDocument	<i>getDocumentWithAttribute(String, String, String...)</i> on page 950	Returns the first element with the given route that contains the given attribute with the given value.
public IParserDocument	<i>getDocumentWithAttribute(String, String, boolean, String...)</i> on page 951	Returns the first element with the given route that contains the given attribute with the given value.
public String	<i>getElementName()</i> on page 951	Returns The name of the root element of this document.
public String	<i>getExtension(String)</i> on page 952	
public String	<i>getFunctionImportComplexProperty Value(String...)</i> on page 952	

Modifier and Type	Member	Description
static int	<i>getNameId(String, boolean, boolean)</i> on page 952	
public static List< String >	<i>getNameMap()</i> on page 952	
public static String	<i>getPrefix(String)</i> on page 952	
public String	<i>getPrefixForUri(String)</i> on page 952	Returns the appropriate name-space prefix for the given XML name-space URI.
public static Map< String, String >	<i>getPrefixMapping()</i> on page 953	
protected List< Integer >	<i>getStringPositions(String[], int, boolean, boolean)</i> on page 953	
public String[]	<i>getStrings()</i> on page 953	Returns all the string values contained by this document.
public String	<i>getValue(String...)</i> on page 953	Returns the value of the first element with the given route.
public List< String >	<i>getValues(String...)</i> on page 953	Returns all the values of elements with the given route.
protected int[]	<i>insertRoutePositions(int[], int, int[])</i> on page 954	
protected void	<i>insertRoutesPositions(int, int[])</i> on page 954	
protected void	<i>insertStringsPositions(int, String[])</i> on page 954	
protected String[]	<i>insertStringsPositions(String[], int, String[])</i> on page 954	
boolean	<i>isComplexEntity</i> on page 963	
boolean	<i>isJson</i> on page 963	
protected boolean	<i>isMatched(String, String)</i> on page 954	

Modifier and Type	Member	Description
static List< String >	<i>nameMap</i> on page 963	
	<i>ParserDocument()</i> on page 945	
	<i>ParserDocument(boolean)</i> on page 945	
public	<i>ParserDocument(String)</i> on page 944	
public	<i>ParserDocument(ParserDocument)</i> on page 944	
protected	<i>ParserDocument(int[], String[])</i> on page 945	
protected	<i>ParserDocument(String, boolean)</i> on page 945	
static Map< String, String >	<i>prefixMapping</i> on page 964	
public void	<i>putAttribute(String, String...)</i> on page 955	Sets the value of the attribute with the given route. If attribute does not exist it will be created as well as all other non existing elements in the route.
public void	<i>putDocument(IParserDocument, String...)</i> on page 955	Insert the document under the element with the given route. Inserted document will be placed before already existing documents with the same route name. All missing elements from the route will be created.
public void	<i>putExtension(String, String)</i> on page 955	
protected void	<i>putString(int, String, int, String...)</i> on page 956	
public void	<i>putValue(String, String...)</i> on page 956	Sets the value of the first element with the given route.
public void	<i>read(BufferedReader)</i> on page 956	

Modifier and Type	Member	Description
public static void	<i>readNameMap(BufferedReader)</i> on page 957	
public boolean	<i>removeAttribute(String...)</i> on page 957	Removes first element with the given route.
public boolean	<i>removeAttributes(String...)</i> on page 957	Removes all the attribute with the given route.
public boolean	<i>removeDocument(String...)</i> on page 957	Removes first element with the given route For removing multiple element use setDocuemtns with null arguments.
public void	<i>removeExtension(String)</i> on page 958	
protected void	<i>removeRoutesPositions(int, int)</i> on page 958	
protected int[]	<i>removeRoutesPositions(int[], int, int)</i> on page 958	
protected boolean	<i>removeString(String...)</i> on page 958	
protected boolean	<i>removeStrings(String...)</i> on page 958	
protected void	<i>removeStringsPositions(int, int)</i> on page 958	
protected String[]	<i>removeStringsPositions(String[], int, int)</i> on page 958	
protected int	<i>replaceRoutesPositions(int, int, int[])</i> on page 959	
protected int[]	<i>replaceRoutesPositions(int[], int, int, int[])</i> on page 959	
protected int	<i>replaceStringsPositions(int, int, String[])</i> on page 959	
protected String[]	<i>replaceStringsPositions(String[], int, int, String[])</i> on page 959	

Modifier and Type	Member	Description
public static String	<i>resolveUrl(String, String)</i> on page 959	
protected int[]	<i>routes</i> on page 964	
public void	<i>setAttribute(String, String...)</i> on page 959	
public void	<i>setAttributes(List&lt;String&gt;, String...)</i> on page 960	Sets all the values of the attributes with the given route Values will be paired to attributes in order Attributes with greater or equals index than size of new values will be untouched Attributes paired with null values will be removed.
public boolean	<i>setDocument(IParserDocument, String...)</i> on page 960	
public void	<i>setDocuments(List&lt;IParserDocument&gt;, String...)</i> on page 960	Replaces all the elements with the given route Documents will be paired to elements in order Elements with greater or equals index than size of new elements will be untouched Element paired with null will be removed.
public void	<i>setElementName(String, String...)</i> on page 961	Sets the name of the root element with the given route Use empty route for setting root name of this document.
public static void	<i>setNameMap(List&lt;String&gt;)</i> on page 961	
public static void	<i>setPrefixMapping(Map&lt;String, String&gt;)</i> on page 961	
protected void	<i>setString(String, String...)</i> on page 961	
protected void	<i>setStrings(List&lt;String&gt;, String...)</i> on page 961	

Modifier and Type	Member	Description
public void	<i>setValue(String, String...)</i> on page 961	
public void	<i>setValues(List&lt; String &gt;, String...)</i> on page 962	Sets all the values of the elements with the given rout Values will be paired to elements in order Elements with greater or equals index than size of new values will be untouched Null values will be treated as empty strings.
protected String[]	<i>strings</i> on page 964	
public String	<i>toXMLString()</i> on page 962	Returns the XML string representation of this object.
protected static final String	<i>URL_PROTOCOL_PREFIX</i> on page 964	
static transient final int	<i>VALUE_ID</i> on page 964	
static transient final String	<i>VALUE_STRING</i> on page 964	
public void	<i>write(BufferedWriter)</i> on page 962	
public static void	<i>writeNameMap(BufferedWriter)</i> on page 963	

#### Inherited members from IParserDocument

Modifier and Type	Member	Description
public static final String	<i>ATTRIBUTE_ETAG</i> on page 386	Name of the appropriate OData element.
public static final String	<i>ATTRIBUTE_VALUEPREFIX_EDMTYPE</i> on page 386	Value prefix for EDM Type type values.
public static Map< String, String >	<i>DEFAULT_PREFIXMAPPING</i> on page 386	The default XML Namespace-to-Prefix mapping used for building XMLS.

Modifier and Type	Member	Description
public static final String[]	<i>EDMDATETIME_PATTERNS</i> on page 386	Possible EDM DateTime patterns Note: Some pattern are not supported by OData specification but still widely used.
public static final String[]	<i>EDMDATETIMEOFFSET_PATTERNS</i> on page 386	Possible EDM TimeOffset patterns Note: Some pattern are not supported by OData specification but still widely used.
public static final String	<i>EDMTIME_PATTERN</i> on page 386	EDM Time pattern.
public static String	<i>ELEMENT_FEED</i> on page 386	Name of the appropriate OData element.
public static final String	<i>ELEMENT_ID</i> on page 387	Name of the appropriate OData element.
public static final String	<i>ROOT_DOCUMENT_NAME</i> on page 387	The default root element name for a new document.
public static final String	<i>XMLNS_APPLICATION_URI</i> on page 387	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/08/dataservices">http://schemas.microsoft.com/ado/2007/08/dataservices</a> .
public static final String	<i>XMLNS_ATOM_URI</i> on page 387	Constant for XMLNS URI: <a href="http://www.w3.org/2005/Atom">http://www.w3.org/2005/Atom</a> .
public static final String	<i>XMLNS_DATASERVICES_URI</i> on page 387	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/08/dataservices">http://schemas.microsoft.com/ado/2007/08/dataservices</a> .
public static final String	<i>XMLNS_EDM_URI</i> on page 387	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/05/edm">http://schemas.microsoft.com/ado/2007/05/edm</a> .
public static final String	<i>XMLNS_EDMX_URI</i> on page 387	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/06/edmx">http://schemas.microsoft.com/ado/2007/06/edmx</a> .
public static final String	<i>XMLNS_GENERICPLAYER_URI</i> on page 388	Constant for XMLNS URI: <a href="http://www.sap.com/Protocols/SAPData/GenericPlayer">http://www.sap.com/Protocols/SAPData/GenericPlayer</a> .



Modifier and Type	Member	Description
public static final String	<i>XMLNS_METADATA_URI</i> on page 388	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/08/dataservices/metadata">http://schemas.microsoft.com/ado/2007/08/dataservices/metadata</a> .
public static final String	<i>XMLNS_SAP_URI</i> on page 388	Constant for XMLNS URI: <a href="http://www.sap.com/Protocols/SAPData">http://www.sap.com/Protocols/SAPData</a> .

**Inherited members from IPersistable**

Modifier and Type	Member	Description
public void	<i>read(BufferedReader)</i> on page 389	
public void	<i>write(BufferedWriter)</i> on page 389	

**Inherited members from IODataSchema**

Modifier and Type	Member	Description
public static final String	<i>ACTION_FOR</i> on page 313	name of the appropriate Odata attribute
public static final String	<i>ATTRIBUTE_ENTITYSET</i> on page 313	Name of the appropriate OData attribute.
public static final String	<i>ATTRIBUTE_ENTITYTYPE</i> on page 313	Name of the appropriate OData attribute.
public static final String	<i>ATTRIBUTE_NAME</i> on page 313	Name of the appropriate OData attribute.
public static final String	<i>ATTRIBUTE_NAMESPACE</i> on page 314	Name of the appropriate OData attribute.
public static final String	<i>ELEMENT_COMPLEXTYPE</i> on page 314	Name of the appropriate OData element.
public static final String	<i>ELEMENT_DATASERVICES</i> on page 314	Name of the appropriate OData element.
public static final String	<i>ELEMENT_EDMX</i> on page 314	Name of the appropriate OData element.

Modifier and Type	Member	Description
public static final String	<i>ELEMENT_ENTITYCONTAINER</i> on page 314	Name of the appropriate OData element.
public static final String	<i>ELEMENT_ENTITYSET</i> on page 314	Name of the appropriate OData element.
public static final String	<i>ELEMENT_ENTITYTYPE</i> on page 314	Name of the appropriate OData element.
public static final String	<i>ELEMENT_FUNCTIONALIMPORT</i> on page 315	Name of the appropriate OData element.
public static final String	<i>ELEMENT_SCHEMA</i> on page 315	Name of the appropriate OData element.

#### Inherited members from *IParserDocument*

Modifier and Type	Member	Description
public static final String	<i>ATTRIBUTE_ETAG</i> on page 386	Name of the appropriate OData element.
public static final String	<i>ATTRIBUTE_VALUEPREFIX_EDMTYPE</i> on page 386	Value prefix for EDM Type type values.
public abstract <i>IParserDocument</i>	<i>clone()</i> on page 374	Creates a copy of this object.
public static Map< String, String >	<i>DEFAULT_PREFIXMAPPING</i> on page 386	The default XML Namespace-to-Prefix mapping used for building XMLS.
public static final String[]	<i>EDMDATETIME_PATTERNS</i> on page 386	Possible EDM DateTime patterns Note: Some pattern are not supported by OData specification but still widely used.
public static final String[]	<i>EDMDATETIMEOFFSET_PATTERNS</i> on page 386	Possible EDM TimeOffset patterns Note: Some pattern are not supported by OData specification but still widely used.
public static final String	<i>EDMTIME_PATTERN</i> on page 386	EDM Time pattern.
public static String	<i>ELEMENT_FEED</i> on page 386	Name of the appropriate OData element.

Modifier and Type	Member	Description
public static final String	<i>ELEMENT_ID</i> on page 387	Name of the appropriate OData element.
public abstract String	<i>getAttribute(String...)</i> on page 374	Returns the value of the first attribute with the given route.
public abstract List< String >	<i>getAttributes(String...)</i> on page 374	Returns all the values of attributes with the given route.
public abstract Map< String, String >	<i>getChildAttributeMap(String...)</i> on page 375	Returns all the name-value pairs of attributes contained by the element with the given route.
public abstract List< String >	<i>getChildAttributes(String...)</i> on page 375	Returns all the values of attributes contained by the element with the given route.
public abstract List< IParserDocument >	<i>getChildDocuments(String...)</i> on page 375	Returns the elements contained by the element with the given route.
public abstract List< IParserDocument >	<i>getChildDocumentsWithAttribute(String, String, String...)</i> on page 376	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public abstract List< IParserDocument >	<i>getChildDocumentsWithAttribute(String, String, boolean, String...)</i> on page 376	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public abstract IParserDocument	<i>getDocument(String...)</i> on page 377	Returns the first element with the given route.
public abstract List< IParserDocument >	<i>getDocuments(String...)</i> on page 377	Returns all the elements with the given route.
public abstract List< IParserDocument >	<i>getDocumentsWithAttribute(String, String, String...)</i> on page 378	Returns the elements with the given route that contains the given attribute with the given value.
public abstract List< IParserDocument >	<i>getDocumentsWithAttribute(String, String, boolean, String...)</i> on page 378	Returns the elements with the given route that contains the given attribute with the given value.

Modifier and Type	Member	Description
public abstract IParserDocument	<i>getDocumentWithAttribute(String, String, String...)</i> on page 379	Returns the first element with the given route that contains the given attribute with the given value.
public abstract IParserDocument	<i>getDocumentWithAttribute(String, String, boolean, String...)</i> on page 379	Returns the first element with the given route that contains the given attribute with the given value.
public abstract String	<i>getElementName()</i> on page 380	Returns The name of the root element of this document.
public abstract String	<i>getFunctionImportComplexProperty Value(String...)</i> on page 380	
public abstract String	<i>getPrefixForUri(String)</i> on page 380	Returns the appropriate namespace prefix for the given XML name-space URI.
public abstract String[]	<i>getStrings()</i> on page 381	Returns all the string values contained by this document.
public abstract String	<i>getValue(String...)</i> on page 381	Returns the value of the first element with the given route.
public abstract List< String >	<i>getValues(String...)</i> on page 381	Returns all the values of elements with the given route.
public abstract void	<i>putAttribute(String, String...)</i> on page 382	Sets the value of the attribute with the given route If attribute does not exist it will be created as well as all other non existing elements in the route.
public abstract void	<i>putDocument(IParserDocument, String...)</i> on page 382	Insert the document under the element with the given route inserted document will be placed before already existing documents with the same route name under All missing elements from the route will be created.
public abstract void	<i>putValue(String, String...)</i> on page 382	Sets the value of the first element with the given route.

Modifier and Type	Member	Description
public abstract boolean	<i>removeAttribute(String...)</i> on page 383	Removes first element with the given route.
public abstract boolean	<i>removeAttributes(String...)</i> on page 383	Removes all the attribute with the given route.
public abstract boolean	<i>removeDocument(String...)</i> on page 383	Removes first element with the given route For removing multiple element use setDocuemtns with null arguments.
public static final String	<i>ROOT_DOCUMENT_NAME</i> on page 387	The default root element name for a new document.
public abstract void	<i>setAttributes(List&lt;String&gt;, String...)</i> on page 384	Sets all the values of the attributes with the given route Values will be paired to attributes in order Attributes with greater or equals index than size of new values will be untouched Attributes paired with null values will be removed.
public abstract void	<i>setDocuments(List&lt;IParserDocument&gt;, String...)</i> on page 384	Replaces all the elements with the given route Documents will be paired to elements in order Elements with greater or equals index than size of new elements will be untouched Element paired with null will be removed.
public abstract void	<i>setElementName(String, String...)</i> on page 385	Sets the name of the root element with the given route Use empty route for setting root name of this document.
public abstract void	<i>setValues(List&lt;String&gt;, String...)</i> on page 385	Sets all the values of the elements with the given rout Values will be paired to elements in order Elements with greater or equals index than size of new values will be untouched Null values will be treated as empty strings.

Modifier and Type	Member	Description
public abstract String	<i>toXMLString()</i> on page 385	Returns the XML string representation of this object.
public static final String	<i>XMLNS_APPLICATION_URI</i> on page 387	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/08/dataservices">http://schemas.microsoft.com/ado/2007/08/dataservices</a> .
public static final String	<i>XMLNS_ATOM_URI</i> on page 387	Constant for XMLNS URI: <a href="http://www.w3.org/2005/Atom">http://www.w3.org/2005/Atom</a> .
public static final String	<i>XMLNS_DATASERVICES_URI</i> on page 387	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/08/dataservices">http://schemas.microsoft.com/ado/2007/08/dataservices</a> .
public static final String	<i>XMLNS_EDM_URI</i> on page 387	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/05/edm">http://schemas.microsoft.com/ado/2007/05/edm</a> .
public static final String	<i>XMLNS_EDMX_URI</i> on page 387	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/06/edmx">http://schemas.microsoft.com/ado/2007/06/edmx</a> .
public static final String	<i>XMLNS_GENERICPLAYER_URI</i> on page 388	Constant for XMLNS URI: <a href="http://www.sap.com/Protocols/SAPData/GenericPlayer">http://www.sap.com/Protocols/SAPData/GenericPlayer</a> .
public static final String	<i>XMLNS_METADATA_URI</i> on page 388	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/08/dataservices/metadata">http://schemas.microsoft.com/ado/2007/08/dataservices/metadata</a> .
public static final String	<i>XMLNS_SAP_URI</i> on page 388	Constant for XMLNS URI: <a href="http://www.sap.com/Protocols/SAPData">http://www.sap.com/Protocols/SAPData</a> .

#### Inherited members from IPersistable

Modifier and Type	Member	Description
public void	<i>read(BufferedReader)</i> on page 389	
public void	<i>write(BufferedWriter)</i> on page 389	

*ODataReturnEntry.ODataReturnSchema.ODataReturnEntityType* class**Syntax**

```
protected class ODataReturnEntityType extends ODataEntityType
```

**Members**

All members of ODataReturnEntityType, including inherited members. **Variables**

Modifier and Type	Variable	Description
protected List< IODataProperty >	<i>referenceProperties</i> on page 811	

**Constructors**

Modifier and Type	Constructor	Description
public	<i>ODataReturnEntityType(List&lt; IODataProperty &gt;)</i> on page 810	

**Methods**

Modifier and Type	Method	Description
public List< IODataProperty >	<i>getProperties()</i> on page 810	

**Inherited members from ODataEntityType**

Modifier and Type	Member	Description
public List< IODataProperty >	<i>getGPUUseInSearchPropertiesData()</i> on page 563	Returns The list of appropriate OData elements with 'true' use-in-search (Generic Player names-pace) attribute value.
public List< IODataProperty >	<i>getGPVisibleInDetailPropertiesData()</i> on page 564	Returns The list of appropriate OData elements with 'true' visible-in-detail (Generic Player names-pace) attribute value.
public List< IODataProperty >	<i>getGPVisibleInListPropertiesData()</i> on page 564	Returns The list of appropriate OData elements with 'true' visible-in-list (Generic Player names-pace) attribute value.

Modifier and Type	Member	Description
public List< String >	<i>getKeyPropertyNames()</i> on page 564	Returns the list of the values of the 'PropertyRef' OData element contained by the 'Key' OData element.
public String	<i>getName()</i> on page 564	Returns The value of the appropriate OData attribute.
public List< IODataNavigationProperty >	<i>getNavigationProperties()</i> on page 565	Returns The list of appropriate OData elements.
public IODataNavigationProperty	<i>getNavigationProperty(String)</i> on page 565	Returns The appropriate OData element with the given name.
public List< IODataProperty >	<i>getPropertiesWithAttribute(String, String)</i> on page 565	Returns The list of appropriate OData elements with given attribute value.
public List< IODataProperty >	<i>getPropertiesWithAttribute(String, String, boolean)</i> on page 566	Returns The list of appropriate OData elements with given attribute value.
public IODataProperty	<i>getProperty(String)</i> on page 566	Returns The appropriate OData element with the given name.
public List< IODataProperty >	<i>getSAPSearchablePropertiesData()</i> on page 566	Returns The list of appropriate OData elements with 'true' searchable (SAP names-pace) attribute value.
protected IODataSchema	<i>getSchema()</i> on page 566	
public List< IODataProperty >	<i>getSearchablePropertiesData(String)</i> on page 567	Returns The list of appropriate OData elements with 'true' attribute value of the given attribute.
public boolean	<i>hasStream()</i> on page 567	Returns The value of the appropriate OData attribute.
public	<i>ODataEntityType()</i> on page 563	
protected	<i>ODataEntityType(int[], String[])</i> on page 563	



Modifier and Type	Member	Description
public	<i>ODataEntityType(ParserDocument)</i> on page 563	
protected void	<i>setSchema(IODataSchema)</i> on page 567	

### Inherited members from ParserDocument

Modifier and Type	Member	Description
static transient final String	<i>ANY_STRING</i> on page 963	
static transient final int	<i>ATTRIBUTE_ID</i> on page 963	
static transient final String	<i>ATTRIBUTE_STRING</i> on page 963	
public ParserDocument	<i>clone()</i> on page 945	Creates a copy of this object.
protected Map< String, String >	<i>extensions</i> on page 963	
public String	<i>getAttribute(String...)</i> on page 945	Returns the value of the first attribute with the given route.
public List< String >	<i>getAttributes(String...)</i> on page 946	Returns all the values of attributes with the given route.
protected int	<i>getAttributesEndPosition(int[], int, int)</i> on page 946	
public Map< String, String >	<i>getChildAttributeMap(String...)</i> on page 946	Returns all the name-value pairs of attributes contained by the element with the given route.
public List< String >	<i>getChildAttributes(String...)</i> on page 947	Returns all the values of attributes contained by the element with the given route.
public List< IParserDocument >	<i>getChildDocuments(String...)</i> on page 947	Returns the elements contained by the element with the given route.
public List< IParserDocument >	<i>getChildDocumentsWithAttribute(String, String, String...)</i> on page 947	Returns the elements contained by the element with the given route and having the given attribute with the given value.

Modifier and Type	Member	Description
public List< IParserDocument >	<i>getChildDocumentsWithAttribute(String, String, boolean, String...)</i> on page 948	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public ParserDocument	<i>getDocument(String...)</i> on page 948	Returns the first element with the given route.
protected List< int[] >	<i>getDocumentPositions(String[], int, boolean, boolean)</i> on page 949	
public List< IParserDocument >	<i>getDocuments(String...)</i> on page 949	Returns all the elements with the given route.
public List< IParserDocument >	<i>getDocumentsWithAttribute(String, String, String...)</i> on page 949	Returns the elements with the given route that contains the given attribute with the given value.
public List< IParserDocument >	<i>getDocumentsWithAttribute(String, String, boolean, String...)</i> on page 950	Returns the elements with the given route that contains the given attribute with the given value.
public IParserDocument	<i>getDocumentWithAttribute(String, String, String...)</i> on page 950	Returns the first element with the given route that contains the given attribute with the given value.
public IParserDocument	<i>getDocumentWithAttribute(String, String, boolean, String...)</i> on page 951	Returns the first element with the given route that contains the given attribute with the given value.
public String	<i>getElementName()</i> on page 951	Returns The name of the root element of this document.
public String	<i>getExtension(String)</i> on page 952	
public String	<i>getFunctionImportComplexProperty Value(String...)</i> on page 952	

Modifier and Type	Member	Description
static int	<i>getNameId(String, boolean, boolean)</i> on page 952	
public static List< String >	<i>getNameMap()</i> on page 952	
public static String	<i>getPrefix(String)</i> on page 952	
public String	<i>getPrefixForUri(String)</i> on page 952	Returns the appropriate name-space prefix for the given XML name-space URI.
public static Map< String, String >	<i>getPrefixMapping()</i> on page 953	
protected List< Integer >	<i>getStringPositions(String[], int, boolean, boolean)</i> on page 953	
public String[]	<i>getStrings()</i> on page 953	Returns all the string values contained by this document.
public String	<i>getValue(String...)</i> on page 953	Returns the value of the first element with the given route.
public List< String >	<i>getValues(String...)</i> on page 953	Returns all the values of elements with the given route.
protected int[]	<i>insertRoutePositions(int[], int, int[])</i> on page 954	
protected void	<i>insertRoutesPositions(int, int[])</i> on page 954	
protected void	<i>insertStringsPositions(int, String[])</i> on page 954	
protected String[]	<i>insertStringsPositions(String[], int, String[])</i> on page 954	
boolean	<i>isComplexEntity</i> on page 963	
boolean	<i>isJson</i> on page 963	
protected boolean	<i>isMatched(String, String)</i> on page 954	

Modifier and Type	Member	Description
static List< String >	<i>nameMap</i> on page 963	
	<i>ParserDocument()</i> on page 945	
	<i>ParserDocument(boolean)</i> on page 945	
public	<i>ParserDocument(String)</i> on page 944	
public	<i>ParserDocument(ParserDocument)</i> on page 944	
protected	<i>ParserDocument(int[], String[])</i> on page 945	
protected	<i>ParserDocument(String, boolean)</i> on page 945	
static Map< String, String >	<i>prefixMapping</i> on page 964	
public void	<i>putAttribute(String, String...)</i> on page 955	Sets the value of the attribute with the given route. If attribute does not exist it will be created as well as all other non existing elements in the route.
public void	<i>putDocument(IParserDocument, String...)</i> on page 955	Insert the document under the element with the given route. Inserted document will be placed before already existing documents with the same route name under. All missing elements from the route will be created.
public void	<i>putExtension(String, String)</i> on page 955	
protected void	<i>putString(int, String, int, String...)</i> on page 956	
public void	<i>putValue(String, String...)</i> on page 956	Sets the value of the first element with the given route.
public void	<i>read(BufferedReader)</i> on page 956	

Modifier and Type	Member	Description
public void	<i>readExternal(ObjectInput)</i> on page 956	
public static void	<i>readNameMap(BufferedReader)</i> on page 957	
public boolean	<i>removeAttribute(String...)</i> on page 957	Removes first element with the given route.
public boolean	<i>removeAttributes(String...)</i> on page 957	Removes all the attribute with the given route.
public boolean	<i>removeDocument(String...)</i> on page 957	Removes first element with the given route For removing multiple element use setDocuemtns with null arguments.
public void	<i>removeExtension(String)</i> on page 958	
protected void	<i>removeRoutesPositions(int, int)</i> on page 958	
protected int[]	<i>removeRoutesPositions(int[], int, int)</i> on page 958	
protected boolean	<i>removeString(String...)</i> on page 958	
protected boolean	<i>removeStrings(String...)</i> on page 958	
protected void	<i>removeStringsPositions(int, int)</i> on page 958	
protected String[]	<i>removeStringsPositions(String[], int, int)</i> on page 958	
protected int	<i>replaceRoutesPositions(int, int, int[])</i> on page 959	
protected int[]	<i>replaceRoutesPositions(int[], int, int, int[])</i> on page 959	
protected int	<i>replaceStringsPositions(int, int, String[])</i> on page 959	

Modifier and Type	Member	Description
protected String[]	<i>replaceStringsPositions(String[], int, int, String[])</i> on page 959	
public static String	<i>resolveUrl(String, String)</i> on page 959	
protected int[]	<i>routes</i> on page 964	
public void	<i>setAttribute(String, String...)</i> on page 959	
public void	<i>setAttributes(List&lt;String&gt;, String...)</i> on page 960	Sets all the values of the attributes with the given route Values will be paired to attributes in order Attributes with greater or equals index than size of new values will be untouched Attributes paired with null values will be removed.
public boolean	<i>setDocument(IParserDocument, String...)</i> on page 960	
public void	<i>setDocuments(List&lt;IParserDocument&gt;, String...)</i> on page 960	Replaces all the elements with the given route Documents will be paired to elements in order Elements with greater or equals index than size of new elements will be untouched Element paired with null will be removed.
public void	<i>setElementName(String, String...)</i> on page 961	Sets the name of the root element with the given route Use empty route for setting root name of this document.
public static void	<i>setNameMap(List&lt;String&gt;)</i> on page 961	
public static void	<i>setPrefixMapping(Map&lt;String, String&gt;)</i> on page 961	
protected void	<i>setString(String, String...)</i> on page 961	

Modifier and Type	Member	Description
protected void	<i>setStrings(List&lt; String &gt;, String...)</i> on page 961	
public void	<i>setValue(String, String...)</i> on page 961	
public void	<i>setValues(List&lt; String &gt;, String...)</i> on page 962	Sets all the values of the elements with the given route Values will be paired to elements in order Elements with greater or equals index than size of new values will be untouched Null values will be treated as empty strings.
protected String[]	<i>strings</i> on page 964	
public String	<i>toXMLString()</i> on page 962	Returns the XML string representation of this object.
protected static final String	<i>URL_PROTOCOL_PREFIX</i> on page 964	
static transient final int	<i>VALUE_ID</i> on page 964	
static transient final String	<i>VALUE_STRING</i> on page 964	
public void	<i>write(BufferedWriter)</i> on page 962	
public void	<i>writeExternal(ObjectOutput)</i> on page 962	
public static void	<i>writeNameMap(BufferedWriter)</i> on page 963	

#### Inherited members from IParserDocument

Modifier and Type	Member	Description
public static final String	<i>ATTRIBUTE_ETAG</i> on page 386	Name of the appropriate OData element.
public static final String	<i>ATTRIBUTE_VALUEPREFIX_EDMTYPE</i> on page 386	Value prefix for EDM Type type values.

Modifier and Type	Member	Description
public static Map< String, String >	<i>DEFAULT_PREFIXMAP-PING</i> on page 386	The default XML Namespace-to-Prefix mapping used for building XMLS.
public static final String[]	<i>EDMDATETIME_PATTERNS</i> on page 386	Possible EDM DateTime patterns Note: Some pattern are not supported by OData specification but still widely used.
public static final String[]	<i>EDMDATETIMEOFFSET_PATTERNS</i> on page 386	Possible EDM TimeOffset patterns Note: Some pattern are not supported by OData specification but still widely used.
public static final String	<i>EDMTIME_PATTERN</i> on page 386	EDM Time pattern.
public static String	<i>ELEMENT_FEED</i> on page 386	Name of the appropriate OData element.
public static final String	<i>ELEMENT_ID</i> on page 387	Name of the appropriate OData element.
public static final String	<i>ROOT_DOCUMENT_NAME</i> on page 387	The default root element name for a new document.
public static final String	<i>XMLNS_APPLICATION_URI</i> on page 387	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/08/dataservices">http://schemas.microsoft.com/ado/2007/08/dataservices</a> .
public static final String	<i>XMLNS_ATOM_URI</i> on page 387	Constant for XMLNS URI: <a href="http://www.w3.org/2005/Atom">http://www.w3.org/2005/Atom</a> .
public static final String	<i>XMLNS_DATASERVICES_URI</i> on page 387	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/08/dataservices">http://schemas.microsoft.com/ado/2007/08/dataservices</a> .
public static final String	<i>XMLNS_EDM_URI</i> on page 387	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/05/edm">http://schemas.microsoft.com/ado/2007/05/edm</a> .
public static final String	<i>XMLNS_EDMX_URI</i> on page 387	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/06/edmx">http://schemas.microsoft.com/ado/2007/06/edmx</a> .



Modifier and Type	Member	Description
public static final String	<i>XMLNS_GENERICPLAYER_URI</i> on page 388	Constant for XMLNS URI: <a href="http://www.sap.com/Protocols/SAPData/GenericPlayer">http://www.sap.com/Protocols/SAPData/GenericPlayer</a> .
public static final String	<i>XMLNS_METADATA_URI</i> on page 388	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/08/dataservices/metadata">http://schemas.microsoft.com/ado/2007/08/dataservices/metadata</a> .
public static final String	<i>XMLNS_SAP_URI</i> on page 388	Constant for XMLNS URI: <a href="http://www.sap.com/Protocols/SAPData">http://www.sap.com/Protocols/SAPData</a> .

#### Inherited members from IPersistable

Modifier and Type	Member	Description
public void	<i>read(BufferedReader)</i> on page 389	
public void	<i>write(BufferedWriter)</i> on page 389	

#### Inherited members from IODataEntityType

Modifier and Type	Member	Description
public static final String	<i>ATTRIBUTE_HASSTREAM</i> on page 196	Name of the appropriate OData attribute.
public static final String	<i>ATTRIBUTE_NAME</i> on page 196	Name of the appropriate OData attribute.
public static final String	<i>ELEMENT_ENTITYTYPE</i> on page 196	Name of the appropriate OData element.
public static final String	<i>ELEMENT_KEY</i> on page 196	Name of the appropriate OData element.
public static final String	<i>ELEMENT_PROPERTY</i> on page 196	Name of the appropriate OData element.
public static final String	<i>ELEMENT_PROPERTYREF</i> on page 196	Name of the appropriate OData element.

#### Inherited members from IParserDocument

Modifier and Type	Member	Description
public static final String	<i>ATTRIBUTE_ETAG</i> on page 386	Name of the appropriate OData element.
public static final String	<i>ATTRIBUTE_VALUEPREFIX_EDMTYPE</i> on page 386	Value prefix for EDM Type type values.
public abstract IParserDocument	<i>clone()</i> on page 374	Creates a copy of this object.
public static Map< String, String >	<i>DEFAULT_PREFIXMAPPING</i> on page 386	The default XML Namespace-to-Prefix mapping used for building XMLS.
public static final String[]	<i>EDMDATETIME_PATTERNS</i> on page 386	Possible EDM DateTime patterns Note: Some pattern are not supported by OData specification but still widely used.
public static final String[]	<i>EDMDATETIMEOFFSET_PATTERNS</i> on page 386	Possible EDM DateTimeOffset patterns Note: Some pattern are not supported by OData specification but still widely used.
public static final String	<i>EDMTIME_PATTERN</i> on page 386	EDM Time pattern.
public static String	<i>ELEMENT_FEED</i> on page 386	Name of the appropriate OData element.
public static final String	<i>ELEMENT_ID</i> on page 387	Name of the appropriate OData element.
public abstract String	<i>getAttribute(String...)</i> on page 374	Returns the value of the first attribute with the given route.
public abstract List< String >	<i>getAttributes(String...)</i> on page 374	Returns all the values of attributes with the given route.
public abstract Map< String, String >	<i>getChildAttributeMap(String...)</i> on page 375	Returns all the name-value pairs of attributes contained by the element with the given route.
public abstract List< String >	<i>getChildAttributes(String...)</i> on page 375	Returns all the values of attributes contained by the element with the given route.

Modifier and Type	Member	Description
public abstract List<IParserDocument >	<i>getChildDocuments(String...)</i> on page 375	Returns the elements contained by the element with the given route.
public abstract List<IParserDocument >	<i>getChildDocumentsWithAttribute(String, String, String...)</i> on page 376	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public abstract List<IParserDocument >	<i>getChildDocumentsWithAttribute(String, String, boolean, String...)</i> on page 376	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public abstract IParserDocument	<i>getDocument(String...)</i> on page 377	Returns the first element with the given route.
public abstract List<IParserDocument >	<i>getDocuments(String...)</i> on page 377	Returns all the elements with the given route.
public abstract List<IParserDocument >	<i>getDocumentsWithAttribute(String, String, String...)</i> on page 378	Returns the elements with the given route that contains the given attribute with the given value.
public abstract List<IParserDocument >	<i>getDocumentsWithAttribute(String, String, boolean, String...)</i> on page 378	Returns the elements with the given route that contains the given attribute with the given value.
public abstract IParserDocument	<i>getDocumentWithAttribute(String, String, String...)</i> on page 379	Returns the first element with the given route that contains the given attribute with the given value.
public abstract IParserDocument	<i>getDocumentWithAttribute(String, String, boolean, String...)</i> on page 379	Returns the first element with the given route that contains the given attribute with the given value.
public abstract String	<i>getElementName()</i> on page 380	Returns The name of the root element of this document.
public abstract String	<i>getFunctionImportComplexPropertyValue(String...)</i> on page 380	

Modifier and Type	Member	Description
public abstract String	<i>getPrefixForUri(String)</i> on page 380	Returns the appropriate name-space prefix for the given XML name-space URI.
public abstract String[]	<i>getStrings()</i> on page 381	Returns all the string values contained by this document.
public abstract String	<i>getValue(String...)</i> on page 381	Returns the value of the first element with the given route.
public abstract List< String >	<i>getValues(String...)</i> on page 381	Returns all the values of elements with the given route.
public abstract void	<i>putAttribute(String, String...)</i> on page 382	Sets the value of the attribute with the given route If attribute does not exist it will be created as well as all other non existing elements in the route.
public abstract void	<i>putDocument(IParserDocument, String...)</i> on page 382	Insert the document under the element with the given route inserted document will be placed before already existing documents with the same route name under All missing elements from the route will be created.
public abstract void	<i>putValue(String, String...)</i> on page 382	Sets the value of the first element with the given route.
public abstract boolean	<i>removeAttribute(String...)</i> on page 383	Removes first element with the given route.
public abstract boolean	<i>removeAttributes(String...)</i> on page 383	Removes all the attribute with the given route.
public abstract boolean	<i>removeDocument(String...)</i> on page 383	Removes first element with the given route For removing multiple element use setDocuemtns with null arguments.
public static final String	<i>ROOT_DOCUMENT_NAME</i> on page 387	The default root element name for a new document.

Modifier and Type	Member	Description
public abstract void	<i>setAttributes(List&lt; String &gt;, String...)</i> on page 384	Sets all the values of the attributes with the given route Values will be paired to attributes in order Attributes with greater or equals index than size of new values will be untouched Attributes paired with null values will be removed.
public abstract void	<i>setDocuments(List&lt; IParser-Document &gt;, String...)</i> on page 384	Replaces all the elements with the given route Documents will be paired to elements in order Elements with greater or equals index than size of new elements will be untouched Element paired with null will be removed.
public abstract void	<i>setElementName(String, String...)</i> on page 385	Sets the name of the root element with the given route Use empty route for setting root name of this document.
public abstract void	<i>setValues(List&lt; String &gt;, String...)</i> on page 385	Sets all the values of the elements with the given rout Values will be paired to elements in order Elements with greater or equals index than size of new values will be untouched Null values will be treated as empty strings.
public abstract String	<i>toXMLString()</i> on page 385	Returns the XML string representation of this object.
public static final String	<i>XMLNS_APPLICATION_URI</i> on page 387	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/08/dataservices">http://schemas.microsoft.com/ado/2007/08/dataservices</a> .
public static final String	<i>XMLNS_ATOM_URI</i> on page 387	Constant for XMLNS URI: <a href="http://www.w3.org/2005/Atom">http://www.w3.org/2005/Atom</a> .

Modifier and Type	Member	Description
public static final String	<i>XMLNS_DATASERVICES_URI</i> on page 387	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/08/dataservices">http://schemas.microsoft.com/ado/2007/08/dataservices</a> .
public static final String	<i>XMLNS_EDM_URI</i> on page 387	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/05/edm">http://schemas.microsoft.com/ado/2007/05/edm</a> .
public static final String	<i>XMLNS_EDMX_URI</i> on page 387	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/06/edmx">http://schemas.microsoft.com/ado/2007/06/edmx</a> .
public static final String	<i>XMLNS_GENERICPLAYER_URI</i> on page 388	Constant for XMLNS URI: <a href="http://www.sap.com/Protocols/SAPData/GenericPlayer">http://www.sap.com/Protocols/SAPData/GenericPlayer</a> .
public static final String	<i>XMLNS_METADATA_URI</i> on page 388	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/08/dataservices/metadata">http://schemas.microsoft.com/ado/2007/08/dataservices/metadata</a> .
public static final String	<i>XMLNS_SAP_URI</i> on page 388	Constant for XMLNS URI: <a href="http://www.sap.com/Protocols/SAPData">http://www.sap.com/Protocols/SAPData</a> .

#### Inherited members from IPersistable

Modifier and Type	Member	Description
public void	<i>read(BufferedReader)</i> on page 389	
public void	<i>write(BufferedWriter)</i> on page 389	

#### *ODataReturnEntityType(List< IODataProperty >)* constructor

##### Syntax

```
public ODataReturnEntityType ( List< IODataProperty >
referenceProperties )
```

#### *getProperties()* method

##### Syntax

```
public List< IODataProperty > getProperties ()
```

*referenceProperties* variable

**Syntax**

```
protected List< IODataProperty > referenceProperties
```

*ODataReturnSchema()* constructor

**Syntax**

```
public ODataReturnSchema ()
```

*ODataReturnSchema(List< IODataProperty >)* constructor

**Syntax**

```
public ODataReturnSchema ( List< IODataProperty >
referenceProperties )
```

*ODataReturnSchema(List< IODataProperty >, ODataComplexType)* constructor

**Syntax**

```
public ODataReturnSchema ( List< IODataProperty >
referenceProperties , ODataComplexType complexType )
```

*addProperty(IODataProperty)* method

**Syntax**

```
public void addProperty ( IODataProperty property )
```

*getComplexType(String)* method

**Syntax**

```
public ODataComplexType getComplexType ( String
complexTypeReference )
```

*getEntityTypeForCollection(String)* method

**Syntax**

```
public ODataEntityType getEntityTypeForCollection ( String
collectionId )
```

### *read(BufferedReader) method*

#### **Syntax**

```
public void read (BufferedReader reader) throws  
PersistenceException
```

### *write(BufferedWriter) method*

#### **Syntax**

```
public void write (BufferedWriter writer) throws  
PersistenceException
```

### *complexType variable*

#### **Syntax**

```
protected ODataComplexType complexType
```

### *referenceProperties variable*

#### **Syntax**

```
protected List< IODataProperty > referenceProperties
```

### *ODataReturnTypeInfo(boolean) constructor*

#### **Syntax**

```
public ODataReturnTypeInfo (boolean isComplex)
```

### *ODataReturnTypeInfo(ParserDocument, IODataFunctionImport, IODataSchema, boolean) constructor*

#### **Syntax**

```
public ODataReturnTypeInfo (ParserDocument document ,  
IODataFunctionImport functionImport , IODataSchema schema , boolean  
isComplex)
```

### *putPropertyValue(String, String) method*

Puts the new property element as a sub-element of the 'properties' OData element.

#### **Syntax**

```
public void putPropertyValue (String propertyName , String  
propertyValue)
```



### *Parameters*

- **propertyName** – The name of the property with or without name-space.
- **propertyValue** – The value of the property

### *Usage*

An element with the same name will be overwritten by the new element. Not-prefixed property name will be automatically prefixed with the current prefix of DataServices XML name-space.

### *putPropertyValue(String, String, boolean) method*

Puts the new property element as a sub-element of the 'properties' OData element.

### *Syntax*

```
public void putPropertyValue (String propertyName , String
propertyValue , boolean useDefaultPrefix )
```

### *Parameters*

- **useDefaultPrefix** – If true not-prefixed property name will be automatically prefixed with the current prefix of DataServices XML names-pace.
- **propertyName** – The name of the property with or without name-space.
- **propertyValue** – The value of the property

### *Usage*

An element with the same name will be overwritten by the new element.

If name of the property is not prefixed and useDefaultPreix is false, name of the property should be prefixed by the caller. (Use getPrefix for get the valid prefix for a name-space URI)

### *read(BufferedReader) method*

### *Syntax*

```
public void read (BufferedReader reader) throws
PersistenceException
```

### *Parameters*

- **reader** – The buffered reader to read the object from.

### *Exceptions*

- **PersistenceException** – if data can not be loaded from the reader.

### *setCollectionId(String) method*

Maintains the Id of the OCata Collection that this Entry belongs to.

#### *Syntax*

```
public void setCollectionId ( String collectionId )
```

#### *Parameters*

- **collectionId** – The Id of the OCata Collection that this Entry belongs to

### *setSchema(IODataSchema) method*

Maintains the reference to the appropriate OData Schema object.

#### *Syntax*

```
public void setSchema ( IODataSchema schema )
```

#### *Parameters*

- **schema** – The appropriate OData Schema object.

### *write(BufferedWriter) method*

#### *Syntax*

```
public void write ( BufferedWriter writer ) throws  
PersistenceException
```

#### *Parameters*

- **writer** – The buffered writer that object data needs to be written into.

#### *Exceptions*

- **PersistenceException** – if data can not be written into the writer

### *\_RETURN\_TYPE\_COLLECTION variable*

#### *Syntax*

```
protected static final String _RETURN_TYPE_COLLECTION
```

### *IODataSchema class*

#### *Syntax*

```
public class IODataSchema extends ParserDocument, IODataSchema,  
Externalizable
```

*Derived classes*

- *ODataReturnSchema* on page 778

*Members*

All members of *ODataSchema*, including inherited members. **Variables**

Modifier and Type	Variable	Description
protected <i>IODataServiceDocument</i>	<i>serviceDocument</i> on page 834	

**Constructors**

Modifier and Type	Constructor	Description
public	<i>ODataSchema()</i> on page 830	
public	<i>ODataSchema(ParserDocument)</i> on page 830	
protected	<i>ODataSchema(int[], String[])</i> on page 831	

**Methods**

Modifier and Type	Method	Description
public <i>ODataAssociation</i>	<i>getAssociation(String)</i> on page 831	Returns the appropriate OData Association element with the given relationship attribute.
public List< <i>IODataAssociation</i> >	<i>getAssociations()</i> on page 831	Returns the list of the appropriate OData elements.
public <i>ODataAssociationSet</i>	<i>getAssociationSet(String)</i> on page 831	Returns the appropriate AssociationSet with for given association.
public List< <i>IODataAssociationSet</i> >	<i>getAssociationSets()</i> on page 831	Returns the list of the appropriate OData elements.
public <i>ODataComplexType</i>	<i>getComplexType(String)</i> on page 832	Returns The 'ComplexType' OData element associated with the reference.
public List< <i>IODataComplexType</i> >	<i>getComplexTypes()</i> on page 832	Returns The list of the appropriate OData element.

Modifier and Type	Method	Description
public ODataEntitySet	<i>getEntitySet(String)</i> on page 832	Returns The appropriate OData EntitySet.
public ODataEntityType	<i>getEntityType(String)</i> on page 832	Returns The 'EntityType' OData element associated with the reference argument.
public ODataEntityType	<i>getEntityTypeForCollection(String)</i> on page 833	Returns the 'EntityType' OData element contained by the 'EntitySet' element that is associated with the collectionId matching.
public List< IODataFunctionImport >	<i>getFunctionImports()</i> on page 833	Returns The list of the 'FunctionImport' OData element.
public List< IODataFunctionImport >	<i>getFunctionImportsForCollection(String)</i> on page 833	Returns List of FunctionImports valid for the appropriate collection.
public IODataServiceDocument	<i>getServiceDocument()</i> on page 834	Returns the appropriate OData Service Document.
public String	<i>getTargetCollectionIdForNavigationProperty(String, String)</i> on page 834	Resolves the target collection Id of the given OData Navigation Property element.
public void	<i>setServiceDocument(IODataServiceDocument)</i> on page 834	Maintains reference to the appropriate OData Service Document.

#### Inherited members from ParserDocument

Modifier and Type	Member	Description
static transient final String	<i>ANY_STRING</i> on page 963	
static transient final int	<i>ATTRIBUTE_ID</i> on page 963	
static transient final String	<i>ATTRIBUTE_STRING</i> on page 963	
public ParserDocument	<i>clone()</i> on page 945	Creates a copy of this object.
protected Map< String, String >	<i>extensions</i> on page 963	
public String	<i>getAttribute(String...)</i> on page 945	Returns the value of the first attribute with the given route.

Modifier and Type	Member	Description
public List< String >	<i>getAttributes(String...)</i> on page 946	Returns all the values of attributes with the given route.
protected int	<i>getAttributesEndPosition(int[], int, int)</i> on page 946	
public Map< String, String >	<i>getChildAttributeMap(String...)</i> on page 946	Returns all the name-value pairs of attributes contained by the element with the given route.
public List< String >	<i>getChildAttributes(String...)</i> on page 947	Returns all the values of attributes contained by the element with the given route.
public List< IParserDocument >	<i>getChildDocuments(String...)</i> on page 947	Returns the elements contained by the element with the given route.
public List< IParserDocument >	<i>getChildDocumentsWithAttribute(String, String, String...)</i> on page 947	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public List< IParserDocument >	<i>getChildDocumentsWithAttribute(String, String, boolean, String...)</i> on page 948	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public ParserDocument	<i>getDocument(String...)</i> on page 948	Returns the first element with the given route.
protected List< int[] >	<i>getDocumentPositions(String[], int, boolean, boolean)</i> on page 949	
public List< IParserDocument >	<i>getDocuments(String...)</i> on page 949	Returns all the elements with the given route.
public List< IParserDocument >	<i>getDocumentsWithAttribute(String, String, String...)</i> on page 949	Returns the elements with the given route that contains the given attribute with the given value.

Modifier and Type	Member	Description
public List< IParserDocument >	<i>getDocumentsWithAttribute(String, String, boolean, String...)</i> on page 950	Returns the elements with the given route that contains the given attribute with the given value.
public IParserDocument	<i>getDocumentWithAttribute(String, String, String...)</i> on page 950	Returns the first element with the given route that contains the given attribute with the given value.
public IParserDocument	<i>getDocumentWithAttribute(String, String, boolean, String...)</i> on page 951	Returns the first element with the given route that contains the given attribute with the given value.
public String	<i>getElementName()</i> on page 951	Returns The name of the root element of this document.
public String	<i>getExtension(String)</i> on page 952	
public String	<i>getFunctionImportComplexPropertyValue(String...)</i> on page 952	
static int	<i>getNameId(String, boolean, boolean)</i> on page 952	
public static List< String >	<i>getNameMap()</i> on page 952	
public static String	<i>getPrefix(String)</i> on page 952	
public String	<i>getPrefixForUri(String)</i> on page 952	Returns the appropriate namespace prefix for the given XML name-space URI.
public static Map< String, String >	<i>getPrefixMapping()</i> on page 953	
protected List< Integer >	<i>getStringPositions(String[], int, boolean, boolean)</i> on page 953	
public String[]	<i>getStrings()</i> on page 953	Returns all the string values contained by this document.

Modifier and Type	Member	Description
public String	<i>getValue(String...)</i> on page 953	Returns the value of the first element with the given route.
public List< String >	<i>getValues(String...)</i> on page 953	Returns all the values of elements with the given route.
protected int[]	<i>insertRoutePositions(int[], int, int[])</i> on page 954	
protected void	<i>insertRoutesPositions(int, int[])</i> on page 954	
protected void	<i>insertStringsPositions(int, String[])</i> on page 954	
protected String[]	<i>insertStringsPositions(String[], int, String[])</i> on page 954	
boolean	<i>isComplexEntity</i> on page 963	
boolean	<i>isJson</i> on page 963	
protected boolean	<i>isMatched(String, String)</i> on page 954	
static List< String >	<i>nameMap</i> on page 963	
	<i>ParserDocument()</i> on page 945	
	<i>ParserDocument(boolean)</i> on page 945	
public	<i>ParserDocument(String)</i> on page 944	
public	<i>ParserDocument(ParserDocument)</i> on page 944	
protected	<i>ParserDocument(int[], String[])</i> on page 945	
protected	<i>ParserDocument(String, boolean)</i> on page 945	
static Map< String, String >	<i>prefixMapping</i> on page 964	

Modifier and Type	Member	Description
public void	<i>putAttribute(String, String...)</i> on page 955	Sets the value of the attribute with the given route. If attribute does not exist it will be created as well as all other non existing elements in the route.
public void	<i>putDocument(IParserDocument, String...)</i> on page 955	Insert the document under the element with the given route. Inserted document will be placed before already existing documents with the same route name under. All missing elements from the route will be created.
public void	<i>putExtension(String, String)</i> on page 955	
protected void	<i>putString(int, String, int, String...)</i> on page 956	
public void	<i>putValue(String, String...)</i> on page 956	Sets the value of the first element with the given route.
public void	<i>read(BufferedReader)</i> on page 956	
public static void	<i>readNameMap(BufferedReader)</i> on page 957	
public boolean	<i>removeAttribute(String...)</i> on page 957	Removes first element with the given route.
public boolean	<i>removeAttributes(String...)</i> on page 957	Removes all the attribute with the given route.
public boolean	<i>removeDocument(String...)</i> on page 957	Removes first element with the given route. For removing multiple element use setDocuments with null arguments.
public void	<i>removeExtension(String)</i> on page 958	
protected void	<i>removeRoutesPositions(int, int)</i> on page 958	



Modifier and Type	Member	Description
protected int[]	<i>removeRoutesPositions(int[], int, int)</i> on page 958	
protected boolean	<i>removeString(String...)</i> on page 958	
protected boolean	<i>removeStrings(String...)</i> on page 958	
protected void	<i>removeStringsPositions(int, int)</i> on page 958	
protected String[]	<i>removeStringsPositions(String[], int, int)</i> on page 958	
protected int	<i>replaceRoutesPositions(int, int, int[])</i> on page 959	
protected int[]	<i>replaceRoutesPositions(int[], int, int, int[])</i> on page 959	
protected int	<i>replaceStringsPositions(int, int, String[])</i> on page 959	
protected String[]	<i>replaceStringsPositions(String[], int, int, String[])</i> on page 959	
public static String	<i>resolveUrl(String, String)</i> on page 959	
protected int[]	<i>routes</i> on page 964	
public void	<i>setAttribute(String, String...)</i> on page 959	
public void	<i>setAttributes(List&lt;String&gt;, String...)</i> on page 960	Sets all the values of the attributes with the given route Values will be paired to attributes in order Attributes with greater or equals index than size of new values will be untouched Attributes paired with null values will be removed.

Modifier and Type	Member	Description
public boolean	<i>setDocument(IParserDocument, String...)</i> on page 960	
public void	<i>setDocuments(List&lt;IParserDocument &gt;, String...)</i> on page 960	Replaces all the elements with the given route Documents will be paired to elements in order Elements with greater or equals index than size of new elements will be untouched Element paired with null will be removed.
public void	<i>setElementName(String, String...)</i> on page 961	Sets the name of the root element with the given route Use empty route for setting root name of this document.
public static void	<i>setNameMap(List&lt;String &gt;)</i> on page 961	
public static void	<i>setPrefixMapping(Map&lt;String, String &gt;)</i> on page 961	
protected void	<i>setString(String, String...)</i> on page 961	
protected void	<i>setStrings(List&lt;String &gt;, String...)</i> on page 961	
public void	<i>setValue(String, String...)</i> on page 961	
public void	<i>setValues(List&lt;String &gt;, String...)</i> on page 962	Sets all the values of the elements with the given rout Values will be paired to elements in order Elements with greater or equals index than size of new values will be untouched Null values will be treated as empty strings.
protected String[]	<i>strings</i> on page 964	
public String	<i>toXMLString()</i> on page 962	Returns the XML string representation of this object.

Modifier and Type	Member	Description
protected static final String	<i>URL_PROTOCOL_PREFIX</i> on page 964	
static transient final int	<i>VALUE_ID</i> on page 964	
static transient final String	<i>VALUE_STRING</i> on page 964	
public void	<i>write(BufferedWriter)</i> on page 962	
public static void	<i>writeNameMap(BufferedWriter)</i> on page 963	

### Inherited members from IParserDocument

Modifier and Type	Member	Description
public static final String	<i>ATTRIBUTE_ETAG</i> on page 386	Name of the appropriate OData element.
public static final String	<i>ATTRIBUTE_VALUEPREFIX_EDMTYPE</i> on page 386	Value prefix for EDM Type type values.
public static Map< String, String >	<i>DEFAULT_PREFIXMAPPING</i> on page 386	The default XML Namespace-to-Prefix mapping used for building XMLS.
public static final String[]	<i>EDMDATETIME_PATTERNS</i> on page 386	Possible EDM DateTime patterns Note: Some pattern are not supported by OData specification but still widely used.
public static final String[]	<i>EDMDATETIMEOFFSET_PATTERNS</i> on page 386	Possible EDM TimeOffset patterns Note: Some pattern are not supported by OData specification but still widely used.
public static final String	<i>EDMTIME_PATTERN</i> on page 386	EDM Time pattern.
public static String	<i>ELEMENT_FEED</i> on page 386	Name of the appropriate OData element.
public static final String	<i>ELEMENT_ID</i> on page 387	Name of the appropriate OData element.

Modifier and Type	Member	Description
public static final String	<i>ROOT_DOCUMENT_NAME</i> on page 387	The default root element name for a new document.
public static final String	<i>XMLNS_APPLICATION_URI</i> on page 387	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/08/dataservices">http://schemas.microsoft.com/ado/2007/08/dataservices</a> .
public static final String	<i>XMLNS_ATOM_URI</i> on page 387	Constant for XMLNS URI: <a href="http://www.w3.org/2005/Atom">http://www.w3.org/2005/Atom</a> .
public static final String	<i>XMLNS_DATASERVICES_URI</i> on page 387	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/08/dataservices">http://schemas.microsoft.com/ado/2007/08/dataservices</a> .
public static final String	<i>XMLNS_EDM_URI</i> on page 387	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/05/edm">http://schemas.microsoft.com/ado/2007/05/edm</a> .
public static final String	<i>XMLNS_EDMX_URI</i> on page 387	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/06/edmx">http://schemas.microsoft.com/ado/2007/06/edmx</a> .
public static final String	<i>XMLNS_GENERICPLAYER_URI</i> on page 388	Constant for XMLNS URI: <a href="http://www.sap.com/Protocols/SAPData/GenericPlayer">http://www.sap.com/Protocols/SAPData/GenericPlayer</a> .
public static final String	<i>XMLNS_METADATA_URI</i> on page 388	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/08/dataservices/metadata">http://schemas.microsoft.com/ado/2007/08/dataservices/metadata</a> .
public static final String	<i>XMLNS_SAP_URI</i> on page 388	Constant for XMLNS URI: <a href="http://www.sap.com/Protocols/SAPData">http://www.sap.com/Protocols/SAPData</a> .

#### Inherited members from IPersistable

Modifier and Type	Member	Description
public void	<i>read(BufferedReader)</i> on page 389	
public void	<i>write(BufferedWriter)</i> on page 389	

#### Inherited members from IODataSchema

Modifier and Type	Member	Description
public static final String	<i>ACTION_FOR</i> on page 313	name of the appropriate Odata attribute
public static final String	<i>ATTRIBUTE_ENTITYSET</i> on page 313	Name of the appropriate OData attribute.
public static final String	<i>ATTRIBUTE_ENTITYTYPE</i> on page 313	Name of the appropriate OData attribute.
public static final String	<i>ATTRIBUTE_NAME</i> on page 313	Name of the appropriate OData attribute.
public static final String	<i>ATTRIBUTE_NAMESPACE</i> on page 314	Name of the appropriate OData attribute.
public static final String	<i>ELEMENT_COMPLEXTYPE</i> on page 314	Name of the appropriate OData element.
public static final String	<i>ELEMENT_DATASERVICES</i> on page 314	Name of the appropriate OData element.
public static final String	<i>ELEMENT_EDMX</i> on page 314	Name of the appropriate OData element.
public static final String	<i>ELEMENT_ENTITYCONTAINER</i> on page 314	Name of the appropriate OData element.
public static final String	<i>ELEMENT_ENTITYSET</i> on page 314	Name of the appropriate OData element.
public static final String	<i>ELEMENT_ENTITYTYPE</i> on page 314	Name of the appropriate OData element.
public static final String	<i>ELEMENT_FUNCTIONALIMPORT</i> on page 315	Name of the appropriate OData element.
public static final String	<i>ELEMENT_SCHEMA</i> on page 315	Name of the appropriate OData element.

#### Inherited members from IParserDocument

Modifier and Type	Member	Description
public static final String	<i>ATTRIBUTE_ETAG</i> on page 386	Name of the appropriate OData element.
public static final String	<i>ATTRIBUTE_VALUEPREFIX_EDMTYPE</i> on page 386	Value prefix for EDM Type type values.

Modifier and Type	Member	Description
public abstract IParserDocument	<i>clone()</i> on page 374	Creates a copy of this object.
public static Map< String, String >	<i>DEFAULT_PREFIXMAP-PING</i> on page 386	The default XML Namespace-to-Prefix mapping used for building XMLS.
public static final String[]	<i>EDMDATETIME_PATTERNS</i> on page 386	Possible EDM DateTime patterns Note: Some pattern are not supported by OData specification but still widely used.
public static final String[]	<i>EDMDATETIMEOFFSET_PATTERNS</i> on page 386	Possible EDM TimeOffset patterns Note: Some pattern are not supported by OData specification but still widely used.
public static final String	<i>EDMTIME_PATTERN</i> on page 386	EDM Time pattern.
public static String	<i>ELEMENT_FEED</i> on page 386	Name of the appropriate OData element.
public static final String	<i>ELEMENT_ID</i> on page 387	Name of the appropriate OData element.
public abstract String	<i>getAttribute(String...)</i> on page 374	Returns the value of the first attribute with the given route.
public abstract List< String >	<i>getAttributes(String...)</i> on page 374	Returns all the values of attributes with the given route.
public abstract Map< String, String >	<i>getChildAttribute-Map(String...)</i> on page 375	Returns all the name-value pairs of attributes contained by the element with the given route.
public abstract List< String >	<i>getChildAttributes(String...)</i> on page 375	Returns all the values of attributes contained by the element with the given route.
public abstract List< IParserDocument >	<i>getChildDocuments(String...)</i> on page 375	Returns the elements contained by the element with the given route.

Modifier and Type	Member	Description
public abstract List<IParserDocument >	<i>getChildDocumentsWithAttribute(String, String, String...)</i> on page 376	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public abstract List<IParserDocument >	<i>getChildDocumentsWithAttribute(String, String, boolean, String...)</i> on page 376	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public abstract IParserDocument	<i>getDocument(String...)</i> on page 377	Returns the first element with the given route.
public abstract List<IParserDocument >	<i>getDocuments(String...)</i> on page 377	Returns all the elements with the given route.
public abstract List<IParserDocument >	<i>getDocumentsWithAttribute(String, String, String...)</i> on page 378	Returns the elements with the given route that contains the given attribute with the given value.
public abstract List<IParserDocument >	<i>getDocumentsWithAttribute(String, String, boolean, String...)</i> on page 378	Returns the elements with the given route that contains the given attribute with the given value.
public abstract IParserDocument	<i>getDocumentWithAttribute(String, String, String...)</i> on page 379	Returns the first element with the given route that contains the given attribute with the given value.
public abstract IParserDocument	<i>getDocumentWithAttribute(String, String, boolean, String...)</i> on page 379	Returns the first element with the given route that contains the given attribute with the given value.
public abstract String	<i>getElementName()</i> on page 380	Returns The name of the root element of this document.
public abstract String	<i>getFunctionImportComplexPropertyValue(String...)</i> on page 380	
public abstract String	<i>getPrefixForUri(String)</i> on page 380	Returns the appropriate namespace prefix for the given XML name-space URI.

Modifier and Type	Member	Description
public abstract String[]	<i>getStrings()</i> on page 381	Returns all the string values contained by this document.
public abstract String	<i>getValue(String...)</i> on page 381	Returns the value of the first element with the given route.
public abstract List< String >	<i>getValues(String...)</i> on page 381	Returns all the values of elements with the given route.
public abstract void	<i>putAttribute(String, String...)</i> on page 382	Sets the value of the attribute with the given route. If attribute does not exist it will be created as well as all other non existing elements in the route.
public abstract void	<i>putDocument(IParserDocument, String...)</i> on page 382	Insert the document under the element with the given route. Inserted document will be placed before already existing documents with the same route name. All missing elements from the route will be created.
public abstract void	<i>putValue(String, String...)</i> on page 382	Sets the value of the first element with the given route.
public abstract boolean	<i>removeAttribute(String...)</i> on page 383	Removes first element with the given route.
public abstract boolean	<i>removeAttributes(String...)</i> on page 383	Removes all the attribute with the given route.
public abstract boolean	<i>removeDocument(String...)</i> on page 383	Removes first element with the given route. For removing multiple element use setDocuments with null arguments.
public static final String	<i>ROOT_DOCUMENT_NAME</i> on page 387	The default root element name for a new document.



Modifier and Type	Member	Description
public abstract void	<i>setAttributes(List&lt; String &gt;, String...)</i> on page 384	Sets all the values of the attributes with the given route Values will be paired to attributes in order Attributes with greater or equals index than size of new values will be untouched Attributes paired with null values will be removed.
public abstract void	<i>setDocuments(List&lt; IParser-Document &gt;, String...)</i> on page 384	Replaces all the elements with the given route Documents will be paired to elements in order Elements with greater or equals index than size of new elements will be untouched Element paired with null will be removed.
public abstract void	<i>setElementName(String, String...)</i> on page 385	Sets the name of the root element with the given route Use empty route for setting root name of this document.
public abstract void	<i>setValues(List&lt; String &gt;, String...)</i> on page 385	Sets all the values of the elements with the given rout Values will be paired to elements in order Elements with greater or equals index than size of new values will be untouched Null values will be treated as empty strings.
public abstract String	<i>toXMLString()</i> on page 385	Returns the XML string representation of this object.
public static final String	<i>XMLNS_APPLICATION_URI</i> on page 387	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/08/dataservices">http://schemas.microsoft.com/ado/2007/08/dataservices</a> .
public static final String	<i>XMLNS_ATOM_URI</i> on page 387	Constant for XMLNS URI: <a href="http://www.w3.org/2005/Atom">http://www.w3.org/2005/Atom</a> .

Modifier and Type	Member	Description
public static final String	<i>XMLNS_DATASERVICES_URI</i> on page 387	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/08/dataservices">http://schemas.microsoft.com/ado/2007/08/dataservices</a> .
public static final String	<i>XMLNS_EDM_URI</i> on page 387	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/05/edm">http://schemas.microsoft.com/ado/2007/05/edm</a> .
public static final String	<i>XMLNS_EDMX_URI</i> on page 387	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/06/edmx">http://schemas.microsoft.com/ado/2007/06/edmx</a> .
public static final String	<i>XMLNS_GENERICPLAYER_URI</i> on page 388	Constant for XMLNS URI: <a href="http://www.sap.com/Protocols/SAPData/GenericPlayer">http://www.sap.com/Protocols/SAPData/GenericPlayer</a> .
public static final String	<i>XMLNS_METADATA_URI</i> on page 388	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/08/dataservices/metadata">http://schemas.microsoft.com/ado/2007/08/dataservices/metadata</a> .
public static final String	<i>XMLNS_SAP_URI</i> on page 388	Constant for XMLNS URI: <a href="http://www.sap.com/Protocols/SAPData">http://www.sap.com/Protocols/SAPData</a> .

#### Inherited members from IPersistable

Modifier and Type	Member	Description
public void	<i>read(BufferedReader)</i> on page 389	
public void	<i>write(BufferedWriter)</i> on page 389	

#### *ODataSchema()* constructor

##### Syntax

```
public ODataSchema ()
```

#### *ODataSchema(ParserDocument)* constructor

##### Syntax

```
public ODataSchema ( ParserDocument document )
```

*ODataSchema(int[], String[]) constructor**Syntax*

```
protected ODataSchema ( int[] routes , String[] values )
```

*getAssociation(String) method*

Returns the appropriate OData Association element with the given relationship attribute.

*Syntax*

```
public ODataAssociation getAssociation ( String relationShip )
```

*getAssociations() method*

Returns the list of the appropriate OData elements.

*Syntax*

```
public List< IODataAssociation > getAssociations ()
```

*Returns*

List of the appropriate OData elements

*getAssociationSet(String) method*

Returns the appropriate AssociationSet with for given association.

*Syntax*

```
public ODataAssociationSet getAssociationSet ( String association )
```

*Parameters*

- **association** – The association of the AssociationSet

*Returns*

The appropriate AssociationSet with for given association

*getAssociationSets() method*

Returns the list of the appropriate OData elements.

*Syntax*

```
public List< IODataAssociationSet > getAssociationSets ()
```

*Returns*

List of the appropriate OData elements

*getComplexType(String) method*

Returns The 'ComplexType' OData element associated with the reference.

*Syntax*

```
public ODataComplexType getComplexType ( String  
complexTypeReference )
```

*Parameters*

- **complexTypeReference** – Reference to the appropriate Complex Type (example: 'namespace.complextypename')

*Returns*

The 'ComplexType' OData element associated with the reference

*getComplexTypes() method*

Returns The list of the appropriate OData element.

*Syntax*

```
public List< IODataComplexType > getComplexTypes ()
```

*Returns*

The list of the appropriate OData element

*getEntitySet(String) method*

Returns The appropriate OData EntitySet.

*Syntax*

```
public ODataEntitySet getEntitySet ( String collectionId )
```

*Parameters*

- **collectionId** – The href of the collection to find the OData EntitySet for

*Returns*

The appropriate OData EntitySet

*getEntityType(String) method*

Returns The 'EntityType' OData element associated with the reference argument.

*Syntax*

```
public ODataEntityType getEntityType ( String entityTypeReference )
```

*Parameters*

- **entityTypeReference** – Reference to the appropriate Entity Type (example: 'namespace.entitytypename')

*Returns*

The 'EntityType' OData element associated with the reference argument

*getEntityTypeForCollection(String) method*

Returns the 'EntityType' OData element contained by the 'EntitySet' element that is associated with the collectionId matching.

*Syntax*

```
public ODataEntityType getEntityTypeForCollection (String
collectionId )
```

*Parameters*

- **collectionId** – The Id to be compared with the name of 'EntitySet' elements

*Returns*

The matching EntityType

*getFunctionImports() method*

Returns The list of the 'FunctionImport' OData element.

*Syntax*

```
public List< IODataFunctionImport > getFunctionImports ()
```

*Returns*

The list of the 'FunctionImport' OData element

*getFunctionImportsForCollection(String) method*

Returns List of FunctionImports valid for the appropriate collection.

*Syntax*

```
public List< IODataFunctionImport >
getFunctionImportsForCollection (String collectionId )
```

*Parameters*

- **collectionId** – The href of the appropriate collection.

*Returns*

List of FunctionImports valid for the appropriate collection.

### *getServiceDocument() method*

Returns the appropriate OData Service Document.

#### *Syntax*

```
public IODataServiceDocument getServiceDocument ()
```

#### *Returns*

The appropriate OData Service Document

### *getTargetCollectionIdForNavigationProperty(String, String) method*

Resolves the target collection Id of the given OData Navigation Property element.

#### *Syntax*

```
public String getTargetCollectionIdForNavigationProperty  
(String sourceCollectionId , String navigationPropertyName )
```

#### *Parameters*

- **sourceCollectionId** – The source Id of the source collection that is linked with the target collection
- **navigationPropertyName** – The name of the Navigation Property

#### *Returns*

The Id of the target collection

### *setServiceDocument(IODataServiceDocument) method*

Maintains reference to the appropriate OData Service Document.

#### *Syntax*

```
public void setServiceDocument ( IODataServiceDocument  
serviceDocument )
```

#### *Parameters*

- **serviceDocument** – The appropriate OData Service Document

*serviceDocument* variable

#### *Syntax*

```
protected IODataServiceDocument serviceDocument
```

*ODataServiceDocument class***Syntax**

```
public class ODataServiceDocument extends ParserDocument,
IODataServiceDocument, Externalizable
```

**Members**

All members of ODataServiceDocument, including inherited members. **Variables**

Modifier and Type	Variable	Description
protected JsonObject	<i>gwServiceDocument</i> on page 853	
protected boolean	<i>isJson</i> on page 853	
protected Map< String, IODataOpenSearchDescription >	<i>openSearchDescriptions</i> on page 853	
protected IODataSchema	<i>schema</i> on page 853	

**Constructors**

Modifier and Type	Constructor	Description
public	<i>ODataServiceDocument()</i> on page 850	
public	<i>ODataServiceDocument(ParserDocument)</i> on page 850	
public	<i>ODataServiceDocument(JsonObject)</i> on page 850	
protected	<i>ODataServiceDocument(int[], String[])</i> on page 850	

**Methods**

Modifier and Type	Method	Description
public List< IODataCollection >	<i>getAllCollections()</i> on page 850	Returns the list of all 'collection' OData element contained by the 'workspace' elements.
public String	<i>getBaseUrl()</i> on page 850	Returns The value of the 'base' OData attribute.

Modifier and Type	Method	Description
public String	<i>getEtag()</i> on page 850	Returns The value of the 'etag' OData attribute.
public String	<i>getLanguage()</i> on page 851	Returns the value of the 'lang' OData attribute.
public IODataOpenSearchDescription	<i>getOpenSearchDescription(String)</i> on page 851	Returns the appropriate OpenSearch Description Document for the given collection.
public IODataSchema	<i>getSchema()</i> on page 851	Returns the appropriate OData Schema document.
public String	<i>getSchemaUrl()</i> on page 851	Returns The full URL that can be used for retrieving the OData Schema document.
public List< IODataWorkspace >	<i>getWorkspaces()</i> on page 852	Returns the list of appropriate OData elements.
public void	<i>read(BufferedReader)</i> on page 852	
public void	<i>setOpenSearchDescription(String, IODataOpenSearchDescription)</i> on page 852	Maintains the appropriate OpenSearch Description Document for the given collection.
public void	<i>setSchema(IODataSchema)</i> on page 852	Maintains the appropriate OData Schema document.
public void	<i>write(BufferedWriter)</i> on page 853	

#### Inherited members from ParserDocument

Modifier and Type	Member	Description
static transient final String	<i>ANY_STRING</i> on page 963	
static transient final int	<i>ATTRIBUTE_ID</i> on page 963	
static transient final String	<i>ATTRIBUTE_STRING</i> on page 963	
public ParserDocument	<i>clone()</i> on page 945	Creates a copy of this object.



Modifier and Type	Member	Description
protected Map< String, String >	<i>extensions</i> on page 963	
public String	<i>getAttribute(String...)</i> on page 945	Returns the value of the first attribute with the given route.
public List< String >	<i>getAttributes(String...)</i> on page 946	Returns all the values of attributes with the given route.
protected int	<i>getAttributesEndPosition(int[], int, int)</i> on page 946	
public Map< String, String >	<i>getChildAttributeMap(String...)</i> on page 946	Returns all the name-value pairs of attributes contained by the element with the given route.
public List< String >	<i>getChildAttributes(String...)</i> on page 947	Returns all the values of attributes contained by the element with the given route.
public List< IParserDocument >	<i>getChildDocuments(String...)</i> on page 947	Returns the elements contained by the element with the given route.
public List< IParserDocument >	<i>getChildDocumentsWithAttribute(String, String, String...)</i> on page 947	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public List< IParserDocument >	<i>getChildDocumentsWithAttribute(String, String, boolean, String...)</i> on page 948	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public ParserDocument	<i>getDocument(String...)</i> on page 948	Returns the first element with the given route.
protected List< int[] >	<i>getDocumentPositions(String[], int, boolean, boolean)</i> on page 949	
public List< IParserDocument >	<i>getDocuments(String...)</i> on page 949	Returns all the elements with the given route.
public List< IParserDocument >	<i>getDocumentsWithAttribute(String, String, String...)</i> on page 949	Returns the elements with the given route that contains the given attribute with the given value.

Modifier and Type	Member	Description
public List< IParserDocument >	<i>getDocumentsWithAttribute(String, String, boolean, String...)</i> on page 950	Returns the elements with the given route that contains the given attribute with the given value.
public IParserDocument	<i>getDocumentWithAttribute(String, String, String...)</i> on page 950	Returns the first element with the given route that contains the given attribute with the given value.
public IParserDocument	<i>getDocumentWithAttribute(String, String, boolean, String...)</i> on page 951	Returns the first element with the given route that contains the given attribute with the given value.
public String	<i>getElementName()</i> on page 951	Returns The name of the root element of this document.
public String	<i>getExtension(String)</i> on page 952	
public String	<i>getFunctionImportComplexProperty Value(String...)</i> on page 952	
static int	<i>getNameId(String, boolean, boolean)</i> on page 952	
public static List< String >	<i>getNameMap()</i> on page 952	
public static String	<i>getPrefix(String)</i> on page 952	
public String	<i>getPrefixForUri(String)</i> on page 952	Returns the appropriate namespace prefix for the given XML name-space URI.
public static Map< String, String >	<i>getPrefixMapping()</i> on page 953	
protected List< Integer >	<i>getStringPositions(String[], int, boolean, boolean)</i> on page 953	
public String[]	<i>getStrings()</i> on page 953	Returns all the string values contained by this document.

Modifier and Type	Member	Description
public String	<i>getValue(String...)</i> on page 953	Returns the value of the first element with the given route.
public List< String >	<i>getValues(String...)</i> on page 953	Returns all the values of elements with the given route.
protected int[]	<i>insertRoutePositions(int[], int, int[])</i> on page 954	
protected void	<i>insertRoutesPositions(int, int[])</i> on page 954	
protected void	<i>insertStringsPositions(int, String[])</i> on page 954	
protected String[]	<i>insertStringsPositions(String[], int, String[])</i> on page 954	
boolean	<i>isComplexEntity</i> on page 963	
protected boolean	<i>isMatched(String, String)</i> on page 954	
static List< String >	<i>nameMap</i> on page 963	
	<i>ParserDocument()</i> on page 945	
	<i>ParserDocument(boolean)</i> on page 945	
public	<i>ParserDocument(String)</i> on page 944	
public	<i>ParserDocument(ParserDocument)</i> on page 944	
protected	<i>ParserDocument(int[], String[])</i> on page 945	
protected	<i>ParserDocument(String, boolean)</i> on page 945	
static Map< String, String >	<i>prefixMapping</i> on page 964	

Modifier and Type	Member	Description
public void	<i>putAttribute(String, String...)</i> on page 955	Sets the value of the attribute with the given route. If attribute does not exist it will be created as well as all other non existing elements in the route.
public void	<i>putDocument(IParserDocument, String...)</i> on page 955	Insert the document under the element with the given route. Inserted document will be placed before already existing documents with the same route name under. All missing elements from the route will be created.
public void	<i>putExtension(String, String)</i> on page 955	
protected void	<i>putString(int, String, int, String...)</i> on page 956	
public void	<i>putValue(String, String...)</i> on page 956	Sets the value of the first element with the given route.
public static void	<i>readNameMap(BufferedReader)</i> on page 957	
public boolean	<i>removeAttribute(String...)</i> on page 957	Removes first element with the given route.
public boolean	<i>removeAttributes(String...)</i> on page 957	Removes all the attribute with the given route.
public boolean	<i>removeDocument(String...)</i> on page 957	Removes first element with the given route. For removing multiple element use setDocuments with null arguments.
public void	<i>removeExtension(String)</i> on page 958	
protected void	<i>removeRoutesPositions(int, int)</i> on page 958	
protected int[]	<i>removeRoutesPositions(int[], int, int)</i> on page 958	

Modifier and Type	Member	Description
protected boolean	<i>removeString(String...)</i> on page 958	
protected boolean	<i>removeStrings(String...)</i> on page 958	
protected void	<i>removeStringsPositions(int, int)</i> on page 958	
protected String[]	<i>removeStringsPositions(String[], int, int)</i> on page 958	
protected int	<i>replaceRoutesPositions(int, int, int[])</i> on page 959	
protected int[]	<i>replaceRoutesPositions(int[], int, int, int[])</i> on page 959	
protected int	<i>replaceStringsPositions(int, int, String[])</i> on page 959	
protected String[]	<i>replaceStringsPositions(String[], int, int, String[])</i> on page 959	
public static String	<i>resolveUrl(String, String)</i> on page 959	
protected int[]	<i>routes</i> on page 964	
public void	<i>setAttribute(String, String...)</i> on page 959	
public void	<i>setAttributes(List&lt;String&gt;, String...)</i> on page 960	Sets all the values of the attributes with the given route Values will be paired to attributes in order Attributes with greater or equals index than size of new values will be untouched Attributes paired with null values will be removed.
public boolean	<i>setDocument(IParserDocument, String...)</i> on page 960	

Modifier and Type	Member	Description
public void	<i>setDocuments(List&lt; IParser-Document &gt;, String...)</i> on page 960	Replaces all the elements with the given route Documents will be paired to elements in order Elements with greater or equals index than size of new elements will be untouched Element paired with null will be removed.
public void	<i>setElementName(String, String...)</i> on page 961	Sets the name of the root element with the given route Use empty route for setting root name of this document.
public static void	<i>setNameMap(List&lt;String &gt;)</i> on page 961	
public static void	<i>setPrefixMapping(Map&lt;String, String &gt;)</i> on page 961	
protected void	<i>setString(String, String...)</i> on page 961	
protected void	<i>setStrings(List&lt;String &gt;, String...)</i> on page 961	
public void	<i>setValue(String, String...)</i> on page 961	
public void	<i>setValues(List&lt;String &gt;, String...)</i> on page 962	Sets all the values of the elements with the given route Values will be paired to elements in order Elements with greater or equals index than size of new values will be untouched Null values will be treated as empty strings.
protected String[]	<i>strings</i> on page 964	
public String	<i>toXMLString()</i> on page 962	Returns the XML string representation of this object.
protected static final String	<i>URL_PROTOCOL_PREFIX</i> on page 964	

Modifier and Type	Member	Description
static transient final int	<i>VALUE_ID</i> on page 964	
static transient final String	<i>VALUE_STRING</i> on page 964	
public static void	<i>writeNameMap(BufferedWriter)</i> on page 963	

### Inherited members from *IParserDocument*

Modifier and Type	Member	Description
public static final String	<i>ATTRIBUTE_ETAG</i> on page 386	Name of the appropriate OData element.
public static final String	<i>ATTRIBUTE_VALUEPREFIX_EDMTYPE</i> on page 386	Value prefix for EDM Type type values.
public static Map< String, String >	<i>DEFAULT_PREFIXMAPPING</i> on page 386	The default XML Namespace-to-Prefix mapping used for building XMLS.
public static final String[]	<i>EDMDATETIME_PATTERNS</i> on page 386	Possible EDM DateTime patterns Note: Some pattern are not supported by OData specification but still widely used.
public static final String[]	<i>EDMDATETIMEOFFSET_PATTERNS</i> on page 386	Possible EDM TimeOffset patterns Note: Some pattern are not supported by OData specification but still widely used.
public static final String	<i>EDMTIME_PATTERN</i> on page 386	EDM Time pattern.
public static String	<i>ELEMENT_FEED</i> on page 386	Name of the appropriate OData element.
public static final String	<i>ELEMENT_ID</i> on page 387	Name of the appropriate OData element.
public static final String	<i>ROOT_DOCUMENT_NAME</i> on page 387	The default root element name for a new document.
public static final String	<i>XMLNS_APPLICATION_URI</i> on page 387	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/08/dataservices">http://schemas.microsoft.com/ado/2007/08/dataservices</a> .

Modifier and Type	Member	Description
public static final String	<i>XMLNS_ATOM_URI</i> on page 387	Constant for XMLNS URI: <a href="http://www.w3.org/2005/Atom">http://www.w3.org/2005/Atom</a> .
public static final String	<i>XMLNS_DATASERVICES_URI</i> on page 387	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/08/dataservices">http://schemas.microsoft.com/ado/2007/08/dataservices</a> .
public static final String	<i>XMLNS_EDM_URI</i> on page 387	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/05/edm">http://schemas.microsoft.com/ado/2007/05/edm</a> .
public static final String	<i>XMLNS_EDMX_URI</i> on page 387	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/06/edmx">http://schemas.microsoft.com/ado/2007/06/edmx</a> .
public static final String	<i>XMLNS_GENERICPLAYER_URI</i> on page 388	Constant for XMLNS URI: <a href="http://www.sap.com/Protocols/SAPData/GenericPlayer">http://www.sap.com/Protocols/SAPData/GenericPlayer</a> .
public static final String	<i>XMLNS_METADATA_URI</i> on page 388	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/08/dataservices/metadata">http://schemas.microsoft.com/ado/2007/08/dataservices/metadata</a> .
public static final String	<i>XMLNS_SAP_URI</i> on page 388	Constant for XMLNS URI: <a href="http://www.sap.com/Protocols/SAPData">http://www.sap.com/Protocols/SAPData</a> .

**Inherited members from IPersistable**

Modifier and Type	Member	Description
public void	<i>read(BufferedReader)</i> on page 389	
public void	<i>write(BufferedWriter)</i> on page 389	

**Inherited members from IODataServiceDocument**

Modifier and Type	Member	Description
public static final String	<i>ATTRIBUTE_BASE</i> on page 324	Name of the appropriate OData attribute.



Modifier and Type	Member	Description
public static final String	<i>ATTRIBUTE_LANG</i> on page 324	Name of the appropriate OData attribute.
public static final String	<i>ELEMENT_COLLECTION</i> on page 324	Name of the appropriate OData element.
public static final String	<i>ELEMENT_SERVICE</i> on page 324	Name of the appropriate OData element.
public static final String	<i>ELEMENT_WORKSPACE</i> on page 324	Name of the appropriate OData element.
public static final String	<i>URL_SUFFIX_METADATA</i> on page 324	URL value suffix for retrieving OData Schema document.

#### Inherited members from *IParserDocument*

Modifier and Type	Member	Description
public static final String	<i>ATTRIBUTE_ETAG</i> on page 386	Name of the appropriate OData element.
public static final String	<i>ATTRIBUTE_VALUEPREFIX_EDMTYPE</i> on page 386	Value prefix for EDM Type type values.
public abstract <i>IParserDocument</i>	<i>clone()</i> on page 374	Creates a copy of this object.
public static Map< String, String >	<i>DEFAULT_PREFIXMAPPING</i> on page 386	The default XML Namespace-to-Prefix mapping used for building XMLS.
public static final String[]	<i>EDMDATETIME_PATTERNS</i> on page 386	Possible EDM DateTime patterns Note: Some pattern are not supported by OData specification but still widely used.
public static final String[]	<i>EDMDATETIMEOFFSET_PATTERNS</i> on page 386	Possible EDM TimeOffset patterns Note: Some pattern are not supported by OData specification but still widely used.
public static final String	<i>EDMTIME_PATTERN</i> on page 386	EDM Time pattern.
public static String	<i>ELEMENT_FEED</i> on page 386	Name of the appropriate OData element.

Modifier and Type	Member	Description
public static final String	<i>ELEMENT_ID</i> on page 387	Name of the appropriate OData element.
public abstract String	<i>getAttribute(String...)</i> on page 374	Returns the value of the first attribute with the given route.
public abstract List< String >	<i>getAttributes(String...)</i> on page 374	Returns all the values of attributes with the given route.
public abstract Map< String, String >	<i>getChildAttributeMap(String...)</i> on page 375	Returns all the name-value pairs of attributes contained by the element with the given route.
public abstract List< String >	<i>getChildAttributes(String...)</i> on page 375	Returns all the values of attributes contained by the element with the given route.
public abstract List< IParserDocument >	<i>getChildDocuments(String...)</i> on page 375	Returns the elements contained by the element with the given route.
public abstract List< IParserDocument >	<i>getChildDocumentsWithAttribute(String, String, String...)</i> on page 376	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public abstract List< IParserDocument >	<i>getChildDocumentsWithAttribute(String, String, boolean, String...)</i> on page 376	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public abstract IParserDocument	<i>getDocument(String...)</i> on page 377	Returns the first element with the given route.
public abstract List< IParserDocument >	<i>getDocuments(String...)</i> on page 377	Returns all the elements with the given route.
public abstract List< IParserDocument >	<i>getDocumentsWithAttribute(String, String, String...)</i> on page 378	Returns the elements with the given route that contains the given attribute with the given value.
public abstract List< IParserDocument >	<i>getDocumentsWithAttribute(String, String, boolean, String...)</i> on page 378	Returns the elements with the given route that contains the given attribute with the given value.

Modifier and Type	Member	Description
public abstract IParserDocument	<i>getDocumentWithAttribute(String, String, String...)</i> on page 379	Returns the first element with the given route that contains the given attribute with the given value.
public abstract IParserDocument	<i>getDocumentWithAttribute(String, String, boolean, String...)</i> on page 379	Returns the first element with the given route that contains the given attribute with the given value.
public abstract String	<i>getElementName()</i> on page 380	Returns The name of the root element of this document.
public abstract String	<i>getFunctionImportComplexProperty Value(String...)</i> on page 380	
public abstract String	<i>getPrefixForUri(String)</i> on page 380	Returns the appropriate namespace prefix for the given XML name-space URI.
public abstract String[]	<i>getStrings()</i> on page 381	Returns all the string values contained by this document.
public abstract String	<i>getValue(String...)</i> on page 381	Returns the value of the first element with the given route.
public abstract List< String >	<i>getValues(String...)</i> on page 381	Returns all the values of elements with the given route.
public abstract void	<i>putAttribute(String, String...)</i> on page 382	Sets the value of the attribute with the given route If attribute does not exist it will be created as well as all other non existing elements in the route.
public abstract void	<i>putDocument(IParserDocument, String...)</i> on page 382	Insert the document under the element with the given route inserted document will be placed before already existing documents with the same route name under All missing elements from the route will be created.
public abstract void	<i>putValue(String, String...)</i> on page 382	Sets the value of the first element with the given route.

Modifier and Type	Member	Description
public abstract boolean	<i>removeAttribute(String...)</i> on page 383	Removes first element with the given route.
public abstract boolean	<i>removeAttributes(String...)</i> on page 383	Removes all the attribute with the given route.
public abstract boolean	<i>removeDocument(String...)</i> on page 383	Removes first element with the given route For removing multiple element use setDocuemtns with null arguments.
public static final String	<i>ROOT_DOCUMENT_NAME</i> on page 387	The default root element name for a new document.
public abstract void	<i>setAttributes(List&lt;String&gt;, String...)</i> on page 384	Sets all the values of the attributes with the given route Values will be paired to attributes in order Attributes with greater or equals index than size of new values will be untouched Attributes paired with null values will be removed.
public abstract void	<i>setDocuments(List&lt;IParserDocument&gt;, String...)</i> on page 384	Replaces all the elements with the given route Documents will be paired to elements in order Elements with greater or equals index than size of new elements will be untouched Element paired with null will be removed.
public abstract void	<i>setElementName(String, String...)</i> on page 385	Sets the name of the root element with the given route Use empty route for setting root name of this document.
public abstract void	<i>setValues(List&lt;String&gt;, String...)</i> on page 385	Sets all the values of the elements with the given rout Values will be paired to elements in order Elements with greater or equals index than size of new values will be untouched Null values will be treated as empty strings.

Modifier and Type	Member	Description
public abstract String	<i>toXMLString()</i> on page 385	Returns the XML string representation of this object.
public static final String	<i>XMLNS_APPLICATION_URI</i> on page 387	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/08/dataservices">http://schemas.microsoft.com/ado/2007/08/dataservices</a> .
public static final String	<i>XMLNS_ATOM_URI</i> on page 387	Constant for XMLNS URI: <a href="http://www.w3.org/2005/Atom">http://www.w3.org/2005/Atom</a> .
public static final String	<i>XMLNS_DATASERVICES_URI</i> on page 387	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/08/dataservices">http://schemas.microsoft.com/ado/2007/08/dataservices</a> .
public static final String	<i>XMLNS_EDM_URI</i> on page 387	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/05/edm">http://schemas.microsoft.com/ado/2007/05/edm</a> .
public static final String	<i>XMLNS_EDMX_URI</i> on page 387	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/06/edmx">http://schemas.microsoft.com/ado/2007/06/edmx</a> .
public static final String	<i>XMLNS_GENERICPLAYER_URI</i> on page 388	Constant for XMLNS URI: <a href="http://www.sap.com/Protocols/SAPData/GenericPlayer">http://www.sap.com/Protocols/SAPData/GenericPlayer</a> .
public static final String	<i>XMLNS_METADATA_URI</i> on page 388	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/08/dataservices/metadata">http://schemas.microsoft.com/ado/2007/08/dataservices/metadata</a> .
public static final String	<i>XMLNS_SAP_URI</i> on page 388	Constant for XMLNS URI: <a href="http://www.sap.com/Protocols/SAPData">http://www.sap.com/Protocols/SAPData</a> .

#### Inherited members from IPersistable

Modifier and Type	Member	Description
public void	<i>read(BufferedReader)</i> on page 389	
public void	<i>write(BufferedWriter)</i> on page 389	

### *ODataServiceDocument()* constructor

#### *Syntax*

```
public ODataServiceDocument ()
```

### *ODataServiceDocument(ParserDocument)* constructor

#### *Syntax*

```
public ODataServiceDocument ( ParserDocument document )
```

### *ODataServiceDocument(JsonObject)* constructor

#### *Syntax*

```
public ODataServiceDocument ( JsonObject document )
```

### *ODataServiceDocument(int[], String[])* constructor

#### *Syntax*

```
protected ODataServiceDocument ( int[] routes , String[] values )
```

### *getAllCollections()* method

Returns the list of all 'collection' OData element contained by the 'workspace' elements.

#### *Syntax*

```
public List< IODataCollection > getAllCollections ()
```

#### *Returns*

The list of all 'collection' OData element contained by the 'workspace' elements

### *getBaseUrl()* method

Returns The value of the 'base' OData attribute.

#### *Syntax*

```
public String getBaseUrl ()
```

#### *Returns*

The value of the 'base' OData attribute

### *getEtag()* method

Returns The value of the 'etag' OData attribute.

#### *Syntax*

```
public String getEtag ()
```

*Returns*

The value of the 'etag' OData attribute

*getLanguage() method*

Returns the value of the 'lang' OData attribute.

*Syntax*

```
public String getLanguage ()
```

*Returns*

The value of the 'lang' OData attribute

*getOpenSearchDescription(String) method*

Returns the appropriate OpenSearch Description Document for the given collection.

*Syntax*

```
public IODataOpenSearchDescription getOpenSearchDescription (
String collectionId )
```

*Parameters*

- **collectionId** – The Id of the collection

*Returns*

The appropriate OpenSearch Description Document

*getSchema() method*

Returns the appropriate OData Schema document.

*Syntax*

```
public IODataSchema getSchema ()
```

*Returns*

The appropriate OData Schema document

*getSchemaUrl() method*

Returns The full URL that can be used for retrieving the OData Schema document.

*Syntax*

```
public String getSchemaUrl ()
```

*Returns*

The full URL that can be used for retrieving the OData Schema document

### *getWorkspaces() method*

Returns the list of appropriate OData elements.

#### *Syntax*

```
public List< IODataWorkspace > getWorkspaces ()
```

#### *Returns*

The list of appropriate OData elements

### *read(BufferedReader) method*

#### *Syntax*

```
public void read (BufferedReader reader) throws  
PersistenceException
```

#### *Parameters*

- **reader** – The buffered reader to read the object from.

#### *Exceptions*

- **PersistenceException** – if data can not be loaded from the reader.

### *setOpenSearchDescription(String, IODataOpenSearchDescription) method*

Maintains the appropriate OpenSearch Description Document for the given collection.

#### *Syntax*

```
public void setOpenSearchDescription (String collectionId ,  
IODataOpenSearchDescription openSearchDescription )
```

#### *Parameters*

- **collectionId** – The Id of the collection
- **openSearchDescription** – The appropriate OpenSearch Description Document

### *setSchema(IODataSchema) method*

Maintains the appropriate OData Schema document.

#### *Syntax*

```
public void setSchema ( IODataSchema schema )
```

#### *Parameters*

- **schema** – The appropriate OData Schema document



*write(BufferedWriter) method**Syntax*

```
public void write (BufferedWriter writer) throws
PersistenceException
```

*Parameters*

- **writer** – The buffered writer that object data needs to be written into.

*Exceptions*

- **PersistenceException** – if data can not be written into the writer

*gwServiceDocument variable**Syntax*

```
protected JsonObject gwServiceDocument
```

*isJson variable**Syntax*

```
protected boolean isJson
```

*openSearchDescriptions variable**Syntax*

```
protected Map< String, IODataOpenSearchDescription >
openSearchDescriptions
```

*schema variable**Syntax*

```
protected IODataSchema schema
```

*ODataSubscriptionEntry class**Syntax*

```
public class ODataSubscriptionEntry extends ODataEntry,
IODataSubscriptionEntry
```

*Members*

All members of ODataSubscriptionEntry, including inherited members. **Constructors**

Modifier and Type	Constructor	Description
public	<i>ODataSubscriptionEntry()</i> on page 885	
public	<i>ODataSubscriptionEntry(String, String)</i> on page 886	
public	<i>ODataSubscriptionEntry(String, String, String, String, String, String)</i> on page 886	
public	<i>ODataSubscriptionEntry(ParserDocument)</i> on page 886	
protected	<i>ODataSubscriptionEntry(int[], String[])</i> on page 886	

### Methods

Modifier and Type	Method	Description
public String	<i>getCollection()</i> on page 886	Returns The value of the appropriate entry property.
public String	<i>getDeliveryAddress()</i> on page 886	Returns The value of the appropriate entry property.
public String	<i>getFilter()</i> on page 887	Returns The value of the appropriate entry property.
public String	<i>getSelect()</i> on page 887	Returns The value of the appropriate entry property.
public void	<i>setCollection(String)</i> on page 887	Sets the value of the appropriate entry property.
public void	<i>setDeliveryAddress(String)</i> on page 887	Sets the value of the appropriate entry property.
public void	<i>setFilter(String)</i> on page 887	Sets the value of the appropriate entry property.
public void	<i>setSelect(String)</i> on page 888	Sets the value of the appropriate entry property.

### Inherited members from ODataEntry

Modifier and Type	Member	Description
protected void	<i>addPropertyValues(IODataProperty, Map&lt;String, String &gt;, String)</i> on page 589	
protected Long	<i>cache_timestamp</i> on page 603	
protected cacheState	<i>Cachestate</i> on page 603	
public ODataEntry	<i>clone()</i> on page 589	Creates a copy of this object.
protected String	<i>collectionId</i> on page 603	
protected static transient static final int	<i>FALSE</i> on page 603	
protected void	<i>fillPropertyData(IODataProperty, String...)</i> on page 589	
protected void	<i>fillPropertyDataWithAttribute(IODataProperty, String, String, boolean, String...)</i> on page 589	
protected static transient static final String	<i>FILTER</i> on page 603	
protected static transient static final String	<i>FILTER_AND</i> on page 603	
protected static transient static final String	<i>FILTER_EQ</i> on page 604	
public List< IODataLink >	<i>getActionLinks()</i> on page 590	Returns OData Link objects that are set as action links (Has semantics (SAP name-space) attribute with value 'action')
public String	<i>getAuthorName()</i> on page 590	Returns The value of the 'name' OData element of the 'author' OData element.
public cacheState	<i>getCachestate()</i> on page 590	
public Long	<i>getCacheTimestamp()</i> on page 590	

Modifier and Type	Member	Description
public String	<i>getCollectionId()</i> on page 590	Returns the Id of the OCata Collection that this Entry belongs to.
public String	<i>getContentType()</i> on page 590	Returns the content type of the entry.
public String	<i>getEtag()</i> on page 591	Returns the Id of the OData Collection that this Entry belongs to.
public String	<i>getFilterUrl()</i> on page 591	Returns the full execution URL hat can be used for filtering collection search for this single entry.
public List< IODataProperty >	<i>getGPUseInSearchPropertiesData()</i> on page 591	Returns the value and meta information (retrieved from OData Schema document) of the properties of this OData Entry document with 'true' use-in-search (Generic Player namespace) attribute value.
public List< IODataProperty >	<i>getGPVisibleInDetailPropertiesData()</i> on page 591	Returns the value and meta information (retrieved from OData Schema document) of the properties of this OData Entry document with 'true' visible-in-detail (Generic Player namespace) attribute value.
public List< IODataProperty >	<i>getGPVisibleInListPropertiesData()</i> on page 592	Returns the value and meta information (retrieved from OData Schema document) of the properties of this OData Entry document with 'true' visible-in-list (Generic Player namespace) attribute value.
public List< IODataIcon >	<i>getIcons()</i> on page 592	Returns the list of the appropriate OData elements.

Modifier and Type	Member	Description
public String	<i>getId()</i> on page 592	Returns The Id of this OData Entry (value of appropriate OData Id element)
public boolean	<i>getIsLocal()</i> on page 592	
public Map< String, String >	<i>getKeyPropertyValues()</i> on page 593	Returns the values of the properties that are marked as key properties in the OData Schema document.
public Date	<i>getLastUpdated()</i> on page 593	Returns The parsed value of the 'updated' OData Element.
public List< IODataLink >	<i>getLinks()</i> on page 593	Returns the list of the appropriate OData elements.
public String	<i>getMediaSrc()</i> on page 593	Returns the media source if the entry has a media content.
public List< IODataProperty >	<i>getPropertiesData()</i> on page 593	Returns the value and meta information (retrieved from OData Schema document) of the properties of this Odata Entry document.
public List< IODataProperty >	<i>getPropertiesDataWithAttribute(String, String)</i> on page 594	Returns the value and meta information (retrieved from OData Schema document) of the properties of this OData Entry document with the given attribute value.
public List< IODataProperty >	<i>getPropertiesDataWithAttribute(String, String, boolean)</i> on page 594	Returns the value and meta information (retrieved from OData Schema document) of the properties of this OData Entry document with the given attribute value.
public IParserDocument	<i>getPropertiesDocument()</i> on page 594	Returns the representer document of OData 'properties' (Metadata name-space) document This method is created for performance reasons mostly to use in search methods.

Modifier and Type	Member	Description
public String	<i>getPropertyValue(String...)</i> on page 595	Returns the value of the appropriate property.
public< T > T	<i>getPropertyValue-Parsed(String...)</i> on page 595	Returns the value of the appropriate property parsed to it's real type.
public List< String >	<i>getPropertyValues(List&lt; String[]&gt;)</i> on page 596	Return list of property values for the given property paths.
public Map< String, String >	<i>getPropertyValues()</i> on page 596	Returns the all the values of properties contained by this OData Entry document Key for the properties will be their name of their full path in case they are enclosed by Complex Types.
public List< IODataLink >	<i>getRelatedDataLinks()</i> on page 596	Returns OData Link objects that represents links to Related Data.
public List< IODataProperty >	<i>getSAPSearchableProperties-Data()</i> on page 597	Returns the value and meta information (retrieved from OData Schema document) of the properties of this OData Entry document with 'true' searchable (SAP name-space) attribute value.
public IODataSchema	<i>getSchema()</i> on page 597	Returns the appropriate OData Schema object.
public IODataLink	<i>getSelfLink()</i> on page 597	Returns OData Link object that should be used for self related operations (with 'rel' attribute value 'self' or 'edit')
public IODataLink	<i>getSubscriptionLink()</i> on page 597	Returns OData Link object that should be used for subscription or null if there is no subscription link defined.
public String	<i>getSummary()</i> on page 598	Returns The value of the appropriate OData element.
public String	<i>getTitle()</i> on page 598	Returns The value of the appropriate OData element.

Modifier and Type	Member	Description
protected boolean	<i>isLocalEntry</i> on page 604	
protected transient JsonObject	<i>jsonObject</i> on page 604	JSON related variables
protected void	<i>materialize()</i> on page 598	
protected static transient static final int	<i>NOT_TESTED</i> on page 604	
public	<i>ODataEntry()</i> on page 588	
public	<i>ODataEntry(boolean)</i> on page 588	
protected	<i>ODataEntry(int[], String[])</i> on page 589	
public	<i>ODataEntry(IONDataSchema)</i> on page 588	
public	<i>ODataEntry(ParserDocument)</i> on page 588	
public	<i>ODataEntry(ParserDocument, IONDataSchema)</i> on page 588	
public	<i>ODataEntry(JsonObject)</i> on page 589	Json Related
protected void	<i>parseCollectionId()</i> on page 598	
protected long	<i>parseEdmTime(String)</i> on page 598	
public void	<i>putComplexPropertyValue(String, String...)</i> on page 598	Puts the new property element as a sub-element of the 'complex properties' OData element.
public void	<i>putContentType(String)</i> on page 599	Puts the content type for a new entry object.

Modifier and Type	Member	Description
public void	<i>putDocument(IParserDocument, String...)</i> on page 599	Insert the document under the element with the given route inserted document will be placed before already existing documents with the same route name under All missing elements from the route will be created.
public void	<i>putId(String)</i> on page 599	Sets id of this OData Entry document (value of appropriate OData Id element)
public void	<i>putMediaSrc(String)</i> on page 600	Puts the media source for a new entry object.
public void	<i>putPropertyValue(String, String)</i> on page 600	Puts the new property element as a sub-element of the 'properties' OData element.
public void	<i>putPropertyValue(String, String, boolean)</i> on page 600	Puts the new property element as a sub-element of the 'properties' OData element.
public void	<i>read(BufferedReader)</i> on page 601	
protected String	<i>resolveTargetCollection(IODataLink)</i> on page 601	
protected transient IODataSchema	<i>schema</i> on page 604	
public void	<i>setAuthorName(String)</i> on page 601	Sets the value of the 'name' OData element of the 'author' OData element.
public void	<i>setCachestate(cacheState)</i> on page 601	
public void	<i>setCacheTimestamp(Long)</i> on page 601	
public void	<i>setCollectionId(String)</i> on page 602	Maintains the Id of the OCata Collection that this Entry belongs to.



Modifier and Type	Member	Description
public void	<i>setIsLocal(boolean)</i> on page 602	
public void	<i>setSchema(IODataSchema)</i> on page 602	Maintains the reference to the appropriate OData Schema object.
public void	<i>setSummary(String)</i> on page 602	Sets the value of the appropriate OData element.
public void	<i>setTitle(String)</i> on page 602	Sets the value of the appropriate OData element.
protected static transient static final int	<i>TRUE</i> on page 604	
public void	<i>write(BufferedWriter)</i> on page 603	

#### Inherited members from ParserDocument

Modifier and Type	Member	Description
static transient final String	<i>ANY_STRING</i> on page 963	
static transient final int	<i>ATTRIBUTE_ID</i> on page 963	
static transient final String	<i>ATTRIBUTE_STRING</i> on page 963	
protected Map< String, String >	<i>extensions</i> on page 963	
public String	<i>getAttribute(String...)</i> on page 945	Returns the value of the first attribute with the given route.
public List< String >	<i>getAttributes(String...)</i> on page 946	Returns all the values of attributes with the given route.
protected int	<i>getAttributesEndPosition(int[], int, int)</i> on page 946	
public Map< String, String >	<i>getChildAttributeMap(String...)</i> on page 946	Returns all the name-value pairs of attributes contained by the element with the given route.

Modifier and Type	Member	Description
public List< String >	<i>getChildAttributes(String...)</i> on page 947	Returns all the values of attributes contained by the element with the given route.
public List< IParserDocument >	<i>getChildDocuments(String...)</i> on page 947	Returns the elements contained by the element with the given route.
public List< IParserDocument >	<i>getChildDocumentsWithAttribute(String, String, String...)</i> on page 947	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public List< IParserDocument >	<i>getChildDocumentsWithAttribute(String, String, boolean, String...)</i> on page 948	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public ParserDocument	<i>getDocument(String...)</i> on page 948	Returns the first element with the given route.
protected List< int[] >	<i>getDocumentPositions(String[], int, boolean, boolean)</i> on page 949	
public List< IParserDocument >	<i>getDocuments(String...)</i> on page 949	Returns all the elements with the given route.
public List< IParserDocument >	<i>getDocumentsWithAttribute(String, String, String...)</i> on page 949	Returns the elements with the given route that contains the given attribute with the given value.
public List< IParserDocument >	<i>getDocumentsWithAttribute(String, String, boolean, String...)</i> on page 950	Returns the elements with the given route that contains the given attribute with the given value.
public IParserDocument	<i>getDocumentWithAttribute(String, String, String...)</i> on page 950	Returns the first element with the given route that contains the given attribute with the given value.

Modifier and Type	Member	Description
public IParserDocument	<i>getDocumentWithAttribute(String, String, boolean, String...)</i> on page 951	Returns the first element with the given route that contains the given attribute with the given value.
public String	<i>getElementName()</i> on page 951	Returns The name of the root element of this document.
public String	<i>getExtension(String)</i> on page 952	
public String	<i>getFunctionImportComplexProperty Value(String...)</i> on page 952	
static int	<i>getNameId(String, boolean, boolean)</i> on page 952	
public static List< String >	<i>getNameMap()</i> on page 952	
public static String	<i>getPrefix(String)</i> on page 952	
public String	<i>getPrefixForUri(String)</i> on page 952	Returns the appropriate namespace prefix for the given XML name-space URI.
public static Map< String, String >	<i>getPrefixMapping()</i> on page 953	
protected List< Integer >	<i>getStringPositions(String[], int, boolean, boolean)</i> on page 953	
public String[]	<i>getStrings()</i> on page 953	Returns all the string values contained by this document.
public String	<i>getValue(String...)</i> on page 953	Returns the value of the first element with the given route.
public List< String >	<i>getValues(String...)</i> on page 953	Returns all the values of elements with the given route.
protected int[]	<i>insertRoutePositions(int[], int, int[])</i> on page 954	
protected void	<i>insertRoutesPositions(int, int[])</i> on page 954	

Modifier and Type	Member	Description
protected void	<i>insertStringsPositions(int, String[])</i> on page 954	
protected String[]	<i>insertStringsPositions(String[], int, String[])</i> on page 954	
boolean	<i>isComplexEntity</i> on page 963	
boolean	<i>isJson</i> on page 963	
protected boolean	<i>isMatched(String, String)</i> on page 954	
static List< String >	<i>nameMap</i> on page 963	
	<i>ParserDocument()</i> on page 945	
	<i>ParserDocument(boolean)</i> on page 945	
public	<i>ParserDocument(String)</i> on page 944	
public	<i>ParserDocument(ParserDocument)</i> on page 944	
protected	<i>ParserDocument(int[], String[])</i> on page 945	
protected	<i>ParserDocument(String, boolean)</i> on page 945	
static Map< String, String >	<i>prefixMapping</i> on page 964	
public void	<i>putAttribute(String, String...)</i> on page 955	Sets the value of the attribute with the given route. If attribute does not exist it will be created as well as all other non existing elements in the route.
public void	<i>putExtension(String, String)</i> on page 955	
protected void	<i>putString(int, String, int, String...)</i> on page 956	

Modifier and Type	Member	Description
public void	<i>putValue(String, String...)</i> on page 956	Sets the value of the first element with the given route.
public static void	<i>readNameMap(BufferedReader)</i> on page 957	
public boolean	<i>removeAttribute(String...)</i> on page 957	Removes first element with the given route.
public boolean	<i>removeAttributes(String...)</i> on page 957	Removes all the attribute with the given route.
public boolean	<i>removeDocument(String...)</i> on page 957	Removes first element with the given route For removing multiple element use setDocuemtns with null arguments.
public void	<i>removeExtension(String)</i> on page 958	
protected void	<i>removeRoutesPositions(int, int)</i> on page 958	
protected int[]	<i>removeRoutesPositions(int[], int, int)</i> on page 958	
protected boolean	<i>removeString(String...)</i> on page 958	
protected boolean	<i>removeStrings(String...)</i> on page 958	
protected void	<i>removeStringsPositions(int, int)</i> on page 958	
protected String[]	<i>removeStringsPositions(String[], int, int)</i> on page 958	
protected int	<i>replaceRoutesPositions(int, int, int[])</i> on page 959	
protected int[]	<i>replaceRoutesPositions(int[], int, int, int[])</i> on page 959	
protected int	<i>replaceStringsPositions(int, int, String[])</i> on page 959	

Modifier and Type	Member	Description
protected String[]	<i>replaceStringsPositions(String[], int, int, String[])</i> on page 959	
public static String	<i>resolveUrl(String, String)</i> on page 959	
protected int[]	<i>routes</i> on page 964	
public void	<i>setAttribute(String, String...)</i> on page 959	
public void	<i>setAttributes(List&lt;String&gt;, String...)</i> on page 960	Sets all the values of the attributes with the given route Values will be paired to attributes in order Attributes with greater or equals index than size of new values will be untouched Attributes paired with null values will be removed.
public boolean	<i>setDocument(IParserDocument, String...)</i> on page 960	
public void	<i>setDocuments(List&lt;IParserDocument&gt;, String...)</i> on page 960	Replaces all the elements with the given route Documents will be paired to elements in order Elements with greater or equals index than size of new elements will be untouched Element paired with null will be removed.
public void	<i>setElementName(String, String...)</i> on page 961	Sets the name of the root element with the given route Use empty route for setting root name of this document.
public static void	<i>setNameMap(List&lt;String&gt;)</i> on page 961	
public static void	<i>setPrefixMapping(Map&lt;String, String&gt;)</i> on page 961	
protected void	<i>setString(String, String...)</i> on page 961	

Modifier and Type	Member	Description
protected void	<i>setStrings(List&lt; String &gt;, String...)</i> on page 961	
public void	<i>setValue(String, String...)</i> on page 961	
public void	<i>setValues(List&lt; String &gt;, String...)</i> on page 962	Sets all the values of the elements with the given route Values will be paired to elements in order Elements with greater or equals index than size of new values will be untouched Null values will be treated as empty strings.
protected String[]	<i>strings</i> on page 964	
public String	<i>toXMLString()</i> on page 962	Returns the XML string representation of this object.
protected static final String	<i>URL_PROTOCOL_PREFIX</i> on page 964	
static transient final int	<i>VALUE_ID</i> on page 964	
static transient final String	<i>VALUE_STRING</i> on page 964	
public static void	<i>writeNameMap(BufferedWriter)</i> on page 963	

#### Inherited members from IParserDocument

Modifier and Type	Member	Description
public static final String	<i>ATTRIBUTE_ETAG</i> on page 386	Name of the appropriate OData element.
public static final String	<i>ATTRIBUTE_VALUEPREFIX_EDMTYPE</i> on page 386	Value prefix for EDM Type type values.
public static Map< String, String >	<i>DEFAULT_PREFIXMAPPING</i> on page 386	The default XML Namespace-to-Prefix mapping used for building XMLS.

Modifier and Type	Member	Description
public static final String[]	<i>EDMDATETIME_PATTERNS</i> on page 386	Possible EDM DateTime patterns Note: Some pattern are not supported by OData specification but still widely used.
public static final String[]	<i>EDMDATETIMEOFFSET_PATTERNS</i> on page 386	Possible EDM TimeOffset patterns Note: Some pattern are not supported by OData specification but still widely used.
public static final String	<i>EDMTIME_PATTERN</i> on page 386	EDM Time pattern.
public static String	<i>ELEMENT_FEED</i> on page 386	Name of the appropriate OData element.
public static final String	<i>ELEMENT_ID</i> on page 387	Name of the appropriate OData element.
public static final String	<i>ROOT_DOCUMENT_NAME</i> on page 387	The default root element name for a new document.
public static final String	<i>XMLNS_APPLICATION_URI</i> on page 387	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/08/dataservices">http://schemas.microsoft.com/ado/2007/08/dataservices</a> .
public static final String	<i>XMLNS_ATOM_URI</i> on page 387	Constant for XMLNS URI: <a href="http://www.w3.org/2005/Atom">http://www.w3.org/2005/Atom</a> .
public static final String	<i>XMLNS_DATASERVICES_URI</i> on page 387	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/08/dataservices">http://schemas.microsoft.com/ado/2007/08/dataservices</a> .
public static final String	<i>XMLNS_EDM_URI</i> on page 387	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/05/edm">http://schemas.microsoft.com/ado/2007/05/edm</a> .
public static final String	<i>XMLNS_EDMX_URI</i> on page 387	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/06/edmx">http://schemas.microsoft.com/ado/2007/06/edmx</a> .
public static final String	<i>XMLNS_GENERICPLAYER_URI</i> on page 388	Constant for XMLNS URI: <a href="http://www.sap.com/Protocols/SAPData/GenericPlayer">http://www.sap.com/Protocols/SAPData/GenericPlayer</a> .



Modifier and Type	Member	Description
public static final String	<i>XMLNS_METADATA_URI</i> on page 388	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/08/dataservices/metadata">http://schemas.microsoft.com/ado/2007/08/dataservices/metadata</a> .
public static final String	<i>XMLNS_SAP_URI</i> on page 388	Constant for XMLNS URI: <a href="http://www.sap.com/Protocols/SAPData">http://www.sap.com/Protocols/SAPData</a> .

#### Inherited members from IPersistable

Modifier and Type	Member	Description
public void	<i>read(BufferedReader)</i> on page 389	
public void	<i>write(BufferedWriter)</i> on page 389	

#### Inherited members from IODataEntry

Modifier and Type	Member	Description
public static final String	<i>ATTRIBUTE_SEMANTICS</i> on page 220	Name of the appropriate OData attribute.
public static final String	<i>ATTRIBUTE_TERM</i> on page 220	Name of the appropriate OData attribute.
public static final String	<i>ATTRIBUTE_VALUE_SEMANTICS_ACTION</i> on page 220	Value option for appropriate OData attribute.
public static final String	<i>ELEMENT_AUTHOR</i> on page 220	Name of the appropriate OData element.
public static final String	<i>ELEMENT_CATEGORY</i> on page 220	Name of the appropriate OData element.
public static final String	<i>ELEMENT_CONTENT</i> on page 220	Name of the appropriate OData element.
public static final String	<i>ELEMENT_ENTRY</i> on page 221	Name of the appropriate OData element.
public static final String	<i>ELEMENT_LINK</i> on page 221	Name of the appropriate OData element.

Modifier and Type	Member	Description
public static final String	<i>ELEMENT_NAME</i> on page 221	Name of the appropriate OData element.
public static final String	<i>ELEMENT_PROPERTIES</i> on page 221	Name of the appropriate OData element.
public static final String	<i>ELEMENT_SUMMARY</i> on page 221	Name of the appropriate OData element.
public static final String	<i>ELEMENT_TITLE</i> on page 221	Name of the appropriate OData element.
public static final String	<i>ELEMENT_UPDATED</i> on page 221	Name of the appropriate OData element.
public static final String	<i>PROPERTY_LEVEL_SEPARATOR</i> on page 222	

#### Inherited members from IParserDocument

Modifier and Type	Member	Description
public static final String	<i>ATTRIBUTE_ETAG</i> on page 386	Name of the appropriate OData element.
public static final String	<i>ATTRIBUTE_VALUEPREFIX_EDMTYPE</i> on page 386	Value prefix for EDM Type type values.
public abstract IParserDocument	<i>clone()</i> on page 374	Creates a copy of this object.
public static Map< String, String >	<i>DEFAULT_PREFIXMAPPING</i> on page 386	The default XML Namespace-to-Prefix mapping used for building XMLS.
public static final String[]	<i>EDMDATETIME_PATTERNS</i> on page 386	Possible EDM DateTime patterns Note: Some pattern are not supported by OData specification but still widely used.
public static final String[]	<i>EDMDATETIMEOFFSET_PATTERNS</i> on page 386	Possible EDM DateTimeOffset patterns Note: Some pattern are not supported by OData specification but still widely used.
public static final String	<i>EDMTIME_PATTERN</i> on page 386	EDM Time pattern.

Modifier and Type	Member	Description
public static String	<i>ELEMENT_FEED</i> on page 386	Name of the appropriate OData element.
public static final String	<i>ELEMENT_ID</i> on page 387	Name of the appropriate OData element.
public abstract String	<i>getAttribute(String...)</i> on page 374	Returns the value of the first attribute with the given route.
public abstract List< String >	<i>getAttributes(String...)</i> on page 374	Returns all the values of attributes with the given route.
public abstract Map< String, String >	<i>getChildAttributeMap(String...)</i> on page 375	Returns all the name-value pairs of attributes contained by the element with the given route.
public abstract List< String >	<i>getChildAttributes(String...)</i> on page 375	Returns all the values of attributes contained by the element with the given route.
public abstract List< IParserDocument >	<i>getChildDocuments(String...)</i> on page 375	Returns the elements contained by the element with the given route.
public abstract List< IParserDocument >	<i>getChildDocumentsWithAttribute(String, String, String...)</i> on page 376	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public abstract List< IParserDocument >	<i>getChildDocumentsWithAttribute(String, String, boolean, String...)</i> on page 376	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public abstract IParserDocument	<i>getDocument(String...)</i> on page 377	Returns the first element with the given route.
public abstract List< IParserDocument >	<i>getDocuments(String...)</i> on page 377	Returns all the elements with the given route.
public abstract List< IParserDocument >	<i>getDocumentsWithAttribute(String, String, String...)</i> on page 378	Returns the elements with the given route that contains the given attribute with the given value.

Modifier and Type	Member	Description
public abstract List<IParserDocument >	<i>getDocumentsWithAttribute(String, String, boolean, String...)</i> on page 378	Returns the elements with the given route that contains the given attribute with the given value.
public abstract IParserDocument	<i>getDocumentWithAttribute(String, String, String...)</i> on page 379	Returns the first element with the given route that contains the given attribute with the given value.
public abstract IParserDocument	<i>getDocumentWithAttribute(String, String, boolean, String...)</i> on page 379	Returns the first element with the given route that contains the given attribute with the given value.
public abstract String	<i>getElementName()</i> on page 380	Returns The name of the root element of this document.
public abstract String	<i>getFunctionImportComplexPropertyValue(String...)</i> on page 380	
public abstract String	<i>getPrefixForUri(String)</i> on page 380	Returns the appropriate namespace prefix for the given XML name-space URI.
public abstract String[]	<i>getStrings()</i> on page 381	Returns all the string values contained by this document.
public abstract String	<i>getValue(String...)</i> on page 381	Returns the value of the first element with the given route.
public abstract List< String >	<i>getValues(String...)</i> on page 381	Returns all the values of elements with the given route.
public abstract void	<i>putAttribute(String, String...)</i> on page 382	Sets the value of the attribute with the given route If attribute does not exist it will be created as well as all other non existing elements in the route.

Modifier and Type	Member	Description
public abstract void	<i>putDocument(IParserDocument, String...)</i> on page 382	Insert the document under the element with the given route inserted document will be placed before already existing documents with the same route name under All missing elements from the route will be created.
public abstract void	<i>putValue(String, String...)</i> on page 382	Sets the value of the first element with the given route.
public abstract boolean	<i>removeAttribute(String...)</i> on page 383	Removes first element with the given route.
public abstract boolean	<i>removeAttributes(String...)</i> on page 383	Removes all the attribute with the given route.
public abstract boolean	<i>removeDocument(String...)</i> on page 383	Removes first element with the given route For removing multiple element use setDocuemtns with null arguments.
public static final String	<i>ROOT_DOCUMENT_NAME</i> on page 387	The default root element name for a new document.
public abstract void	<i>setAttributes(List&lt;String&gt;, String...)</i> on page 384	Sets all the values of the attributes with the given route Values will be paired to attributes in order Attributes with greater or equals index than size of new values will be untouched Attributes paired with null values will be removed.
public abstract void	<i>setDocuments(List&lt;IParserDocument&gt;, String...)</i> on page 384	Replaces all the elements with the given route Documents will be paired to elements in order Elements with greater or equals index than size of new elements will be untouched Element paired with null will be removed.

Modifier and Type	Member	Description
public abstract void	<i>setElementName(String, String...)</i> on page 385	Sets the name of the root element with the given route Use empty route for setting root name of this document.
public abstract void	<i>setValues(List&lt;String&gt;, String...)</i> on page 385	Sets all the values of the elements with the given route Values will be paired to elements in order Elements with greater or equals index than size of new values will be untouched Null values will be treated as empty strings.
public abstract String	<i>toXMLString()</i> on page 385	Returns the XML string representation of this object.
public static final String	<i>XMLNS_APPLICATION_URI</i> on page 387	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/08/dataservices">http://schemas.microsoft.com/ado/2007/08/dataservices</a> .
public static final String	<i>XMLNS_ATOM_URI</i> on page 387	Constant for XMLNS URI: <a href="http://www.w3.org/2005/Atom">http://www.w3.org/2005/Atom</a> .
public static final String	<i>XMLNS_DATASERVICES_URI</i> on page 387	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/08/dataservices">http://schemas.microsoft.com/ado/2007/08/dataservices</a> .
public static final String	<i>XMLNS_EDM_URI</i> on page 387	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/05/edm">http://schemas.microsoft.com/ado/2007/05/edm</a> .
public static final String	<i>XMLNS_EDMX_URI</i> on page 387	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/06/edmx">http://schemas.microsoft.com/ado/2007/06/edmx</a> .
public static final String	<i>XMLNS_GENERICPLAYER_URI</i> on page 388	Constant for XMLNS URI: <a href="http://www.sap.com/Protocols/SAPData/GenericPlayer">http://www.sap.com/Protocols/SAPData/GenericPlayer</a> .
public static final String	<i>XMLNS_METADATA_URI</i> on page 388	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/08/dataservices/metadata">http://schemas.microsoft.com/ado/2007/08/dataservices/metadata</a> .

Modifier and Type	Member	Description
public static final String	<i>XMLNS_SAP_URI</i> on page 388	Constant for XMLNS URI: <a href="http://www.sap.com/Protocols/SAPData">http://www.sap.com/Protocols/SAPData</a> .

**Inherited members from IPersistable**

Modifier and Type	Member	Description
public void	<i>read(BufferedReader)</i> on page 389	
public void	<i>write(BufferedWriter)</i> on page 389	

**Inherited members from IODataSubscriptionEntry**

Modifier and Type	Member	Description
public static final String	<i>ELEMENT_COLLECTION</i> on page 338	Name of the appropriate OData element.
public static final String	<i>ELEMENT_DELIVERYADDRESS</i> on page 338	Name of the appropriate OData element.
public static final String	<i>ELEMENT_FILTER</i> on page 338	Name of the appropriate OData element.
public static final String	<i>ELEMENT_SELECT</i> on page 338	Name of the appropriate OData element.

**Inherited members from IODataEntry**

Modifier and Type	Member	Description
public static final String	<i>ATTRIBUTE_SEMANTICS</i> on page 220	Name of the appropriate OData attribute.
public static final String	<i>ATTRIBUTE_TERM</i> on page 220	Name of the appropriate OData attribute.
public static final String	<i>ATTRIBUTE_VALUE_SEMANTICS_ACTION</i> on page 220	Value option for appropriate OData attribute.
public static final String	<i>ELEMENT_AUTHOR</i> on page 220	Name of the appropriate OData element.

Modifier and Type	Member	Description
public static final String	<i>ELEMENT_CATEGORY</i> on page 220	Name of the appropriate OData element.
public static final String	<i>ELEMENT_CONTENT</i> on page 220	Name of the appropriate OData element.
public static final String	<i>ELEMENT_ENTRY</i> on page 221	Name of the appropriate OData element.
public static final String	<i>ELEMENT_LINK</i> on page 221	Name of the appropriate OData element.
public static final String	<i>ELEMENT_NAME</i> on page 221	Name of the appropriate OData element.
public static final String	<i>ELEMENT_PROPERTIES</i> on page 221	Name of the appropriate OData element.
public static final String	<i>ELEMENT_SUMMARY</i> on page 221	Name of the appropriate OData element.
public static final String	<i>ELEMENT_TITLE</i> on page 221	Name of the appropriate OData element.
public static final String	<i>ELEMENT_UPDATED</i> on page 221	Name of the appropriate OData element.
public abstract List< IOData-Link >	<i>getActionLinks()</i> on page 208	Returns OData Link objects that are set as action links (Has semantics (SAP name-space) attribute with value 'action')
public abstract String	<i>getAuthorName()</i> on page 208	Returns The value of the 'name' OData element of the 'author' OData element.
public cacheState	<i>getCachestate()</i> on page 208	
public Long	<i>getCacheTimestamp()</i> on page 208	
public abstract String	<i>getCollectionId()</i> on page 208	Returns the Id of the OCata Collection that this Entry belongs to.
public abstract String	<i>getContentType()</i> on page 209	Returns the content type of the entry.



Modifier and Type	Member	Description
public abstract String	<i>getEtag()</i> on page 209	Returns the Id of the OData Collection that this Entry belongs to.
public abstract String	<i>getFilterUrl()</i> on page 209	Returns the full execution URL that can be used for filtering collection search for this single entry.
public abstract List< IODataProperty >	<i>getGPUseInSearchPropertiesData()</i> on page 209	Returns the value and meta information (retrieved from OData Schema document) of the properties of this OData Entry document with 'true' use-in-search (Generic Player namespace) attribute value.
public abstract List< IODataProperty >	<i>getGPVisibleInDetailPropertiesData()</i> on page 210	Returns the value and meta information (retrieved from OData Schema document) of the properties of this OData Entry document with 'true' visible-in-detail (Generic Player namespace) attribute value.
public abstract List< IODataProperty >	<i>getGPVisibleInListPropertiesData()</i> on page 210	Returns the value and meta information (retrieved from OData Schema document) of the properties of this OData Entry document with 'true' visible-in-list (Generic Player namespace) attribute value.
public abstract List< IODataIcon >	<i>getIcons()</i> on page 210	Returns the list of the appropriate OData elements.
public abstract String	<i>getId()</i> on page 210	Returns The Id of this OData Entry (value of appropriate OData Id element)
public boolean	<i>getIsLocal()</i> on page 211	

Modifier and Type	Member	Description
public abstract Map< String, String >	<i>getKeyPropertyValues()</i> on page 211	Returns the values of the properties that are marked as key properties in the OData Schema document.
public abstract Date	<i>getLastUpdated()</i> on page 211	Returns The parsed value of the 'updated' OData Element.
public abstract List< IOData-Link >	<i>getLinks()</i> on page 211	Returns the list of the appropriate OData elements.
public abstract String	<i>getMediaSrc()</i> on page 211	Returns the media source if the entry has a media content.
public abstract List< IODataProperty >	<i>getPropertiesData()</i> on page 212	Returns the value and meta information (retrieved from OData Schema document) of the properties of this Odata Entry document.
public abstract List< IODataProperty >	<i>getPropertiesDataWithAttribute(String, String)</i> on page 212	Returns the value and meta information (retrieved from OData Schema document) of the properties of this OData Entry document with the given attribute value.
public abstract List< IODataProperty >	<i>getPropertiesDataWithAttribute(String, String, boolean)</i> on page 212	Returns the value and meta information (retrieved from OData Schema document) of the properties of this OData Entry document with the given attribute value.
public abstract IParserDocument	<i>getPropertiesDocument()</i> on page 213	Returns the representer document of OData 'properties' (Metadata name-space) document This method is created for performance reasons mostly to use in search methods.
public abstract String	<i>getPropertyValue(String...)</i> on page 213	Returns the value of the appropriate property.

Modifier and Type	Member	Description
public abstract< T > T	<i>getPropertyValueParsed(String...)</i> on page 213	Returns the value of the appropriate property parsed to it's real type.
public abstract Map< String, String >	<i>getPropertyValues()</i> on page 214	Returns the all the values of properties contained by this OData Entry document Key for the properties will be their name of their full path in case they are enclosed by Complex Types.
public abstract List< String >	<i>getPropertyValues(List&lt; String[]&gt;)</i> on page 214	Return list of property values for the given property paths.
public abstract List< IODataLink >	<i>getRelatedDataLinks()</i> on page 215	Returns OData Link objects that represents links to Related Data.
public abstract List< IODataProperty >	<i>getSAPSearchablePropertiesData()</i> on page 215	Returns the value and meta information (retrieved from OData Schema document) of the properties of this OData Entry document with 'true' searchable (SAP name-space) attribute value.
public abstract IODataSchema	<i>getSchema()</i> on page 215	Returns the appropriate OData Schema object.
public abstract IODataLink	<i>getSelfLink()</i> on page 215	Returns OData Link object that should be used for self related operations (with 'rel' attribute value 'self' or 'edit')
public abstract IODataLink	<i>getSubscriptionLink()</i> on page 216	Returns OData Link object that should be used for subscription or null if there is no subscription link defined.
public abstract String	<i>getSummary()</i> on page 216	Returns The value of the appropriate OData element.
public abstract String	<i>getTitle()</i> on page 216	Returns The value of the appropriate OData element.
public static final String	<i>PROPERTY_LEVEL_SEPARATOR</i> on page 222	

Modifier and Type	Member	Description
public abstract void	<i>putComplexPropertyValue(String, String...)</i> on page 216	Puts the new property element as a sub-element of the 'complex properties' OData element.
public abstract void	<i>putContentType(String)</i> on page 217	Puts the content type for a new entry object.
public abstract void	<i>putId(String)</i> on page 217	Sets id of this OData Entry document (value of appropriate OData Id element)
public abstract void	<i>putMediaSrc(String)</i> on page 217	Puts the media source for a new entry object.
public abstract void	<i>putPropertyValue(String, String)</i> on page 217	Puts the new property element as a sub-element of the 'properties' OData element.
public abstract void	<i>putPropertyValue(String, String, boolean)</i> on page 218	Puts the new property element as a sub-element of the 'properties' OData element.
public abstract void	<i>setAuthorName(String)</i> on page 218	Sets the value of the 'name' OData element of the 'author' OData element.
public void	<i>setCachestate(cacheState)</i> on page 218	
public void	<i>setCacheTimestamp(Long)</i> on page 219	
public abstract void	<i>setCollectionId(String)</i> on page 219	Maintains the Id of the OCata Collection that this Entry belongs to.
public void	<i>setIsLocal(boolean)</i> on page 219	
public abstract void	<i>setSchema(IODataSchema)</i> on page 219	Maintains the reference to the appropriate OData Schema object.
public abstract void	<i>setSummary(String)</i> on page 219	Sets the value of the appropriate OData element.

Modifier and Type	Member	Description
public abstract void	<i>setTitle(String)</i> on page 219	Sets the value of the appropriate OData element.

### Inherited members from IParserDocument

Modifier and Type	Member	Description
public static final String	<i>ATTRIBUTE_ETAG</i> on page 386	Name of the appropriate OData element.
public static final String	<i>ATTRIBUTE_VALUEPREFIX_EDMTYPE</i> on page 386	Value prefix for EDM Type type values.
public abstract IParserDocument	<i>clone()</i> on page 374	Creates a copy of this object.
public static Map< String, String >	<i>DEFAULT_PREFIXMAPPING</i> on page 386	The default XML Namespace-to-Prefix mapping used for building XMLS.
public static final String[]	<i>EDMDATETIME_PATTERNS</i> on page 386	Possible EDM DateTime patterns Note: Some pattern are not supported by OData specification but still widely used.
public static final String[]	<i>EDMDATETIMEOFFSET_PATTERNS</i> on page 386	Possible EDM TimeOffset patterns Note: Some pattern are not supported by OData specification but still widely used.
public static final String	<i>EDMTIME_PATTERN</i> on page 386	EDM Time pattern.
public static String	<i>ELEMENT_FEED</i> on page 386	Name of the appropriate OData element.
public static final String	<i>ELEMENT_ID</i> on page 387	Name of the appropriate OData element.
public abstract String	<i>getAttribute(String...)</i> on page 374	Returns the value of the first attribute with the given route.
public abstract List< String >	<i>getAttributes(String...)</i> on page 374	Returns all the values of attributes with the given route.

Modifier and Type	Member	Description
public abstract Map< String, String >	<i>getChildAttribute-Map(String...)</i> on page 375	Returns all the name-value pairs of attributes contained by the element with the given route.
public abstract List< String >	<i>getChildAttributes(String...)</i> on page 375	Returns all the values of attributes contained by the element with the given route.
public abstract List< IParserDocument >	<i>getChildDocuments(String...)</i> on page 375	Returns the elements contained by the element with the given route.
public abstract List< IParserDocument >	<i>getChildDocumentsWithAttribute(String, String, String...)</i> on page 376	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public abstract List< IParserDocument >	<i>getChildDocumentsWithAttribute(String, String, boolean, String...)</i> on page 376	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public abstract IParserDocument	<i>getDocument(String...)</i> on page 377	Returns the first element with the given route.
public abstract List< IParserDocument >	<i>getDocuments(String...)</i> on page 377	Returns all the elements with the given route.
public abstract List< IParserDocument >	<i>getDocumentsWithAttribute(String, String, String...)</i> on page 378	Returns the elements with the given route that contains the given attribute with the given value.
public abstract List< IParserDocument >	<i>getDocumentsWithAttribute(String, String, boolean, String...)</i> on page 378	Returns the elements with the given route that contains the given attribute with the given value.
public abstract IParserDocument	<i>getDocumentWithAttribute(String, String, String...)</i> on page 379	Returns the first element with the given route that contains the given attribute with the given value.

Modifier and Type	Member	Description
public abstract IParserDocument	<i>getDocumentWithAttribute(String, String, boolean, String...)</i> on page 379	Returns the first element with the given route that contains the given attribute with the given value.
public abstract String	<i>getElementName()</i> on page 380	Returns The name of the root element of this document.
public abstract String	<i>getFunctionImportComplexPropertyValue(String...)</i> on page 380	
public abstract String	<i>getPrefixForUri(String)</i> on page 380	Returns the appropriate namespace prefix for the given XML name-space URI.
public abstract String[]	<i>getStrings()</i> on page 381	Returns all the string values contained by this document.
public abstract String	<i>getValue(String...)</i> on page 381	Returns the value of the first element with the given route.
public abstract List< String >	<i>getValues(String...)</i> on page 381	Returns all the values of elements with the given route.
public abstract void	<i>putAttribute(String, String...)</i> on page 382	Sets the value of the attribute with the given route If attribute does not exist it will be created as well as all other non existing elements in the route.
public abstract void	<i>putDocument(IParserDocument, String...)</i> on page 382	Insert the document under the element with the given route inserted document will be placed before already existing documents with the same route name under All missing elements from the route will be created.
public abstract void	<i>putValue(String, String...)</i> on page 382	Sets the value of the first element with the given route.
public abstract boolean	<i>removeAttribute(String...)</i> on page 383	Removes first element with the given route.

Modifier and Type	Member	Description
public abstract boolean	<i>removeAttributes(String...)</i> on page 383	Removes all the attribute with the given route.
public abstract boolean	<i>removeDocument(String...)</i> on page 383	Removes first element with the given route For removing multiple element use setDocuemtns with null arguments.
public static final String	<i>ROOT_DOCUMENT_NAME</i> on page 387	The default root element name for a new document.
public abstract void	<i>setAttributes(List&lt; String &gt;, String...)</i> on page 384	Sets all the values of the attributes with the given route Values will be paired to attributes in order Attributes with greater or equals index than size of new values will be untouched Attributes paired with null values will be removed.
public abstract void	<i>setDocuments(List&lt; IParser-Document &gt;, String...)</i> on page 384	Replaces all the elements with the given route Documents will be paired to elements in order Elements with greater or equals index than size of new elements will be untouched Element paired with null will be removed.
public abstract void	<i>setElementName(String, String...)</i> on page 385	Sets the name of the root element with the given route Use empty route for setting root name of this document.
public abstract void	<i>setValues(List&lt; String &gt;, String...)</i> on page 385	Sets all the values of the elements with the given rout Values will be paired to elements in order Elements with greater or equals index than size of new values will be untouched Null values will be treated as empty strings.
public abstract String	<i>toXMLString()</i> on page 385	Returns the XML string representation of this object.



Modifier and Type	Member	Description
public static final String	<i>XMLNS_APPLICATION_URI</i> on page 387	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/08/dataservices">http://schemas.microsoft.com/ado/2007/08/dataservices</a> .
public static final String	<i>XMLNS_ATOM_URI</i> on page 387	Constant for XMLNS URI: <a href="http://www.w3.org/2005/Atom">http://www.w3.org/2005/Atom</a> .
public static final String	<i>XMLNS_DATASERVICES_URI</i> on page 387	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/08/dataservices">http://schemas.microsoft.com/ado/2007/08/dataservices</a> .
public static final String	<i>XMLNS_EDM_URI</i> on page 387	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/05/edm">http://schemas.microsoft.com/ado/2007/05/edm</a> .
public static final String	<i>XMLNS_EDMX_URI</i> on page 387	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/06/edmx">http://schemas.microsoft.com/ado/2007/06/edmx</a> .
public static final String	<i>XMLNS_GENERICPLAYER_URI</i> on page 388	Constant for XMLNS URI: <a href="http://www.sap.com/Protocols/SAPData/GenericPlayer">http://www.sap.com/Protocols/SAPData/GenericPlayer</a> .
public static final String	<i>XMLNS_METADATA_URI</i> on page 388	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/08/dataservices/metadata">http://schemas.microsoft.com/ado/2007/08/dataservices/metadata</a> .
public static final String	<i>XMLNS_SAP_URI</i> on page 388	Constant for XMLNS URI: <a href="http://www.sap.com/Protocols/SAPData">http://www.sap.com/Protocols/SAPData</a> .

**Inherited members from IPersistable**

Modifier and Type	Member	Description
public void	<i>read(BufferedReader)</i> on page 389	
public void	<i>write(BufferedWriter)</i> on page 389	

*ODataSubscriptionEntry()* constructor

**Syntax**

```
public ODataSubscriptionEntry ()
```

*ODataSubscriptionEntry(String, String) constructor*

**Syntax**

```
public ODataSubscriptionEntry ( String deliveryAddress , String collection )
```

*ODataSubscriptionEntry(String, String, String, String, String, String) constructor*

**Syntax**

```
public ODataSubscriptionEntry ( String deliveryAddress , String collection , String filter , String select , String title , String author )
```

*ODataSubscriptionEntry(ParserDocument) constructor*

**Syntax**

```
public ODataSubscriptionEntry ( ParserDocument document )
```

*ODataSubscriptionEntry(int[], String[]) constructor*

**Syntax**

```
protected ODataSubscriptionEntry ( int[] routes , String[] values )
```

*getCollection() method*

Returns The value of the appropriate entry property.

**Syntax**

```
public String getCollection ()
```

**Returns**

The value of the appropriate entry property

*getDeliveryAddress() method*

Returns The value of the appropriate entry property.

**Syntax**

```
public String getDeliveryAddress ()
```

**Returns**

The value of the appropriate entry property

*getFilter() method*

Returns The value of the appropriate entry property.

*Syntax*

```
public String getFilter ()
```

*Returns*

The value of the appropriate entry property

*getSelect() method*

Returns The value of the appropriate entry property.

*Syntax*

```
public String getSelect ()
```

*Returns*

The value of the appropriate entry property

*setCollection(String) method*

Sets the value of the appropriate entry property.

*Syntax*

```
public void setCollection (String collection )
```

*Parameters*

- **collection** – The new value of the appropriate entry property

*setDeliveryAddress(String) method*

Sets the value of the appropriate entry property.

*Syntax*

```
public void setDeliveryAddress (String deliveryAddress )
```

*Parameters*

- **deliveryAddress** –

*setFilter(String) method*

Sets the value of the appropriate entry property.

*Syntax*

```
public void setFilter (String filterString )
```

*Parameters*

- **filterString** – The new value of the appropriate entry property

*setSelect(String) method*

Sets the value of the appropriate entry property.

*Syntax*

```
public void setSelect ( String selectString )
```

*Parameters*

- **selectString** – The new value of the appropriate entry property

*ODataURL class**Syntax*

```
public class ODataURL extends ParserDocument, IODataURL
```

*Members*

All members of ODataURL, including inherited members. **Variables**

Modifier and Type	Variable	Description
protected String	<i>baseUrl</i> on page 905	

**Constructors**

Modifier and Type	Constructor	Description
public	<i>ODataURL()</i> on page 902	
public	<i>ODataURL(ParserDocument)</i> on page 903	
protected	<i>ODataURL(int[], String[])</i> on page 903	

**Methods**

Modifier and Type	Method	Description
public List< String >	<i>getMandatoryTemplateParameters()</i> on page 903	Returns the list of mandatory template parameter names.
protected List< String >	<i>getMandatoryTemplateParameters(String)</i> on page 903	

Modifier and Type	Method	Description
public List< String >	<i>getOptionalTemplateParameters()</i> on page 903	Returns the list of optional template parameter names.
protected List< String >	<i>getOptionalTemplateParameters(String)</i> on page 903	
public String	<i>getTemplate()</i> on page 904	Returns the value of the appropriate OData attribute.
public List< String >	<i>getTemplateParameters()</i> on page 904	Returns the list of all template parameter names.
public String	<i>getType()</i> on page 904	Returns the value of the appropriate OData attribute.
public String	<i>getUrl()</i> on page 904	Returns the full URL of this OData attribute without parameters.
public String	<i>getUrlFromTemplate(Map&lt; String, String &gt;)</i> on page 904	Returns the full URL of this OData attribute extended with parameter names and values according to the given parameter map.
public void	<i>read(BufferedReader)</i> on page 905	
protected void	<i>setBaseUrl(String)</i> on page 905	
public void	<i>write(BufferedWriter)</i> on page 905	

#### Inherited members from ParserDocument

Modifier and Type	Member	Description
static transient final String	<i>ANY_STRING</i> on page 963	
static transient final int	<i>ATTRIBUTE_ID</i> on page 963	
static transient final String	<i>ATTRIBUTE_STRING</i> on page 963	
public ParserDocument	<i>clone()</i> on page 945	Creates a copy of this object.

Modifier and Type	Member	Description
protected Map< String, String >	<i>extensions</i> on page 963	
public String	<i>getAttribute(String...)</i> on page 945	Returns the value of the first attribute with the given route.
public List< String >	<i>getAttributes(String...)</i> on page 946	Returns all the values of attributes with the given route.
protected int	<i>getAttributesEndPosition(int[], int, int)</i> on page 946	
public Map< String, String >	<i>getChildAttribute-Map(String...)</i> on page 946	Returns all the name-value pairs of attributes contained by the element with the given route.
public List< String >	<i>getChildAttributes(String...)</i> on page 947	Returns all the values of attributes contained by the element with the given route.
public List< IParserDocument >	<i>getChildDocuments(String...)</i> on page 947	Returns the elements contained by the element with the given route.
public List< IParserDocument >	<i>getChildDocumentsWithAttribute(String, String, String...)</i> on page 947	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public List< IParserDocument >	<i>getChildDocumentsWithAttribute(String, String, boolean, String...)</i> on page 948	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public ParserDocument	<i>getDocument(String...)</i> on page 948	Returns the first element with the given route.
protected List< int[] >	<i>getDocumentPositions(String[], int, boolean, boolean)</i> on page 949	
public List< IParserDocument >	<i>getDocuments(String...)</i> on page 949	Returns all the elements with the given route.
public List< IParserDocument >	<i>getDocumentsWithAttribute(String, String, String...)</i> on page 949	Returns the elements with the given route that contains the given attribute with the given value.

Modifier and Type	Member	Description
public List< IParserDocument >	<i>getDocumentsWithAttribute(String, String, boolean, String...)</i> on page 950	Returns the elements with the given route that contains the given attribute with the given value.
public IParserDocument	<i>getDocumentWithAttribute(String, String, String...)</i> on page 950	Returns the first element with the given route that contains the given attribute with the given value.
public IParserDocument	<i>getDocumentWithAttribute(String, String, boolean, String...)</i> on page 951	Returns the first element with the given route that contains the given attribute with the given value.
public String	<i>getElementName()</i> on page 951	Returns The name of the root element of this document.
public String	<i>getExtension(String)</i> on page 952	
public String	<i>getFunctionImportComplexProperty Value(String...)</i> on page 952	
static int	<i>getNameId(String, boolean, boolean)</i> on page 952	
public static List< String >	<i>getNameMap()</i> on page 952	
public static String	<i>getPrefix(String)</i> on page 952	
public String	<i>getPrefixForUri(String)</i> on page 952	Returns the appropriate namespace prefix for the given XML name-space URI.
public static Map< String, String >	<i>getPrefixMapping()</i> on page 953	
protected List< Integer >	<i>getStringPositions(String[], int, boolean, boolean)</i> on page 953	
public String[]	<i>getStrings()</i> on page 953	Returns all the string values contained by this document.

Modifier and Type	Member	Description
public String	<i>getValue(String...)</i> on page 953	Returns the value of the first element with the given route.
public List< String >	<i>getValues(String...)</i> on page 953	Returns all the values of elements with the given route.
protected int[]	<i>insertRoutePositions(int[], int, int[])</i> on page 954	
protected void	<i>insertRoutesPositions(int, int[])</i> on page 954	
protected void	<i>insertStringsPositions(int, String[])</i> on page 954	
protected String[]	<i>insertStringsPositions(String[], int, String[])</i> on page 954	
boolean	<i>isComplexEntity</i> on page 963	
boolean	<i>isJson</i> on page 963	
protected boolean	<i>isMatched(String, String)</i> on page 954	
static List< String >	<i>nameMap</i> on page 963	
	<i>ParserDocument()</i> on page 945	
	<i>ParserDocument(boolean)</i> on page 945	
public	<i>ParserDocument(String)</i> on page 944	
public	<i>ParserDocument(ParserDocument)</i> on page 944	
protected	<i>ParserDocument(int[], String[])</i> on page 945	
protected	<i>ParserDocument(String, boolean)</i> on page 945	
static Map< String, String >	<i>prefixMapping</i> on page 964	



Modifier and Type	Member	Description
public void	<i>putAttribute(String, String...)</i> on page 955	Sets the value of the attribute with the given route. If attribute does not exist it will be created as well as all other non existing elements in the route.
public void	<i>putDocument(IParserDocument, String...)</i> on page 955	Insert the document under the element with the given route. Inserted document will be placed before already existing documents with the same route name under. All missing elements from the route will be created.
public void	<i>putExtension(String, String)</i> on page 955	
protected void	<i>putString(int, String, int, String...)</i> on page 956	
public void	<i>putValue(String, String...)</i> on page 956	Sets the value of the first element with the given route.
public void	<i>readExternal(ObjectInput)</i> on page 956	
public static void	<i>readNameMap(BufferedReader)</i> on page 957	
public boolean	<i>removeAttribute(String...)</i> on page 957	Removes first element with the given route.
public boolean	<i>removeAttributes(String...)</i> on page 957	Removes all the attribute with the given route.
public boolean	<i>removeDocument(String...)</i> on page 957	Removes first element with the given route. For removing multiple element use setDocuments with null arguments.
public void	<i>removeExtension(String)</i> on page 958	
protected void	<i>removeRoutesPositions(int, int)</i> on page 958	

Modifier and Type	Member	Description
protected int[]	<i>removeRoutesPositions(int[], int, int)</i> on page 958	
protected boolean	<i>removeString(String...)</i> on page 958	
protected boolean	<i>removeStrings(String...)</i> on page 958	
protected void	<i>removeStringsPositions(int, int)</i> on page 958	
protected String[]	<i>removeStringsPositions(String[], int, int)</i> on page 958	
protected int	<i>replaceRoutesPositions(int, int, int[])</i> on page 959	
protected int[]	<i>replaceRoutesPositions(int[], int, int, int[])</i> on page 959	
protected int	<i>replaceStringsPositions(int, int, String[])</i> on page 959	
protected String[]	<i>replaceStringsPositions(String[], int, int, String[])</i> on page 959	
public static String	<i>resolveUrl(String, String)</i> on page 959	
protected int[]	<i>routes</i> on page 964	
public void	<i>setAttribute(String, String...)</i> on page 959	
public void	<i>setAttributes(List&lt;String&gt;, String...)</i> on page 960	Sets all the values of the attributes with the given route Values will be paired to attributes in order Attributes with greater or equals index than size of new values will be untouched Attributes paired with null values will be removed.

Modifier and Type	Member	Description
public boolean	<i>setDocument(IParserDocument, String...)</i> on page 960	
public void	<i>setDocuments(List&lt;IParserDocument &gt;, String...)</i> on page 960	Replaces all the elements with the given route Documents will be paired to elements in order Elements with greater or equals index than size of new elements will be untouched Element paired with null will be removed.
public void	<i>setElementName(String, String...)</i> on page 961	Sets the name of the root element with the given route Use empty route for setting root name of this document.
public static void	<i>setNameMap(List&lt;String &gt;)</i> on page 961	
public static void	<i>setPrefixMapping(Map&lt;String, String &gt;)</i> on page 961	
protected void	<i>setString(String, String...)</i> on page 961	
protected void	<i>setStrings(List&lt;String &gt;, String...)</i> on page 961	
public void	<i>setValue(String, String...)</i> on page 961	
public void	<i>setValues(List&lt;String &gt;, String...)</i> on page 962	Sets all the values of the elements with the given rout Values will be paired to elements in order Elements with greater or equals index than size of new values will be untouched Null values will be treated as empty strings.
protected String[]	<i>strings</i> on page 964	
public String	<i>toXMLString()</i> on page 962	Returns the XML string representation of this object.

Modifier and Type	Member	Description
protected static final String	<i>URL_PROTOCOL_PREFIX</i> on page 964	
static transient final int	<i>VALUE_ID</i> on page 964	
static transient final String	<i>VALUE_STRING</i> on page 964	
public void	<i>writeExternal(ObjectOutput)</i> on page 962	
public static void	<i>writeNameMap(BufferedWriter)</i> on page 963	

### Inherited members from IParserDocument

Modifier and Type	Member	Description
public static final String	<i>ATTRIBUTE_ETAG</i> on page 386	Name of the appropriate OData element.
public static final String	<i>ATTRIBUTE_VALUEPREFIX_EDMTYPE</i> on page 386	Value prefix for EDM Type type values.
public static Map< String, String >	<i>DEFAULT_PREFIXMAPPING</i> on page 386	The default XML Namespace-to-Prefix mapping used for building XMLS.
public static final String[]	<i>EDMDATETIME_PATTERNS</i> on page 386	Possible EDM DateTime patterns Note: Some pattern are not supported by OData specification but still widely used.
public static final String[]	<i>EDMDATETIMEOFFSET_PATTERNS</i> on page 386	Possible EDM TimeOffset patterns Note: Some pattern are not supported by OData specification but still widely used.
public static final String	<i>EDMTIME_PATTERN</i> on page 386	EDM Time pattern.
public static String	<i>ELEMENT_FEED</i> on page 386	Name of the appropriate OData element.
public static final String	<i>ELEMENT_ID</i> on page 387	Name of the appropriate OData element.

Modifier and Type	Member	Description
public static final String	<i>ROOT_DOCUMENT_NAME</i> on page 387	The default root element name for a new document.
public static final String	<i>XMLNS_APPLICATION_URI</i> on page 387	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/08/dataservices">http://schemas.microsoft.com/ado/2007/08/dataservices</a> .
public static final String	<i>XMLNS_ATOM_URI</i> on page 387	Constant for XMLNS URI: <a href="http://www.w3.org/2005/Atom">http://www.w3.org/2005/Atom</a> .
public static final String	<i>XMLNS_DATASERVICES_URI</i> on page 387	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/08/dataservices">http://schemas.microsoft.com/ado/2007/08/dataservices</a> .
public static final String	<i>XMLNS_EDM_URI</i> on page 387	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/05/edm">http://schemas.microsoft.com/ado/2007/05/edm</a> .
public static final String	<i>XMLNS_EDMX_URI</i> on page 387	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/06/edmx">http://schemas.microsoft.com/ado/2007/06/edmx</a> .
public static final String	<i>XMLNS_GENERICPLAYER_URI</i> on page 388	Constant for XMLNS URI: <a href="http://www.sap.com/Protocols/SAPData/GenericPlayer">http://www.sap.com/Protocols/SAPData/GenericPlayer</a> .
public static final String	<i>XMLNS_METADATA_URI</i> on page 388	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/08/dataservices/metadata">http://schemas.microsoft.com/ado/2007/08/dataservices/metadata</a> .
public static final String	<i>XMLNS_SAP_URI</i> on page 388	Constant for XMLNS URI: <a href="http://www.sap.com/Protocols/SAPData">http://www.sap.com/Protocols/SAPData</a> .

#### Inherited members from IPersistable

Modifier and Type	Member	Description
public void	<i>read(BufferedReader)</i> on page 389	
public void	<i>write(BufferedWriter)</i> on page 389	

#### Inherited members from IODataURL

Modifier and Type	Member	Description
public static final String	<i>ATTRIBUTE_TEMPLATE</i> on page 346	Name of the appropriate OData attribute.
public static final String	<i>ATTRIBUTE_TYPE</i> on page 346	Name of the appropriate OData attribute.
public static final String	<i>ELEMENT_URL</i> on page 346	Name of the appropriate OData element.

#### Inherited members from IParserDocument

Modifier and Type	Member	Description
public static final String	<i>ATTRIBUTE_ETAG</i> on page 386	Name of the appropriate OData element.
public static final String	<i>ATTRIBUTE_VALUEPREFIX_EDMTYPE</i> on page 386	Value prefix for EDM Type type values.
public abstract IParserDocument	<i>clone()</i> on page 374	Creates a copy of this object.
public static Map< String, String >	<i>DEFAULT_PREFIXMAPPING</i> on page 386	The default XML Namespace-to-Prefix mapping used for building XMLS.
public static final String[]	<i>EDMDATETIME_PATTERNS</i> on page 386	Possible EDM DateTime patterns Note: Some pattern are not supported by OData specification but still widely used.
public static final String[]	<i>EDMDATETIMEOFFSET_PATTERNS</i> on page 386	Possible EDM TimeOffset patterns Note: Some pattern are not supported by OData specification but still widely used.
public static final String	<i>EDMTIME_PATTERN</i> on page 386	EDM Time pattern.
public static String	<i>ELEMENT_FEED</i> on page 386	Name of the appropriate OData element.
public static final String	<i>ELEMENT_ID</i> on page 387	Name of the appropriate OData element.
public abstract String	<i>getAttribute(String...)</i> on page 374	Returns the value of the first attribute with the given route.

Modifier and Type	Member	Description
public abstract List< String >	<i>getAttributes(String...)</i> on page 374	Returns all the values of attributes with the given route.
public abstract Map< String, String >	<i>getChildAttribute-Map(String...)</i> on page 375	Returns all the name-value pairs of attributes contained by the element with the given route.
public abstract List< String >	<i>getChildAttributes(String...)</i> on page 375	Returns all the values of attributes contained by the element with the given route.
public abstract List< IParserDocument >	<i>getChildDocuments(String...)</i> on page 375	Returns the elements contained by the element with the given route.
public abstract List< IParserDocument >	<i>getChildDocumentsWithAttribute(String, String, String...)</i> on page 376	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public abstract List< IParserDocument >	<i>getChildDocumentsWithAttribute(String, String, boolean, String...)</i> on page 376	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public abstract IParserDocument	<i>getDocument(String...)</i> on page 377	Returns the first element with the given route.
public abstract List< IParserDocument >	<i>getDocuments(String...)</i> on page 377	Returns all the elements with the given route.
public abstract List< IParserDocument >	<i>getDocumentsWithAttribute(String, String, String...)</i> on page 378	Returns the elements with the given route that contains the given attribute with the given value.
public abstract List< IParserDocument >	<i>getDocumentsWithAttribute(String, String, boolean, String...)</i> on page 378	Returns the elements with the given route that contains the given attribute with the given value.
public abstract IParserDocument	<i>getDocumentWithAttribute(String, String, String...)</i> on page 379	Returns the first element with the given route that contains the given attribute with the given value.

Modifier and Type	Member	Description
public abstract IParserDocument	<i>getDocumentWithAttribute(String, String, boolean, String...)</i> on page 379	Returns the first element with the given route that contains the given attribute with the given value.
public abstract String	<i>getElementName()</i> on page 380	Returns The name of the root element of this document.
public abstract String	<i>getFunctionImportComplexPropertyValue(String...)</i> on page 380	
public abstract String	<i>getPrefixForUri(String)</i> on page 380	Returns the appropriate name-space prefix for the given XML name-space URI.
public abstract String[]	<i>getStrings()</i> on page 381	Returns all the string values contained by this document.
public abstract String	<i>getValue(String...)</i> on page 381	Returns the value of the first element with the given route.
public abstract List< String >	<i>getValues(String...)</i> on page 381	Returns all the values of elements with the given route.
public abstract void	<i>putAttribute(String, String...)</i> on page 382	Sets the value of the attribute with the given route If attribute does not exist it will be created as well as all other non existing elements in the route.
public abstract void	<i>putDocument(IParserDocument, String...)</i> on page 382	Insert the document under the element with the given route inserted document will be placed before already existing documents with the same route name under All missing elements from the route will be created.
public abstract void	<i>putValue(String, String...)</i> on page 382	Sets the value of the first element with the given route.
public abstract boolean	<i>removeAttribute(String...)</i> on page 383	Removes first element with the given route.



Modifier and Type	Member	Description
public abstract boolean	<i>removeAttributes(String...)</i> on page 383	Removes all the attribute with the given route.
public abstract boolean	<i>removeDocument(String...)</i> on page 383	Removes first element with the given route For removing multiple element use setDocuemtns with null arguments.
public static final String	<i>ROOT_DOCUMENT_NAME</i> on page 387	The default root element name for a new document.
public abstract void	<i>setAttributes(List&lt; String &gt;, String...)</i> on page 384	Sets all the values of the attributes with the given route Values will be paired to attributes in order Attributes with greater or equals index than size of new values will be untouched Attributes paired with null values will be removed.
public abstract void	<i>setDocuments(List&lt; IParser-Document &gt;, String...)</i> on page 384	Replaces all the elements with the given route Documents will be paired to elements in order Elements with greater or equals index than size of new elements will be untouched Element paired with null will be removed.
public abstract void	<i>setElementName(String, String...)</i> on page 385	Sets the name of the root element with the given route Use empty route for setting root name of this document.
public abstract void	<i>setValues(List&lt; String &gt;, String...)</i> on page 385	Sets all the values of the elements with the given rout Values will be paired to elements in order Elements with greater or equals index than size of new values will be untouched Null values will be treated as empty strings.
public abstract String	<i>toXMLString()</i> on page 385	Returns the XML string representation of this object.

Modifier and Type	Member	Description
public static final String	<i>XMLNS_APPLICATION_URI</i> on page 387	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/08/dataservices">http://schemas.microsoft.com/ado/2007/08/dataservices</a> .
public static final String	<i>XMLNS_ATOM_URI</i> on page 387	Constant for XMLNS URI: <a href="http://www.w3.org/2005/Atom">http://www.w3.org/2005/Atom</a> .
public static final String	<i>XMLNS_DATASERVICES_URI</i> on page 387	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/08/dataservices">http://schemas.microsoft.com/ado/2007/08/dataservices</a> .
public static final String	<i>XMLNS_EDM_URI</i> on page 387	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/05/edm">http://schemas.microsoft.com/ado/2007/05/edm</a> .
public static final String	<i>XMLNS_EDMX_URI</i> on page 387	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/06/edmx">http://schemas.microsoft.com/ado/2007/06/edmx</a> .
public static final String	<i>XMLNS_GENERICPLAYER_URI</i> on page 388	Constant for XMLNS URI: <a href="http://www.sap.com/Protocols/SAPData/GenericPlayer">http://www.sap.com/Protocols/SAPData/GenericPlayer</a> .
public static final String	<i>XMLNS_METADATA_URI</i> on page 388	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/08/dataservices/metadata">http://schemas.microsoft.com/ado/2007/08/dataservices/metadata</a> .
public static final String	<i>XMLNS_SAP_URI</i> on page 388	Constant for XMLNS URI: <a href="http://www.sap.com/Protocols/SAPData">http://www.sap.com/Protocols/SAPData</a> .

**Inherited members from IPersistable**

Modifier and Type	Member	Description
public void	<i>read(BufferedReader)</i> on page 389	
public void	<i>write(BufferedWriter)</i> on page 389	

*ODataURL()* constructor**Syntax**

```
public ODataURL ()
```

*ODataURL(ParserDocument) constructor***Syntax**

```
public ODataURL ( ParserDocument document )
```

*ODataURL(int[], String[]) constructor***Syntax**

```
protected ODataURL ( int[] routes , String[] values )
```

*getMandatoryTemplateParameters() method*

Returns the list of mandatory template parameter names.

**Syntax**

```
public List< String > getMandatoryTemplateParameters ( )
```

**Returns**

the list of mandatory template parameter names

*getMandatoryTemplateParameters(String) method***Syntax**

```
protected List< String > getMandatoryTemplateParameters  
( String template )
```

*getOptionalTemplateParameters() method*

Returns the list of optional template parameter names.

**Syntax**

```
public List< String > getOptionalTemplateParameters ( )
```

**Returns**

the list of optional template parameter names

*getOptionalTemplateParameters(String) method***Syntax**

```
protected List< String > getOptionalTemplateParameters  
( String template )
```

### *getTemplate() method*

Returns the value of the appropriate OData attribute.

#### *Syntax*

```
public String getTemplate ()
```

#### *Returns*

The value of the appropriate OData attribute

### *getTemplateParameters() method*

Returns the list of all template parameter names.

#### *Syntax*

```
public List< String > getTemplateParameters ()
```

#### *Returns*

the list of all template parameter names

### *getType() method*

Returns the value of the appropriate OData attribute.

#### *Syntax*

```
public String getType ()
```

#### *Returns*

The value of the appropriate OData attribute

### *getUrl() method*

Returns the full URL of this OData attribute without parameters.

#### *Syntax*

```
public String getUrl ()
```

#### *Returns*

The full URL this OData attribute without parameters

### *getUrlFromTemplate(Map< String, String >) method*

Returns the full URL of this OData attribute extended with parameter names and values according to the given parameter map.

#### *Syntax*

```
public String getUrlFromTemplate (Map< String, String >  
parameters )
```

### Returns

The full URL this OData attribute with parameters names and values

### *read(BufferedReader) method*

#### Syntax

```
public void read (BufferedReader reader) throws  
PersistenceException
```

#### Parameters

- **reader** – The buffered reader to read the object from.

#### Exceptions

- **PersistenceException** – if data can not be loaded from the reader.

### *setBaseUrl(String) method*

#### Syntax

```
protected void setBaseUrl (String baseUrl)
```

### *write(BufferedWriter) method*

#### Syntax

```
public void write (BufferedWriter writer) throws  
PersistenceException
```

#### Parameters

- **writer** – The buffered writer that object data needs to be written into.

#### Exceptions

- **PersistenceException** – if data can not be written into the writer

### *baseUrl variable*

#### Syntax

```
protected String baseUrl
```

*ODataWorkspace* class**Syntax**

```
public class ODataWorkspace extends ParserDocument,
IODataWorkspace
```

**Members**

All members of ODataWorkspace, including inherited members. **Variables**

Modifier and Type	Variable	Description
protected String	<i>baseUrl</i> on page 921	

**Constructors**

Modifier and Type	Constructor	Description
public	<i>ODataWorkspace()</i> on page 920	
public	<i>ODataWorkspace(ParserDocument)</i> on page 920	
protected	<i>ODataWorkspace(int[], String[])</i> on page 920	

**Methods**

Modifier and Type	Method	Description
public List< IODataCollection >	<i>getCollections()</i> on page 920	Returns The list of of 'collection' OData element.
public String	<i>getSemantics()</i> on page 921	Returns the value of the appropriate OData attribute.
public String	<i>getTitle()</i> on page 921	Returns the value of the appropriate OData element.
protected void	<i>setBaseUrl(String)</i> on page 921	

**Inherited members from ParserDocument**

Modifier and Type	Member	Description
static transient final String	<i>ANY_STRING</i> on page 963	

Modifier and Type	Member	Description
static transient final int	<i>ATTRIBUTE_ID</i> on page 963	
static transient final String	<i>ATTRIBUTE_STRING</i> on page 963	
public ParserDocument	<i>clone()</i> on page 945	Creates a copy of this object.
protected Map< String, String >	<i>extensions</i> on page 963	
public String	<i>getAttribute(String...)</i> on page 945	Returns the value of the first attribute with the given route.
public List< String >	<i>getAttributes(String...)</i> on page 946	Returns all the values of attributes with the given route.
protected int	<i>getAttributesEndPosition(int[], int, int)</i> on page 946	
public Map< String, String >	<i>getChildAttributeMap(String...)</i> on page 946	Returns all the name-value pairs of attributes contained by the element with the given route.
public List< String >	<i>getChildAttributes(String...)</i> on page 947	Returns all the values of attributes contained by the element with the given route.
public List< IParserDocument >	<i>getChildDocuments(String...)</i> on page 947	Returns the elements contained by the element with the given route.
public List< IParserDocument >	<i>getChildDocumentsWithAttribute(String, String, String...)</i> on page 947	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public List< IParserDocument >	<i>getChildDocumentsWithAttribute(String, String, boolean, String...)</i> on page 948	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public ParserDocument	<i>getDocument(String...)</i> on page 948	Returns the first element with the given route.
protected List< int[] >	<i>getDocumentPositions(String[], int, boolean, boolean)</i> on page 949	

Modifier and Type	Member	Description
public List< IParserDocument >	<i>getDocuments(String...)</i> on page 949	Returns all the elements with the given route.
public List< IParserDocument >	<i>getDocumentsWithAttribute(String, String, String...)</i> on page 949	Returns the elements with the given route that contains the given attribute with the given value.
public List< IParserDocument >	<i>getDocumentsWithAttribute(String, String, boolean, String...)</i> on page 950	Returns the elements with the given route that contains the given attribute with the given value.
public IParserDocument	<i>getDocumentWithAttribute(String, String, String...)</i> on page 950	Returns the first element with the given route that contains the given attribute with the given value.
public IParserDocument	<i>getDocumentWithAttribute(String, String, boolean, String...)</i> on page 951	Returns the first element with the given route that contains the given attribute with the given value.
public String	<i>getElementName()</i> on page 951	Returns The name of the root element of this document.
public String	<i>getExtension(String)</i> on page 952	
public String	<i>getFunctionImportComplexProperty Value(String...)</i> on page 952	
static int	<i>getNameId(String, boolean, boolean)</i> on page 952	
public static List< String >	<i>getNameMap()</i> on page 952	
public static String	<i>getPrefix(String)</i> on page 952	
public String	<i>getPrefixForUri(String)</i> on page 952	Returns the appropriate namespace prefix for the given XML name-space URI.
public static Map< String, String >	<i>getPrefixMapping()</i> on page 953	



Modifier and Type	Member	Description
protected List< Integer >	<i>getStringPositions(String[], int, boolean, boolean)</i> on page 953	
public String[]	<i>getStrings()</i> on page 953	Returns all the string values contained by this document.
public String	<i>getValue(String...)</i> on page 953	Returns the value of the first element with the given route.
public List< String >	<i>getValues(String...)</i> on page 953	Returns all the values of elements with the given route.
protected int[]	<i>insertRoutePositions(int[], int, int[])</i> on page 954	
protected void	<i>insertRoutesPositions(int, int[])</i> on page 954	
protected void	<i>insertStringsPositions(int, String[])</i> on page 954	
protected String[]	<i>insertStringsPositions(String[], int, String[])</i> on page 954	
boolean	<i>isComplexEntity</i> on page 963	
boolean	<i>isJson</i> on page 963	
protected boolean	<i>isMatched(String, String)</i> on page 954	
static List< String >	<i>nameMap</i> on page 963	
	<i>ParserDocument()</i> on page 945	
	<i>ParserDocument(boolean)</i> on page 945	
public	<i>ParserDocument(String)</i> on page 944	
public	<i>ParserDocument(ParserDocument)</i> on page 944	

Modifier and Type	Member	Description
protected	<i>ParserDocument(int[], String[])</i> on page 945	
protected	<i>ParserDocument(String, boolean)</i> on page 945	
static Map< String, String >	<i>prefixMapping</i> on page 964	
public void	<i>putAttribute(String, String...)</i> on page 955	Sets the value of the attribute with the given route. If attribute does not exist it will be created as well as all other non existing elements in the route.
public void	<i>putDocument(IParserDocument, String...)</i> on page 955	Insert the document under the element with the given route. Inserted document will be placed before already existing documents with the same route name under. All missing elements from the route will be created.
public void	<i>putExtension(String, String)</i> on page 955	
protected void	<i>putString(int, String, int, String...)</i> on page 956	
public void	<i>putValue(String, String...)</i> on page 956	Sets the value of the first element with the given route.
public void	<i>read(BufferedReader)</i> on page 956	
public void	<i>readExternal(ObjectInput)</i> on page 956	
public static void	<i>readNameMap(BufferedReader)</i> on page 957	
public boolean	<i>removeAttribute(String...)</i> on page 957	Removes first element with the given route.
public boolean	<i>removeAttributes(String...)</i> on page 957	Removes all the attribute with the given route.

Modifier and Type	Member	Description
public boolean	<i>removeDocument(String...)</i> on page 957	Removes first element with the given route For removing multiple element use setDocuemtns with null arguments.
public void	<i>removeExtension(String)</i> on page 958	
protected void	<i>removeRoutesPositions(int, int)</i> on page 958	
protected int[]	<i>removeRoutesPositions(int[], int, int)</i> on page 958	
protected boolean	<i>removeString(String...)</i> on page 958	
protected boolean	<i>removeStrings(String...)</i> on page 958	
protected void	<i>removeStringsPositions(int, int)</i> on page 958	
protected String[]	<i>removeStringsPositions(String[], int, int)</i> on page 958	
protected int	<i>replaceRoutesPositions(int, int, int[])</i> on page 959	
protected int[]	<i>replaceRoutesPositions(int[], int, int, int[])</i> on page 959	
protected int	<i>replaceStringsPositions(int, int, String[])</i> on page 959	
protected String[]	<i>replaceStringsPositions(String[], int, int, String[])</i> on page 959	
public static String	<i>resolveUrl(String, String)</i> on page 959	
protected int[]	<i>routes</i> on page 964	
public void	<i>setAttribute(String, String...)</i> on page 959	

Modifier and Type	Member	Description
public void	<i>setAttributes(List&lt; String &gt;, String...)</i> on page 960	Sets all the values of the attributes with the given route Values will be paired to attributes in order Attributes with greater or equals index than size of new values will be untouched Attributes paired with null values will be removed.
public boolean	<i>setDocument(IParserDocument, String...)</i> on page 960	
public void	<i>setDocuments(List&lt; IParserDocument &gt;, String...)</i> on page 960	Replaces all the elements with the given route Documents will be paired to elements in order Elements with greater or equals index than size of new elements will be untouched Element paired with null will be removed.
public void	<i>setElementName(String, String...)</i> on page 961	Sets the name of the root element with the given route Use empty route for setting root name of this document.
public static void	<i>setNameMap(List&lt; String &gt;)</i> on page 961	
public static void	<i>setPrefixMapping(Map&lt; String, String &gt;)</i> on page 961	
protected void	<i>setString(String, String...)</i> on page 961	
protected void	<i>setStrings(List&lt; String &gt;, String...)</i> on page 961	
public void	<i>setValue(String, String...)</i> on page 961	

Modifier and Type	Member	Description
public void	<i>setValues(List&lt;String&gt;, String...)</i> on page 962	Sets all the values of the elements with the given route values will be paired to elements in order Elements with greater or equals index than size of new values will be untouched Null values will be treated as empty strings.
protected String[]	<i>strings</i> on page 964	
public String	<i>toXMLString()</i> on page 962	Returns the XML string representation of this object.
protected static final String	<i>URL_PROTOCOL_PREFIX</i> on page 964	
static transient final int	<i>VALUE_ID</i> on page 964	
static transient final String	<i>VALUE_STRING</i> on page 964	
public void	<i>write(BufferedWriter)</i> on page 962	
public void	<i>writeExternal(ObjectOutput)</i> on page 962	
public static void	<i>writeNameMap(BufferedWriter)</i> on page 963	

#### Inherited members from IParserDocument

Modifier and Type	Member	Description
public static final String	<i>ATTRIBUTE_ETAG</i> on page 386	Name of the appropriate OData element.
public static final String	<i>ATTRIBUTE_VALUEPREFIX_EDMTYPE</i> on page 386	Value prefix for EDM Type type values.
public static Map<String, String>	<i>DEFAULT_PREFIXMAPPING</i> on page 386	The default XML Namespace-to-Prefix mapping used for building XMLS.

Modifier and Type	Member	Description
public static final String[]	<i>EDMDATETIME_PATTERNS</i> on page 386	Possible EDM DateTime patterns Note: Some pattern are not supported by OData specification but still widely used.
public static final String[]	<i>EDMDATETIMEOFFSET_PATTERNS</i> on page 386	Possible EDM TimeOffset patterns Note: Some pattern are not supported by OData specification but still widely used.
public static final String	<i>EDMTIME_PATTERN</i> on page 386	EDM Time pattern.
public static String	<i>ELEMENT_FEED</i> on page 386	Name of the appropriate OData element.
public static final String	<i>ELEMENT_ID</i> on page 387	Name of the appropriate OData element.
public static final String	<i>ROOT_DOCUMENT_NAME</i> on page 387	The default root element name for a new document.
public static final String	<i>XMLNS_APPLICATION_URI</i> on page 387	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/08/dataservices">http://schemas.microsoft.com/ado/2007/08/dataservices</a> .
public static final String	<i>XMLNS_ATOM_URI</i> on page 387	Constant for XMLNS URI: <a href="http://www.w3.org/2005/Atom">http://www.w3.org/2005/Atom</a> .
public static final String	<i>XMLNS_DATASERVICES_URI</i> on page 387	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/08/dataservices">http://schemas.microsoft.com/ado/2007/08/dataservices</a> .
public static final String	<i>XMLNS_EDM_URI</i> on page 387	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/05/edm">http://schemas.microsoft.com/ado/2007/05/edm</a> .
public static final String	<i>XMLNS_EDMX_URI</i> on page 387	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/06/edmx">http://schemas.microsoft.com/ado/2007/06/edmx</a> .
public static final String	<i>XMLNS_GENERICPLAYER_URI</i> on page 388	Constant for XMLNS URI: <a href="http://www.sap.com/Protocols/SAPData/GenericPlayer">http://www.sap.com/Protocols/SAPData/GenericPlayer</a> .

Modifier and Type	Member	Description
public static final String	<i>XMLNS_METADATA_URI</i> on page 388	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/08/dataservices/metadata">http://schemas.microsoft.com/ado/2007/08/dataservices/metadata</a> .
public static final String	<i>XMLNS_SAP_URI</i> on page 388	Constant for XMLNS URI: <a href="http://www.sap.com/Protocols/SAPData">http://www.sap.com/Protocols/SAPData</a> .

**Inherited members from IPersistable**

Modifier and Type	Member	Description
public void	<i>read(BufferedReader)</i> on page 389	
public void	<i>write(BufferedWriter)</i> on page 389	

**Inherited members from IODataWorkspace**

Modifier and Type	Member	Description
public static final String	<i>ATTRIBUTE_SEMANTICS</i> on page 353	Name of the appropriate OData attribute.
public static final String	<i>ELEMENT_TITLE</i> on page 353	Name of the appropriate OData element.
public static final String	<i>ELEMENT_WORKSPACE</i> on page 353	Name of the appropriate OData element.

**Inherited members from IParserDocument**

Modifier and Type	Member	Description
public static final String	<i>ATTRIBUTE_ETAG</i> on page 386	Name of the appropriate OData element.
public static final String	<i>ATTRIBUTE_VALUEPREFIX_EDMTYPE</i> on page 386	Value prefix for EDM Type type values.
public abstract IParserDocument	<i>clone()</i> on page 374	Creates a copy of this object.

Modifier and Type	Member	Description
public static Map< String, String >	<i>DEFAULT_PREFIXMAP-PING</i> on page 386	The default XML Namespace-to-Prefix mapping used for building XMLS.
public static final String[]	<i>EDMDATETIME_PATTERNS</i> on page 386	Possible EDM DateTime patterns Note: Some pattern are not supported by OData specification but still widely used.
public static final String[]	<i>EDMDATETIMEOFFSET_PATTERNS</i> on page 386	Possible EDM TimeOffset patterns Note: Some pattern are not supported by OData specification but still widely used.
public static final String	<i>EDMTIME_PATTERN</i> on page 386	EDM Time pattern.
public static String	<i>ELEMENT_FEED</i> on page 386	Name of the appropriate OData element.
public static final String	<i>ELEMENT_ID</i> on page 387	Name of the appropriate OData element.
public abstract String	<i>getAttribute(String...)</i> on page 374	Returns the value of the first attribute with the given route.
public abstract List< String >	<i>getAttributes(String...)</i> on page 374	Returns all the values of attributes with the given route.
public abstract Map< String, String >	<i>getChildAttribute-Map(String...)</i> on page 375	Returns all the name-value pairs of attributes contained by the element with the given route.
public abstract List< String >	<i>getChildAttributes(String...)</i> on page 375	Returns all the values of attributes contained by the element with the given route.
public abstract List< IParserDocument >	<i>getChildDocuments(String...)</i> on page 375	Returns the elements contained by the element with the given route.
public abstract List< IParserDocument >	<i>getChildDocumentsWithAttribute(String, String, String...)</i> on page 376	Returns the elements contained by the element with the given route and having the given attribute with the given value.



Modifier and Type	Member	Description
public abstract List<IParserDocument >	<i>getChildDocumentsWithAttribute(String, String, boolean, String...)</i> on page 376	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public abstract IParserDocument	<i>getDocument(String...)</i> on page 377	Returns the first element with the given route.
public abstract List<IParserDocument >	<i>getDocuments(String...)</i> on page 377	Returns all the elements with the given route.
public abstract List<IParserDocument >	<i>getDocumentsWithAttribute(String, String, String...)</i> on page 378	Returns the elements with the given route that contains the given attribute with the given value.
public abstract List<IParserDocument >	<i>getDocumentsWithAttribute(String, String, boolean, String...)</i> on page 378	Returns the elements with the given route that contains the given attribute with the given value.
public abstract IParserDocument	<i>getDocumentWithAttribute(String, String, String...)</i> on page 379	Returns the first element with the given route that contains the given attribute with the given value.
public abstract IParserDocument	<i>getDocumentWithAttribute(String, String, boolean, String...)</i> on page 379	Returns the first element with the given route that contains the given attribute with the given value.
public abstract String	<i>getElementName()</i> on page 380	Returns The name of the root element of this document.
public abstract String	<i>getFunctionImportComplexProperty Value(String...)</i> on page 380	
public abstract String	<i>getPrefixForUri(String)</i> on page 380	Returns the appropriate namespace prefix for the given XML name-space URI.
public abstract String[]	<i>getStrings()</i> on page 381	Returns all the string values contained by this document.

Modifier and Type	Member	Description
public abstract String	<i>getValue(String...)</i> on page 381	Returns the value of the first element with the given route.
public abstract List< String >	<i>getValues(String...)</i> on page 381	Returns all the values of elements with the given route.
public abstract void	<i>putAttribute(String, String...)</i> on page 382	Sets the value of the attribute with the given route If attribute does not exist it will be created as well as all other non existing elements in the route.
public abstract void	<i>putDocument(IParserDocument, String...)</i> on page 382	Insert the document under the element with the given route inserted document will be placed before already existing documents with the same route name under All missing elements from the route will be created.
public abstract void	<i>putValue(String, String...)</i> on page 382	Sets the value of the first element with the given route.
public abstract boolean	<i>removeAttribute(String...)</i> on page 383	Removes first element with the given route.
public abstract boolean	<i>removeAttributes(String...)</i> on page 383	Removes all the attribute with the given route.
public abstract boolean	<i>removeDocument(String...)</i> on page 383	Removes first element with the given route For removing multiple element use setDocuemtns with null arguments.
public static final String	<i>ROOT_DOCUMENT_NAME</i> on page 387	The default root element name for a new document.
public abstract void	<i>setAttributes(List&lt; String &gt;, String...)</i> on page 384	Sets all the values of the attributes with the given route Values will be paired to attributes in order Attributes with greater or equals index than size of new values will be untouched Attributes paired with null values will be removed.

Modifier and Type	Member	Description
public abstract void	<i>setDocuments(List&lt; IParser-Document &gt;, String...)</i> on page 384	Replaces all the elements with the given route Documents will be paired to elements in order Elements with greater or equals index than size of new elements will be untouched Element paired with null will be removed.
public abstract void	<i>setElementName(String, String...)</i> on page 385	Sets the name of the root element with the given route Use empty route for setting root name of this document.
public abstract void	<i>setValues(List&lt; String &gt;, String...)</i> on page 385	Sets all the values of the elements with the given route Values will be paired to elements in order Elements with greater or equals index than size of new values will be untouched Null values will be treated as empty strings.
public abstract String	<i>toXMLString()</i> on page 385	Returns the XML string representation of this object.
public static final String	<i>XMLNS_APPLICATION_URI</i> on page 387	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/08/dataservices">http://schemas.microsoft.com/ado/2007/08/dataservices</a> .
public static final String	<i>XMLNS_ATOM_URI</i> on page 387	Constant for XMLNS URI: <a href="http://www.w3.org/2005/Atom">http://www.w3.org/2005/Atom</a> .
public static final String	<i>XMLNS_DATASERVICES_URI</i> on page 387	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/08/dataservices">http://schemas.microsoft.com/ado/2007/08/dataservices</a> .
public static final String	<i>XMLNS_EDM_URI</i> on page 387	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/05/edm">http://schemas.microsoft.com/ado/2007/05/edm</a> .
public static final String	<i>XMLNS_EDMX_URI</i> on page 387	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/06/edmx">http://schemas.microsoft.com/ado/2007/06/edmx</a> .

Modifier and Type	Member	Description
public static final String	<i>XMLNS_GENERICPLAYER_URI</i> on page 388	Constant for XMLNS URI: <a href="http://www.sap.com/Protocols/SAPData/GenericPlayer">http://www.sap.com/Protocols/SAPData/GenericPlayer</a> .
public static final String	<i>XMLNS_METADATA_URI</i> on page 388	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/08/dataservices/metadata">http://schemas.microsoft.com/ado/2007/08/dataservices/metadata</a> .
public static final String	<i>XMLNS_SAP_URI</i> on page 388	Constant for XMLNS URI: <a href="http://www.sap.com/Protocols/SAPData">http://www.sap.com/Protocols/SAPData</a> .

**Inherited members from IPersistable**

Modifier and Type	Member	Description
public void	<i>read(BufferedReader)</i> on page 389	
public void	<i>write(BufferedWriter)</i> on page 389	

*ODataWorkspace()* constructor*Syntax*

```
public ODataWorkspace ()
```

*ODataWorkspace(ParserDocument)* constructor*Syntax*

```
public ODataWorkspace ( ParserDocument document )
```

*ODataWorkspace(int[], String[])* constructor*Syntax*

```
protected ODataWorkspace ( int[] routes , String[] values )
```

*getCollections()* method

Returns The list of of 'collection' OData element.

*Syntax*

```
public List< IODataCollection > getCollections ()
```

**Returns**

The list of of 'collection' OData element.

**getSemantics() method**

Returns the value of the appropriate OData attribute.

**Syntax**

```
public String getSemantics ()
```

**Returns**

The value of the appropriate OData attribute

**getTitle() method**

Returns the value of the appropriate OData element.

**Syntax**

```
public String getTitle ()
```

**Returns**

The value of the appropriate OData element

**setBaseUrl(String) method****Syntax**

```
protected void setBaseUrl (String baseUrl)
```

**baseUrl variable****Syntax**

```
protected String baseUrl
```

**Parser class****Syntax**

```
public class Parser extends IParser
```

**Members**

All members of Parser, including inherited members. **Variables**

Modifier and Type	Variable	Description
protected File	<i>defaultFolder</i> on page 934	
static Object	<i>lockObject</i> on page 934	

Modifier and Type	Variable	Description
protected ILogger	<i>logger</i> on page 934	
protected int	<i>logLevel</i> on page 934	
protected static final String	<i>NAMEMAP_FILENAME</i> on page 934	
Object	<i>pa</i> on page 935	
protected SAXParser	<i>parser</i> on page 935	
protected IPreferences	<i>preferences</i> on page 935	

### Constructors

Modifier and Type	Constructor	Description
public	<i>Parser(IPreferences, ILogger)</i> on page 924	

### Methods

Modifier and Type	Method	Description
	<i>[instance initializer]()</i> on page 925	
public String	<i>buildODataDocument(IParserDocument)</i> on page 925	Builds a valid OData Entry XML Post body from the entry argument.
public String	<i>buildODataEntryRequestBody(IODataEntry, String, IODataSchema, int)</i> on page 925	Builds a valid OData Entry JSON Post body from the entry argument.
public void	<i>enableParserPerformanceLog(boolean, Context)</i> on page 926	This method is to be called if performance data point are to be enabled for Parser.
void	<i>init()</i> on page 926	
public IParserDocument	<i>parse(InputStream)</i> on page 926	Parses the stream source of document and converts it to a Java Object containing all the information that were contained by the source.

Modifier and Type	Method	Description
public IParserDocument	<i>parse(String)</i> on page 927	Parses the Source and converts it to a Java Object containing all the information that were contained by the source.
public List< IODataEntry >	<i>parseFunctionImportResult(String, IODataFunctionImport, IODataSchema)</i> on page 927	Parser a non error result of the execution of a Function Import OData document The result will be converted to a list of OData Entry documents If the result was a simple type it can accessed due the result entries as if it were a property,.
public List< IODataEntry >	<i>parseFunctionImportResult(InputStream, IODataFunctionImport, IODataSchema)</i> on page 928	Parser a non error result of the execution of a Function Import OData document The result will be converted to a list of OData Entry documents If the result was a simple type it can accessed due the result entries as if it were a property,.
public List< IODataEntry >	<i>parseODataEntries(String, String, IODataSchema)</i> on page 928	Parses SAPData structure that represent either a single OData Entry or an OData Feed with several OData entries.
public List< IODataEntry >	<i>parseODataEntries(InputStream, String, IODataSchema)</i> on page 929	Parses SAPData structure from stream that represent either a single OData Entry or an OData Feed of several OData entries.
public IODataError	<i>parseODataError(String)</i> on page 929	Parses the OData Error.
public IODataError	<i>parseODataError(InputStream)</i> on page 930	Parses the OData Error from stream.
public IODataFeed	<i>parseODataFeed(String, String, IODataSchema)</i> on page 930	Parse OData Feed, support for Delta Query.
public IODataFeed	<i>parseODataFeed(InputStream, String, IODataSchema)</i> on page 931	Parse OData Feed from stream, support for Delta Query.

Modifier and Type	Method	Description
public IODataOpenSearchDescription	<i>parseODataOpenSearchDescription(String, String, IODataServiceDocument)</i> on page 931	Parses the OData Open Search Description.
public IODataOpenSearchDescription	<i>parseODataOpenSearchDescription(InputStream, String, IODataServiceDocument)</i> on page 931	Parses the OData Open Search Description from stream.
public IODataSchema	<i>parseODataSchema(String, IODataServiceDocument)</i> on page 932	Parses the OData Schema.
public IODataSchema	<i>parseODataSchema(InputStream, IODataServiceDocument)</i> on page 932	Parses the OData Schema from stream.
public IODataServiceDocument	<i>parseODataServiceDocument(String)</i> on page 933	Parses the OData Service Document.
public IODataServiceDocument	<i>parseODataServiceDocument(InputStream)</i> on page 933	Parses the OData Service Document from stream.
protected synchronized void	<i>readNameMap()</i> on page 934	
protected void	<i>writeNameMap(int)</i> on page 934	

#### Inherited members from IParser

Modifier and Type	Member	Description
public static final int	<i>FORMAT_JSON</i> on page 365	JSON Format for Building Post Body.
public static final int	<i>FORMAT_XML</i> on page 365	XML Format for Building Post Body.

*Parser(IPreferences, ILogger) constructor*

#### Syntax

```
public Parser ( IPreferences preferences , ILogger logger ) throws
ParserException
```



*[instance initializer]() method*

**Syntax**

[instance initializer] ()

*buildODataDocument(IParserDocument) method*

Builds a valid OData Entry XML Post body from the entry argument.

**Syntax**

```
public String buildODataDocument ( IParserDocument document )
throws ParseException
```

**Parameters**

- **entry** – The ODataEntry object to build the from
- **document** – The ParserDocument object to build the from

**Returns**

The built documentThe built document

**Exceptions**

- **ParseException class** – If building has failed
- **IllegalArgumentException** – If the argument is null Builds and representation of the document argument
- **ParseException class** – If building document has failed
- **IllegalArgumentException** – If the argument is null

*buildODataEntryRequestBody(IODataEntry, String, IODataSchema, int) method*

Builds a valid OData Entry JSON Post body from the entry argument.

**Syntax**

```
public String buildODataEntryRequestBody ( IODataEntry entry ,
String collectionId , IODataSchema schema , int formatType ) throws
ParseException
```

**Parameters**

- **entry** – The ODataEntry object to build the from
- **collectionID** –
- **entry** – The ODataEntry object to build the from
- **collectionID** – Collection t which the entry would be posted
- **schema** – Schema of the service

- **formatType** – Format of the post body to be built 1 - Atom/XML 2 - JSON

### Returns

The built document

### Exceptions

- **ParserException class** – If building has failed
- **IllegalArgumentException** – If the argument is null Builds a valid OData Entry XML or JSON Post body from the entry argument
- **ParserException class** – If building has failed
- **IllegalArgumentException** – If the argument is null

### *enableParserPerformanceLog(boolean, Context) method*

This method is to be called if performance data point are to be enabled for Parser.

### Syntax

```
public void enableParserPerformanceLog ( boolean perflog ,  
Context applicationContext )
```

### Parameters

- **perflog** –
- **applicationContext** –

### *init() method*

### Syntax

```
void init () throws ParserException
```

### *parse(InputStream) method*

Parses the stream source of document and converts it to a Java Object containing all the information that were contained by the source.

### Syntax

```
public IParserDocument parse ( InputStream stream ) throws  
ParserException
```

### Parameters

- **stream** – A stream that holds a syntactically valid document

### Returns

The Object representation of the parsed document

### Exceptions

- **ParserException class** – If the stream source is invalid
- **IllegalArgumentException** – If the argument is null

### *parse(String) method*

Parses the Source and converts it to a Java Object containing all the information that were contained by the source.

### Syntax

```
public IParserDocument parse (String document) throws
ParserException
```

### Parameters

- **A** – syntactically valid document

### Returns

The Object representation of the parsed document

### Exceptions

- **ParserException class** – If the document source is invalid
- **IllegalArgumentException** – If the argument is null

### *parseFunctionImportResult(String, IODataFunctionImport, IODataSchema) method*

Parser a non error result of the execution of a Function Import OData document The result will be converted to a list of OData Entry documents If the result was a simple type it can accessed due the result entries as if it were a property,.

### Syntax

```
public List< IODataEntry > parseFunctionImportResult (String
document , IODataFunctionImport functionImport , IODataSchema schema )
throws ParserException, IllegalArgumentException
```

### Parameters

- **document** – The Function Import result document
- **functionImport** – The OData Function Import document
- **schema** – The appropriate OData Schema document

### Returns

List of OData Entry containing the result values

### *Exceptions*

- **ParserException class** – If parsing document has failed
- **IllegalArgumentException** – If either of the arguments is null

### *parseFunctionImportResult(InputStream, IODataFunctionImport, IODataSchema) method*

Parser a non error result of the execution of a Function Import OData document The result will be converted to a list of OData Entry documents If the result was a simple type it can accessed due the result entries as if it were a property,.

### *Syntax*

```
public List< IODataEntry > parseFunctionImportResult  
( InputStream stream , IODataFunctionImport functionImport ,  
IODataSchema schema ) throws  
ParserException, IllegalArgumentException
```

### *Parameters*

- **stream** – The function Import result stream
- **functionImport** – The OData Function Import document
- **schema** – The appropriate OData Schema document

### *Returns*

List of OData Entry containing the result values

### *Exceptions*

- **ParserException class** – If parsing document has failed
- **IllegalArgumentException** – If either of the arguments is null

### *parseODataEntries(String, String, IODataSchema) method*

Parses SAPData structure that represent either a single OData Entry or an OData Feed with several OData entries.

### *Syntax*

```
public List< IODataEntry > parseODataEntries ( String entries ,  
String collectionId , IODataSchema schema ) throws  
ParserException, IllegalArgumentException
```

### *Parameters*

- **entries** – The source of either a single OData Entry or OData Feed of several OData entries

- **collectionId** – The id of the collection that the result entries should belong to
- **schema** – The relevant OData schema document

#### Returns

The list of the OData Entries contained by the source

#### Exceptions

- **ParserException class** – If the document source is invalid
- **IllegalArgumentException** – If the argument is null

#### *parseODataEntries(InputStream, String, IODataSchema) method*

Parses SAPData structure from stream that represent either a single OData Entry or an OData Feed of several OData entries.

#### Syntax

```
public List< IODataEntry > parseODataEntries ( InputStream
stream , String collectionId , IODataSchema schema ) throws
ParserException, IllegalArgumentException
```

#### Parameters

- **stream** – The stream that holds the source of either a single OData Entry or OData Feed of several OData entries
- **collectionId** – The id of the collection that the result entries should belong to
- **schema** – The relevant OData schema document

#### Returns

The list of the OData Entries contained by the source

#### Exceptions

- **ParserException class** – If the document source is invalid
- **IllegalArgumentException** – If the argument is null

#### *parseODataError(String) method*

Parses the OData Error.

#### Syntax

```
public IODataError parseODataError ( String error ) throws
ParserException
```

#### Parameters

- **error** – The OData Error

### *Returns*

The OData Error document

### *Exceptions*

- **ParserException class** – If the document source is invalid
- **IllegalArgumentException** – If the argument is null

### *parseODataError(InputStream) method*

Parses the OData Error from stream.

### *Syntax*

```
public IODataError parseODataError ( InputStream stream ) throws  
ParserException
```

### *Parameters*

- **stream** – The OData Error as stream

### *Returns*

The OData Error document

### *Exceptions*

- **ParserException class** – If the stream source is invalid
- **IllegalArgumentException** – If the argument is null

### *parseODataFeed(String, String, IODataSchema) method*

Parse OData Feed, support for Delta Query.

### *Syntax*

```
public IODataFeed parseODataFeed ( String feed , String collectionId ,  
IODataSchema schema ) throws ParserException
```

### *Parameters*

- **feed** –
- **collectionId** –
- **schema** –

### *Exceptions*

- **SDMParserException** –

*parseODataFeed(InputStream, String, IODataSchema) method*

Parse OData Feed from stream, support for Delta Query.

*Syntax*

```
public IODataFeed parseODataFeed ( InputStream stream , String
collectionId , IODataSchema schema ) throws ParserException
```

*Parameters*

- **stream** –
- **collectionId** –
- **schema** –

*Exceptions*

- **ParserException class** –

*parseODataOpenSearchDescription(String, String, IODataServiceDocument) method*

Parses the OData Open Search Description.

*Syntax*

```
public IODataOpenSearchDescription
parseODataOpenSearchDescription ( String openSearchDescription ,
String collectionId , IODataServiceDocument serviceDocument ) throws
ParserException, IllegalArgumentException
```

*Parameters*

- **openSearchDescription** – The OData Open Search Description

*Returns*

OData Open Search Description document

*Exceptions*

- **ParserException class** – If the document source is invalid
- **IllegalArgumentException** – If the argument is null

*parseODataOpenSearchDescription(InputStream, String, IODataServiceDocument) method*

Parses the OData Open Search Description from stream.

*Syntax*

```
public IODataOpenSearchDescription
parseODataOpenSearchDescription ( InputStream stream , String
```

*collectionId* , *IODataServiceDocument serviceDocument* ) throws  
*ParserException, IllegalArgumentException*

### Parameters

- **stream** – The stream that holds the OData Open Search Description .

### Returns

OData Open Search Description document

### Exceptions

- **ParserException class** – If the stream source is invalid.
- **IllegalArgumentException** – If the argument is null.

*parseODataSchema(String, IODataServiceDocument) method*

Parses the OData Schema.

### Syntax

```
public IODataSchema parseODataSchema ( String schema ,  
IODataServiceDocument serviceDocument ) throws  
ParserException, IllegalArgumentException
```

### Parameters

- **schema** – The OData Schema
- **serviceDocument** – The appropriate OData Service Document object

### Returns

The OData Schema document

### Exceptions

- **ParserException class** – If the document source is invalid
- **IllegalArgumentException** – If the argument is null

*parseODataSchema(InputStream, IODataServiceDocument) method*

Parses the OData Schema from stream.

### Syntax

```
public IODataSchema parseODataSchema ( InputStream stream ,  
IODataServiceDocument serviceDocument ) throws  
ParserException, IllegalArgumentException
```



*Parameters*

- **stream** – The stream that holds OData Schema
- **serviceDocument** – The appropriate OData Service Document object

*Returns*

The OData Schema document

*Exceptions*

- **ParserException class** – If the stream source is invalid
- **IllegalArgumentException** – If the argument is null

*parseODataServiceDocument(String) method*

Parses the OData Service Document.

*Syntax*

```
public IODataServiceDocument parseODataServiceDocument
( String serviceDocument ) throws
ParserException, IllegalArgumentException
```

*Parameters*

- **serviceDocument** – The OData Service Document

*Returns*

The OData Service Document

*Exceptions*

- **ParserException class** – If the document source is invalid
- **IllegalArgumentException** – If the argument is null

*parseODataServiceDocument(InputStream) method*

Parses the OData Service Document from stream.

*Syntax*

```
public IODataServiceDocument parseODataServiceDocument
( InputStream stream ) throws ParserException,
IllegalArgumentException
```

*Parameters*

- **stream** – The stream that holds OData Service Document

### *Returns*

The OData Service Document

### *Exceptions*

- **ParserException class** – If the stream source is invalid
- **IllegalArgumentException** – If the argument is null

### *readNameMap() method*

#### *Syntax*

```
protected synchronized void readNameMap () throws IOException
```

### *writeNameMap(int) method*

#### *Syntax*

```
protected void writeNameMap ( int starpos ) throws IOException
```

### *defaultFolder variable*

#### *Syntax*

```
protected File defaultFolder
```

### *lockObject variable*

#### *Syntax*

```
static Object lockObject
```

### *logger variable*

#### *Syntax*

```
protected ILogger logger
```

### *logLevel variable*

#### *Syntax*

```
protected int logLevel
```

### *NAMEMAP\_FILENAME variable*

#### *Syntax*

```
protected static final String NAMEMAP_FILENAME
```

*pa variable***Syntax**

```
Object pa
```

*parser variable***Syntax**

```
protected SAXParser parser
```

*preferences variable***Syntax**

```
protected IPreferences preferences
```

*ParserDocument class***Syntax**

```
public class ParserDocument extends IParserDocument,
Externalizable
```

*Derived classes*

- *ODataAssociation* on page 447
- *ODataAssociationEnd* on page 462
- *ODataCollection* on page 494
- *ODataComplexType* on page 516
- *ODataEntitySet* on page 531
- *ODataEntityType* on page 547
- *ODataEntry* on page 567
- *ODataError* on page 604
- *ODataFunctionImport* on page 623
- *ODataIcon* on page 641
- *ODataLink* on page 658
- *ODataNavigationProperty* on page 678
- *ODataOpenSearchDescription* on page 695
- *ODataParameter* on page 711
- *ODataProperty* on page 726
- *ODataSchema* on page 814
- *ODataServiceDocument* on page 835
- *ODataURL* on page 888

- *OData Workspace* on page 906

### Members

All members of `ParserDocument`, including inherited members. **Variables**

Modifier and Type	Variable	Description
static transient final String	<i>ANY_STRING</i> on page 963	
static transient final int	<i>ATTRIBUTE_ID</i> on page 963	
static transient final String	<i>ATTRIBUTE_STRING</i> on page 963	
protected Map< String, String >	<i>extensions</i> on page 963	
boolean	<i>isComplexEntity</i> on page 963	
boolean	<i>isJson</i> on page 963	
static List< String >	<i>nameMap</i> on page 963	
static Map< String, String >	<i>prefixMapping</i> on page 964	
protected int[]	<i>routes</i> on page 964	
protected String[]	<i>strings</i> on page 964	
protected static final String	<i>URL_PROTOCOL_PREFIX</i> on page 964	
static transient final int	<i>VALUE_ID</i> on page 964	
static transient final String	<i>VALUE_STRING</i> on page 964	

### Constructors

Modifier and Type	Constructor	Description
public	<i>ParserDocument(String)</i> on page 944	
public	<i>ParserDocument(ParserDocument)</i> on page 944	
	<i>ParserDocument()</i> on page 945	

Modifier and Type	Constructor	Description
	<i>ParserDocument(boolean)</i> on page 945	
protected	<i>ParserDocument(int[], String[])</i> on page 945	
protected	<i>ParserDocument(String, boolean)</i> on page 945	

## Methods

Modifier and Type	Method	Description
public ParserDocument	<i>clone()</i> on page 945	Creates a copy of this object.
public String	<i>getAttribute(String...)</i> on page 945	Returns the value of the first attribute with the given route.
public List< String >	<i>getAttributes(String...)</i> on page 946	Returns all the values of attributes with the given route.
protected int	<i>getAttributesEndPosition(int[], int, int)</i> on page 946	
public Map< String, String >	<i>getChildAttributeMap(String...)</i> on page 946	Returns all the name-value pairs of attributes contained by the element with the given route.
public List< String >	<i>getChildAttributes(String...)</i> on page 947	Returns all the values of attributes contained by the element with the given route.
public List< IParserDocument >	<i>getChildDocuments(String...)</i> on page 947	Returns the elements contained by the element with the given route.
public List< IParserDocument >	<i>getChildDocumentsWithAttribute(String, String, String...)</i> on page 947	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public List< IParserDocument >	<i>getChildDocumentsWithAttribute(String, String, boolean, String...)</i> on page 948	Returns the elements contained by the element with the given route and having the given attribute with the given value.

Modifier and Type	Method	Description
public ParserDocument	<i>getDocument(String...)</i> on page 948	Returns the first element with the given route.
protected List< int[]>	<i>getDocumentPositions(String[], int, boolean, boolean)</i> on page 949	
public List< IParserDocument >	<i>getDocuments(String...)</i> on page 949	Returns all the elements with the given route.
public List< IParserDocument >	<i>getDocumentsWithAttribute(String, String, String...)</i> on page 949	Returns the elements with the given route that contains the given attribute with the given value.
public List< IParserDocument >	<i>getDocumentsWithAttribute(String, String, boolean, String...)</i> on page 950	Returns the elements with the given route that contains the given attribute with the given value.
public IParserDocument	<i>getDocumentWithAttribute(String, String, String...)</i> on page 950	Returns the first element with the given route that contains the given attribute with the given value.
public IParserDocument	<i>getDocumentWithAttribute(String, String, boolean, String...)</i> on page 951	Returns the first element with the given route that contains the given attribute with the given value.
public String	<i>getElementName()</i> on page 951	Returns The name of the root element of this document.
public String	<i>getExtension(String)</i> on page 952	
public String	<i>getFunctionImportComplexProperty Value(String...)</i> on page 952	
static int	<i>getNameId(String, boolean, boolean)</i> on page 952	
public static List< String >	<i>getNameMap()</i> on page 952	
public static String	<i>getPrefix(String)</i> on page 952	

Modifier and Type	Method	Description
public String	<i>getPrefixForUri(String)</i> on page 952	Returns the appropriate name-space prefix for the given XML name-space URI.
public static Map< String, String >	<i>getPrefixMapping()</i> on page 953	
protected List< Integer >	<i>getStringPositions(String[], int, boolean, boolean)</i> on page 953	
public String[]	<i>getStrings()</i> on page 953	Returns all the string values contained by this document.
public String	<i>getValue(String...)</i> on page 953	Returns the value of the first element with the given route.
public List< String >	<i>getValues(String...)</i> on page 953	Returns all the values of elements with the given route.
protected int[]	<i>insertRoutePositions(int[], int, int[])</i> on page 954	
protected void	<i>insertRoutesPositions(int, int[])</i> on page 954	
protected void	<i>insertStringsPositions(int, String[])</i> on page 954	
protected String[]	<i>insertStringsPositions(String[], int, String[])</i> on page 954	
protected boolean	<i>isMatched(String, String)</i> on page 954	
public void	<i>putAttribute(String, String...)</i> on page 955	Sets the value of the attribute with the given route. If attribute does not exist it will be created as well as all other non existing elements in the route.

Modifier and Type	Method	Description
public void	<i>putDocument(IParserDocument, String...)</i> on page 955	Insert the document under the element with the given route inserted document will be placed before already existing documents with the same route name under All missing elements from the route will be created.
public void	<i>putExtension(String, String)</i> on page 955	
protected void	<i>putString(int, String, int, String...)</i> on page 956	
public void	<i>putValue(String, String...)</i> on page 956	Sets the value of the first element with the given route.
public void	<i>read(BufferedReader)</i> on page 956	
public void	<i>readExternal(ObjectInput)</i> on page 956	
public static void	<i>readNameMap(BufferedReader)</i> on page 957	
public boolean	<i>removeAttribute(String...)</i> on page 957	Removes first element with the given route.
public boolean	<i>removeAttributes(String...)</i> on page 957	Removes all the attribute with the given route.
public boolean	<i>removeDocument(String...)</i> on page 957	Removes first element with the given route For removing multiple element use setDocuemtns with null arguments.
public void	<i>removeExtension(String)</i> on page 958	
protected void	<i>removeRoutesPositions(int, int)</i> on page 958	
protected int[]	<i>removeRoutesPositions(int[], int, int)</i> on page 958	



Modifier and Type	Method	Description
protected boolean	<i>removeString(String...)</i> on page 958	
protected boolean	<i>removeStrings(String...)</i> on page 958	
protected void	<i>removeStringsPositions(int, int)</i> on page 958	
protected String[]	<i>removeStringsPositions(String[], int, int)</i> on page 958	
protected int	<i>replaceRoutesPositions(int, int, int[])</i> on page 959	
protected int[]	<i>replaceRoutesPositions(int[], int, int, int[])</i> on page 959	
protected int	<i>replaceStringsPositions(int, int, String[])</i> on page 959	
protected String[]	<i>replaceStringsPositions(String[], int, int, String[])</i> on page 959	
public static String	<i>resolveUrl(String, String)</i> on page 959	
public void	<i>setAttribute(String, String...)</i> on page 959	
public void	<i>setAttributes(List&lt;String&gt;, String...)</i> on page 960	Sets all the values of the attributes with the given route Values will be paired to attributes in order Attributes with greater or equals index than size of new values will be untouched Attributes paired with null values will be removed.
public boolean	<i>setDocument(IParserDocument, String...)</i> on page 960	

Modifier and Type	Method	Description
public void	<i>setDocuments(List&lt; IParser-Document &gt;, String...)</i> on page 960	Replaces all the elements with the given route Documents will be paired to elements in order Elements with greater or equals index than size of new elements will be untouched Element paired with null will be removed.
public void	<i>setElementName(String, String...)</i> on page 961	Sets the name of the root element with the given route Use empty route for setting root name of this document.
public static void	<i>setNameMap(List&lt;String &gt;)</i> on page 961	
public static void	<i>setPrefixMapping(Map&lt;String, String &gt;)</i> on page 961	
protected void	<i>setString(String, String...)</i> on page 961	
protected void	<i>setStrings(List&lt;String &gt;, String...)</i> on page 961	
public void	<i>setValue(String, String...)</i> on page 961	
public void	<i>setValues(List&lt;String &gt;, String...)</i> on page 962	Sets all the values of the elements with the given route Values will be paired to elements in order Elements with greater or equals index than size of new values will be untouched Null values will be treated as empty strings.
public String	<i>toXMLString()</i> on page 962	Returns the XML string representation of this object.
public void	<i>write(BufferedWriter)</i> on page 962	
public void	<i>writeExternal(ObjectOutput)</i> on page 962	

Modifier and Type	Method	Description
public static void	<i>writeNameMap(BufferedWriter)</i> on page 963	

### Inherited members from IParserDocument

Modifier and Type	Member	Description
public static final String	<i>ATTRIBUTE_ETAG</i> on page 386	Name of the appropriate OData element.
public static final String	<i>ATTRIBUTE_VALUEPREFIX_EDMTYPE</i> on page 386	Value prefix for EDM Type type values.
public static Map< String, String >	<i>DEFAULT_PREFIXMAPPING</i> on page 386	The default XML Namespace-to-Prefix mapping used for building XMLS.
public static final String[]	<i>EDMDATETIME_PATTERNS</i> on page 386	Possible EDM DateTime patterns Note: Some pattern are not supported by OData specification but still widely used.
public static final String[]	<i>EDMDATETIMEOFFSET_PATTERNS</i> on page 386	Possible EDM TimeOffset patterns Note: Some pattern are not supported by OData specification but still widely used.
public static final String	<i>EDMTIME_PATTERN</i> on page 386	EDM Time pattern.
public static String	<i>ELEMENT_FEED</i> on page 386	Name of the appropriate OData element.
public static final String	<i>ELEMENT_ID</i> on page 387	Name of the appropriate OData element.
public static final String	<i>ROOT_DOCUMENT_NAME</i> on page 387	The default root element name for a new document.
public static final String	<i>XMLNS_APPLICATION_URI</i> on page 387	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/08/dataservices">http://schemas.microsoft.com/ado/2007/08/dataservices</a> .
public static final String	<i>XMLNS_ATOM_URI</i> on page 387	Constant for XMLNS URI: <a href="http://www.w3.org/2005/Atom">http://www.w3.org/2005/Atom</a> .

Modifier and Type	Member	Description
public static final String	<i>XMLNS_DATASERVICES_URI</i> on page 387	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/08/dataservices">http://schemas.microsoft.com/ado/2007/08/dataservices</a> .
public static final String	<i>XMLNS_EDM_URI</i> on page 387	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/05/edm">http://schemas.microsoft.com/ado/2007/05/edm</a> .
public static final String	<i>XMLNS_EDMX_URI</i> on page 387	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/06/edmx">http://schemas.microsoft.com/ado/2007/06/edmx</a> .
public static final String	<i>XMLNS_GENERICPLAYER_URI</i> on page 388	Constant for XMLNS URI: <a href="http://www.sap.com/Protocols/SAPData/GenericPlayer">http://www.sap.com/Protocols/SAPData/GenericPlayer</a> .
public static final String	<i>XMLNS_METADATA_URI</i> on page 388	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/08/dataservices/metadata">http://schemas.microsoft.com/ado/2007/08/dataservices/metadata</a> .
public static final String	<i>XMLNS_SAP_URI</i> on page 388	Constant for XMLNS URI: <a href="http://www.sap.com/Protocols/SAPData">http://www.sap.com/Protocols/SAPData</a> .

#### Inherited members from IPersistable

Modifier and Type	Member	Description
public void	<i>read(BufferedReader)</i> on page 389	
public void	<i>write(BufferedWriter)</i> on page 389	

#### *ParserDocument(String)* constructor

##### Syntax

```
public ParserDocument ( String name )
```

#### *ParserDocument(ParserDocument)* constructor

##### Syntax

```
public ParserDocument ( ParserDocument document )
```

*ParserDocument()* constructor*Syntax*

```
ParserDocument ()
```

*ParserDocument(boolean)* constructor*Syntax*

```
ParserDocument ( boolean isComplex )
```

*ParserDocument(int[], String[])* constructor*Syntax*

```
protected ParserDocument ( int[] routes , String[] values )
```

*ParserDocument(String, boolean)* constructor*Syntax*

```
protected ParserDocument ( String name , boolean jsonFlag )
```

*clone()* method

Creates a copy of this object.

*Syntax*

```
public ParserDocument clone () throws  
CloneNotSupportedException
```

*Returns*

The new copy of this object

*getAttribute(String...)* method

Returns the value of the first attribute with the given route.

*Syntax*

```
public String getAttribute ( String... route )
```

*Parameters*

- **route** – The route to the attribute

*Returns*

The value of the first attribute or null if there is no such attribute

*Exceptions*

- **IllegalArgumentException** – if the argument is null.

*getAttributes(String...) method*

Returns all the values of attributes with the given route.

*Syntax*

```
public List< String > getAttributes ( String... route )
```

*Parameters*

- **route** – The route to the attributes

*Returns*

The list of values

*Exceptions*

- **IllegalArgumentException** – if the argument is null.

*getAttributesEndPosition(int[], int, int) method*

*Syntax*

```
protected int getAttributesEndPosition ( int[] array , int start ,  
int end )
```

*getChildAttributeMap(String...) method*

Returns all the name-value pairs of attributes contained by the element with the given route.

*Syntax*

```
public Map< String, String > getChildAttributeMap ( String...  
route )
```

*Parameters*

- **route** – The route to the element with the child attributes

*Returns*

The list of values

*Exceptions*

- **IllegalArgumentException** – if the argument is null.

*getChildAttributes(String...) method*

Returns all the values of attributes contained by the element with the given route.

*Syntax*

```
public List< String > getChildAttributes ( String... route )
```

*Parameters*

- **route** – The route to the element with the child attributes

*Returns*

The list of values

*Exceptions*

- **IllegalArgumentException** – if the argument is null.

*getChildDocuments(String...) method*

Returns the elements contained by the element with the given route.

*Syntax*

```
public List< IParserDocument > getChildDocuments ( String... route )
```

*Parameters*

- **route** – The route to the element with the child elements

*Returns*

List of elements as new IParser documents

*Exceptions*

- **IllegalArgumentException** – if the argument is null.

*getChildDocumentsWithAttribute(String, String, String...) method*

Returns the elements contained by the element with the given route and having the given attribute with the given value.

*Syntax*

```
public List< IParserDocument > getChildDocumentsWithAttribute ( String attributeName , String attributeValue , String... route )
```

### *Parameters*

- **route** – The route to the element with the child elements
- **attributeName** – The name of the attribute
- **attributeValue** – The expected value of the attribute

### *Returns*

List of elements as new IParser documents

### *Exceptions*

- **IllegalArgumentException** – if either of the arguments is null.

### *getChildDocumentsWithAttribute(String, String, boolean, String...) method*

Returns the elements contained by the element with the given route and having the given attribute with the given value.

### *Syntax*

```
public List< IParserDocument > getChildDocumentsWithAttribute  
( String attributeName , String attributeValue , boolean addByDefault ,  
String... route )
```

### *Parameters*

- **route** – The route to the element with the child elements
- **attributeName** – The name of the attribute
- **attributeValue** – The expected value of the attribute
- **addByDefault** – true if element should be returned in case it does not contain the given attribute

### *Returns*

List of elements as new IParser documents

### *Exceptions*

- **IllegalArgumentException** – if either of the arguments is null.

### *getDocument(String...) method*

Returns the first element with the given route.

### *Syntax*

```
public ParserDocument getDocument ( String... route )
```



*Parameters*

- **route** – The route to the element

*Returns*

The element as a new IParser document or null if there is no such element

*Exceptions*

- **IllegalArgumentException** – if the argument is null.

*getDocumentPositions(String[], int, boolean, boolean) method*

*Syntax*

```
protected List< int[] > getDocumentPositions ( String[] route ,
int resultCount , boolean addMaxRoutePos , boolean skipAttributes )
```

*getDocuments(String...) method*

Returns all the elements with the given route.

*Syntax*

```
public List< IParserDocument > getDocuments ( String... route )
```

*Parameters*

- **route** – The route to the elements

*Returns*

List of elements as new IParser documents

*Exceptions*

- **IllegalArgumentException** – if the argument is null.

*getDocumentsWithAttribute(String, String, String...) method*

Returns the elements with the given route that contains the given attribute with the given value.

*Syntax*

```
public List< IParserDocument > getDocumentsWithAttribute
( String attributeName , String attributeValue , String... route )
```

*Parameters*

- **route** – The route to the elements

- **attributeName** – The name of the attribute
- **attributeValue** – The expected value of the attribute

### Returns

List of elements as new IParser documents

### Exceptions

- **IllegalArgumentException** – if either of the arguments is null.

### *getDocumentsWithAttribute(String, String, boolean, String...) method*

Returns the elements with the given route that contains the given attribute with the given value.

### Syntax

```
public List< IParserDocument > getDocumentsWithAttribute  
( String attributeName , String attributeValue , boolean addByDefault ,  
String... route )
```

### Parameters

- **route** – The route to the elements
- **attributeName** – The name of the attribute
- **attributeValue** – The expected value of the attribute
- **addByDefault** – true if element should be returned in case it does not contain the given attribute

### Returns

List of elements as new IParser documents

### Exceptions

- **IllegalArgumentException** – if either of the arguments is null.

### *getDocumentWithAttribute(String, String, String...) method*

Returns the first element with the given route that contains the given attribute with the given value.

### Syntax

```
public IParserDocument getDocumentWithAttribute ( String  
attributeName , String attributeValue , String... route )
```

### Parameters

- **route** – The route to the element

- **attributeName** – The name of the attribute
- **attributeValue** – The expected value of the attribute

#### Returns

The element as a new IParser document or null if there is no such element

#### Exceptions

- **IllegalArgumentException** – if either of the arguments is null.

#### *getDocumentWithAttribute(String, String, boolean, String...)* method

Returns the first element with the given route that contains the given attribute with the given value.

#### Syntax

```
public IParserDocument getDocumentWithAttribute (String
attributeName , String attributeValue , boolean addByDefault , String...
route )
```

#### Parameters

- **route** – The route to the element
- **attributeName** – The name of the attribute
- **attributeValue** – The expected value of the attribute
- **addByDefault** – true if element should be returned in case it does not contain the given attribute

#### Returns

The element as a new IParser document or null if there is no such element

#### Exceptions

- **IllegalArgumentException** – if either of the arguments is null.

#### *getElementName()* method

Returns The name of the root element of this document.

#### Syntax

```
public String getElementName ()
```

#### Returns

The name of the root element of this document

*getExtension(String) method*

*Syntax*

```
public String getExtension ( String extensionId )
```

*getFunctionImportComplexPropertyValue(String...) method*

*Syntax*

```
public String getFunctionImportComplexPropertyValue  
( String... route )
```

*getNameId(String, boolean, boolean) method*

*Syntax*

```
static int getNameId ( String name , boolean checkWithoutPrefix ,  
boolean addIfNotExist )
```

*getNameMap() method*

*Syntax*

```
public static List< String > getNameMap ( )
```

*getPrefix(String) method*

*Syntax*

```
public static String getPrefix ( String uri )
```

*getPrefixForUri(String) method*

Returns the appropriate name-space prefix for the given XML name-space URI.

*Syntax*

```
public String getPrefixForUri ( String uri )
```

*Parameters*

- **uri** – An XML names-pace URI

*Returns*

The appropriate name-space prefix

*Exceptions*

- **IllegalArgumentException** – if the argument is null.

*getPrefixMapping() method**Syntax*

```
public static Map< String, String > getPrefixMapping ()
```

*getStringPositions(String[], int, boolean, boolean) method**Syntax*

```
protected List< Integer > getStringPositions ( String[] route ,
int resultCount , boolean addFieldId , boolean addMaxRoutePos )
```

*getStrings() method*

Returns all the string values contained by this document.

*Syntax*

```
public String[] getStrings ()
```

*Returns*

all the string values contained by this document

*getValue(String...) method*

Returns the value of the first element with the given route.

*Syntax*

```
public String getValue ( String... route )
```

*Parameters*

- **route** – The route to the element

*Returns*

The value of the first element or null if there is no such element

*Exceptions*

- **IllegalArgumentException** – if the argument is null.

*getValues(String...) method*

Returns all the values of elements with the given route.

*Syntax*

```
public List< String > getValues ( String... route )
```

### *Parameters*

- **route** – The route to the elements

### *Returns*

The list of values

### *Exceptions*

- **IllegalArgumentException** – if the argument is null.

### *insertRoutePositions(int[], int, int[]) method*

#### *Syntax*

```
protected int[] insertRoutePositions ( int[] array , int start ,  
int[] subRoutes )
```

### *insertRoutesPositions(int, int[]) method*

#### *Syntax*

```
protected void insertRoutesPositions ( int start , int[]  
subRoutes )
```

### *insertStringsPositions(int, String[]) method*

#### *Syntax*

```
protected void insertStringsPositions ( int start , String[]  
subStrings )
```

### *insertStringsPositions(String[], int, String[]) method*

#### *Syntax*

```
protected String[] insertStringsPositions ( String[] array , int  
start , String[] subStrings )
```

### *isMatched(String, String) method*

#### *Syntax*

```
protected boolean isMatched ( String xmlName , String routeName )
```

*putAttribute(String, String...) method*

Sets the value of the attribute with the given route. If attribute does not exist it will be created as well as all other non-existing elements in the route.

*Syntax*

```
public void putAttribute ( String value , String... route ) throws
IllegalArgumentException
```

*Parameters*

- **value** – The new value
- **route** – The route to the attribute

*Exceptions*

- **IllegalArgumentException** – if either of the arguments is null.

*putDocument(IParserDocument, String...) method*

Insert the document under the element with the given route. Inserted document will be placed before already existing documents with the same route name under. All missing elements from the route will be created.

*Syntax*

```
public void putDocument ( IParserDocument document , String...
route ) throws IllegalArgumentException
```

*Parameters*

- **document** – The new document
- **route** – The route to the parent element of the new document

*Exceptions*

- **IllegalArgumentException** – if either of the arguments is null.

*putExtension(String, String) method**Syntax*

```
public void putExtension ( String extensionId , String
extensionValue )
```

### *putString(int, String, int, String...) method*

#### *Syntax*

```
protected void putString ( int stringId , String value , int  
existLength , String... route )
```

### *putValue(String, String...) method*

Sets the value of the first element with the given route.

#### *Syntax*

```
public void putValue ( String value , String... route ) throws  
IllegalArgumentException
```

#### *Parameters*

- **value** – The new value
- **route** – The route to the element

#### *Exceptions*

- **IllegalArgumentException** – if either of the arguments is null.

### *read(BufferedReader) method*

#### *Syntax*

```
public void read ( BufferedReader reader ) throws  
PersistenceException
```

#### *Parameters*

- **reader** – The buffered reader to read the object from.

#### *Exceptions*

- **PersistenceException** – if data can not be loaded from the reader.

### *readExternal(ObjectInput) method*

#### *Syntax*

```
public void readExternal ( ObjectInput in ) throws IOException,  
ClassNotFoundException
```



*readNameMap(BufferedReader) method**Syntax*

```
public static void readNameMap (BufferedReader reader) throws
IOException
```

*removeAttribute(String...) method*

Removes first element with the given route.

*Syntax*

```
public boolean removeAttribute (String... route)
```

*Parameters*

- **route** – The route to the attribute to remove

*Returns*

true if at least one attribute has been removed or false otherwise

*removeAttributes(String...) method*

Removes all the attribute with the given route.

*Syntax*

```
public boolean removeAttributes (String... route)
```

*Parameters*

- **route** – The route to the attributes to remove

*Returns*

true if at least one attribute has been removed or false otherwise

*removeDocument(String...) method*

Removes first element with the given route For removing multiple element use setDocuemtns with null arguments.

*Syntax*

```
public boolean removeDocument (String... route) throws
IllegalArgumentException
```

*Parameters*

- **route** – The route to the element to remove

*Returns*

true if at least one element has been removed or false otherwise

*removeExtension(String) method*

*Syntax*

```
public void removeExtension (String extensionId)
```

*removeRoutesPositions(int, int) method*

*Syntax*

```
protected void removeRoutesPositions (int start , int end)
```

*removeRoutesPositions(int[], int, int) method*

*Syntax*

```
protected int[] removeRoutesPositions (int[] array , int start ,  
int end)
```

*removeString(String...) method*

*Syntax*

```
protected boolean removeString (String... route)
```

*removeStrings(String...) method*

*Syntax*

```
protected boolean removeStrings (String... route)
```

*removeStringsPositions(int, int) method*

*Syntax*

```
protected void removeStringsPositions (int start , int end)
```

*removeStringsPositions(String[], int, int) method*

*Syntax*

```
protected String[] removeStringsPositions (String[] array , int  
start , int end)
```

*replaceRoutesPositions(int, int, int[]) method*

**Syntax**

```
protected int replaceRoutesPositions (int start , int end , int[]
subRoutes )
```

*replaceRoutesPositions(int[], int, int, int[]) method*

**Syntax**

```
protected int[] replaceRoutesPositions (int[] array , int start ,
int end , int[] subRoutes )
```

*replaceStringsPositions(int, int, String[]) method*

**Syntax**

```
protected int replaceStringsPositions (int start , int end ,
String[] subStrings )
```

*replaceStringsPositions(String[], int, int, String[]) method*

**Syntax**

```
protected String[] replaceStringsPositions (String[] array , int
start , int end , String[] subStrings )
```

*resolveUrl(String, String) method*

**Syntax**

```
public static String resolveUrl (String baseUrl , String url )
```

*setAttribute(String, String...) method*

**Syntax**

```
public void setAttribute (String value , String... route ) throws
IllegalArgumentException
```

### *setAttributes(List< String >, String...) method*

Sets all the values of the attributes with the given route Values will be paired to attributes in order Attributes with greater or equals index than size of new values will be untouched Attributes paired with null values will be removed.

#### *Syntax*

```
public void setAttributes ( List< String > values , String...  
route ) throws IllegalArgumentException
```

#### *Parameters*

- **values** – The new values of the attributes
- **route** – The route to the attributes

#### *Exceptions*

- **IllegalArgumentException** – if either of the arguments is null.

### *setDocument(IParserDocument, String...) method*

#### *Syntax*

```
public boolean setDocument ( IParserDocument document , String...  
route ) throws IllegalArgumentException
```

### *setDocuments(List< IParserDocument >, String...) method*

Replaces all the elements with the given route Documents will be paired to elements in order Elements with greater or equals index than size of new elements will be untouched Element paired with null will be removed.

#### *Syntax*

```
public void setDocuments ( List< IParserDocument > documents ,  
String... route ) throws IllegalArgumentException
```

#### *Parameters*

- **documents** – The list of new documents or nulls if one or more document should be removed
- **route** – The route to the elements

#### *Exceptions*

- **IllegalArgumentException** – if either of the arguments is null.

*setElementName(String, String...) method*

Sets the name of the root element with the given route Use empty route for setting root name of this document.

*Syntax*

```
public void setElementName (String name , String... route )
```

*Parameters*

- **name** – The new name of the root element
- **route** – The route to the element

*Exceptions*

- **IllegalArgumentException** – if either of the arguments is null.

*setNameMap(List< String >) method**Syntax*

```
public static void setNameMap (List< String > nameMap )
```

*setPrefixMapping(Map< String, String >) method**Syntax*

```
public static void setPrefixMapping (Map< String, String > prefixMapping )
```

*setString(String, String...) method**Syntax*

```
protected void setString (String value , String... route )
```

*setStrings(List< String >, String...) method**Syntax*

```
protected void setStrings (List< String > values , String... route )
```

*setValue(String, String...) method**Syntax*

```
public void setValue (String value , String... route ) throws  
IllegalArgumentException
```

### *setValues(List< String >, String...) method*

Sets all the values of the elements with the given rout Values will be paired to elements in order Elements with greater or equals index than size of new values will be untouched Null values will be treated as empty strings.

#### *Syntax*

```
public void setValues ( List< String > values , String... route )  
throws IllegalArgumentException
```

#### *Parameters*

- **values** – The new values of the elements
- **route** – The route to the elements

#### *Exceptions*

- **IllegalArgumentException** – if either of the arguments is null.

### *toXMLString() method*

Returns the XML string representation of this object.

#### *Syntax*

```
public String toXMLString ()
```

#### *Returns*

The XML string representation of this object

### *write(BufferedWriter) method*

#### *Syntax*

```
public void write ( BufferedWriter writer ) throws  
PersistenceException
```

#### *Parameters*

- **writer** – The buffered writer that object data needs to be written into.

#### *Exceptions*

- **PersistenceException** – if data can not be written into the writer

### *writeExternal(ObjectOutput) method*

#### *Syntax*

```
public void writeExternal ( ObjectOutput out ) throws IOException
```

*writeNameMap(BufferedWriter) method***Syntax**

```
public static void writeNameMap (BufferedWriter writer) throws
IOException
```

*ANY\_STRING variable***Syntax**

```
static transient final String ANY_STRING
```

*ATTRIBUTE\_ID variable***Syntax**

```
static transient final int ATTRIBUTE_ID
```

*ATTRIBUTE\_STRING variable***Syntax**

```
static transient final String ATTRIBUTE_STRING
```

*extensions variable***Syntax**

```
protected Map< String, String > extensions
```

*isComplexEntity variable***Syntax**

```
boolean isComplexEntity
```

*isJson variable***Syntax**

```
boolean isJson
```

*nameMap variable***Syntax**

```
static List< String > nameMap
```

*prefixMapping variable*

*Syntax*

```
static Map< String, String > prefixMapping
```

*routes variable*

*Syntax*

```
protected int[] routes
```

*strings variable*

*Syntax*

```
protected String[] strings
```

*URL\_PROTOCOL\_PREFIX variable*

*Syntax*

```
protected static final String URL_PROTOCOL_PREFIX
```

*VALUE\_ID variable*

*Syntax*

```
static transient final int VALUE_ID
```

*VALUE\_STRING variable*

*Syntax*

```
static transient final String VALUE_STRING
```

*ParserException class*

Main exception throwable by Parser or Odata documents.

*Syntax*

```
public class ParserException extends Exception
```

*Members*

All members of ParserException, including inherited members. **Constructors**

Modifier and Type	Constructor	Description
public	<i>ParserException()</i> on page 965	Constructor.



Modifier and Type	Constructor	Description
public	<i>ParserException(String)</i> on page 965	Constructor.
public	<i>ParserException(Throwable)</i> on page 965	Constructor.
public	<i>ParserException(String, Throwable)</i> on page 966	Constructor.
public	<i>ParserException(int, String, Throwable)</i> on page 966	
public	<i>ParserException(int, String)</i> on page 966	

### Methods

Modifier and Type	Method	Description
public int	<i>getErrorCode()</i> on page 966	

#### *ParserException()* constructor

Constructor.

#### Syntax

```
public ParserException ()
```

#### *ParserException(String)* constructor

Constructor.

#### Syntax

```
public ParserException ( String detailMessage )
```

#### Parameters

- **detailMessage** – Error message

#### *ParserException(Throwable)* constructor

Constructor.

#### Syntax

```
public ParserException ( Throwable throwable )
```

*Parameters*

- **throwable** – Route exception

*ParserException(String, Throwable) constructor*

Constructor.

*Syntax*

```
public ParserException ( String detailMessage , Throwable throwable )
```

*Parameters*

- **detailMessage** – Error message
- **throwable** – Route exception

*ParserException(int, String, Throwable) constructor*

*Syntax*

```
public ParserException ( int iErrorCode , String detailMessage , Throwable throwable )
```

*ParserException(int, String) constructor*

*Syntax*

```
public ParserException ( int iErrorCode , String detailMessage )
```

*getErrorCode() method*

*Syntax*

```
public int getErrorCode ()
```

*ParserHandler class*

*Syntax*

```
public class ParserHandler extends DefaultHandler
```

*Members*

All members of ParserHandler, including inherited members. **Variables**

Modifier and Type	Variable	Description
protected StringBuffer	<i>buffer</i> on page 969	

Modifier and Type	Variable	Description
protected List< Integer >	<i>routes</i> on page 969	
protected List< String >	<i>values</i> on page 969	

### Methods

Modifier and Type	Method	Description
protected void	<i>addValue()</i> on page 967	
public void	<i>characters(char[], int, int)</i> on page 967	
public void	<i>endElement(String, String, String)</i> on page 968	
public ParserDocument	<i>getDocument()</i> on page 968	
protected String	<i>resolveAttributeName(Attributes, int)</i> on page 968	
protected String	<i>resolveName(String, String, String)</i> on page 968	
public void	<i>startDocument()</i> on page 968	
public void	<i>startElement(String, String, String, Attributes)</i> on page 968	
public void	<i>startPrefixMapping(String, String)</i> on page 968	

#### *addValue()* method

##### Syntax

```
protected void addValue ()
```

#### *characters(char[], int, int)* method

##### Syntax

```
public void characters ( char[] ch , int start , int length ) throws SAXException
```

*endElement(String, String, String) method*

**Syntax**

```
public void endElement (String uri , String localName , String qName ) throws SAXException
```

*getDocument() method*

**Syntax**

```
public ParserDocument getDocument ()
```

*resolveAttributeName(Attributes, int) method*

**Syntax**

```
protected String resolveAttributeName (Attributes attributes , int i )
```

*resolveName(String, String, String) method*

**Syntax**

```
protected String resolveName (String uri , String localName , String qName )
```

*startDocument() method*

**Syntax**

```
public void startDocument () throws SAXException
```

*startElement(String, String, String, Attributes) method*

**Syntax**

```
public void startElement (String uri , String localName , String qName , Attributes attributes ) throws SAXException
```

*startPrefixMapping(String, String) method*

**Syntax**

```
public void startPrefixMapping (String prefix , String uri ) throws SAXException
```

*buffer variable**Syntax*

```
protected StringBuffer buffer
```

*routes variable**Syntax*

```
protected List< Integer > routes
```

*values variable**Syntax*

```
protected List< String > values
```

*Preferences class**Syntax*

```
public class Preferences extends IPreferences, Constants,
OnSharedPreferenceChangeListener
```

*Members*

All members of Preferences, including inherited members. **Variables**

Modifier and Type	Variable	Description
public static String	<i>DEFAULT_PARSER_STRING_SUBFOLDER_NAME</i> on page 982	Default subfolder for Parser.
public static String	<i>DEFAULT_PERSISTENCE_STRING_SUBFOLDER_NAME</i> on page 982	Default subfolder for Persistence.
protected Hashtable< String, Object >	<i>defaultPreferences</i> on page 982	Store for default Preferences.
protected ILogger	<i>logger</i> on page 983	
protected int	<i>logLevel</i> on page 983	
protected Hashtable< String, Set< IPreferenceChangeListener >>	<i>preferenceChangeListeners</i> on page 983	Listeners for Preference changes.

Modifier and Type	Variable	Description
protected static final String	<i>PREFERENCES</i> on page 983	

### Constructors

Modifier and Type	Constructor	Description
public	<i>Preferences(Context, ILogger)</i> on page 975	

### Methods

Modifier and Type	Method	Description
protected void	<i>addDefaultPreferences()</i> on page 975	Can be used to add application specific default preferences.
protected Object	<i>confirmPreference(String)</i> on page 975	Validates changed preference if it can be changed.
public boolean	<i>containsPreference(String)</i> on page 976	Checks the existence of the given preference.
public Map< String, ?>	<i>getAllPreferences()</i> on page 976	
public Boolean	<i>getBooleanPreference(String)</i> on page 976	Returns the value of the given preference or null if there is no preference with the given key.
public Context	<i>getContext()</i> on page 977	Returns the context.
public Float	<i>getFloatPreference(String)</i> on page 977	Returns the value of the given preference or null if there is no preference with the given key.
public Integer	<i>getIntPreference(String)</i> on page 977	Returns the value of the given preference or null if there is no preference with the given key.
public Long	<i>getLongPreference(String)</i> on page 978	Returns the value of the given preference or null if there is no preference with the given key.
private< T > T	<i>getPreference(String)</i> on page 978	

Modifier and Type	Method	Description
public String	<i>getStringPreference(String)</i> on page 978	Returns the value of the given preference or null if there is no preference with the given key.
public void	<i>onSharedPreferenceChanged(SharedPreferences, final String)</i> on page 979	
public synchronized void	<i>registerPreferenceChangeListener(String, IPreferenceChangeListener)</i> on page 979	You can register a class implementing the <code>IPreferenceChangeListener</code> interface for the change of a preference with the given key.
public void	<i>removePreference(String)</i> on page 979	Removes the preferences with the given key.
public void	<i>resetPreference(String)</i> on page 980	Resets the preference's value to its default value or to null if there is no default value for the given preference.
public void	<i>setBooleanPreference(String, boolean)</i> on page 980	Sets and validates and persists the value of the preferences with the given type.
public void	<i>setFloatPreference(String, float)</i> on page 980	Sets and validates and persists the value of the preferences with the given type.
public void	<i>setIntPreference(String, int)</i> on page 981	Sets and validates and persists the value of the preferences with the given type.
public void	<i>setLongPreference(String, long)</i> on page 981	Sets and validates and persists the value of the preferences with the given type.
public void	<i>setStringPreference(String, String)</i> on page 981	Sets and validates and persists the value of the preferences with the given type.
public synchronized void	<i>unRegisterPreferenceChangeListener(String, IPreferenceChangeListener)</i> on page 982	You can unregister a change listener.

### Inherited members from `IPreferences`

Modifier and Type	Member	Description
public static final String	<i>BUSINESSTRANSAC- TION_ENABLED</i> on page 400	Preference for the indicator to decide if SAP passport should be enabled or not.
public static final String	<i>BYPASS_PROXY</i> on page 400	Preference for the indicator to decide which URLs need the proxy bypassed.
public static final String	<i>CACHE_CAPACITY</i> on page 400	Preference for the maximum number of documents can be stored in cache.
public static final String	<i>CACHE_MAX_SEARCH_RE- SULTS</i> on page 400	Preference for the maximum entries that can be returned as a result of a search.
public static final String	<i>CACHE_PARS- ER_SEARCH_ATTRIBUTE</i> on page 400	Preference for the name of the XML attribute that should be used to decide if a property is searchable.
public static final String	<i>CACHE_SEARCH_ATTRIB- UTE_XMLNS</i> on page 401	Preference for the XML namespace URI of the XML attribute that should be used to decide if a property is searchable.
public static final String	<i>CONNECTIVITY_CONNTI- MEOUT</i> on page 401	Preference for connection time out.
public static final String	<i>CONNECTIVITY_HAN- DLER_CLASS_NAME</i> on page 401	Preference for full name (including package) of the class that should be initialized as connectivity handler.
public static final String	<i>CONNECTIVI- TY_HTTP_PORT</i> on page 401	Preference for default HTTP port.
public static final String	<i>CONNECTIVI- TY_HTTPS_PORT</i> on page 401	Preference for default HTTPS port.
public static final String	<i>CONNECTIVI- TY_PROXY_HOST</i> on page 401	Preference for proxy host if there is a proxy should be used.



Modifier and Type	Member	Description
public static final String	<i>CONNECTIVITY_PROXY_PORT</i> on page 401	Preference for proxy port if there is a proxy should be used.
public static final String	<i>CONNECTIVITY_SCONNECTION_TIMEOUT</i> on page 402	Preference for socket connection time out.
public static final String	<i>LOG_LEVEL</i> on page 402	Preference for the current log severity.
public static final String	<i>PARSER_FOLDER_PATH</i> on page 402	Preference for the default folder where Parser related information can be persisted Should not point to a folder that can be removed outside of the application.
public static final String	<i>PERSISTENCE_BYTE_BUFFER_SIZE</i> on page 402	Preference for the size of the buffer that is used during persistence Should be changed only in case of low memory available.
public static final String	<i>PERSISTENCE_CIPHER_TRANSFORMATION</i> on page 402	Preference for the default cipher transformation algorithm Should be matched with algorithm of the Secure Key generation used for data encryption.
public static final String	<i>PERSISTENCE_FOLDER_PATH</i> on page 402	Preference for the default folder where data should be persisted.
public static final String	<i>PERSISTENCE_SECURE_MODE</i> on page 403	Preference for indicator if persisted data should be encrypted.
public static final String	<i>SAP_APPLICATION_ID_HEADER_VALUE</i> on page 403	Preference for application ID (used in request headers)
public static final String	<i>SAP_PASSPORT_ENABLED</i> on page 403	Preference for the indicator to decide if SAP passport should be enabled or not.

### Inherited members from Constants

Modifier and Type	Member	Description
public static final boolean	<i>DEFAULT_BUSINESS_TRANSACTION_ENABLED</i> on page 95	SAP Business Transaction XML enablement default setting.
public static final String	<i>DEFAULT_CIPHER_TRANSFORMATION</i> on page 95	Default cipher transformation.
public static final int	<i>DEFAULT_CONNECTION_TIMEOUT</i> on page 95	Default connection timeout.
public static final String	<i>DEFAULT_HANDLER_CLASS_NAME</i> on page 96	Default handler class.
public static final int	<i>DEFAULT_HTTP_PORT</i> on page 96	Default HTTP port.
public static final int	<i>DEFAULT_HTTPS_PORT</i> on page 96	Default HTTPS port.
public static final int	<i>DEFAULT_LOG_LEVEL</i> on page 96	Default log level.
public static final boolean	<i>DEFAULT_PERSISTENCE_BOOLEAN_SECUREMODE</i> on page 96	Default security mode.
public static final int	<i>DEFAULT_PERSISTENCE_BYTE_BUFFER_SIZE</i> on page 96	Default buffer size.
public static final String	<i>DEFAULT_PROXY_HOST</i> on page 96	Default proxy host.
public static final int	<i>DEFAULT_PROXY_PORT</i> on page 97	Default proxy port.
public static final String	<i>DEFAULT_SAP_APPLICATIONID_HEADER_VALUE</i> on page 97	Default application ID.
public static final boolean	<i>DEFAULT_SAPPASSPORT_ENABLED</i> on page 97	SAP Passport enablement default setting.
public static final int	<i>DEFAULT_SEARCH_LIMIT</i> on page 97	Default for maximum search results retrieved from cache.

Modifier and Type	Member	Description
public static final int	<i>DEFAULT_SOCKET_CONNECTION_TIMEOUT</i> on page 97	Default socket connection timeout.
public static final int	<i>DEFAULT_STORE_CAPACITY</i> on page 97	Default cache capacity.
public static final String	<i>HTTP_HANDLER_CLASS</i> on page 97	Socket Connection handler class.
public static final String	<i>IMO_HANDLER_CLASS</i> on page 98	IMO Connection handler class.
public static final int	<i>MAX_PERSISTENCE_BYTE_BUFFER_SIZE</i> on page 98	Maximum buffer size.
public static final int	<i>MAXIMUM_STORE_CAPACITY</i> on page 98	Maximum cache capacity.
public static final int	<i>MIN_PERSISTENCE_BYTE_BUFFER_SIZE</i> on page 98	Minimum buffer size.
public static final String	<i>SHARED_PREFERENCES</i> on page 98	Shared preferences.

### *Preferences(Context, ILogger) constructor*

#### *Syntax*

```
public Preferences ( Context context , ILogger logger )
```

### *addDefaultPreferences() method*

Can be used to add application specific default preferences.

#### *Syntax*

```
protected void addDefaultPreferences ( )
```

### *confirmPreference(String) method*

Validates changed preference if it can be changed.

#### *Syntax*

```
protected Object confirmPreference ( String key )
```

### *Parameters*

- **key** – The key of the preferences

### *Returns*

The changed value

### *containsPreference(String) method*

Checks the existence of the given preference.

### *Syntax*

```
public boolean containsPreference ( String key )
```

### *Parameters*

- **key** – The key of the preference

### *Returns*

true if Preference contains the given key or false otherwise

### *getAllPreferences() method*

### *Syntax*

```
public Map< String, ?> getAllPreferences () throws  
PreferencesException
```

### *getBooleanPreference(String) method*

Returns the value of the given preference or null if there is no preference with the given key.

### *Syntax*

```
public Boolean getBooleanPreference ( String key ) throws  
PreferencesException
```

### *Parameters*

- **key** – The key of the preference

### *Returns*

the boolean type preference with the given key

### *Exceptions*

- **PreferencesException class** – if preference exists with the given key but with value of different type

*getContext() method*

Returns the context.

*Syntax*

```
public Context getContext ()
```

*getFloatPreference(String) method*

Returns the value of the given preference or null if there is no preference with the given key.

*Syntax*

```
public Float getFloatPreference (String key) throws  
PreferencesException
```

*Parameters*

- **key** – The key of the preference

*Returns*

the float type preference with the given key

*Exceptions*

- **PreferencesException class** – if preference exists with the given key but with value of different type

*getIntPreference(String) method*

Returns the value of the given preference or null if there is no preference with the given key.

*Syntax*

```
public Integer getIntPreference (String key) throws  
PreferencesException
```

*Parameters*

- **key** – The key of the preference

*Returns*

the integer type preference with the given key

*Exceptions*

- **PreferencesException class** – if preference exists with the given key but with value of different type

### *getLongPreference(String) method*

Returns the value of the given preference or null if there is no preference with the given key.

#### *Syntax*

```
public Long getLongPreference ( String key ) throws  
PreferencesException
```

#### *Parameters*

- **key** – The key of the preference

#### *Returns*

the long type preference with the given key

#### *Exceptions*

- **PreferencesException class** – if preference exists with the given key but with value of different type

### *getPreference(String) method*

#### *Syntax*

```
private< T > T getPreference ( String key )
```

### *getStringPreference(String) method*

Returns the value of the given preference or null if there is no preference with the given key.

#### *Syntax*

```
public String getStringPreference ( String key ) throws  
PreferencesException
```

#### *Parameters*

- **key** – The key of the preference

#### *Returns*

the String type preference with the given key

#### *Exceptions*

- **PreferencesException class** – if preference exists with the given key but with value of different type

*onSharedPreferenceChanged(SharedPreferences, final String) method***Syntax**

```
public void onSharedPreferenceChanged ( SharedPreferences
sharedPreferences , final String key )
```

*registerPreferenceChangeListener(String, IPreferenceChangeListener) method*

You can register a class implementing the IPreferenceChangeListener interface for the change of a preference with the given key.

**Syntax**

```
public synchronized void registerPreferenceChangeListener
( String key , IPreferenceChangeListener changeListener )
```

**Parameters**

- **key** – key of the preference
- **changeListener** – listener object to be registered

**Exceptions**

- **IllegalArgumentException** – if the argument is null.

**Usage**

If any of the arguments are null, an IllegalArgumentException is thrown.

*removePreference(String) method*

Removes the preferences with the given key.

**Syntax**

```
public void removePreference ( String key ) throws
PreferencesException
```

**Parameters**

- **key** – The key of the preference

**Exceptions**

- **PreferencesException class** – If the preference does not exist or it can not be removed( e.g. an preference )

**Usage**

Also notifies the listeners with null value.

### *resetPreference(String) method*

Resets the preference's value to its default value or to null if there is no default value for the given preference.

#### *Syntax*

```
public void resetPreference ( String key )
```

#### *Parameters*

- **key** – The key of the preference

### *setBooleanPreference(String, boolean) method*

Sets and validates and persists the value of the preferences with the given type.

#### *Syntax*

```
public void setBooleanPreference ( String key , boolean value )  
throws PreferencesException
```

#### *Parameters*

- **key** – The key of the preference
- **value** – The new value of the preference

#### *Exceptions*

- **PreferencesException class** – if the new value of the preference is invalid for any reasons

### *setFloatPreference(String, float) method*

Sets and validates and persists the value of the preferences with the given type.

#### *Syntax*

```
public void setFloatPreference ( String key , float value ) throws  
PreferencesException
```

#### *Parameters*

- **key** – The key of the preference
- **value** – The new value of the preference

#### *Exceptions*

- **PreferencesException class** – if the new value of the preference is invalid for any reasons



*setIntPreference(String, int) method*

Sets and validates and persists the value of the preferences with the given type.

*Syntax*

```
public void setIntPreference ( String key , int value ) throws
PreferencesException
```

*Parameters*

- **key** – The key of the preference
- **value** – The new value of the preference

*Exceptions*

- **PreferencesException class** – if the new value of the preference is invalid for any reasons

*setLongPreference(String, long) method*

Sets and validates and persists the value of the preferences with the given type.

*Syntax*

```
public void setLongPreference ( String key , long value ) throws
PreferencesException
```

*Parameters*

- **key** – The key of the preference
- **value** – The new value of the preference

*Exceptions*

- **PreferencesException class** – if the new value of the preference is invalid for any reasons

*setStringPreference(String, String) method*

Sets and validates and persists the value of the preferences with the given type.

*Syntax*

```
public void setStringPreference ( String key , String value ) throws
PreferencesException
```

*Parameters*

- **key** – The key of the preference
- **value** – The new value of the preference

### *Exceptions*

- **PreferencesException class** – if the new value of the preference is invalid for any reasons

*unRegisterPreferenceChangeListener(String, IPreferenceChangeListener) method*

You can unregister a change listener.

### *Syntax*

```
public synchronized void unRegisterPreferenceChangeListener (
String key , IPreferenceChangeListener changeListener )
```

### *Parameters*

- **key** – key of the preference
- **changeListener** – listener object to be unregistered

### *Exceptions*

- **IllegalArgumentException** – if the argument is null.

### *Usage*

If any of the arguments are null, an IllegalArgumentException is thrown.

*DEFAULT\_PARSER\_STRING\_SUBFOLDER\_NAME variable*

Default subfolder for Parser.

### *Syntax*

```
public static String DEFAULT_PARSER_STRING_SUBFOLDER_NAME
```

*DEFAULT\_PERSISTENCE\_STRING\_SUBFOLDER\_NAME variable*

Default subfolder for Persistence.

### *Syntax*

```
public static String
DEFAULT_PERSISTENCE_STRING_SUBFOLDER_NAME
```

*defaultPreferences variable*

Store for default Preferences.

### *Syntax*

```
protected Hashtable< String, Object > defaultPreferences
```

*logger variable**Syntax*

```
protected ILogger logger
```

*logLevel variable**Syntax*

```
protected int logLevel
```

*preferenceChangeListeners variable*

Listeners for Preference changes.

*Syntax*

```
protected Hashtable< String, Set< IPreferenceChangeListener > > preferenceChangeListeners
```

*PREFERENCES variable**Syntax*

```
protected static final String PREFERENCES
```

*PreferencesException class*

PreferencesException is used in Request Library.

*Syntax*

```
public class PreferencesException extends Exception
```

*Members*

All members of PreferencesException, including inherited members. **Constructors**

Modifier and Type	Constructor	Description
public	<i>PreferencesException()</i> on page 984	
public	<i>PreferencesException(String)</i> on page 984	
public	<i>PreferencesException(Throwable)</i> on page 984	
public	<i>PreferencesException(String, Throwable)</i> on page 984	

Modifier and Type	Constructor	Description
public	<i>PreferencesException(int, String, Throwable)</i> on page 984	
public	<i>PreferencesException(int, String)</i> on page 985	

**Methods**

Modifier and Type	Method	Description
public int	<i>getErrorCode()</i> on page 985	

*PreferencesException()* constructor*Syntax*

```
public PreferencesException ()
```

*PreferencesException(String)* constructor*Syntax*

```
public PreferencesException ( String detailMessage )
```

*PreferencesException(Throwable)* constructor*Syntax*

```
public PreferencesException ( Throwable throwable )
```

*PreferencesException(String, Throwable)* constructor*Syntax*

```
public PreferencesException ( String detailMessage , Throwable throwable )
```

*PreferencesException(int, String, Throwable)* constructor*Syntax*

```
public PreferencesException ( int iErrorCode , String detailMessage , Throwable throwable )
```

*PreferencesException(int, String) constructor**Syntax*

```
public PreferencesException ( int iErrorCode , String
detailMessage )
```

*getErrorCode() method**Syntax*

```
public int getErrorCode ()
```

*PropertyID class**Syntax*

```
public class PropertyID
```

*Members*

All members of PropertyID, including inherited members. **Variables**

Modifier and Type	Variable	Description
public static final int	<i>TrcLvl_HIGH</i> on page 985	Constant to indicate High Trace level for End to End Tracing.
public static final int	<i>TrcLvl_LOW</i> on page 985	Constant to indicate Low Trace level for End to End Tracing.
public static final int	<i>TrcLvl_MEDIUM</i> on page 986	Constant to indicate Medium Trace level for End to End Tracing.
public static final int	<i>TrcLvl_NONE</i> on page 986	Constant to indicate None Trace level for End to End Tracing.

*TrcLvl\_HIGH variable*

Constant to indicate High Trace level for End to End Tracing.

*Syntax*

```
public static final int TrcLvl_HIGH
```

*TrcLvl\_LOW variable*

Constant to indicate Low Trace level for End to End Tracing.

*Syntax*

```
public static final int TrcLvl_LOW
```

*TrcLvl\_MEDIUM variable*

Constant to indicate Medium Trace level for End to End Tracing.

*Syntax*

```
public static final int TrcLvl_MEDIUM
```

*TrcLvl\_NONE variable*

Constant to indicate None Trace level for End to End Tracing.

*Syntax*

```
public static final int TrcLvl_NONE
```

*PushRequest class*

This class represents the need for receiving push messages.

*Syntax*

```
public class PushRequest extends IRequest
```

*Members*

All members of PushRequest, including inherited members. **Variables**

Modifier and Type	Variable	Description
String	<i>blobId</i> on page 993	
boolean	<i>isPersistRequest</i> on page 993	

**Methods**

Modifier and Type	Method	Description
public void	<i>disableDeltaHandling(boolean)</i> on page 988	Disables delta query handling.
public byte[]	<i>getData()</i> on page 989	If the request method is POST, this method is called from the network library.
public Map< String, String >	<i>getHeaders()</i> on page 989	Returns the request headers set.
public INetListener	<i>getListener()</i> on page 989	Returns the listener to be used by the connectivity library to notify the registered listener about a successful or failed request operation.

Modifier and Type	Method	Description
public int	<i>getPriority()</i> on page 990	Returns the priority of the request.
public int	<i>getRequestMethod()</i> on page 990	Retrieves the request method type.
public String	<i>getRequestUrl()</i> on page 991	Returns the URL where the request must be invoked.
public boolean	<i>isDeltaHandlingDisabled()</i> on page 991	internal
public void	<i>setData(byte[])</i> on page 991	Sets the request data in case of an HTTP POST request.
public void	<i>setHeaders(Map&lt;String, String&gt;)</i> on page 992	Sets the request headers.
public void	<i>setListener(INetListener)</i> on page 992	
public void	<i>setPriority(int)</i> on page 992	
public void	<i>setRequestMethod(int)</i> on page 992	
public void	<i>setRequestUrl(String)</i> on page 992	
public boolean	<i>useCookies()</i> on page 992	Network library uses this method to check whether it has to send cookies to the server when the current request is performed.

#### Inherited members from IRequest

Modifier and Type	Member	Description
public static final int	<i>ETAG_IF_MATCH</i> on page 411	etag "if-match"
public static final int	<i>ETAG_IF_NONE_MATCH</i> on page 411	etag "if-none-match"
public static final int	<i>ETAG_IF_RANGE</i> on page 411	etag "if-range"

Modifier and Type	Member	Description
public static final int	<i>PRIORITY_HIGH</i> on page 411	High priority.
public static final int	<i>PRIORITY_NORMAL</i> on page 412	Normal priority.
public static final int	<i>REQUEST_METHOD_DELETE</i> on page 412	HTTP DELETE method.
public static final int	<i>REQUEST_METHOD_GET</i> on page 412	HTTP GET method.
public static final int	<i>REQUEST_METHOD_POST</i> on page 412	HTTP POST method.
public static final int	<i>REQUEST_METHOD_PUT</i> on page 412	HTTP PUT method.
public void	<i>setListener(final INetListener)</i> on page 409	Client can register listeners to be used by the connectivity layer to notify the implementation about the result of the request.
public void	<i>setPriority(final int)</i> on page 409	Sets the priority of the request.
public void	<i>setRequestMethod(final int)</i> on page 410	Sets the type of HTTP request method.
public void	<i>setRequestUrl(final String)</i> on page 410	Sets the URL for the request.

### Usage

Only an `INetListener` property is stored, who will receive the push messages. `AbstractConnectionHandler` implementation should store and use this listener for delivering push messages.

### *disableDeltaHandling(boolean)* method

Disables delta query handling.

### Syntax

```
public void disableDeltaHandling (boolean disable)
```

### Parameters

- **disable** – If set to true it disables delta handling



*Returns*

None

*Usage*

By default delta handling is enabled.

*getData() method*

If the request method is POST, this method is called from the network library.

*Syntax*

```
public byte[] getData ()
```

*Parameters*

- **None** –

*Returns*

the content data of the request.

```
BaseRequest getrequest = new BaseRequest(); byte[] data = getrequest.getData();
```

*Usage*

This method will return with the content to be sent to the server.

*getHeaders() method*

Returns the request headers set.

*Syntax*

```
public Map< String, String > getHeaders ()
```

*Parameters*

- **None** –

*Returns*

the request headers

```
BaseRequest getrequest = new BaseRequest(); Map<String, String> headers =
getrequest.getHeaders();
```

*getListener() method*

Returns the listener to be used by the connectivity library to notify the registered listener about a successful or failed request operation.

*Syntax*

```
public INetListener getListener ()
```

### *Parameters*

- **None** –

### *Returns*

the listener or null.

```
class example implements INetListener { .... public void makeGetRequest(...) throws  
Exception { .... BaseRequest getrequest = new BaseRequest();  
getrequest.getListener(); } ... }
```

### *Usage*

Method will return null if there is no registered listener.

### *getPriority() method*

Returns the priority of the request.

### *Syntax*

```
public int getPriority ()
```

### *Parameters*

- **None** –

### *Returns*

The priority of the request. The value is integer.

```
BaseRequest getrequest = new BaseRequest(); int priority = getrequest.getPriority();
```

### *getRequestMethod() method*

Retrieves the request method type.

### *Syntax*

```
public int getRequestMethod ()
```

### *Parameters*

- **None** –

### *Returns*

Type of the HTTP request specified by IRequest.REQUEST\_METHOD\_\* constants.

```
BaseRequest getrequest = new BaseRequest(); int method = getrequest.getRequestMethod();
```

*getRequestUrl() method*

Returns the URL where the request must be invoked.

*Syntax*

```
public String getRequestUrl ()
```

*Parameters*

- **None** –

*Returns*

the URL.

```
BaseRequest getrequest = new BaseRequest(); String url = getrequest. getRequestUrl();
```

*isDeltaHandlingDisabled() method*

internal

*Syntax*

```
public boolean isDeltaHandlingDisabled ()
```

*setData(byte[]) method*

Sets the request data in case of an HTTP POST request.

*Syntax*

```
public void setData (byte[] data )
```

*Parameters*

- **data** – the request data to set.

*Returns*

None

```
BaseRequest getrequest = new BaseRequest(); String postBody= "<atom:entry xmlns:atom=" +
 "\"http://www.w3.org/2005/Atom">" + "<atom:content type=\"application/xml\">" +
 "<m:properties xmlns:m=\"http://schemas.microsoft.com/ado/2007/08/dataservices/" +
 "metadata\" *xmlns:d=\"http://schemas.microsoft.com/ado/2007/08/dataservices\">" +
 "<d:agencynum>09964571</d:agencynum>" + "<d:NAME ></d:NAME>" +
 "<d:STREET />" + "<d:POSTBOX />" + * "<d:POSTCODE />" + "<d:CITY />" +
 "<d:COUNTRY />" + "<d:REGION />" + "<d:TELEPHONE>+9945007007</" +
 "d:TELEPHONE>" + "<d:URL />" + "<d:LANGU />" + "<d:CURRENCY />" +
 "<d:mimeType>text/html</d:mimeType>" + "</m:properties>" + "</atom:content>" + "<" +
 "atom:entry>"; post1.setData(postBody.getBytes());
```

### *setHeaders(Map< String, String >) method*

Sets the request headers.

#### *Syntax*

```
public void setHeaders ( Map< String, String > headers )
```

#### *Parameters*

- **headers** – the request headers to set.

#### *Returns*

None

```
Map<String, String> headers1 = new HashMap<String, String>(); headers1.put("Content-Type", "application/atom+xml"); BaseRequest getrequest = new BaseRequest(); getrequest.setHeaders(headers1);
```

### *setListener(INetListener) method*

#### *Syntax*

```
public void setListener ( INetListener aListener )
```

### *setPriority(int) method*

#### *Syntax*

```
public void setPriority ( int aPriority )
```

### *setRequestMethod(int) method*

#### *Syntax*

```
public void setRequestMethod ( int aRequestMethod )
```

### *setRequestUrl(String) method*

#### *Syntax*

```
public void setRequestUrl ( String aUrl )
```

### *useCookies() method*

Network library uses this method to check whether it has to send cookies to the server when the current request is performed.

#### *Syntax*

```
public boolean useCookies ()
```

*Parameters*

- **None** – Cookies in the network library.

```
BaseRequest getRequest = new BaseRequest(); boolean usecookie = getRequest.useCookies();
```

*Usage*

Some requests may deny sending any cookies to the server, in this case this method can be used by the request to signal to the network library. The default value for this is false in the BaseRequest implementation.

*blobId variable**Syntax*

```
String blobId
```

*isPersistRequest variable**Syntax*

```
boolean isPersistRequest
```

*RouteManagerSchema class**Syntax*

```
public class RouteManagerSchema extends IDbSchema
```

*Members*

All members of RouteManagerSchema, including inherited members. **Methods**

Modifier and Type	Method	Description
public byte[]	<i>getBlobCloumn()</i> on page 993	
public void	<i>setBlobCloumn(byte[])</i> on page 993	

*getBlobCloumn() method**Syntax*

```
public byte[] getBlobCloumn ()
```

*setBlobCloumn(byte[]) method**Syntax*

```
public void setBlobCloumn (byte[] blobCloumn)
```

*RequestManager class***Syntax**

```
public class RequestManager extends IRequestManager,
IPreferenceChangeListener
```

**Members**

All members of RequestManager, including inherited members. **Nested classes**

Modifier and Type	Class	Description
public class	<i>AuthenticationChallengeListener</i> on page 996	The listener to register for authentication failure event.
class	<i>InvalidHandlerClassException</i> on page 997	
public class	<i>MutualSSLChallengeListener</i> on page 998	Listener to set call back so that application can accept or reject the client certificate.
public class	<i>SSLChallengeListener</i> on page 998	Listener to set call back so that application can accept or reject the server certificate.

**Variables**

Modifier and Type	Variable	Description
public static AuthenticationChallengeListener	<i>authenticationListener</i> on page 1003	
protected boolean	<i>isPerformanceLoggingEnabled</i> on page 1003	
public static final int	<i>MAX_THREADS</i> on page 1003	
protected Vector< IRequest >	<i>mHQueue</i> on page 1003	
protected static ILogger	<i>mLogger</i> on page 1003	
protected IConnectionHandler[]	<i>mMainHandler</i> on page 1003	
protected String	<i>mMainHandlerClassName</i> on page 1004	

Modifier and Type	Variable	Description
protected Vector< IRequest >	<i>modifyingRequestQueue</i> on page 1004	
protected boolean	<i>mPassportEnabled</i> on page 1004	
protected Vector< Object >	<i>mQueue</i> on page 1004	
MutualSSLChallengeListener	<i>msslListener</i> on page 1004	
PerformanceAgent	<i>pa</i> on page 1004	
int	<i>prevThreadSelected</i> on page 1004	
SSLChallengeListener	<i>sslListener</i> on page 1004	
protected SuccessThread	<i>successNotifier</i> on page 1005	Success notification worker instance.
protected static final String	<i>TAG</i> on page 1005	

### Constructors

Modifier and Type	Constructor	Description
public	<i>RequestManager(ILogger, IPreferences, IConnectivityParameters, int)</i> on page 999	Instantiates the RequestManager class.

### Methods

Modifier and Type	Method	Description
public void	<i>clearPendingRequests(ILogger, Context)</i> on page 999	Clears all the persisted requests from database.
public void	<i>enablePerformanceLogging()</i> on page 1000	Enables performance logging for Core Services.
public IConnectivityParameters	<i>getConnectivityParameters()</i> on page 1000	Returns the ConnectivityParameters object containing the settings used by the Request library.
public ILogger	<i>getLogger()</i> on page 1000	

Modifier and Type	Method	Description
public boolean	<i>isPerformanceLoggingEnabled()</i> on page 1001	Returns whether the Performance Logging is enabled or not.
public void	<i>makeRequest(final IRequest)</i> on page 1001	Puts a request object into the RequestManager object.
public void	<i>makeRequest(final IBundleRequest)</i> on page 1001	Puts a bundle request object into the RequestManager object.
public static void	<i>setAuthenticationChallengeListener(IAuthenticationChallengeListener)</i> on page 1002	Sets the authentication challenge listener so that application is notified upon authentication failure.
public void	<i>setListener(INetListener)</i> on page 1002	Sets the listener for receiving success/failure call backs upon invoking a request.
public void	<i>setMutualSSLChallengeListener(IMutualSSLChallengeListener)</i> on page 1002	Sets the call back for the application to accept or reject the client certificate.
public void	<i>setSSLChallengeListener(ISSLChallengeListener)</i> on page 1003	Error notification worker.

### *RequestManager.AuthenticationChallengeListener* class

The listener to register for authentication failure event.

### Syntax

```
public class AuthenticationChallengeListener extends
IAAuthenticationChallengeListener
```

### Members

All members of AuthenticationChallengeListener, including inherited members. **Methods**

Modifier and Type	Method	Description
public ICredential	<i>OnAuthenticationFailed(AuthenticationSchema, HttpResponse)</i> on page 997	



*OnAuthenticationFailed(AuthenticationSchema, HttpResponseMessage) method***Syntax**

```
public ICredential OnAuthenticationFailed
( AuthenticationSchema authScheme , HttpResponseMessage response )
```

*RequestManager.InvalidHandlerClassException class***Syntax**

```
class InvalidHandlerClassException extends Exception
```

**Members**

All members of InvalidHandlerClassException, including inherited members. **Constructors**

Modifier and Type	Constructor	Description
public	<i>InvalidHandlerClassException()</i> on page 997	
public	<i>InvalidHandlerClassException(String)</i> on page 997	
public	<i>InvalidHandlerClassException(Throwable)</i> on page 997	
public	<i>InvalidHandlerClassException(String, Throwable)</i> on page 998	

*InvalidHandlerClassException() constructor***Syntax**

```
public InvalidHandlerClassException ( )
```

*InvalidHandlerClassException(String) constructor***Syntax**

```
public InvalidHandlerClassException ( String message )
```

*InvalidHandlerClassException(Throwable) constructor***Syntax**

```
public InvalidHandlerClassException ( Throwable exception )
```

*InvalidHandlerClassException(String, Throwable) constructor***Syntax**

```
public InvalidHandlerClassException (String message , Throwable
exception )
```

*RequestManager.MutualSSLChallengeListener class*

Listener to set call back so that application can accept or reject the client certificate.

**Syntax**

```
public class MutualSSLChallengeListener extends
com.sap.mobile.lib.request.HttpsTrustManager.ClientCertListe
ner
```

**Members**

All members of MutualSSLChallengeListener, including inherited members. **Methods**

Modifier and Type	Method	Description
public HttpClientCertInfo	<i>getClientCertificate(String)</i> on page 998	

*getClientCertificate(String) method***Syntax**

```
public HttpClientCertInfo getClientCertificate (String
certAlias )
```

**Parameters**

- **certificate** – alias name for client certificate the client certificate for the alias name passed as parameter

*RequestManager.SSLChallengeListener class*

Listener to set call back so that application can accept or reject the server certificate.

**Syntax**

```
public class SSLChallengeListener extends
com.sap.mobile.lib.request.HttpsTrustManager.TrustManagerLis
tener
```

**Members**

All members of SSLChallengeListener, including inherited members. **Methods**

Modifier and Type	Method	Description
public boolean	<i>checkServerTrusted(X509Certificate[])</i> on page 999	Call back for the application to accept or reject the server certificate.

*checkServerTrusted(X509Certificate[]) method*

Call back for the application to accept or reject the server certificate.

*Syntax*

```
public boolean checkServerTrusted ( X509Certificate[]
paramArrayOfX509Certificate )
```

*Parameters*

- **paramArrayOfX509Certificate** – server certificates

*Returns*

True if the server is trusted, false otherwise

*RequestManager(ILogger, IPreferences, IConnectivityParameters, int) constructor*

Instantiates the RequestManager class.

*Syntax*

```
public RequestManager ( Ilogger aLogger , IPreferences aPreferences ,
IConnectivityParameters aParameters , int aThreads )
```

*Parameters*

- **aLogger** – com.sap.mobile.lib.supportability.ILogger implementation.
- **aPreferences** – com.sap.mobile.lib.configuration.IPreferences implementation.
- **aParameters** – com.sap.mobile.lib.request.IConnectivityParameters implementation.
- **aThreads** – the number of parallel threads.

*clearPendingRequests(ILogger, Context) method*

Clears all the persisted requests from database.

*Syntax*

```
public void clearPendingRequests ( ILogger logger , Context
context )
```

*Parameters*

- **logger** – Logger instance.

- **context** – Application context.

### *Returns*

None

```
RequestManager reqMan = new RequestManager(logger, pref, param, 1);  
reqMan.clearPendingRequests(logger, context);
```

### *enablePerformanceLogging() method*

Enables performance logging for Core Services.

### *Syntax*

```
public void enablePerformanceLogging ()
```

### *Parameters*

- **None** –

### *Returns*

None

### *getConnectivityParameters() method*

Returns the ConnectivityParameters object containing the settings used by the Request library.

### *Syntax*

```
public IConnectivityParameters getConnectivityParameters ()
```

### *Parameters*

- **None.** –

### *Returns*

IConnectivityParameters Object containing the settings used by the Request library.

```
RequestManager reqMan = new RequestManager(logger, pref, param, 1);  
IConnectivityParameters params = reqMan.getConnectivityParameters();
```

### *getLogger() method*

### *Syntax*

```
public ILogger getLogger ()
```

*isPerformanceLoggingEnabled()* method

Returns whether the Performance Logging is enabled or not.

*Syntax*

```
public boolean isPerformanceLoggingEnabled ()
```

*Parameters*

- **None** –

*Returns*

boolean - True/False

*makeRequest(final IRequest) method*

Puts a request object into the RequestManager object.

*Syntax*

```
public void makeRequest ( final IRequest aRequest )
```

*Parameters*

- **aRequest** – The request.

*Returns*

None

```
RequestManager reqMan = new RequestManager(logger, pref, param, 1); BaseRequest
request = new BaseRequest(); reqMan.makeRequest(request);
```

*makeRequest(final IBundleRequest) method*

Puts a bundle request object into the RequestManager object.

*Syntax*

```
public void makeRequest ( final IBundleRequest aBundleRequest )
```

*Parameters*

- **aBundleRequest** – The request object.

*Returns*

None

```
RequestManager reqMan = new RequestManager(logger, pref, param, 1); BundleRequest
request = new BundleRequest(); reqMan.makeRequest(request);
```

### *setAuthenticationChallengeListener(IAuthenticationChallengeListener) method*

Sets the authentication challenge listener so that application is notified upon authentication failure.

#### *Syntax*

```
public static void setAuthenticationChallengeListener  
( IAuthenticationChallengeListener olistener )
```

#### *Parameters*

- **olistener** – The listener to be registered

```
RequestManager reqMan = new RequestManager(logger, pref, param, 1);  
reqMan.setAuthenticationChallengeListener(olistener);
```

### *setListener(INetListener) method*

Sets the listener for receiving success/failure call backs upon invoking a request.

#### *Syntax*

```
public void setListener ( INetListener listener )
```

#### *Parameters*

- **listener** – The listener to be set for call backs upon invoking a request.

#### *Returns*

None

```
Class INetListenerImpl implements INetListener { public void onError(IRequest arg0,  
IResponse arg1, IRequestStateElement arg2) { }
```

```
public void onSuccess(IRequest arg0, IResponse arg1) { } } INetListenerImpl listener = new  
INetListenerImpl(); RequestManager reqMan = new RequestManager(logger, pref, param,  
1); reqMan.setListener(listener);
```

### *setMutualSSLChallengeListener(IMutualSSLChallengeListener) method*

Sets the call back for the application to accept or reject the client certificate.

#### *Syntax*

```
public void setMutualSSLChallengeListener  
( IMutualSSLChallengeListener olistener )
```

#### *Parameters*

- **olistener** – The listener to register

```
RequestManager reqMan = new RequestManager(logger, pref, param, 1);
reqMan.setMutualSSLChallengeListener(olistener);
```

### *setSSLChallengeListener(ISSLChallengeListener) method*

Error notification worker.

#### *Syntax*

```
public void setSSLChallengeListener ( ISSLChallengeListener
olistener )
```

```
RequestManager reqMan = new RequestManager(logger, pref, param, 1);
reqMan.setSSLChallengeListener(olistener);
```

### *authenticationListener variable*

#### *Syntax*

```
public static AuthenticationChallengeListener
authenticationListener
```

### *isPerformanceLoggingEnabled variable*

#### *Syntax*

```
protected boolean isPerformanceLoggingEnabled
```

### *MAX\_THREADS variable*

#### *Syntax*

```
public static final int MAX_THREADS
```

### *mHQueue variable*

#### *Syntax*

```
protected Vector< IRequest > mHQueue
```

### *mLogger variable*

#### *Syntax*

```
protected static ILogger mLogger
```

### *mMainHandler variable*

#### *Syntax*

```
protected IConnectionHandler[] mMainHandler
```

### *mMainHandlerClassName variable*

#### *Syntax*

```
protected String mMainHandlerClassName
```

### *modifyingRequestQueue variable*

#### *Syntax*

```
protected Vector< IRequest > modifyingRequestQueue
```

### *mPassportEnabled variable*

#### *Syntax*

```
protected boolean mPassportEnabled
```

### *mQueue variable*

#### *Syntax*

```
protected Vector< Object > mQueue
```

### *msslListener variable*

#### *Syntax*

```
MutualSSLChallengeListener msslListener
```

### *pa variable*

#### *Syntax*

```
PerformanceAgent pa
```

### *prevThreadSelected variable*

#### *Syntax*

```
int prevThreadSelected
```

### *sslListener variable*

#### *Syntax*

```
SSLChallengeListener sslListener
```



*successNotifier* variable

Success notification worker instance.

*Syntax*

```
protected SuccessThread successNotifier
```

*TAG* variable*Syntax*

```
protected static final String TAG
```

*RequestStateElement* class*Syntax*

```
public class RequestStateElement extends IRequestStateElement
```

*Members*

All members of RequestStateElement, including inherited members. **Variables**

Modifier and Type	Variable	Description
protected int	<i>mErrorCode</i> on page 1011	Stores the error type.
protected Exception	<i>mException</i> on page 1011	Stores the exception if available.
protected int	<i>mHttpStatus</i> on page 1011	Stores the HTTP status if available.
protected HttpResponse	<i>mResponse</i> on page 1011	

**Constructors**

Modifier and Type	Constructor	Description
public	<i>RequestStateElement()</i> on page 1007	
public	<i>RequestStateElement(final int)</i> on page 1007	
public	<i>RequestStateElement(final int, HttpResponse)</i> on page 1007	
public	<i>RequestStateElement(final int, HttpResponse, Exception)</i> on page 1007	

Modifier and Type	Constructor	Description
public	<i>RequestStateElement</i> (final int, final int) on page 1007	
public	<i>RequestStateElement</i> (final int, final int, final Exception) on page 1008	
public	<i>RequestStateElement</i> (final int, final Exception) on page 1008	

### Methods

Modifier and Type	Method	Description
public int	<i>getErrorCode</i> () on page 1008	Returns the error code.
public Exception	<i>getException</i> () on page 1008	Returns the exception if it is set.
public HttpResponse	<i>getHttpResponse</i> () on page 1009	Returns the HttpResponse.
public int	<i>getHttpStatusCode</i> () on page 1009	Returns the HTTP status if it is set.
public void	<i>setErrorCode</i> (final int) on page 1009	Sets the error code.
public void	<i>setException</i> (final Exception) on page 1010	Sets the exception.
public void	<i>setHttpResponse</i> (HttpResponse) on page 1010	Sets the HttpResponse.
public void	<i>setHttpStatusCode</i> (int) on page 1010	

### Inherited members from IRequestStateElement

Modifier and Type	Member	Description
public static final int	<i>AUTHENTICATION_ERROR</i> on page 419	Authentication error.
public static final int	<i>CLIENT_ERROR</i> on page 420	Client error.
public static final int	<i>HTTP_ERROR</i> on page 420	Server response status > 302.

Modifier and Type	Member	Description
public static final int	<i>NETWORK_ERROR</i> on page 420	There was a network error during a read/write to/from stream.
public static final int	<i>NO_ERROR</i> on page 420	
public static final int	<i>PARSE_ERROR</i> on page 420	Problem with parsing the response xml.
public static final int	<i>REQUEST_ERROR</i> on page 420	Problem with parsing the request.
public abstract void	<i>setHttpStatusCode</i> (final int) on page 419	Sets the HTTP status.

### *RequestStateElement()* constructor

#### *Syntax*

```
public RequestStateElement ()
```

### *RequestStateElement(final int)* constructor

#### *Syntax*

```
public RequestStateElement ( final int errorCode )
```

### *RequestStateElement(final int, HttpResponse)* constructor

#### *Syntax*

```
public RequestStateElement ( final int errorCode , HttpResponse response )
```

### *RequestStateElement(final int, HttpResponse, Exception)* constructor

#### *Syntax*

```
public RequestStateElement ( final int errorCode , HttpResponse response , Exception exception )
```

### *RequestStateElement(final int, final int)* constructor

#### *Syntax*

```
public RequestStateElement ( final int errorCode , final int httpStatus )
```

*RequestStateElement(final int, final int, final Exception) constructor*

*Syntax*

```
public RequestStateElement ( final int errorCode , final int HttpStatus , final Exception exception )
```

*RequestStateElement(final int, final Exception) constructor*

*Syntax*

```
public RequestStateElement ( final int errorCode , final Exception exception )
```

*getErrorCode() method*

Returns the error code.

*Syntax*

```
public int getErrorCode ()
```

*Parameters*

- **None** –

*Returns*

error code

```
RequestStateElement element; element.getErrorCode();
```

*Usage*

The error code can be any of the following:

- HTTP\_ERROR
- PARSE\_ERROR
- NETWORK\_ERROR
- AUTHENTICATION\_ERROR

*getException() method*

Returns the exception if it is set.

*Syntax*

```
public Exception getException ()
```

*Parameters*

- **None** –

**Returns**

The exception stored in RequestStateElement.

```
RequestStateElement element; element.getException();
```

**getHttpResponse() method**

Returns the HttpResponse.

**Syntax**

```
public HttpResponse getHttpResponse ()
```

**Parameters**

- **None** –

**Returns**

The HttpResponse

```
RequestStateElement element; element.getHttpResponse();
```

**getHttpStatusCode() method**

Returns the HTTP status if it is set.

**Syntax**

```
public int getHttpStatusCode ()
```

**Parameters**

- **None** –

**Returns**

The HTTP status code, if available.

```
RequestStateElement element; int code =element.getHttpStatusCode();
```

**Usage**

If the HTTP status is not set, the default value is -1.

**setErrorCode(final int) method**

Sets the error code.

**Syntax**

```
public void setErrorCode ( final int code )
```

### *Parameters*

- **code** – Error code.

### *Returns*

None

RequestStateElement element; element.setErrorCode(0x06);

### *setException(final Exception) method*

Sets the exception.

### *Syntax*

```
public void setException ( final Exception aException )
```

### *Parameters*

- **aException** – the exception to be set.

### *Returns*

None

RequestStateElement element; element.setException(new Exception());

### *setHttpResponse(HttpResponse) method*

Sets the HttpResponse.

### *Syntax*

```
public void setHttpResponse ( HttpResponse aResponse )
```

### *Parameters*

- **aResponse** – The HttpResponse

### *Returns*

None

RequestStateElement element; HttpResponse httpResponse;  
element.setHttpResponse(httpResponse);

### *setHttpStatusCode(int) method*

### *Syntax*

```
public void setHttpStatusCode ( int httpStatus )
```

***mErrorCode variable***

Stores the error type.

***Syntax***

```
protected int mErrorCode
```

***mException variable***

Stores the exception if available.

***Syntax***

```
protected Exception mException
```

***mHttpStatus variable***

Stores the HTTP status if available.

***Syntax***

```
protected int mHttpStatus
```

***mResponse variable******Syntax***

```
protected HttpResponse mResponse
```

***ResponseImpl class******Syntax***

```
public class ResponseImpl extends BasicHttpResponse,  
IResponse
```

***Members***

All members of ResponseImpl, including inherited members. **Variables**

Modifier and Type	Variable	Description
HashMap< IRequest, HttpResponse >	<i>batchResponseMap</i> on page 1013	
ArrayList< HttpResponse >	<i>batchResponses</i> on page 1013	

**Constructors**

Modifier and Type	Constructor	Description
public	<i>ResponseImpl(BasicStatusLine)</i> on page 1012	

**Methods**

Modifier and Type	Method	Description
protected void	<i>addBatchResponse(IRequest, HttpResponse)</i> on page 1012	
public ArrayList< HttpResponse >	<i>getBatchResponse()</i> on page 1012	Returns the list of responses from batch response.
public HashMap< IRequest, HttpResponse >	<i>getBatchResponseMap()</i> on page 1013	Returns the mapping of requests with corresponding responses within a batch response.
public Map< String, String >	<i>getHeadersMap()</i> on page 1013	Returns all the response headers as a HashMap containing header name and header value.

*ResponseImpl(BasicStatusLine) constructor**Syntax*

```
public ResponseImpl ( BasicStatusLine basicStatusLine )
```

*addBatchResponse(IRequest, HttpResponse) method**Syntax*

```
protected void addBatchResponse ( IRequest requestItem ,  
HttpResponse responseItem )
```

*getBatchResponse() method*

Returns the list of responses from batch response.

*Syntax*

```
public ArrayList< HttpResponse > getBatchResponse ( )
```

*Parameters*

- **None.** –

*Returns*

List of responses.



```
Response res; ArrayList<HttpResponse> res = res.getBatchResponse();
```

### *getBatchResponseMap() method*

Returns the mapping of requests with corresponding responses within a batch response.

#### *Syntax*

```
public HashMap< IRequest, HttpResponse > getBatchResponseMap  
( )
```

#### *Parameters*

- **None.** –

#### *Returns*

Map of requests and responses.

```
Response res; HashMap<IRequest, HttpResponse> res = res.getBatchResponseMap();
```

### *getHeadersMap() method*

Returns all the response headers as a HashMap containing header name and header value.

#### *Syntax*

```
public Map< String, String > getHeadersMap ( )
```

#### *Parameters*

- **None** –

#### *Returns*

Response headers in the form of a hashmap.

```
Response res; Map<String,string> headers = res.getHeadersMap();
```

### *batchResponseMap variable*

#### *Syntax*

```
HashMap< IRequest, HttpResponse > batchResponseMap
```

### *batchResponses variable*

#### *Syntax*

```
ArrayList< HttpResponse > batchResponses
```

### *SMPCClientListeners interface*

#### *Syntax*

```
public interface SMPCClientListeners
```

*Members*

All members of `SMPClientListeners`, including inherited members. **Nested interfaces**

Modifier and Type	Interface	Description
public interface	<i>ISMPCaptchaChallengeListener</i> on page 1014	Interface to get the Captcha Challenge.
public interface	<i>ISMPUserRegistrationListener</i> on page 1015	Interface to get the result of Asynchronous Registration call.

*SMPClientListeners.ISMPCaptchaChallengeListener interface*

Interface to get the Captcha Challenge.

*Syntax*

```
public interface ISMPCaptchaChallengeListener
```

*Members*

All members of `ISMPCaptchaChallengeListener`, including inherited members. **Methods**

Modifier and Type	Method	Description
public String	<i>validateCaptcha(String)</i> on page 1014	Call back method to return the CAPTCHA text for registering the user.

*validateCaptcha(String) method*

Call back method to return the CAPTCHA text for registering the user.

*Syntax*

```
public String validateCaptcha (String image)
```

*Parameters*

- **image** – Base64 encoded Captcha image.

```
public String validateCaptcha(String image){
    //Show the image to the user.
    //Get the Captcha text
    return <captchaText>;
}
```

*SMPCClientListeners.ISMPUserRegistrationListener interface*

Interface to get the result of Asynchronous Registration call.

*Syntax*

```
public interface ISMPUserRegistrationListener
```

*Members*

All members of ISMPUserRegistrationListener, including inherited members. **Methods**

Modifier and Type	Method	Description
public void	<i>onAsyncRegistrationResult(State, ClientConnection, int, String)</i> on page 1016	Call back method upon Asynchronous Registration call.

*SMPCClientListeners.ISMPUserRegistrationListener.State enum*

Enum to represent the status of Asynchronous Registration call.

*Members*

All members of State, including inherited members. **Variables**

Modifier and Type	Variable	Description
public	<i>FAILURE</i> on page 1015	
public	<i>SUCCESS</i> on page 1015	

```
if (ISMPUserRegistrationListener.State.SUCCESS == registrationState) {
    Log.i("SMP", "RegistrationState: Success");
}
```

*FAILURE variable**Syntax*

```
public FAILURE
```

*SUCCESS variable**Syntax*

```
public SUCCESS
```

### *onAsyncRegistrationResult(State, ClientConnection, int, String) method*

Call back method upon Asynchronous Registration call.

#### *Syntax*

```
public void onAsyncRegistrationResult ( State registrationState ,  
ClientConnection clientConnection , int errorCode , String errorMsg )
```

```
        Try{  
            UserManager userManager = new  
UserManager(clientConnection);  
            userManager.setUserRegistrationListener(this);  
            userManager.registerUser(false); //for  
Asynchronous registration  
        }  
        Catch(SMPEException e){  
        }  
  
        public void onAsyncRegistrationResult(State  
registrationState,ClientConnection conn, int errCode, String errMsg)  
{  
    TODO Auto-generated method stub  
        if(registrationState == State.SUCCESS)  
        {  
            Log.i("Registration State  
Success",conn.getServerHost()+conn.getApplicationID()  
+conn.getDomain()+conn.getRequestManager().toString());  
        }  
        if(registrationState == State.FAILURE)  
        {  
            Log.i("Registration State Failure",errCode+errMsg  
+conn.getServerHost());  
        }  
    }  
}
```

#### *Usage*

@param registrationState represents the status of the Asynchronous Registration call.

@param clientConnection ClientConnection object to uniquely identify the Asynchronous Registration call. @param errorCode Error Code in case of registrationState being 'FAILURE'. @param errorMsg Error Message in case of registrationState being 'FAILURE'.

#### *SMPEException class*

This Class represents the exception thrown by the SMP REST library.

#### *Syntax*

```
public class SMPEException extends Exception
```

*Members*All members of SMPEXception, including inherited members. **Variables**

<b>Modifier and Type</b>	<b>Variable</b>	<b>Description</b>
public static final int	<i>ANY_INPUT_FIELD_NULL</i> on page 1020	Any of the input fields passed is null.
public static final int	<i>APPLICATION_ID_NULL</i> on page 1020	Application is not initialized.
public static final int	<i>APPLICATION_USER_ALREADY_REGISTERED</i> on page 1020	Attempt to register an application user which is already registered.
public static final int	<i>APPLICATION_USER_NOT_REGISTERED</i> on page 1020	Attempt to delete the user which has not been registered.
public static final int	<i>AUTHENTICATION_ERROR</i> on page 1020	Error while authenticating user.
public static final int	<i>BTX_UPLOAD_ERROR</i> on page 1020	E2E BTX upload error.
public static final int	<i>CAPTCHA_LISTENER_NULL</i> on page 1020	Captcha listener is null.
public static final int	<i>CLASS_INITIALIZATION_FAILED</i> on page 1021	Class initialization failed.
public static final int	<i>E2E_NOT_STARTED</i> on page 1021	E2E Not started.
public static final int	<i>EMPTY_RESPONSE_FROM_SERVER</i> on page 1021	Empty response string received from server.
public static final int	<i>HTTP_ERROR</i> on page 1021	HTTP error.
public static final int	<i>INVALID_MODULE_ID</i> on page 1021	Invalid module handle ID.
public static final int	<i>JSON_PARSING_FAILED</i> on page 1021	Internal error, JSON parsing has failed.
public static final int	<i>NETWORK_ERROR</i> on page 1021	Network error: Obtained when the URL is unreachable.

Modifier and Type	Variable	Description
public static final int	<i>PARSE_ERROR</i> on page 1022	Parse error.
public static final int	<i>REGISTRATION_FAILED_UNKNOWN_ERROR</i> on page 1022	User registration timed out.
public static final int	<i>REGISTRATION_LISTENER_NULL</i> on page 1022	Asynchronous user registration listener not registered with UserManager.
public static final int	<i>SINGLETON_INITIALIZATION_FAILED</i> on page 1022	singleton Initialization failed
public static final int	<i>SUP_INTERNAL_PARSING_ERROR</i> on page 1022	SUP Internal Parsing Error.
public static final int	<i>UPDATE_SETTINGS_CONTAINS_READONLY_FIELDS</i> on page 1022	Update Settings consists of one or more read only fields.

### Constructors

Modifier and Type	Constructor	Description
public	<i>SMPEException(int)</i> on page 1019	Constructs a SMPEException with specified error code.
public	<i>SMPEException(String)</i> on page 1019	Constructs a SMPEException with specified error message.
public	<i>SMPEException(int, String)</i> on page 1019	Constructs a SMPEException with specified error code and error message.

### Methods

Modifier and Type	Method	Description
public int	<i>getErrorCode()</i> on page 1019	Returns the error code of this SMPEException.
public String	<i>toString()</i> on page 1019	Returns the complete error description of this SMPEException.

*SMPEXception(int) constructor*

Constructs a SMPEXception with specified error code.

*Syntax*

```
public SMPEXception ( int errorCode )
```

*Parameters*

- **errorCode** –

*SMPEXception(String) constructor*

Constructs a SMPEXception with specified error message.

*Syntax*

```
public SMPEXception ( String message )
```

*Parameters*

- **message** – - error message

*SMPEXception(int, String) constructor*

Constructs a SMPEXception with specified error code and error message.

*Syntax*

```
public SMPEXception ( int errorCode , String message )
```

*Parameters*

- **errorCode** –
- **message** – - error message

*getErrorCode() method*

Returns the error code of this SMPEXception.

*Syntax*

```
public int getErrorCode ()
```

*toString() method*

Returns the complete error description of this SMPEXception.

*Syntax*

```
public String toString ()
```

### *ANY\_INPUT\_FIELD\_NULL variable*

Any of the input fields passed is null.

#### *Syntax*

```
public static final int ANY_INPUT_FIELD_NULL
```

### *APPLICATION\_ID\_NULL variable*

Application is not initialized.

#### *Syntax*

```
public static final int APPLICATION_ID_NULL
```

### *APPLICATION\_USER\_ALREADY\_REGISTERED variable*

Attempt to register an application user which is already registered.

#### *Syntax*

```
public static final int APPLICATION_USER_ALREADY_REGISTERED
```

### *APPLICATION\_USER\_NOT\_REGISTERED variable*

Attempt to delete the user which has not been registered.

#### *Syntax*

```
public static final int APPLICATION_USER_NOT_REGISTERED
```

### *AUTHENTICATION\_ERROR variable*

Error while authenticating user.

#### *Syntax*

```
public static final int AUTHENTICATION_ERROR
```

### *BTX\_UPLOAD\_ERROR variable*

E2E BTX upload error.

#### *Syntax*

```
public static final int BTX_UPLOAD_ERROR
```

### *CAPTCHA\_LISTENER\_NULL variable*

Captcha listener is null.

#### *Syntax*

```
public static final int CAPTCHA_LISTENER_NULL
```



***CLASS\_INITIALIZATION\_FAILED variable***

Class initialization failed.

***Syntax***

```
public static final int CLASS_INITIALIZATION_FAILED
```

***E2E\_NOT\_STARTED variable***

E2E Not started.

***Syntax***

```
public static final int E2E_NOT_STARTED
```

***EMPTY\_RESPONSE\_FROM\_SERVER variable***

Empty response string received from server.

***Syntax***

```
public static final int EMPTY_RESPONSE_FROM_SERVER
```

***HTTP\_ERROR variable***

HTTP error.

***Syntax***

```
public static final int HTTP_ERROR
```

***INVALID\_MODULE\_ID variable***

Invalid module handle ID.

***Syntax***

```
public static final int INVALID_MODULE_ID
```

***JSON\_PARSING\_FAILED variable***

Internal error, JSON parsing has failed.

***Syntax***

```
public static final int JSON_PARSING_FAILED
```

***NETWORK\_ERROR variable***

Network error: Obtained when the URL is unreachable.

***Syntax***

```
public static final int NETWORK_ERROR
```

### *Usage*

Check AndroidManifest.xml if it has proper permissions.

### *PARSE\_ERROR variable*

Parse error.

### *Syntax*

```
public static final int PARSE_ERROR
```

### *REGISTRATION\_FAILED\_UNKNOWN\_ERROR variable*

User registration timed out.

### *Syntax*

```
public static final int REGISTRATION_FAILED_UNKNOWN_ERROR
```

### *REGISTRATION\_LISTENER\_NULL variable*

Asynchronous user registration listener not registered with UserManager.

### *Syntax*

```
public static final int REGISTRATION_LISTENER_NULL
```

### *SINGLETON\_INITIALIZATION\_FAILED variable*

singleton Initialization failed

### *Syntax*

```
public static final int SINGLETON_INITIALIZATION_FAILED
```

### *SUP\_INTERNAL\_PARSING\_ERROR variable*

SUP Internal Parsing Error.

### *Syntax*

```
public static final int SUP_INTERNAL_PARSING_ERROR
```

### *UPDATE\_SETTINGS\_CONTAINS\_READONLY\_FIELDS variable*

Update Settings consists of one or more read only fields.

### *Syntax*

```
public static final int  
UPDATE_SETTINGS_CONTAINS_READONLY_FIELDS
```

*UserManager* class**Syntax**

```
public class UserManager extends ISDMNetListener,
INetListener
```

**Members**

All members of *UserManager*, including inherited members. **Constructors**

Modifier and Type	Constructor	Description
public	<i>UserManager(ClientConnection)</i> on page 1024	Initialize the <i>UserManager</i> .

**Methods**

Modifier and Type	Method	Description
public void	<i>deleteUser()</i> on page 1024	Delete the current user from the SMP server.
public String	<i>getApplicationConnectionId()</i> on page 1024	Return the application connection ID obtained from the server after successful registration.
public boolean	<i>isUserRegistered()</i> on page 1024	Deprecated. This API has been deprecated as application developer can determine with the Application Connection Id to know whether user is registered or not.
public boolean	<i>registerUser(boolean)</i> on page 1025	Register the user with SAP Mobile Server.
public boolean	<i>registerUser(String, boolean)</i> on page 1026	Register the user with the SAP Mobile Server.
public void	<i>setCaptchaChallengeListener(ISMPCaptchaChallengeListener)</i> on page 1026	Set the CAPTCHA challenge listener in case of CAPTCHA enabled by the SAP Mobile Server.
public void	<i>setUserRegistrationListener(ISMPUserRegistrationListener)</i> on page 1027	Set the registration listener for asynchronous registration.

### *UserManager(ClientConnection) constructor*

Initialize the UserManager.

#### *Syntax*

```
public  UserManager ( ClientConnection clientCon )
```

#### *Parameters*

- **clientCon** – ClientConnection

```
UserManager userManager = new UserManager(clientConnection)
```

### *deleteUser() method*

Delete the current user from the SMP server.

#### *Syntax*

```
public void deleteUser () throws SMPException
```

#### *Exceptions*

- **SMPException class** –

```
UserManager userManager = new UserManager(clientConnection);  
userManager.deleteUser();
```

### *getApplicationConnectionId() method*

Return the application connection ID obtained from the server after successful registration.

#### *Syntax*

```
public String getApplicationConnectionId () throws SMPException
```

```
UserManager userManager = new UserManager(clientConnection);  
userManager.getApplicationConnectionId();
```

### *isUserRegistered() method [deprecated]*

Deprecated. This API has been deprecated as application developer can determine with the Application Connection Id to know whether user is registered or not.

#### *Syntax*

```
public boolean isUserRegistered ()
```

#### *Usage*

Deprecated This API has been deprecated as application developer can determine with the Application Connection Id to know whether user is registered or not.

***registerUser(boolean) method***

Register the user with SAP Mobile Server.

***Syntax***

```
public boolean registerUser (boolean isSynchronous ) throws
SMPEException
```

***Parameters***

- **isSynchronous** – Specifies whether it is synchronous or asynchronous registration.

***Exceptions***

- **SMPEException class** –

```
Try{
  UserManager userManager = new UserManager(clientConnection);
  userManager.registerUser(true);           //for synchronous
  registration
}
Catch(SMPEException e){
}

Try{
  UserManager userManager = new UserManager(clientConnection);
  userManager.setUserRegistrationListener(this);
  userManager.registerUser(false);         //for Asynchronous
  registration
}
Catch(SMPEException e){
}

    public void onAsyncRegistrationResult(State
registrationState,ClientConnection conn, int errCode, String errMsg)
{
    // TODO Auto-generated method stub
    if(registrationState == State.SUCCESS)
    {
        Log.i("RegistrationState Success",conn.getServerHost()
+conn.getApplicationID()+conn.getDomain()
+conn.getRequestManager().toString());

    }
    if(registrationState == State.FAILURE)
    {
        Log.i("Registration State Failure",errCode+errMsg
+conn.getServerHost());
    }
}
```

```
    }  
}
```

### *Usage*

It requires to send username and password as a part of request manager during client connection initialization. If asynchronous, the user has to implement and register `IODPUserRegistrationListener` to retrieve a callback.

### *registerUser(String, boolean) method*

Register the user with the SAP Mobile Server.

### *Syntax*

```
public boolean registerUser (String captcha , boolean isSynchronous )  
throws SMPException
```

### *Parameters*

- **isSynchronous** – Specifies whether it is synchronous or asynchronous registration.
- **captcha** – The CAPTCHA text obtained in the first registration call.

### *Exceptions*

- **SMPException class** –

```
Try{  
    UserManager userManager = new UserManager(clientConnection);  
    UserManager.registerUser (<captcha text>,true);  
}  
Catch (SMPException e){  
}
```

### *Usage*

It requires to send username and password as a part of request manager during client connection initialization. CAPTCHA text should be passed to the user during the first registration by the CAPTCHA challenge listener callback. If asynchronous, the user has to implement and register `IODPUserRegistrationListener` to retrieve a callback.

### *setCaptchaChallengeListener(ISMPCaptchaChallengeListener) method*

Set the CAPTCHA challenge listener in case of CAPTCHA enabled by the SAP Mobile Server.

### *Syntax*

```
public void setCaptchaChallengeListener  
( ISMPCaptchaChallengeListener captchaListener )
```

### Parameters

- **captchaListener** – SMP CAPTCHA challenge listener to be registered to retrieve a callback.

```
UserManager userManager = new UserManager(clientConnection);
userManager.setCaptchaChallengeListener(<ISMPCaptchaChallengeListener
Object>);
```

### Usage

User has to implement the `IODPCaptchaChallengeListener` and set it using the above listener to get the captcha callback. The callback method `validateCaptcha` has to return the CAPTCHA text for registering the user. Alternately, it can also return null in which case, the captcha text has to be stored by the application and a subsequent `registerUser(captchaText, isSynchronous)` has to be explicitly called.

### *setUserRegistrationListener(ISMPUserRegistrationListener) method*

Set the registration listener for asynchronous registration.

### Syntax

```
public void setUserRegistrationListener
( ISMPUserRegistrationListener registrationListener )
```

### Parameters

- **registrationListener** – SMP user registration listener.

```
UserManager userManager = new UserManager(clientConnection);
userManager.setUserRegistrationListener(<ISMPUserRegistrationListener
Object>);
```

### Usage

User has to implement the `ISMPUserRegistrationListener` and set it using the above listener to get the registration callback.

### Deprecated API List

The following pages are deprecated in this version of the API.

### Deprecated Interfaces

- *ClientCertListener* on page 1046
- *TrustManagerListener* on page 1048
- *ISDMBundleRequest* on page 1048
- *ISDMCache* on page 1050
- *ISDMCacheLoadListener* on page 1061
- *ISDMConnectionHandler* on page 1062

- *ISDMConnectivityParameters* on page 1066
- *ISDMEntrySearch* on page 1070
- *ISDMLocalSchema* on page 1071
- *ISDMLogger* on page 1072
- *ISDMNetListener* on page 1090
- *ISDMODataAssociation* on page 1091
- *ISDMODataAssociationEnd* on page 1099
- *ISDMODataAssociationSet* on page 1101
- *ISDMODataCollection* on page 1108
- *ISDMODataComplexType* on page 1121
- *ISDMODataEntitySet* on page 1127
- *ISDMODataEntityType* on page 1135
- *ISDMODataEntry* on page 1147
- *ISDMODataError* on page 1170
- *ISDMODataFunctionImport* on page 1177
- *ISDMODataIcon* on page 1187
- *ISDMODataLink* on page 1194
- *ISDMODataNavigationProperty* on page 1206
- *ISDMODataOpenSearchDescription* on page 1214
- *ISDMODataParameter* on page 1221
- *ISDMODataProperty* on page 1228
- *ISDMODataSchema* on page 1247
- *ISDMODataServiceDocument* on page 1260
- *ISDMODataSubscriptionEntry* on page 1270
- *ISDMODataURL* on page 1283
- *ISDMODataWorkspace* on page 1291
- *ISDMParser* on page 1298
- *ISDMParserDocument* on page 1311
- *ISDMPersistable* on page 1331
- *ISDMPersistence* on page 1332
- *ISDMPreferenceChangeListener* on page 1340
- *ISDMPreferences* on page 1340
- *ISDMRequest* on page 1353
- *ISDMRequestManager* on page 1363
- *ISDMRequestStateElement* on page 1366
- *ISDMResponse* on page 1370
- *SDMConstants* on page 1408
- *IAuthenticationChallengeListner* on page 1419
- *ICredential* on page 1419



- *IMutualSSLChallengeListener* on page 1420
- *ISSSLChallengeListener* on page 1420

### Deprecated Classes

- *AbstractConnectionHandler* on page 1030
- *ConnectionFactory* on page 1037
- *CookieJar* on page 1040
- *HttpsTrustManager* on page 1042
- *HttpsClientCertInfo* on page 1047
- *JSONParser* on page 1372
- *RouteManager* on page 1376
- *SAPSSLSocketFactory* on page 1377
- *SDMBaseRequest* on page 1378
- *SDMBundleRequest* on page 1387
- *SDMCache* on page 1389
- *SDMConnectivityException* on page 1402
- *SDMConnectivityParameters* on page 1403
- *SDMEncryptDecrypt* on page 1413
- *SDMHttpChannelListeners* on page 1415
- *Authenticationschema* on page 1415
- *BasicCredetials* on page 1417
- *CookieCredetials* on page 1418
- *SDMLogger* on page 1421
- *SDMODataAssociation* on page 1442
- *SDMODataAssociationEnd* on page 1458
- *SDMODataAssociationSet* on page 1468
- *SDMODataCollection* on page 1489
- *SDMODataComplexType* on page 1511
- *SDMODataEntitySet* on page 1526
- *SDMODataEntityType* on page 1542
- *SDMODataEntry* on page 1562
- *SDMODataError* on page 1598
- *SDMODataFunctionImport* on page 1613
- *SDMODataIcon* on page 1632
- *SDMODataLink* on page 1648
- *SDMODataNavigationProperty* on page 1669
- *SDMODataOpenSearchDescription* on page 1685
- *SDMODataParameter* on page 1701
- *SDMODataProperty* on page 1716

- *SDMODataReturnTypeInfo* on page 1741
- *SDMODataReturnSchema* on page 1769
- *SDMODataReturnEntityType* on page 1787
- *SDMODataSchema* on page 1804
- *SDMODataServiceDocument* on page 1824
- *SDMODataSubscriptionEntry* on page 1843
- *SDMODataURL* on page 1878
- *SDMODataWorkspace* on page 1896
- *SDMParser* on page 1911
- *SDMParserDocument* on page 1926
- *SDMParserException* on page 1955
- *SDMParserHandler* on page 1957
- *SDMPersistence* on page 1960
- *SDMPersistenceException* on page 1969
- *SDMPreferences* on page 1971
- *SDMPreferencesException* on page 1985
- *SDMPushRequest* on page 1987
- *SDMRequestManager* on page 1994
- *AuthenticationChallengeListener* on page 2003
- *InvalidHandlerClassException* on page 2003
- *MutualSSLChallengeListener* on page 2004
- *SSLChallengeListener* on page 2005
- *SuccessThread* on page 2005
- *SDMRequestStateElement* on page 2006
- *SDMResponseImpl* on page 2012
- *SDMSemantics* on page 2014
- *SocketConnectionHandler* on page 2039
- *SUPRoute* on page 2044
- *TrustSAPSSLSocketFactory* on page 2046

### Deprecated Enumerations

- *ConnectionProtocolEnum* on page 1042

### AbstractConnectionHandler class

Deprecated. since 3.0, Use `com.sap.mobile.lib.request.AbstractConnectionHandler`

### Syntax

```
public abstract class AbstractConnectionHandler extends  
Thread, ISDMConnectionHandler
```

*Derived classes*

- *SocketConnectionHandler* on page 2039

*Members*

All members of *AbstractConnectionHandler*, including inherited members. **Variables**

Modifier and Type	Variable	Description
protected int	<i>codeArray</i> on page 1035	
protected static final int	<i>MAX_TIMEOUT_COUNT</i> on page 1036	
protected boolean	<i>mCleanupRequestsOnError</i> on page 1036	
protected boolean	<i>mError</i> on page 1036	
protected ISDMLogger	<i>mLogger</i> on page 1036	
protected ISDMPreferences	<i>mPreferences</i> on page 1036	
protected ISDMRequest	<i>mRequest</i> on page 1036	
protected ISDMRequestManager	<i>mRequestManager</i> on page 1036	
protected boolean	<i>mStop</i> on page 1036	
protected TrustManager[]	<i>mTrustManagers</i> on page 1037	
protected boolean	<i>mUpdateListener</i> on page 1037	
protected ISDMConnectivityParameters	<i>params</i> on page 1037	
protected static final String	<i>TAG</i> on page 1037	

**Constructors**

Modifier and Type	Constructor	Description
public	<i>AbstractConnectionHandler</i> ( <i>final ISDMRequestManager</i> , <i>final ISDMLogger</i> , <i>final ISDMPreferences</i> ) on page 1033	The default constructor.

**Methods**

Modifier and Type	Method	Description
protected String	<i>addBackendLanguageToUrl(String)</i> on page 1033	Adds backend language URL parameter to the parameter.
protected String	<i>getBasicAuthHeader()</i> on page 1033	Calculates the http basic authentication header value.
protected String	<i>getHost(String)</i> on page 1034	Extracts the host part from URL string.
protected static String	<i>getIMEI()</i> on page 1034	
public static String	<i>getRequestTypeById(int)</i> on page 1034	
public boolean	<i>isSuccessful()</i> on page 1034	Do we have error?
public abstract int	<i>makeHttpRequest()</i> on page 1035	Make the request.
public void	<i>processRequestsFromQueue()</i> on page 1035	Pick a request/bundle from the queue and process it/them.
protected String	<i>processUrl(String)</i> on page 1035	
public void	<i>setCleanupRequestsOnError(boolean)</i> on page 1035	Sets whether the thread should clean up the request queue in case of errors.
public void	<i>terminate()</i> on page 1035	Close the thread.

#### Inherited members from ISDMConnectionHandler

Modifier and Type	Member	Description
public static final int	<i>AUTHENTICATION_ERROR</i> on page 1065	
public static final int	<i>BAD_COVERAGE</i> on page 1065	
public static final String	<i>CRLF</i> on page 1065	
public static final int	<i>ERROR</i> on page 1065	
public static final int	<i>FAILED_LOGIN</i> on page 1065	

Modifier and Type	Member	Description
public static final int	<i>FAILED_LOGOUT</i> on page 1065	
public static final int	<i>FAILURE</i> on page 1065	
public static final int	<i>LOG</i> on page 1066	
public static final int	<i>NO_ERROR</i> on page 1066	
public static final int	<i>RETRY</i> on page 1066	
public static final int	<i>SUCCESS</i> on page 1066	
public static final int	<i>TIMEOUT</i> on page 1066	

*AbstractConnectionHandler*(final *ISDMRequestManager*, final *ISDMLogger*, final *ISDMPreferences*) constructor

The default constructor.

#### Syntax

```
public AbstractConnectionHandler ( final ISDMRequestManager
requestManager , final ISDMLogger logger , final ISDMPreferences
preferences )
```

#### Parameters

- **requestManager** – the *ISDMRequestManager* instance
- **logger** – the *ISDMLogger* implementation
- **preferences** – the *ISDMPreferences* implementation

*addBackendLanguageToUrl*(String) method

Adds backend language URL parameter to the parameter.

#### Syntax

```
protected String addBackendLanguageToUrl ( String requestUrl )
```

#### Returns

String the URL containing the backend language URL parameter

*getBasicAuthHeader*() method

Calculates the http basic authentication header value.

#### Syntax

```
protected String getBasicAuthHeader () throws IOException
```

### *Returns*

String basic authentication header

### *Exceptions*

- **IOException** – Base64OutputStream.encodeAsString can throw IOException. If this IOException is thrown, then the client must stop sending the request

### *Usage*

In the SAP Data protocol, basic authentication protocol is used for authentication

### *getHost(String) method*

Extracts the host part from URL string.

### *Syntax*

```
protected String getHost ( String str )
```

### *Parameters*

- **str** – the URL string

### *Returns*

the possible host part

### *getIMEI() method*

### *Syntax*

```
protected static String getIMEI ()
```

### *getRequestTypeById(int) method*

### *Syntax*

```
public static String getRequestTypeById ( int type )
```

### *isSuccessful() method*

Do we have error?

### *Syntax*

```
public boolean isSuccessful ()
```

### *Returns*

true if we have

*makeHttpRequest() method*

Make the request.

*Syntax*

```
public abstract int makeHttpRequest ()
```

*Returns*

internal status code

*processRequestsFromQueue() method*

Pick a request/bundle from the queue and process it/them.

*Syntax*

```
public void processRequestsFromQueue ()
```

*processUrl(String) method**Syntax*

```
protected String processUrl (String requestUrl)
```

*setCleanupRequestsOnError(boolean) method*

Sets whether the thread should clean up the request queue in case of errors.

*Syntax*

```
public void setCleanupRequestsOnError (boolean value)
```

*Parameters*

- **value** – the setting

*terminate() method*

Close the thread.

*Syntax*

```
public void terminate ()
```

*Usage*

Invoked when the application exits.

*codeArray variable**Syntax*

```
protected int codeArray
```

*MAX\_TIMEOUT\_COUNT variable*

*Syntax*

```
protected static final int MAX_TIMEOUT_COUNT
```

*mCleanupRequestsOnError variable*

*Syntax*

```
protected boolean mCleanupRequestsOnError
```

*mError variable*

*Syntax*

```
protected boolean mError
```

*mLogger variable*

*Syntax*

```
protected ISDMLogger mLogger
```

*mPreferences variable*

*Syntax*

```
protected ISDMPreferences mPreferences
```

*mRequest variable*

*Syntax*

```
protected ISDMRequest mRequest
```

*mRequestManager variable*

*Syntax*

```
protected ISDMRequestManager mRequestManager
```

*mStop variable*

*Syntax*

```
protected boolean mStop
```



*mTrustManagers variable**Syntax*

```
protected TrustManager[] mTrustManagers
```

*mUpdateListener variable**Syntax*

```
protected boolean mUpdateListener
```

*params variable**Syntax*

```
protected ISDMConnectivityParameters params
```

*TAG variable**Syntax*

```
protected static final String TAG
```

*ConnectionFactory class*

Deprecated. since 3.0, Use `com.sap.mobile.lib.request.ConnectionFactory` ConnectionFactory class implementation, which is responsible to create the connection.

*Syntax*

```
public class ConnectionFactory extends
ISDMPreferenceChangeListener
```

*Members*

All members of ConnectionFactory, including inherited members. **Constructors**

Modifier and Type	Constructor	Description
public	<i>ConnectionFactory</i> (final <i>ISDMLogger</i> , final <i>ISDMRequestManager</i> , final <i>ISDMPreferences</i> ) on page 1038	

**Methods**

Modifier and Type	Method	Description
public void	<i>clearHeaders</i> () on page 1038	

Modifier and Type	Method	Description
public void	<i>close()</i> on page 1038	
public static DefaultHttpClient	<i>getHttpClient(final String)</i> on page 1039	
public HttpResponse	<i>makeRequest(final String, final byte[])</i> on page 1039	Make the request.
public void	<i>onPreferenceChanged(String, Object)</i> on page 1039	Callback method for preference change event.
public void	<i>setConnectionHeader(final String, final String)</i> on page 1039	
public void	<i>setRequestMethod(final int)</i> on page 1040	Set the HTTP request method.

### Usage

This class contains the platform related connection handling. This means, that for RIM and Android devices, the same network component can be used, only this ConnectionFactory must be different, because contains platform specific classes.

*ConnectionFactory(final ISDMLogger, final ISDMRequestManager, final ISDMPreferences)* constructor

### Syntax

```
public ConnectionFactory ( final ISDMLogger logger , final
ISDMRequestManager requestManager , final ISDMPreferences
preferences )
```

*clearHeaders()* method

### Syntax

```
public void clearHeaders ()
```

*close()* method

### Syntax

```
public void close ()
```

*getHttpClient(final String) method**Syntax*

```
public static DefaultHttpClient getHttpClient ( final String
requestUrl )
```

*makeRequest(final String, final byte[]) method*

Make the request.

*Syntax*

```
public HttpResponse makeRequest ( final String url , final byte[]
data ) throws Exception
```

*Parameters*

- **url** – the URL of the request
- **data** –

*Returns*

the server response

*Exceptions*

- **Exception** –

*onPreferenceChanged(String, Object) method*

Callback method for preference change event.

*Syntax*

```
public void onPreferenceChanged ( String key , Object value )
```

*Parameters*

- **key** – key of the preference
- **value** – value of the preference

*setConnectionHeader(final String, final String) method**Syntax*

```
public void setConnectionHeader ( final String key , final
String value )
```

*setRequestMethod(final int) method*

Set the HTTP request method.

*Syntax*

```
public void setRequestMethod ( final int method )
```

*Parameters*

- **method** –

*CookieJar class*

Deprecated. since 3.0, Use com.sap.mobile.lib.request.CookieJar

*Syntax*

```
public class CookieJar extends CookieStore
```

*Members*

All members of CookieJar, including inherited members. **Variables**

Modifier and Type	Variable	Description
protected static Map< String, Map >	<i>cookieArray</i> on page 1041	
protected static Map< String, Cookie >	<i>httpCookieList</i> on page 1042	

**Constructors**

Modifier and Type	Constructor	Description
public	<i>CookieJar()</i> on page 1041	

**Methods**

Modifier and Type	Method	Description
public void	<i>addCookie(Cookie)</i> on page 1041	
public void	<i>clear()</i> on page 1041	
public boolean	<i>clearExpired(Date)</i> on page 1041	
public List< Cookie >	<i>getCookies()</i> on page 1041	

Modifier and Type	Method	Description
protected void	<i>setCookie(DefaultHttpClient, Object)</i> on page 1041	

*CookieJar()* constructor

**Syntax**

```
public CookieJar ()
```

*addCookie(Cookie)* method

**Syntax**

```
public void addCookie ( Cookie httpCookie )
```

*clear()* method

**Syntax**

```
public void clear ()
```

*clearExpired(Date)* method

**Syntax**

```
public boolean clearExpired ( Date date )
```

*getCookies()* method

**Syntax**

```
public List< Cookie > getCookies ()
```

*setCookie(DefaultHttpClient, Object)* method

**Syntax**

```
protected void setCookie ( DefaultHttpClient client , Object cookieObjectMap )
```

*cookieArray* variable

**Syntax**

```
protected static Map< String, Map > cookieArray
```

*httpCookieList* variable**Syntax**

```
protected static Map< String, Cookie > httpCookieList
```

**ConnectionProtocolEnum** enum

Deprecated. since 3.0, Use com.sap.mobile.lib.request.ConnectionProtocolEnum

**Members**

All members of ConnectionProtocolEnum, including inherited members. **Variables**

Modifier and Type	Variable	Description
public	<i>HTTP</i> on page 1042	
public	<i>HTTPS</i> on page 1042	

*HTTP* variable**Syntax**

```
public HTTP
```

*HTTPS* variable**Syntax**

```
public HTTPS
```

**HttpsTrustManager** class

Deprecated. since 3.0, Use com.sap.mobile.lib.request.HttpsTrustManager

**Syntax**

```
public class HttpsTrustManager extends X509TrustManager,
X509KeyManager
```

**Members**

All members of HttpsTrustManager, including inherited members. **Variables**

Modifier and Type	Variable	Description
protected static ClientCertList- tender	<i>c_oAppListener</i> on page 1045	
protected static TrustManager- Listener	<i>s_oAppListener</i> on page 1046	

Modifier and Type	Variable	Description
public static HttpClientCertInfo	<i>s_oLastClientCertInfo</i> on page 1046	
protected static final String	<i>TAG</i> on page 1046	

### Constructors

Modifier and Type	Constructor	Description
public	<i>HttpsTrustManager(TrustManager[])</i> on page 1044	

### Methods

Modifier and Type	Method	Description
public void	<i>checkClientTrusted(X509Certificate[], String)</i> on page 1044	
public void	<i>checkServerTrusted(X509Certificate[], String)</i> on page 1044	
public String	<i>chooseClientAlias(String[], Principal[], Socket)</i> on page 1044	
public String	<i>chooseServerAlias(String, Principal[], Socket)</i> on page 1044	
public X509Certificate[]	<i>getAcceptedIssuers()</i> on page 1044	
public X509Certificate[]	<i>getCertificateChain(String)</i> on page 1045	
public String[]	<i>getClientAliases(String, Principal[])</i> on page 1045	
public PrivateKey	<i>getPrivateKey(String)</i> on page 1045	
public String[]	<i>getServerAliases(String, Principal[])</i> on page 1045	

Modifier and Type	Method	Description
public static synchronized void	<i>setClientCertificateListener(ClientCertListener)</i> on page 1045	
public static synchronized void	<i>setTrustManagerListener(TrustManagerListener)</i> on page 1045	

### *HttpsTrustManager(TrustManager[]) constructor*

#### *Syntax*

```
public HttpsTrustManager ( TrustManager[] trustManagers ) throws
GeneralSecurityException
```

### *checkClientTrusted(X509Certificate[], String) method*

#### *Syntax*

```
public void checkClientTrusted ( X509Certificate[] aoChain ,
String sAuthType ) throws CertificateException
```

### *checkServerTrusted(X509Certificate[], String) method*

#### *Syntax*

```
public void checkServerTrusted ( X509Certificate[] chain , String
sAuthType ) throws CertificateException
```

### *chooseClientAlias(String[], Principal[], Socket) method*

#### *Syntax*

```
public String chooseClientAlias ( String[] keyType , Principal[]
issuers , Socket socket )
```

### *chooseServerAlias(String, Principal[], Socket) method*

#### *Syntax*

```
public String chooseServerAlias ( String keyType , Principal[]
issuers , Socket socket )
```

### *getAcceptedIssuers() method*

#### *Syntax*

```
public X509Certificate[] getAcceptedIssuers ( )
```



*getCertificateChain(String) method***Syntax**

```
public X509Certificate[] getCertificateChain ( String alias )
```

*getClientAliases(String, Principal[]) method***Syntax**

```
public String[] getClientAliases ( String keyType , Principal[]  
issuers )
```

*getPrivateKey(String) method***Syntax**

```
public PrivateKey getPrivateKey ( String alias )
```

*getServerAliases(String, Principal[]) method***Syntax**

```
public String[] getServerAliases ( String keyType , Principal[]  
issuers )
```

*setClientCertificateListener(ClientCertListener) method***Syntax**

```
public static synchronized void setClientCertificateListener  
( ClientCertListener clientListener )
```

*setTrustManagerListener(TrustManagerListener) method***Syntax**

```
public static synchronized void setTrustManagerListener  
( TrustManagerListener oListener )
```

*c\_oAppListener variable***Syntax**

```
protected static ClientCertListener c_oAppListener
```

*s\_oAppListener variable*

*Syntax*

```
protected static TrustManagerListener s_oAppListener
```

*s\_oLastClientCertInfo variable*

*Syntax*

```
public static HttpClientCertInfo s_oLastClientCertInfo
```

*TAG variable*

*Syntax*

```
protected static final String TAG
```

*HttpsTrustManager.ClientCertListener interface*

Deprecated. since 3.0, Use

com.sap.mobile.lib.request.HttpsTrustManager.ClientCertListener

*Syntax*

```
public abstract interface ClientCertListener
```

*Derived classes*

- *MutualSSLChallengeListener* on page 2004

*Members*

All members of ClientCertListener, including inherited members. **Methods**

Modifier and Type	Method	Description
public abstract HttpClientCertInfo	<i>getClientCertificate(String)</i> on page 1046	

*getClientCertificate(String) method*

*Syntax*

```
public abstract HttpClientCertInfo getClientCertificate  
(String certAlias)
```

*HttpsTrustManager.HttpsClientCertInfo class*

Deprecated. since 3.0, Use

`com.sap.mobile.lib.request.HttpsTrustManager.HttpsClientCertInfo`**Syntax**

```
public class HttpsClientCertInfo
```

**Members**All members of `HttpsClientCertInfo`, including inherited members. **Variables**

Modifier and Type	Variable	Description
protected PrivateKey	<i>PrivateKey</i> on page 1047	
protected X509Certificate	<i>X509Certificate</i> on page 1047	

**Constructors**

Modifier and Type	Constructor	Description
public	<i>HttpsClientCertInfo(java.security.cert.X509Certificate, PrivateKey)</i> on page 1047	

*HttpsClientCertInfo(java.security.cert.X509Certificate, PrivateKey) constructor***Syntax**

```
public HttpsClientCertInfo
( java.security.cert.X509Certificate xcer , PrivateKey pk )
```

*PrivateKey variable***Syntax**

```
protected PrivateKey PrivateKey
```

*X509Certificate variable***Syntax**

```
protected X509Certificate X509Certificate
```

*HttpsTrustManager.TrustManagerListener interface*

Deprecated. since 3.0, Use

com.sap.mobile.lib.request.HttpsTrustManager.TrustManagerListener

*Syntax*

```
public abstract interface TrustManagerListener
```

*Derived classes*

- *SSLChallengeListener* on page 2005

*Members*

All members of TrustManagerListener, including inherited members. **Methods**

Modifier and Type	Method	Description
public abstract boolean	<i>checkServerTrusted(X509Certificate[])</i> on page 1048	

*checkServerTrusted(X509Certificate[]) method**Syntax*

```
public abstract boolean checkServerTrusted ( X509Certificate[]  
paramArrayOfX509Certificate )
```

*ISDMBundleRequest interface*

Deprecated. since 3.0, Use com.sap.mobile.lib.request.IBundleRequest Interface for request bundle.

*Syntax*

```
public interface ISDMBundleRequest
```

*Derived classes*

- *SDMBundleRequest* on page 1387

*Members*

All members of ISDMBundleRequest, including inherited members. **Methods**

Modifier and Type	Method	Description
public void	<i>addRequest(ISDMRequest)</i> on page 1049	Adds a request to the storage.
public void	<i>clearRequests()</i> on page 1049	Cleans out the request storage.

Modifier and Type	Method	Description
public ISDMRequest[]	<i>getRequests()</i> on page 1049	Returns all requests from the storage.
public void	<i>removeRequest(ISDMRequest)</i> on page 1049	Removes the specific request from the storage.

***addRequest(ISDMRequest) method***

Adds a request to the storage.

***Syntax***

```
public void addRequest ( ISDMRequest request )
```

***Parameters***

- **request** – the request to be added

***Usage***

NOTE! Request priority

( com.sap.mobile.lib.sdmconnectivity.ISDMRequest#setPriority(int)) is ignored during request processing! Because requests are processed in the order they are added to the bundle, the order is considered to handle the priority.

***clearRequests() method***

Cleans out the request storage.

***Syntax***

```
public void clearRequests ()
```

***getRequests() method***

Returns all requests from the storage.

***Syntax***

```
public ISDMRequest[] getRequests ()
```

***Returns***

the array of requests

***removeRequest(ISDMRequest) method***

Removes the specific request from the storage.

***Syntax***

```
public void removeRequest ( ISDMRequest request )
```

*Parameters*

- **request** – the request to be removed

*ISDMCache interface*

The SDMCache component is responsible for storing and accessing OData related objects in the memory of the device.

*Syntax*

```
public interface ISDMCache extends ISDMPersistable
```

*Derived classes*

- *SDMCache* on page 1389

*Members*

All members of ISDMCache, including inherited members. **Variables**

Modifier and Type	Variable	Description
public static final int	<i>DEFAULT_SEARCH</i> on page 1059	Constant ID of default algorithm:
public static final int	<i>FULLTERM_CONTAIN_SEARCH</i> on page 1060	Constant ID of Full Term Contain-search algorithm: Searching for the full search-term as a part of searchable values.
public static final int	<i>FULLTERM_PREFIX_SEARCH</i> on page 1060	Constant ID of Full Term Prefix-search algorithm: Searching for the full search-term as a prefix of searchable values.
public static final int	<i>REGEX_SEARCH</i> on page 1060	Constant ID of regex search algorithm.
public static final int	<i>TOKENIZED_CONTAIN_ALL_SEARCH</i> on page 1060	Constant ID of All Token Contain-search algorithm: Searching for all the tokens of the search-term as a part of searchable values.

Modifier and Type	Variable	Description
public static final int	<i>TOKENIZED_CONTAIN_SEARCH</i> on page 1060	Constant ID of Tokenized Contain-search algorithm: Searching for all the tokens of the search-term as a part of searchable values.
public static final int	<i>TOKENIZED_PREFIX_SEARCH</i> on page 1061	Constant ID of Tokenized Prefix-search algorithm: Searching for all the tokens of the search-term as a prefix of searchable values.

### Methods

Modifier and Type	Method	Description
public void	<i>clear()</i> on page 1053	Removes all objects (including SDMODData Service Document and SDMODData Schema) from SDMCache.
public ISDMEntrySearch	<i>getEntrySearch()</i> on page 1053	Returns the current search object that implements the search method that should be used during searching in entries.
public ISDMParserDocument	<i>getSDMODDataDocument(String)</i> on page 1054	Returns an SDMParserDocument object with the specified key if it is stored in SDMCache or null otherwise.
public List< ISDMODDataEntry >	<i>getSDMODDataEntries(String)</i> on page 1054	Returns all of the SDMODData Entries that belong to the specified collection.
public ISDMODDataEntry	<i>getSDMODDataEntry(String)</i> on page 1054	Returns an SDMODData Entry with the specified key if it is stored in SDMCache or null otherwise.
public ISDMODDataSchema	<i>getSDMODDataSchema()</i> on page 1055	Returns the SDMODData Schema (aka Metadata) if it is stored in SDMCache or null otherwise.

Modifier and Type	Method	Description
public ISDMODataServiceDocument	<i>getSDMODataServiceDocument()</i> on page 1055	Returns the SDMOData Service Document if it is stored in SDMCache or null otherwise.
public int	<i>getSearchAlgorithm()</i> on page 1055	Returns the constant ID of the current search algorithm.
public List< ISDMParserDocument >	<i>getStoredDocuments()</i> on page 1055	Returns all of the SDMParserDocuments from the store (including SDMODataEntries).
public boolean	<i>removeSDMODataDocument(String)</i> on page 1056	Removes stored object from SDMCache with the specified key if it is stored.
public boolean	<i>removeSDMODataEntries(String)</i> on page 1056	Removes SDMOData Entries from SDMCache that belong to the specified collection.
public void	<i>removeStoredDocuments()</i> on page 1056	Removes all stored documents (except from Service Document and Schema) from SDMCache.
public List< ISDMODataEntry >	<i>searchSDMODataEntries(String, String)</i> on page 1057	Returns all of the SDMOData Entries that belong to the specified collection and either of its searchable fields' value's token (tokenized with space) that starts with the searchTerm.
public void	<i>setEntrySearch(ISDMEntrySearch)</i> on page 1057	Seats the new search object that implements the search method that should be used during searching in entries.
public void	<i>setSDMODataDocument(String, ISDMParserDocument)</i> on page 1057	Stores an SDMParserDocument object in SDMCache.
public void	<i>setSDMODataEntries(List&lt; ISDMODataEntry &gt;)</i> on page 1058	Stores several SDMOData Entries in SDMCache.
public void	<i>setSDMODataEntry(ISDMODataEntry)</i> on page 1058	Stores an SDMOData Entry in SDMCache.



Modifier and Type	Method	Description
public void	<i>setSDMODDataSchema(ISD-MODDataSchema)</i> on page 1059	Stores SDMODData Schema in SDMCache.
public void	<i>setSDMODDataServiceDocument(ISDMODDataServiceDocument)</i> on page 1059	Stores SDMODData Service Document in SDMCache.
public void	<i>setSearchAlgorithm(int)</i> on page 1059	Sets the constant ID of the search algorithm that should be used during search in entries.

#### Inherited members from ISDMPersistable

Modifier and Type	Member	Description
public void	<i>read(BufferedReader)</i> on page 1332	
public void	<i>write(BufferedWriter)</i> on page 1332	

#### Usage

List of features:

- Storing OData objects in the memory
- Accessing OData entries in the memory directly by their key
- Searching for OData entries in the memory using tokenized prefix search on their searchable fields
- Managing the number of stored OData entries based on the maximum size of the capacity, removing the a non-recently used OData entry first

#### *clear()* method

Removes all objects (including SDMODData Service Document and SDMODData Schema) from SDMCache.

#### Syntax

```
public void clear ()
```

#### *getEntrySearch()* method

Returns the current search object that implements the search method that should be used during searching in entries.

#### Syntax

```
public ISDMEnterSearch getEntrySearch ()
```

### *Returns*

The current search object.

### *getSDMODataDocument(String) method*

Returns an SDMParserDocument object with the specified key if it is stored in SDMCache or null otherwise.

### *Syntax*

```
public ISDMParserDocument getSDMODataDocument ( String key )
```

### *Parameters*

- **key** – key of the document to be searched

### *Returns*

SDMParserDocument or null

### *Exceptions*

- **IllegalArgumentException** – if the argument is null.

### *getSDMODataEntries(String) method*

Returns all of the SDMOData Entries that belong to the specified collection.

### *Syntax*

```
public List< ISDMODataEntry > getSDMODataEntries ( String  
collectionId )
```

### *Parameters*

- **collectionId** – id of the collection

### *Returns*

stored SDMODataEntries of the specific collection or null

### *Exceptions*

- **IllegalArgumentException** – if the argument is null.

### *getSDMODataEntry(String) method*

Returns an SDMOData Entry with the specified key if it is stored in SDMCache or null otherwise.

### *Syntax*

```
public ISDMODataEntry getSDMODataEntry ( String key )
```

*Parameters*

- **key** – key of the entry to be searched

*Returns*

SDMODataEntry or null

*Exceptions*

- **IllegalArgumentException** – if the argument is null.

*getSDMODataSchema() method*

Returns the SDMOData Schema (aka Metadata) if it is stored in SDMCache or null otherwise.

*Syntax*

```
public ISDMODataSchema getSDMODataSchema ()
```

*Returns*

Schema or null

*getSDMODataServiceDocument() method*

Returns the SDMOData Service Document if it is stored in SDMCache or null otherwise.

*Syntax*

```
public ISDMODataServiceDocument getSDMODataServiceDocument  
( )
```

*Returns*

Service Document or null

*getSearchAlgorithm() method*

Returns the constant ID of the current search algorithm.

*Syntax*

```
public int getSearchAlgorithm ()
```

*Returns*

The constant ID of the current search algorithm.

*getStoredDocuments() method*

Returns all of the SDMParserDocuments from the store (including SDMODataEntries).

*Syntax*

```
public List< ISDMParserDocument > getStoredDocuments ()
```

### *Returns*

List of stored SDMParserDocuments

### *removeSDMODataDocument(String) method*

Removes stored object from SDMCache with the specified key if it is stored.

### *Syntax*

```
public boolean removeSDMODataDocument ( String key )
```

### *Parameters*

- **key** – key of the entry to be removed

### *Returns*

true of document has been found or false otherwise

### *Exceptions*

- **IllegalArgumentException** – if the argument is null.

### *removeSDMODataEntries(String) method*

Removes SDMOData Entries from SDMCache that belong to the specified collection.

### *Syntax*

```
public boolean removeSDMODataEntries ( String collectionId )
```

### *Parameters*

- **collectionId** – id of the collection

### *Returns*

true of any document has been found in the collection or false otherwise

### *Exceptions*

- **IllegalArgumentException** – if the argument is null.

### *removeStoredDocuments() method*

Removes all stored documents (except from Service Document and Schema) from SDMCache.

### *Syntax*

```
public void removeStoredDocuments ()
```

*searchSDMODataEntries(String, String) method*

Returns all of the SDMOData Entries that belong to the specified collection and either of its searchable fields' value's token (tokenized with space) that starts with the searchTerm.

*Syntax*

```
public List< ISDMODataEntry > searchSDMODataEntries ( String
searchTerm , String collectionId )
```

*Parameters*

- **searchTerm** – search string
- **collectionId** – id of the collection to search in

*Returns*

stored SDMODataEntries of the specific collection which start with the search string or null

*Exceptions*

- **IllegalArgumentException** – if any of the arguments is null.

*Usage*

If the searchTerm consists of more tokens (tokenized with space) all of the search term's token should be found as above. The property tag which will determine if a field is searchable or not can be set in the preferences using the key:

ISDMPreferences.CACHE\_PARSER\_SEARCH\_ATTRIBUTE\_STRING. By default sap:searchable will be used.

*setEntrySearch(ISDMEntrySearch) method*

Seats the new search object that implements the search method that should be used during searching in entries.

*Syntax*

```
public void setEntrySearch ( ISDMEntrySearch entrySearch )
```

*Parameters*

- **entrySearch** – The new search object.

*setSDMODataDocument(String, ISDMParserDocument) method*

Stores an SDMParserDocument object in SDMCache.

*Syntax*

```
public void setSDMODataDocument ( String key ,
ISDMParserDocument document )
```

### *Parameters*

- **document** – SDMParserDocument to be stored

### *Exceptions*

- **IllegalArgumentException** – if the argument is null.

### *Usage*

It can be used to store data other than SDMODDataEntries in the cache.

### *setSDMODDataEntries(List< ISDMODDataEntry >) method*

Stores several SDMODData Entries in SDMCache.

### *Syntax*

```
public void setSDMODDataEntries ( List< ISDMODDataEntry >
entries )
```

### *Parameters*

- **entries** – SDMODData Entries to be stored

### *Exceptions*

- **IllegalArgumentException** – if the argument is null.

### *Usage*

The collection ID is read out from the entry.

### *setSDMODDataEntry(ISDMODDataEntry) method*

Stores an SDMODData Entry in SDMCache.

### *Syntax*

```
public void setSDMODDataEntry ( ISDMODDataEntry entry )
```

### *Parameters*

- **entry** – SDMODData Entry to be stored

### *Exceptions*

- **IllegalArgumentException** – if the argument is null.

### *Usage*

The collection ID is read out from the entry.

*setSDMODDataSchema(ISDMODDataSchema) method*

Stores SDMODData Schema in SDMCache.

*Syntax*

```
public void setSDMODDataSchema ( ISDMODDataSchema schema )
```

*Parameters*

- **schema** – SDMODData Schema to be stored

*Exceptions*

- **IllegalArgumentException** – if the argument is null.

*setSDMODDataServiceDocument(ISDMODDataServiceDocument) method*

Stores SDMODData Service Document in SDMCache.

*Syntax*

```
public void setSDMODDataServiceDocument  
( ISDMODDataServiceDocument serviceDocument )
```

*Parameters*

- **serviceDocument** – serviceDocument to be stored

*Exceptions*

- **IllegalArgumentException** – if the argument is null.

*setSearchAlgorithm(int) method*

Sets the constant ID of the search algorithm that should be used during search in entries.

*Syntax*

```
public void setSearchAlgorithm ( int searchAlgorithm )
```

*Parameters*

- **searchAlgorithm** – The constant ID of the new search algorithm.

*DEFAULT\_SEARCH variable*

Constant ID of default algorithm:

*Syntax*

```
public static final int DEFAULT_SEARCH
```

### *FULLTERM\_CONTAIN\_SEARCH variable*

Constant ID of Full Term Contain-search algorithm: Searching for the full search-term as a part of searchable values.

#### *Syntax*

```
public static final int FULLTERM_CONTAIN_SEARCH
```

### *FULLTERM\_PREFIX\_SEARCH variable*

Constant ID of Full Term Prefix-search algorithm: Searching for the full search-term as a prefix of searchable values.

#### *Syntax*

```
public static final int FULLTERM_PREFIX_SEARCH
```

### *REGEX\_SEARCH variable*

Constant ID of regex search algorithm.

#### *Syntax*

```
public static final int REGEX_SEARCH
```

### *TOKENIZED\_CONTAIN\_ALL\_SEARCH variable*

Constant ID of All Token Contain-search algorithm: Searching for all the tokens of the search-term as a part of searchable values.

#### *Syntax*

```
public static final int TOKENIZED_CONTAIN_ALL_SEARCH
```

#### *Usage*

All tokens must be found in the same value.

### *TOKENIZED\_CONTAIN\_SEARCH variable*

Constant ID of Tokenized Contain-search algorithm: Searching for all the tokens of the search-term as a part of searchable values.

#### *Syntax*

```
public static final int TOKENIZED_CONTAIN_SEARCH
```

#### *Usage*

Tokens can be found in different values of the same entry.



***TOKENIZED\_PREFIX\_SEARCH* variable**

Constant ID of Tokenized Prefix-search algorithm: Searching for all the tokens of the search-term as a prefix of searchable values.

***Syntax***

```
public static final int TOKENIZED_PREFIX_SEARCH
```

***Usage***

Tokens can be found in different values of the same entry.

***ISDMCacheLoadListener* interface**

Deprecated. since 3.0 SDMCacheLoadListener should be responsible for reacting on notifications send after number of SDMODData entries loaded from the file system.

***Syntax***

```
public interface ISDMCacheLoadListener
```

***Members***

All members of ISDMCacheLoadListener, including inherited members. **Methods**

Modifier and Type	Method	Description
public void	<i>onLoadFinished(ISDMCache)</i> on page 1061	
public void	<i>onSDMODDataEntriesLoaded(ISDMCache, List&lt; ISDMODDataEntry &gt;)</i> on page 1062	
public void	<i>onSDMODDataSchemaLoaded(ISDMCache, ISDMODataSchema)</i> on page 1062	
public void	<i>onSDMODDataServiceDocumentLoaded(ISDMCache, ISDMODDataServiceDocument)</i> on page 1062	

***onLoadFinished(ISDMCache) method******Syntax***

```
public void onLoadFinished ( ISDMCache cache )
```

### *Parameters*

- **cache** – The cache is finished loading from the file system.

*onSDMODataEntriesLoaded(ISDMCache, List< ISDMODataEntry >) method*

### *Syntax*

```
public void onSDMODataEntriesLoaded ( ISDMCache cache , List<
ISDMODataEntry > entries )
```

### *Parameters*

- **cache** – The cache the SDMOData Entries were inserted into.
- **entries** – The entries that were loaded from the file system.

*onSDMODataSchemaLoaded(ISDMCache, ISDMODataSchema) method*

### *Syntax*

```
public void onSDMODataSchemaLoaded ( ISDMCache cache ,
ISDMODataSchema schema )
```

### *Parameters*

- **cache** – The cache the SDMOData Schema was inserted into.
- **schema** – The SDMOData Schema loaded from the file system.

*onSDMODataServiceDocumentLoaded(ISDMCache, ISDMODataServiceDocument) method*

### *Syntax*

```
public void onSDMODataServiceDocumentLoaded ( ISDMCache cache ,
ISDMODataServiceDocument serviceDocument )
```

### *Parameters*

- **cache** – The cache the SDMOData Service Document was inserted into.
- **serviceDocument** – The SDMOData Service Document loaded from the file system.

### *ISDMConnectionHandler interface*

Deprecated. since 3.0, Use com.sap.mobile.lib.request.IConnectionHandler Interface for connection handler implementations.

### *Syntax*

```
public abstract interface ISDMConnectionHandler
```

*Derived classes*

- *AbstractConnectionHandler* on page 1030

*Members*

All members of *ISDMConnectionHandler*, including inherited members. **Variables**

Modifier and Type	Variable	Description
public static final int	<i>AUTHENTICATION_ERROR</i> on page 1065	
public static final int	<i>BAD_COVERAGE</i> on page 1065	
public static final String	<i>CRLF</i> on page 1065	
public static final int	<i>ERROR</i> on page 1065	
public static final int	<i>FAILED_LOGIN</i> on page 1065	
public static final int	<i>FAILED_LOGOUT</i> on page 1065	
public static final int	<i>FAILURE</i> on page 1065	
public static final int	<i>LOG</i> on page 1066	
public static final int	<i>NO_ERROR</i> on page 1066	
public static final int	<i>RETRY</i> on page 1066	
public static final int	<i>SUCCESS</i> on page 1066	
public static final int	<i>TIMEOUT</i> on page 1066	

**Methods**

Modifier and Type	Method	Description
public abstract boolean	<i>isSuccessful()</i> on page 1064	Do we have error?
public abstract int	<i>makeHttpRequest()</i> on page 1064	Make the request.
public abstract void	<i>processRequestsFromQueue()</i> on page 1064	Pick a request/bundle from the queue and process it/them.

Modifier and Type	Method	Description
public abstract void	<i>setCleanupRequestsOnError(boolean)</i> on page 1064	Sets whether the thread should clean up the request queue in case of errors.
public abstract void	<i>terminate()</i> on page 1065	Close the thread.

*isSuccessful() method*

Do we have error?

*Syntax*

```
public abstract boolean isSuccessful ()
```

*Returns*

true if we have

*makeHttpRequest() method*

Make the request.

*Syntax*

```
public abstract int makeHttpRequest ()
```

*Returns*

internal status code

*processRequestsFromQueue() method*

Pick a request/bundle from the queue and process it/them.

*Syntax*

```
public abstract void processRequestsFromQueue ()
```

*setCleanupRequestsOnError(boolean) method*

Sets whether the thread should clean up the request queue in case of errors.

*Syntax*

```
public abstract void setCleanupRequestsOnError (boolean  
value )
```

*Parameters*

- **value** – the setting

*terminate() method*

Close the thread.

*Syntax*

```
public abstract void terminate ()
```

*Usage*

Invoked when the application exits.

*AUTHENTICATION\_ERROR variable**Syntax*

```
public static final int AUTHENTICATION_ERROR
```

*BAD\_COVERAGE variable**Syntax*

```
public static final int BAD_COVERAGE
```

*CRLF variable**Syntax*

```
public static final String CRLF
```

*ERROR variable**Syntax*

```
public static final int ERROR
```

*FAILED\_LOGIN variable**Syntax*

```
public static final int FAILED_LOGIN
```

*FAILED\_LOGOUT variable**Syntax*

```
public static final int FAILED_LOGOUT
```

*FAILURE variable**Syntax*

```
public static final int FAILURE
```

*LOG variable*

*Syntax*

```
public static final int LOG
```

*NO\_ERROR variable*

*Syntax*

```
public static final int NO_ERROR
```

*RETRY variable*

*Syntax*

```
public static final int RETRY
```

*SUCCESS variable*

*Syntax*

```
public static final int SUCCESS
```

*TIMEOUT variable*

*Syntax*

```
public static final int TIMEOUT
```

*ISDMConnectivityParameters interface*

Deprecated. since 3.0, Use com.sap.mobile.lib.request.IConnectivityParameters

*Syntax*

```
public interface ISDMConnectivityParameters
```

*Derived classes*

- *SDMConnectivityParameters* on page 1403

*Members*

All members of ISDMConnectivityParameters, including inherited members. **Methods**

Modifier and Type	Method	Description
public void	<i>enableXsrf(Boolean)</i> on page 1067	Sets the XSRFEnabled flag.
public String	<i>getBaseUrl()</i> on page 1068	

Modifier and Type	Method	Description
public String	<i>getLanguage()</i> on page 1068	Returns the language setting.
public TrustManager[]	<i>getTrustManagers()</i> on page 1068	Returns an array filled with TrustManager instances.
public String	<i>getUserName()</i> on page 1068	Returns the username.
public String	<i>getUserPassword()</i> on page 1068	Returns the password.
public boolean	<i>isAutoRedirectEnabled()</i> on page 1069	Returns whether auto redirect is enabled.
public void	<i>setAutoRedirectEnabled(boolean)</i> on page 1069	Enables or disables auto redirect.
public void	<i>setBaseUrl(String)</i> on page 1069	Sets the base URL for requests.
public void	<i>setLanguage(String)</i> on page 1069	Sets the language used in connection.
public void	<i>setServerCertificate(final Certificate[])</i> on page 1069	Sets the server certificate.
public void	<i>setServerCertificate(final Certificate)</i> on page 1070	Sets a single server certificate.
public void	<i>setUserName(String)</i> on page 1070	Sets the username which must be used during authentication.
public void	<i>setUserPassword(String)</i> on page 1070	Sets the password.

#### *enableXsrf(Boolean) method*

Sets the XSRFEnabled flag.

#### *Syntax*

```
public void enableXsrf ( Boolean isXsrfEnabled )
```

#### *Parameters*

- **isXsrfEnabled** – the boolean to set.

### *getBaseUrl() method*

#### *Syntax*

```
public String getBaseUrl ()
```

#### *Returns*

the base URL for the requests.

### *getLanguage() method*

Returns the language setting.

#### *Syntax*

```
public String getLanguage ()
```

#### *Returns*

the language setting

### *getTrustManagers() method*

Returns an array filled with TrustManager instances.

#### *Syntax*

```
public TrustManager[] getTrustManagers ()
```

#### *Returns*

the array.

### *getUserName() method*

Returns the username.

#### *Syntax*

```
public String getUserName ()
```

#### *Returns*

the user name.

### *getUserPassword() method*

Returns the password.

#### *Syntax*

```
public String getUserPassword ()
```

#### *Returns*

the password.



*isAutoRedirectEnabled()* method

Returns whether auto redirect is enabled.

*Syntax*

```
public boolean isAutoRedirectEnabled ()
```

*setAutoRedirectEnabled(boolean)* method

Enables or disables auto redirect.

*Syntax*

```
public void setAutoRedirectEnabled ( boolean paramboolean )
```

*Parameters*

- **paramboolean** – the boolean to set

*setBaseUrl(String)* method

Sets the base URL for requests.

*Syntax*

```
public void setBaseUrl ( String baseUrl )
```

*Parameters*

- **baseUrl** –

*setLanguage(String)* method

Sets the language used in connection.

*Syntax*

```
public void setLanguage ( String language )
```

*Parameters*

- **language** – to set

*setServerCertificate(final Certificate[])* method

Sets the server certificate.

*Syntax*

```
public void setServerCertificate ( final Certificate[] certificate )  
throws KeyStoreException
```

### *Parameters*

- **certificate** – to set.

### *Exceptions*

- **KeyStoreException** –

### *setServerCertificate(final Certificate) method*

Sets a single server certificate.

### *Syntax*

```
public void setServerCertificate ( final Certificate certificate )
```

### *Parameters*

- **certificate** – to set

### *setUserName(String) method*

Sets the username which must be used during authentication.

### *Syntax*

```
public void setUsername ( String aUserName )
```

### *Parameters*

- **aUserName** – the user name to set.

### *setUserPassword(String) method*

Sets the password.

### *Syntax*

```
public void setUserPassword ( String aPassword )
```

### *Parameters*

- **aPassword** – the password to set.

### *ISDMEntrySearch interface*

Interface for search objects that can be used to search for entries in SDMCache.

### *Syntax*

```
public interface ISDMEntrySearch
```

*Derived classes*

- *SDMCache* on page 1389

*Members*

All members of ISDMEntrySearch, including inherited members. **Methods**

Modifier and Type	Method	Description
public boolean	<i>searchInEntry(String, String, List&lt; String &gt;, ISDMODataEntry, List&lt; String[]&gt;, int)</i> on page 1071	Verifies whether the entry should be found during searching for the incoming search term.

*searchInEntry(String, String, List< String >, ISDMODataEntry, List< String[]>, int)*  
method

Verifies whether the entry should be found during searching for the incoming search term.

*Syntax*

```
public boolean searchInEntry (String searchTerm , String
collectionId , List< String > searchTokens , ISDMODataEntry entry , List<
String[]> searchablePropertyPathes , int searchAlgorithm )
```

*Parameters*

- **searchTerm** – The full search-term that the search initiated with,
- **collectionId** – The id of the searched collection
- **searchTokens** – The tokens of splitted lower-case search-term.
- **entry** – The entry that should be checked.
- **searchablePropertyPathes** – The properties of the entry that's values should be used during search.
- **searchAlgorithm** – The constant ID of the search algorithm.

*Returns*

True if the entry 'matches' with the given search-term, and false otherwise.

*ISDMLocalSchema interface*

Deprecated. since 3.0, Use ILocalSchema

*Syntax*

```
public interface ISDMLocalSchema
```

*Derived classes*

- *SDMODataReturnSchema* on page 1769

*ISDMLogger interface*

Deprecated. since 3.0, Use `com.sap.mobile.lib.supportability.ILogger`

*Syntax*

```
public interface ISDMLogger
```

*Derived classes*

- *SDMLogger* on page 1421

*Members*

All members of `ISDMLogger`, including inherited members. **Variables**

Modifier and Type	Variable	Description
public static final int	<i>ASSERT</i> on page 1089	Log level ASSERT.
public static final int	<i>DEBUG</i> on page 1089	Log level DEBUG.
public static final int	<i>ERROR</i> on page 1089	Log level ERROR.
public static final int	<i>FATAL</i> on page 1089	Log level FATAL.
public static final int	<i>INFO</i> on page 1089	Log level INFO.
public static final int	<i>PERFORMANCE</i> on page 1089	Log level PERFORMANCE.
public static final int	<i>VERBOSE</i> on page 1090	Log level VERBOSE.
public static final int	<i>WARN</i> on page 1090	Log level WARN.

**Methods**

Modifier and Type	Method	Description
public boolean	<i>canLog()</i> on page 1075	Implementer should override this method!
public void	<i>d(final String, final String)</i> on page 1076	Sends a DEBUG log message.
public void	<i>d(final String, final String, final String)</i> on page 1076	Sends a DEBUG log message.

Modifier and Type	Method	Description
public void	<i>d</i> ( <i>final String</i> , <i>final String</i> , <i>final Throwable</i> ) on page 1076	Sends a DEBUG log message and logs the exception.
public void	<i>d</i> ( <i>final String</i> , <i>final String</i> , <i>final Throwable</i> , <i>final String</i> ) on page 1077	Sends a DEBUG log message and logs the exception.
public void	<i>e</i> ( <i>final String</i> , <i>final String</i> ) on page 1077	Sends an ERROR log message.
public void	<i>e</i> ( <i>final String</i> , <i>final String</i> , <i>final String</i> ) on page 1077	Sends an ERROR log message.
public void	<i>e</i> ( <i>final String</i> , <i>final String</i> , <i>final Throwable</i> ) on page 1078	Sends an ERROR log message and logs the exception.
public void	<i>e</i> ( <i>final String</i> , <i>final String</i> , <i>final Throwable</i> , <i>final String</i> ) on page 1078	Sends an ERROR log message and logs the exception.
public int	<i>getLogLevel</i> () on page 1079	Returns the log level.
public void	<i>i</i> ( <i>final String</i> , <i>final String</i> ) on page 1079	Sends an INFO log message.
public void	<i>i</i> ( <i>final String</i> , <i>final String</i> , <i>final String</i> ) on page 1079	Sends an INFO log message.
public void	<i>i</i> ( <i>final String</i> , <i>final String</i> , <i>final Throwable</i> ) on page 1080	Sends a INFO log message and logs the exception.
public void	<i>i</i> ( <i>final String</i> , <i>final String</i> , <i>final Throwable</i> , <i>final String</i> ) on page 1080	Sends a INFO log message and logs the exception.
public void	<i>logFullLocation</i> ( <i>boolean</i> ) on page 1080	Setting to control log full location (class-path and method name).
public boolean	<i>logsFullLocation</i> () on page 1081	To get the setting which controls log output should contain full location (class and method name) or not.
public void	<i>p</i> ( <i>final String</i> , <i>final String</i> ) on page 1081	Sends a PERFORMANCE log message.

Modifier and Type	Method	Description
public void	<i>p</i> ( <i>final String, final String, final String</i> ) on page 1081	Sends a PERFORMANCE log message.
public void	<i>setHeaderData</i> ( <i>final String, final String, final String, final String, final String, final String, final String, final String, final String</i> ) on page 1082	Sets the log header fields.
public void	<i>setLogLevel</i> ( <i>final int</i> ) on page 1082	Set the log level.
public void	<i>v</i> ( <i>final String, final String</i> ) on page 1082	Sends a VERBOSE log message.
public void	<i>v</i> ( <i>final String, final String, final String</i> ) on page 1083	Sends a VERBOSE log message.
public void	<i>v</i> ( <i>final String, final String, final Throwable</i> ) on page 1083	Sends a VERBOSE log message and logs the exception.
public void	<i>v</i> ( <i>final String, final String, final Throwable, final String</i> ) on page 1084	Sends a VERBOSE log message and logs the exception.
public void	<i>w</i> ( <i>final String, final Throwable</i> ) on page 1084	Sends a WARN log message and logs the exception.
public void	<i>w</i> ( <i>final String, final Throwable, final String</i> ) on page 1084	Sends a WARN log message and logs the exception.
public void	<i>w</i> ( <i>final String, final String, final Throwable</i> ) on page 1085	Sends a WARN log message and logs the exception.
public void	<i>w</i> ( <i>final String, final String, final Throwable, final String</i> ) on page 1085	Sends a WARN log message and logs the exception.
public void	<i>w</i> ( <i>final String, final String</i> ) on page 1085	Sends a WARN log message.
public void	<i>w</i> ( <i>final String, final String, final String</i> ) on page 1086	Sends a WARN log message.

Modifier and Type	Method	Description
public void	<i>wtf</i> ( <i>final String</i> , <i>final Throwable</i> ) on page 1086	Use com.sap.mobile.lib.supportability.ILogger#w(String, Throwable) What a Terrible Failure: Reports an exception that should never happen.
public void	<i>wtf</i> ( <i>final String</i> , <i>final Throwable</i> , <i>final String</i> ) on page 1087	Use com.sap.mobile.lib.supportability.ILogger#w(String, Throwable, String) What a Terrible Failure: Reports an exception that should never happen.
public void	<i>wtf</i> ( <i>final String</i> , <i>final String</i> ) on page 1087	Use com.sap.mobile.lib.supportability.ILogger#w(String, String) What a Terrible Failure: Reports a condition that should never happen.
public void	<i>wtf</i> ( <i>final String</i> , <i>final String</i> , <i>final String</i> ) on page 1087	Use com.sap.mobile.lib.supportability.ILogger#w(String, String, String) What a Terrible Failure: Reports a condition that should never happen.
public void	<i>wtf</i> ( <i>final String</i> , <i>final String</i> , <i>final Throwable</i> ) on page 1088	Use com.sap.mobile.lib.supportability.ILogger#w(String, String, Throwable) What a Terrible Failure: Reports an exception that should never happen.
public void	<i>wtf</i> ( <i>final String</i> , <i>final String</i> , <i>final Throwable</i> , <i>final String</i> ) on page 1088	Use com.sap.mobile.lib.supportability.ILogger#w(String, String, Throwable, String) What a Terrible Failure: Reports an exception that should never happen.

***canLog()* method**

Implementer should override this method!

**Syntax**

```
public boolean canLog ()
```

### *Returns*

State of ability to log.

### *d(final String, final String) method*

Sends a DEBUG log message.

### *Syntax*

```
public void d ( final String tag , final String msg )
```

### *Parameters*

- **tag** – Used to identify the source of a log message. It usually identifies the class or activity where the log call occurs.
- **msg** – The message you would like to be logged.

### *Usage*

Logger implementation is able to identify the source of the log message at the price of performance penalty. See `SDMLogger#d(String,String,String)`

### *d(final String, final String, final String) method*

Sends a DEBUG log message.

### *Syntax*

```
public void d ( final String tag , final String msg , final String location )
```

### *Parameters*

- **tag** – Used to identify the source of a log message. It usually identifies the class or activity where the log call occurs.
- **msg** – The message you would like to be logged.
- **location** – The line-level location of the log source (full class name of the class).

### *d(final String, final String, final Throwable) method*

Sends a DEBUG log message and logs the exception.

### *Syntax*

```
public void d ( final String tag , final String msg , final Throwable tr )
```

### *Parameters*

- **tag** – Used to identify the source of a log message. It usually identifies the class or activity where the log call occurs.



- **msg** – The message you would like to be logged.
- **tr** – An exception to log

### Usage

Logger implementation is able to identify the source of the log message at the price of performance penalty. See `SDMLogger#d(String,String,Throwable,String)`

### *d(final String, final String, final Throwable, final String) method*

Sends a DEBUG log message and logs the exception.

### Syntax

```
public void d ( final String tag , final String msg , final
Throwable tr , final String location )
```

### Parameters

- **tag** – Used to identify the source of a log message. It usually identifies the class or activity where the log call occurs.
- **msg** – The message you would like to be logged.
- **tr** – An exception to log
- **location** – The line-level location of the log source (full class name of the class).

### *e(final String, final String) method*

Sends an ERROR log message.

### Syntax

```
public void e ( final String tag , final String msg )
```

### Parameters

- **tag** – Used to identify the source of a log message. It usually identifies the class or activity where the log call occurs.
- **msg** – The message you would like to be logged.

### Usage

Logger implementation is able to identify the source of the log message at the price of performance penalty. See `SDMLogger#e(String,String,String)`

### *e(final String, final String, final String) method*

Sends an ERROR log message.

### Syntax

```
public void e ( final String tag , final String msg , final String
location )
```

### *Parameters*

- **tag** – Used to identify the source of a log message. It usually identifies the class or activity where the log call occurs.
- **msg** – The message you would like to be logged.
- **location** – The line-level location of the log source (full class name of the class).

### *e(final String, final String, final Throwable) method*

Sends an ERROR log message and logs the exception.

### *Syntax*

```
public void e ( final String tag , final String msg , final  
Throwable tr )
```

### *Parameters*

- **tag** – Used to identify the source of a log message. It usually identifies the class or activity where the log call occurs.
- **msg** – The message you would like to be logged.
- **tr** – An exception to log

### *Usage*

Logger implementation is able to identify the source of the log message at the price of performance penalty. See `SDMLogger#e(String,String,Throwable,String)`

### *e(final String, final String, final Throwable, final String) method*

Sends an ERROR log message and logs the exception.

### *Syntax*

```
public void e ( final String tag , final String msg , final  
Throwable tr , final String location )
```

### *Parameters*

- **tag** – Used to identify the source of a log message. It usually identifies the class or activity where the log call occurs.
- **msg** – The message you would like to be logged.
- **tr** – An exception to log
- **location** – The line-level location of the log source (full class name of the class).

*getLogLevel() method*

Returns the log level.

*Syntax*

```
public int getLogLevel ()
```

*Returns*

the log level.

*i(final String, final String) method*

Sends an INFO log message.

*Syntax*

```
public void i ( final String tag , final String msg )
```

*Parameters*

- **tag** – Used to identify the source of a log message. It usually identifies the class or activity where the log call occurs.
- **msg** – The message you would like to be logged.

*Usage*

Logger implementation is able to identify the source of the log message at the price of performance penalty. See `SDMLogger#i(String,String,String)`

*i(final String, final String, final String) method*

Sends an INFO log message.

*Syntax*

```
public void i ( final String tag , final String msg , final String location )
```

*Parameters*

- **tag** – Used to identify the source of a log message. It usually identifies the class or activity where the log call occurs.
- **msg** – The message you would like to be logged.
- **location** – The line-level location of the log source (full class name of the class).

### *i(final String, final String, final Throwable) method*

Sends a INFO log message and logs the exception.

#### *Syntax*

```
public void i ( final String tag , final String msg , final
Throwable tr )
```

#### *Parameters*

- **tag** – Used to identify the source of a log message. It usually identifies the class or activity where the log call occurs.
- **msg** – The message you would like to be logged.
- **tr** – An exception to log

#### *Usage*

Logger implementation is able to identify the source of the log message at the price of performance penalty. See `SDMLogger#i(String,String,Throwable,String)`

### *i(final String, final String, final Throwable, final String) method*

Sends a INFO log message and logs the exception.

#### *Syntax*

```
public void i ( final String tag , final String msg , final
Throwable tr , final String location )
```

#### *Parameters*

- **tag** – Used to identify the source of a log message. It usually identifies the class or activity where the log call occurs.
- **msg** – The message you would like to be logged.
- **tr** – An exception to log
- **location** – The line-level location of the log source (full class name of the class).

### *logFullLocation(boolean) method*

Setting to control log full location (class-path and method name).

#### *Syntax*

```
public void logFullLocation ( boolean logFullLocation )
```

#### *Parameters*

- **logFullLocation** – log i or do not log it.

*logsFullLocation() method*

To get the setting which controls log output should contain full location (class and method name) or not.

*Syntax*

```
public boolean logsFullLocation ()
```

*Returns*

logging with full location or not.

*p(final String, final String) method*

Sends a PERFORMANCE log message.

*Syntax*

```
public void p ( final String tag , final String msg )
```

*Parameters*

- **tag** – Used to identify the source of a log message. It usually identifies the class or activity where the log call occurs.
- **msg** – The message you would like to be logged.

*Usage*

Logger implementation is able to identify the source of the log message at the price of performance penalty. See `SDMLogger#p(String,String,String)`

*p(final String, final String, final String) method*

Sends a PERFORMANCE log message.

*Syntax*

```
public void p ( final String tag , final String msg , final String location )
```

*Parameters*

- **tag** – Used to identify the source of a log message. It usually identifies the class or activity where the log call occurs.
- **msg** – The message you would like to be logged.
- **location** – The line-level location of the log source (full class name of the class).

*setHeaderData(final String, final String, final String, final String, final String, final String, final String, final String) method*

Sets the log header fields.

### Syntax

```
public void setHeaderData ( final String osVersion , final String appName , final String appVersion , final String thirdParty , final String hwVersion , final String user , final String timezone , final String language , final String baseUrl )
```

### Parameters

- **osVersion** – the Operating System version
- **appName** – the Application name
- **appVersion** – the version of the Application
- **thirdParty** – 3rd-party product versions (e.g. SQLite)
- **hwVersion** – the Hardware version
- **user** – the user name used in Connectivity (SDMConnectivity sets it)
- **timezone** – the time zone
- **language** – the language used in connectivity (SDMConnectivity sets it)
- **baseUrl** – the URL used in Connectivity (SDMconnectivity sets it)

### Usage

A header field is set only if it is not *null*. Also, it is set only once; subsequent calls will not overwrite the first write.

*setLogLevel(final int) method*

Set the log level.

### Syntax

```
public void setLogLevel ( final int level )
```

### Parameters

- **level** – the log level

*v(final String, final String) method*

Sends a VERBOSE log message.

### Syntax

```
public void v ( final String tag , final String msg )
```

### Parameters

- **tag** – Used to identify the source of a log message. It usually identifies the class or activity where the log call occurs.
- **msg** – The message you would like to be logged.

### Usage

Logger implementation is able to identify the source of the log message at the price of performance penalty. See `SDMLogger#v(String,String,String)`

### *v(final String, final String, final String) method*

Sends a VERBOSE log message.

### Syntax

```
public void v ( final String tag , final String msg , final String location )
```

### Parameters

- **tag** – Used to identify the source of a log message. It usually identifies the class or activity where the log call occurs.
- **msg** – The message you would like to be logged.
- **location** – The line-level location of the log source (full class name of the class).

### *v(final String, final String, final Throwable) method*

Sends a VERBOSE log message and logs the exception.

### Syntax

```
public void v ( final String tag , final String msg , final Throwable tr )
```

### Parameters

- **tag** – Used to identify the source of a log message. It usually identifies the class or activity where the log call occurs.
- **msg** – The message you would like to be logged.
- **tr** – An exception to log

### Usage

Logger implementation is able to identify the source of the log message at the price of performance penalty. See `SDMLogger#v(String,String,Throwable,String)`

### *v(final String, final String, final Throwable, final String) method*

Sends a VERBOSE log message and logs the exception.

#### *Syntax*

```
public void v ( final String tag , final String msg , final
Throwable tr , final String location )
```

#### *Parameters*

- **tag** – Used to identify the source of a log message. It usually identifies the class or activity where the log call occurs.
- **msg** – The message you would like to be logged.
- **tr** – An exception to log
- **location** – The line-level location of the log source (full class name of the class).

### *w(final String, final Throwable) method*

Sends a WARN log message and logs the exception.

#### *Syntax*

```
public void w ( final String tag , final Throwable tr )
```

#### *Parameters*

- **tag** – Used to identify the source of a log message. It usually identifies the class or activity where the log call occurs.
- **tr** – An exception to log

#### *Usage*

Logger implementation is able to identify the source of the log message at the price of performance penalty. See `SDMLogger#w(String,Throwable,String)`

### *w(final String, final Throwable, final String) method*

Sends a WARN log message and logs the exception.

#### *Syntax*

```
public void w ( final String tag , final Throwable tr , final
String location )
```

#### *Parameters*

- **tag** – Used to identify the source of a log message. It usually identifies the class or activity where the log call occurs.
- **tr** – An exception to log



- **location** – The line-level location of the log source (full class name of the class).

*w(final String, final String, final Throwable) method*

Sends a WARN log message and logs the exception.

*Syntax*

```
public void w ( final String tag , final String msg , final
Throwable tr )
```

*Parameters*

- **tag** – Used to identify the source of a log message. It usually identifies the class or activity where the log call occurs.
- **msg** – The message you would like to be logged.
- **tr** – An exception to log

*Usage*

Logger implementation is able to identify the source of the log message at the price of performance penalty. See `SDMLogger#w(String,String,Throwable,String)`

*w(final String, final String, final Throwable, final String) method*

Sends a WARN log message and logs the exception.

*Syntax*

```
public void w ( final String tag , final String msg , final
Throwable tr , final String location )
```

*Parameters*

- **tag** – Used to identify the source of a log message. It usually identifies the class or activity where the log call occurs.
- **msg** – The message you would like to be logged.
- **tr** – An exception to log
- **location** – The line-level location of the log source (full class name of the class).

*w(final String, final String) method*

Sends a WARN log message.

*Syntax*

```
public void w ( final String tag , final String msg )
```

### *Parameters*

- **tag** – Used to identify the source of a log message. It usually identifies the class or activity where the log call occurs.
- **msg** – The message you would like to be logged.

### *Usage*

Logger implementation is able to identify the source of the log message at the price of performance penalty. See `SDMLogger#w(String,String,String)`

### *w(final String, final String, final String) method*

Sends a WARN log message.

### *Syntax*

```
public void w (final String tag , final String msg , final String location )
```

### *Parameters*

- **tag** – Used to identify the source of a log message. It usually identifies the class or activity where the log call occurs.
- **msg** – The message you would like to be logged.
- **location** – The line-level location of the log source (full class name of the class).

### *wtf(final String, final Throwable) method*

Use `com.sap.mobile.lib.supportability.ILogger#w(String, Throwable)` What a Terrible Failure: Reports an exception that should never happen.

### *Syntax*

```
public void wtf (final String tag , final Throwable tr)
```

### *Parameters*

- **tag** – Used to identify the source of a log message. It usually identifies the class or activity where the log call occurs.
- **tr** – An exception to log

### *Usage*

Similar to `wtf(String, final String)`, with an exception to log. Logger implementation is able to identify the source of the log message at the price of performance penalty. See `SDMLogger#wtf(String,Throwable,String)`

*wtf(final String, final Throwable, final String) method*

Use `com.sap.mobile.lib.supportability.ILogger#w(String, Throwable, String)` What a Terrible Failure: Reports an exception that should never happen.

*Syntax*

```
public void wtf ( final String tag , final Throwable tr , final
String location )
```

*Parameters*

- **tag** – Used to identify the source of a log message. It usually identifies the class or activity where the log call occurs.
- **tr** – An exception to log
- **location** – The line-level location of the log source (full class name of the class).

*Usage*

Similar to `wtf(String, final String)`, with an exception to log.

*wtf(final String, final String) method*

Use `com.sap.mobile.lib.supportability.ILogger#w(String, String)` What a Terrible Failure: Reports a condition that should never happen.

*Syntax*

```
public void wtf ( final String tag , final String msg )
```

*Parameters*

- **tag** – Used to identify the source of a log message. It usually identifies the class or activity where the log call occurs.
- **msg** – The message you would like to be logged.

*Usage*

Logger implementation is able to identify the source of the log message at the price of performance penalty. See `SDMLogger#wtf(String,String,String)`

*wtf(final String, final String, final String) method*

Use `com.sap.mobile.lib.supportability.ILogger#w(String, String, String)` What a Terrible Failure: Reports a condition that should never happen.

*Syntax*

```
public void wtf ( final String tag , final String msg , final
String location )
```

### *Parameters*

- **tag** – Used to identify the source of a log message. It usually identifies the class or activity where the log call occurs.
- **msg** – The message you would like to be logged.
- **location** – The line-level location of the log source (full class name of the class).

### *wtf(final String, final String, final Throwable) method*

Use `com.sap.mobile.lib.supportability.ILogger#w(String, String, Throwable)` What a Terrible Failure: Reports an exception that should never happen.

### *Syntax*

```
public void wtf ( final String tag , final String msg , final
Throwable tr )
```

### *Parameters*

- **tag** – Used to identify the source of a log message. It usually identifies the class or activity where the log call occurs.
- **msg** – The message you would like to be logged.
- **tr** – An exception to log

### *Usage*

Similar to `wtf(finalString, Throwable)`, also with a message. Logger implementation is able to identify the source of the log message at the price of performance penalty. See `SDMLogger#wtf(String,String,Throwable,String)`

### *wtf(final String, final String, final Throwable, final String) method*

Use `com.sap.mobile.lib.supportability.ILogger#w(String, String, Throwable, String)` What a Terrible Failure: Reports an exception that should never happen.

### *Syntax*

```
public void wtf ( final String tag , final String msg , final
Throwable tr , final String location )
```

### *Parameters*

- **tag** – Used to identify the source of a log message. It usually identifies the class or activity where the log call occurs.
- **msg** – The message you would like to be logged.
- **tr** – An exception to log
- **location** – The line-level location of the log source (full class name of the class).

**Usage**

Similar to `wtf(finalString, Throwable)`, also with a message.

**ASSERT variable**

Log level ASSERT.

**Syntax**

```
public static final int ASSERT
```

**DEBUG variable**

Log level DEBUG.

**Syntax**

```
public static final int DEBUG
```

**ERROR variable**

Log level ERROR.

**Syntax**

```
public static final int ERROR
```

**FATAL variable**

Log level FATAL.

**Syntax**

```
public static final int FATAL
```

**INFO variable**

Log level INFO.

**Syntax**

```
public static final int INFO
```

**PERFORMANCE variable**

Log level PERFORMANCE.

**Syntax**

```
public static final int PERFORMANCE
```

## *VERBOSE variable*

Log level VERBOSE.

### *Syntax*

```
public static final int VERBOSE
```

## *WARN variable*

Log level WARN.

### *Syntax*

```
public static final int WARN
```

## *ISDMNetListener interface*

Deprecated. since 3.0, Use com.sap.mobile.lib.request.INetListener The NetListener interface.

### *Syntax*

```
public interface ISDMNetListener
```

## *Derived classes*

- *AppSettings* on page 34
- *ClientConnection* on page 79
- *UserManager* on page 1023

## *Members*

All members of ISDMNetListener, including inherited members. **Methods**

<b>Modifier and Type</b>	<b>Method</b>	<b>Description</b>
public void	<i>onError(ISDMRequest, ISDMResponse, ISDMRequestStateElement)</i> on page 1091	This method is used by the connectivity layer when an error occurs during a request operation.
public void	<i>onSuccess(ISDMRequest, ISDMResponse)</i> on page 1091	This is used by the connectivity library in case of a successful request.

*onError(ISDMRequest, ISDMResponse, ISDMRequestStateElement) method*

This method is used by the connectivity layer when an error occurs during a request operation.

*Syntax*

```
public void onError ( ISDMRequest aRequest , ISDMResponse
aResponse , ISDMRequestStateElement aRequestStateElement )
```

*Parameters*

- **aRequest** – the request.
- **aResponse** – the response.
- **aRequestStateElement** – the SDMRequestStateElement object.

*Usage*

As parameter the listener object will receive the request object, the SDMHttpResponse object containing the details about the server response and a SDMRequestStateElement object, which provides more details about the occurred error. In case the error happened before sending any request to the server, the SDMHttpResponse object can be null.

*onSuccess(ISDMRequest, ISDMResponse) method*

This is used by the connectivity library in case of a successful request.

*Syntax*

```
public void onSuccess ( ISDMRequest aRequest , ISDMResponse
aResponse )
```

*Parameters*

- **aRequest** – the request.
- **aResponse** – the response.

*Usage*

As parameter the listener will receive the request itself, and an SDMHttpResponse object containing all the details about the server response.

*ISDMODataAssociation interface*

Deprecated. since 3.0, Use IODataAssociation Represents the appropriate SDMOData element.

*Syntax*

```
public abstract interface ISDMODataAssociation extends
ISDMParserDocument
```

*Derived classes*

- *ISDMODataAssociationSet* on page 1101
- *SDMODataAssociation* on page 1442

*Members*

All members of *ISDMODataAssociation*, including inherited members. **Variables**

Modifier and Type	Variable	Description
public static final String	<i>ATTRIBUTE_ASSOCIATION</i> on page 1098	Name of the appropriate <i>SDMOData</i> attribute.
public static final String	<i>ATTRIBUTE_NAME</i> on page 1098	Name of the appropriate <i>SDMOData</i> attribute.
public static final String	<i>ELEMENT_ASSOCIATION</i> on page 1098	Name of the appropriate <i>SDMOData</i> element.
public static final String	<i>ELEMENT_ASSOCIATIONEND</i> on page 1099	Name of the appropriate <i>SDMOData</i> element.

**Methods**

Modifier and Type	Method	Description
public abstract <i>ISDMODataAssociationEnd</i>	<i>getAssociationEnd(String)</i> on page 1097	Returns the value of the appropriate Association End <i>SDMOData</i> element with the given role.
public abstract List< <i>ISDMODataAssociationEnd</i> >	<i>getAssociationEnds()</i> on page 1098	Returns list of the appropriate <i>SDMOData</i> elements.
public abstract String	<i>getName()</i> on page 1098	Returns the value of the appropriate <i>SDMOData</i> attribute.

**Inherited members from *ISDMParserDocument***

Modifier and Type	Member	Description
public static final String	<i>ATTRIBUTE_ETAG</i> on page 1329	Name of the appropriate <i>SDMOData</i> element.
public static final String	<i>ATTRIBUTE_VALUEPREFIX_EDMTYPE</i> on page 1329	Value prefix for EDM Type type values.



Modifier and Type	Member	Description
public abstract ISDMParseDocument	<i>clone()</i> on page 1317	Creates a copy of this object.
public static Map< String, String >	<i>DEFAULT_PREFIXMAP-PING</i> on page 1329	The default XML Namespace-to-Prefix mapping used for building XMLS.
public static final String[]	<i>EDMDATETIME_PATTERNS</i> on page 1329	Possible EDM DateTime patterns Note: Some pattern are not supported by OData specification but still widely used.
public static final String[]	<i>EDMDATETIMEOFFSET_PATTERNS</i> on page 1329	Possible EDM TimeOffset patterns Note: Some pattern are not supported by OData specification but still widely used.
public static final String	<i>EDMTIME_PATTERN</i> on page 1329	EDM Time pattern.
public static String	<i>ELEMENT_FEED</i> on page 1329	Name of the appropriate SDMOData element.
public static final String	<i>ELEMENT_ID</i> on page 1330	Name of the appropriate SDMOData element.
public abstract String	<i>getAttribute(String...)</i> on page 1317	Returns the value of the first attribute with the given route.
public abstract List< String >	<i>getAttributes(String...)</i> on page 1317	Returns all the values of attributes with the given route.
public abstract Map< String, String >	<i>getChildAttribute-Map(String...)</i> on page 1318	Returns all the name-value pairs of attributes contained by the element with the given route.
public abstract List< String >	<i>getChildAttributes(String...)</i> on page 1318	Returns all the values of attributes contained by the element with the given route.
public abstract List< ISDMParseDocument >	<i>getChildDocuments(String...)</i> on page 1318	Returns the elements contained by the element with the given route.

Modifier and Type	Member	Description
public abstract List< ISDMParseDocument >	<i>getChildDocumentsWithAttribute(String, String, String...)</i> on page 1319	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public abstract List< ISDMParseDocument >	<i>getChildDocumentsWithAttribute(String, String, boolean, String...)</i> on page 1319	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public abstract ISDMParseDocument	<i>getDocument(String...)</i> on page 1320	Returns the first element with the given route.
public abstract List< ISDMParseDocument >	<i>getDocuments(String...)</i> on page 1320	Returns all the elements with the given route.
public abstract List< ISDMParseDocument >	<i>getDocumentsWithAttribute(String, String, String...)</i> on page 1321	Returns the elements with the given route that contains the given attribute with the given value.
public abstract List< ISDMParseDocument >	<i>getDocumentsWithAttribute(String, String, boolean, String...)</i> on page 1321	Returns the elements with the given route that contains the given attribute with the given value.
public abstract ISDMParseDocument	<i>getDocumentWithAttribute(String, String, String...)</i> on page 1322	Returns the first element with the given route that contains the given attribute with the given value.
public abstract ISDMParseDocument	<i>getDocumentWithAttribute(String, String, boolean, String...)</i> on page 1322	Returns the first element with the given route that contains the given attribute with the given value.
public abstract String	<i>getElementName()</i> on page 1323	Returns The name of the root element of this document.
public abstract String	<i>getFunctionImportComplexPropertyValue(String...)</i> on page 1323	
public abstract String	<i>getPrefixForUri(String)</i> on page 1323	Returns the appropriate namespace prefix for the given XML name-space URI.

Modifier and Type	Member	Description
public abstract String[]	<i>getStrings()</i> on page 1324	Returns all the string values contained by this document.
public abstract String	<i>getValue(String...)</i> on page 1324	Returns the value of the first element with the given route.
public abstract List< String >	<i>getValues(String...)</i> on page 1324	Returns all the values of elements with the given route.
public abstract void	<i>putAttribute(String, String...)</i> on page 1325	Sets the value of the attribute with the given route If attribute does not exist it will be created as well as all other non existing elements in the route.
public abstract void	<i>putDocument(ISDMParserDocument, String...)</i> on page 1325	Insert the document under the element with the given route inserted document will be placed before already existing documents with the same route name under All missing elements from the route will be created.
public abstract void	<i>putValue(String, String...)</i> on page 1325	Sets the value of the first element with the given route.
public abstract boolean	<i>removeAttribute(String...)</i> on page 1326	Removes first element with the given route.
public abstract boolean	<i>removeAttributes(String...)</i> on page 1326	Removes all the attribute with the given route.
public abstract boolean	<i>removeDocument(String...)</i> on page 1326	Removes first element with the given route For removing multiple element use setDocuemtns with null arguments.
public static final String	<i>ROOT_DOCUMENT_NAME</i> on page 1330	The default root element name for a new document.

Modifier and Type	Member	Description
public abstract void	<i>setAttributes(List&lt; String &gt;, String...)</i> on page 1327	Sets all the values of the attributes with the given route Values will be paired to attributes in order Attributes with greater or equals index than size of new values will be untouched Attributes paired with null values will be removed.
public abstract void	<i>setDocuments(List&lt; ISDMParserDocument &gt;, String...)</i> on page 1327	Replaces all the elements with the given route Documents will be paired to elements in order Elements with greater or equals index than size of new elements will be untouched Element paired with null will be removed.
public abstract void	<i>setElementName(String, String...)</i> on page 1328	Sets the name of the root element with the given route Use empty route for setting root name of this document.
public abstract void	<i>setValues(List&lt; String &gt;, String...)</i> on page 1328	Sets all the values of the elements with the given rout Values will be paired to elements in order Elements with greater or equals index than size of new values will be untouched Null values will be treated as empty strings.
public abstract String	<i>toXMLString()</i> on page 1328	Returns the XML string representation of this object.
public static final String	<i>XMLNS_APPLICATION_URI</i> on page 1330	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/08/dataservices">http://schemas.microsoft.com/ado/2007/08/dataservices</a> .
public static final String	<i>XMLNS_ATOM_URI</i> on page 1330	Constant for XMLNS URI: <a href="http://www.w3.org/2005/Atom">http://www.w3.org/2005/Atom</a> .

Modifier and Type	Member	Description
public static final String	<i>XMLNS_DATASERVICES_URI</i> on page 1330	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/08/dataservices">http://schemas.microsoft.com/ado/2007/08/dataservices</a> .
public static final String	<i>XMLNS_EDM_URI</i> on page 1330	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/05/edm">http://schemas.microsoft.com/ado/2007/05/edm</a> .
public static final String	<i>XMLNS_EDMX_URI</i> on page 1330	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/06/edmx">http://schemas.microsoft.com/ado/2007/06/edmx</a> .
public static final String	<i>XMLNS_GENERICPLAYER_URI</i> on page 1331	Constant for XMLNS URI: <a href="http://www.sap.com/Protocols/SAPData/GenericPlayer">http://www.sap.com/Protocols/SAPData/GenericPlayer</a> .
public static final String	<i>XMLNS_METADATA_URI</i> on page 1331	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/08/dataservices/metadata">http://schemas.microsoft.com/ado/2007/08/dataservices/metadata</a> .
public static final String	<i>XMLNS_SAP_URI</i> on page 1331	Constant for XMLNS URI: <a href="http://www.sap.com/Protocols/SAPData">http://www.sap.com/Protocols/SAPData</a> .

#### Inherited members from ISDMPersistable

Modifier and Type	Member	Description
public void	<i>read(BufferedReader)</i> on page 1332	
public void	<i>write(BufferedWriter)</i> on page 1332	

#### *getAssociationEnd(String)* method

Returns the value of the appropriate Association End SDMOData element with the given role.

#### Syntax

```
public abstract ISDMODataAssociationEnd getAssociationEnd
( String role )
```

### *Parameters*

- **role** – The expected value of the appropriate SDMODData attribute

### *Returns*

the value of the appropriate Association End SDMODData element

### *getAssociationEnds() method*

Returns list of the appropriate SDMODData elements.

### *Syntax*

```
public abstract List< ISDMODDataAssociationEnd >  
getAssociationEnds ()
```

### *Returns*

list of the appropriate SDMODData elements

### *getName() method*

Returns the value of the appropriate SDMODData attribute.

### *Syntax*

```
public abstract String getName ()
```

### *Returns*

the value of the appropriate SDMODData attribute

### *ATTRIBUTE\_ASSOCIATION variable*

Name of the appropriate SDMODData attribute.

### *Syntax*

```
public static final String ATTRIBUTE_ASSOCIATION
```

### *ATTRIBUTE\_NAME variable*

Name of the appropriate SDMODData attribute.

### *Syntax*

```
public static final String ATTRIBUTE_NAME
```

### *ELEMENT\_ASSOCIATION variable*

Name of the appropriate SDMODData element.

### *Syntax*

```
public static final String ELEMENT_ASSOCIATION
```

***ELEMENT\_ASSOCIATIONEND* variable**

Name of the appropriate SDMODData element.

**Syntax**

```
public static final String ELEMENT_ASSOCIATIONEND
```

***ISDMODDataAssociation.ISDMODDataAssociationEnd* interface**

Deprecated. since 3.0, Use IODataAssociationEnd Represents the appropriate SDMODData element.

**Syntax**

```
public abstract interface ISDMODDataAssociationEnd
```

**Derived classes**

- *SDMODDataAssociationEnd* on page 1458

**Members**

All members of ISDMODDataAssociationEnd, including inherited members. **Variables**

Modifier and Type	Variable	Description
public static final String	<i>ATTRIBUTE_ENTITYSET</i> on page 1101	Name of the appropriate SDMODData attribute.
public static final String	<i>ATTRIBUTE_MULTIPLICITY</i> on page 1101	Name of the appropriate SDMODData attribute.
public static final String	<i>ATTRIBUTE_ROLE</i> on page 1101	Name of the appropriate SDMODData attribute.
public static final String	<i>ATTRIBUTE_TYPE</i> on page 1101	Name of the appropriate SDMODData attribute.

**Methods**

Modifier and Type	Method	Description
public abstract String	<i>getCollectionId()</i> on page 1100	Returns the value of the appropriate EntitySet SDMODData attribute.
public abstract String	<i>getEntitySet()</i> on page 1100	Returns the value of the appropriate SDMODData attribute.
public abstract String	<i>getMultiplicity()</i> on page 1100	Returns the value of the appropriate SDMODData attribute.

Modifier and Type	Method	Description
public abstract String	<i>getRole()</i> on page 1100	Returns the value of the appropriate SDMOData attribute.
public abstract String	<i>getType()</i> on page 1101	Returns the value of the appropriate SDMOData attribute.

***getCollectionId() method***

Returns the value of the appropriate EntitySet SDMOData attribute.

***Syntax***

```
public abstract String getCollectionId ()
```

***Returns***

the value of the appropriate EntitySet SDMOData attribute

***getEntitySet() method***

Returns the value of the appropriate SDMOData attribute.

***Syntax***

```
public abstract String getEntitySet ()
```

***Returns***

the value of the appropriate SDMOData attribute

***getMultiplicity() method***

Returns the value of the appropriate SDMOData attribute.

***Syntax***

```
public abstract String getMultiplicity ()
```

***Returns***

the value of the appropriate SDMOData attribute

***getRole() method***

Returns the value of the appropriate SDMOData attribute.

***Syntax***

```
public abstract String getRole ()
```

***Returns***

the value of the appropriate SDMOData attribute



***getType() method***

Returns the value of the appropriate SDMODData attribute.

***Syntax***

```
public abstract String getType ()
```

***Returns***

the value of the appropriate SDMODData attribute

***ATTRIBUTE\_ENTITYSET variable***

Name of the appropriate SDMODData attribute.

***Syntax***

```
public static final String ATTRIBUTE_ENTITYSET
```

***ATTRIBUTE\_MULTIPLICITY variable***

Name of the appropriate SDMODData attribute.

***Syntax***

```
public static final String ATTRIBUTE_MULTIPLICITY
```

***ATTRIBUTE\_ROLE variable***

Name of the appropriate SDMODData attribute.

***Syntax***

```
public static final String ATTRIBUTE_ROLE
```

***ATTRIBUTE\_TYPE variable***

Name of the appropriate SDMODData attribute.

***Syntax***

```
public static final String ATTRIBUTE_TYPE
```

***ISDMODDataAssociationSet interface***

Deprecated. since 3.0, Use IODataAssociationSet Represents the appropriate SDMODData element.

***Syntax***

```
public abstract interface ISDMODDataAssociationSet extends
ISDMODDataAssociation
```

*Derived classes*

- *SDMODataAssociationSet* on page 1468

*Members*

All members of *ISDMODataAssociationSet*, including inherited members. **Variables**

Modifier and Type	Variable	Description
public static final String	<i>ELEMENT_ASSOCIATION-SET</i> on page 1108	Name of the appropriate <i>SDMOData</i> element.

**Methods**

Modifier and Type	Method	Description
public abstract String	<i>getAssociation()</i> on page 1107	Returns the value of appropriate <i>SDMOData</i> element.

**Inherited members from *ISDMODataAssociation***

Modifier and Type	Member	Description
public static final String	<i>ATTRIBUTE_ASSOCIATION</i> on page 1098	Name of the appropriate <i>SDMOData</i> attribute.
public static final String	<i>ATTRIBUTE_NAME</i> on page 1098	Name of the appropriate <i>SDMOData</i> attribute.
public static final String	<i>ELEMENT_ASSOCIATION</i> on page 1098	Name of the appropriate <i>SDMOData</i> element.
public static final String	<i>ELEMENT_ASSOCIATION-NEED</i> on page 1099	Name of the appropriate <i>SDMOData</i> element.
public abstract <i>ISDMODataAssociationEnd</i>	<i>getAssociationEnd(String)</i> on page 1097	Returns the value of the appropriate Association End <i>SDMOData</i> element with the given role.
public abstract List< <i>ISDMODataAssociationEnd</i> >	<i>getAssociationEnds()</i> on page 1098	Returns list of the appropriate <i>SDMOData</i> elements.
public abstract String	<i>getName()</i> on page 1098	Returns the value of the appropriate <i>SDMOData</i> attribute.

**Inherited members from *ISDMParserDocument***

Modifier and Type	Member	Description
public static final String	<i>ATTRIBUTE_ETAG</i> on page 1329	Name of the appropriate SDMOData element.
public static final String	<i>ATTRIBUTE_VALUEPREFIX_EDMTYPE</i> on page 1329	Value prefix for EDM Type type values.
public abstract ISDMParserDocument	<i>clone()</i> on page 1317	Creates a copy of this object.
public static Map< String, String >	<i>DEFAULT_PREFIXMAPPING</i> on page 1329	The default XML Namespace-to-Prefix mapping used for building XMLS.
public static final String[]	<i>EDMDATETIME_PATTERNS</i> on page 1329	Possible EDM DateTime patterns Note: Some pattern are not supported by OData specification but still widely used.
public static final String[]	<i>EDMDATETIMEOFFSET_PATTERNS</i> on page 1329	Possible EDM DateTimeOffset patterns Note: Some pattern are not supported by OData specification but still widely used.
public static final String	<i>EDMTIME_PATTERN</i> on page 1329	EDM Time pattern.
public static String	<i>ELEMENT_FEED</i> on page 1329	Name of the appropriate SDMOData element.
public static final String	<i>ELEMENT_ID</i> on page 1330	Name of the appropriate SDMOData element.
public abstract String	<i>getAttribute(String...)</i> on page 1317	Returns the value of the first attribute with the given route.
public abstract List< String >	<i>getAttributes(String...)</i> on page 1317	Returns all the values of attributes with the given route.
public abstract Map< String, String >	<i>getChildAttributeMap(String...)</i> on page 1318	Returns all the name-value pairs of attributes contained by the element with the given route.
public abstract List< String >	<i>getChildAttributes(String...)</i> on page 1318	Returns all the values of attributes contained by the element with the given route.

Modifier and Type	Member	Description
public abstract List< ISDMParseDocument >	<i>getChildDocuments(String...)</i> on page 1318	Returns the elements contained by the element with the given route.
public abstract List< ISDMParseDocument >	<i>getChildDocumentsWithAttribute(String, String, String...)</i> on page 1319	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public abstract List< ISDMParseDocument >	<i>getChildDocumentsWithAttribute(String, String, boolean, String...)</i> on page 1319	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public abstract ISDMParseDocument	<i>getDocument(String...)</i> on page 1320	Returns the first element with the given route.
public abstract List< ISDMParseDocument >	<i>getDocuments(String...)</i> on page 1320	Returns all the elements with the given route.
public abstract List< ISDMParseDocument >	<i>getDocumentsWithAttribute(String, String, String...)</i> on page 1321	Returns the elements with the given route that contains the given attribute with the given value.
public abstract List< ISDMParseDocument >	<i>getDocumentsWithAttribute(String, String, boolean, String...)</i> on page 1321	Returns the elements with the given route that contains the given attribute with the given value.
public abstract ISDMParseDocument	<i>getDocumentWithAttribute(String, String, String...)</i> on page 1322	Returns the first element with the given route that contains the given attribute with the given value.
public abstract ISDMParseDocument	<i>getDocumentWithAttribute(String, String, boolean, String...)</i> on page 1322	Returns the first element with the given route that contains the given attribute with the given value.
public abstract String	<i>getElementName()</i> on page 1323	Returns The name of the root element of this document.
public abstract String	<i>getFunctionImportComplexPropertyValue(String...)</i> on page 1323	

Modifier and Type	Member	Description
public abstract String	<i>getPrefixForUri(String)</i> on page 1323	Returns the appropriate name-space prefix for the given XML name-space URI.
public abstract String[]	<i>getStrings()</i> on page 1324	Returns all the string values contained by this document.
public abstract String	<i>getValue(String...)</i> on page 1324	Returns the value of the first element with the given route.
public abstract List< String >	<i>getValues(String...)</i> on page 1324	Returns all the values of elements with the given route.
public abstract void	<i>putAttribute(String, String...)</i> on page 1325	Sets the value of the attribute with the given route If attribute does not exist it will be created as well as all other non existing elements in the route.
public abstract void	<i>putDocument(ISDMParseDocument, String...)</i> on page 1325	Insert the document under the element with the given route inserted document will be placed before already existing documents with the same route name under All missing elements from the route will be created.
public abstract void	<i>putValue(String, String...)</i> on page 1325	Sets the value of the first element with the given route.
public abstract boolean	<i>removeAttribute(String...)</i> on page 1326	Removes first element with the given route.
public abstract boolean	<i>removeAttributes(String...)</i> on page 1326	Removes all the attribute with the given route.
public abstract boolean	<i>removeDocument(String...)</i> on page 1326	Removes first element with the given route For removing multiple element use setDocuemtns with null arguments.
public static final String	<i>ROOT_DOCUMENT_NAME</i> on page 1330	The default root element name for a new document.

Modifier and Type	Member	Description
public abstract void	<i>setAttributes(List&lt; String &gt;, String...)</i> on page 1327	Sets all the values of the attributes with the given route Values will be paired to attributes in order Attributes with greater or equals index than size of new values will be untouched Attributes paired with null values will be removed.
public abstract void	<i>setDocuments(List&lt; ISDMParserDocument &gt;, String...)</i> on page 1327	Replaces all the elements with the given route Documents will be paired to elements in order Elements with greater or equals index than size of new elements will be untouched Element paired with null will be removed.
public abstract void	<i>setElementName(String, String...)</i> on page 1328	Sets the name of the root element with the given route Use empty route for setting root name of this document.
public abstract void	<i>setValues(List&lt; String &gt;, String...)</i> on page 1328	Sets all the values of the elements with the given rout Values will be paired to elements in order Elements with greater or equals index than size of new values will be untouched Null values will be treated as empty strings.
public abstract String	<i>toXMLString()</i> on page 1328	Returns the XML string representation of this object.
public static final String	<i>XMLNS_APPLICATION_URI</i> on page 1330	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/08/dataservices">http://schemas.microsoft.com/ado/2007/08/dataservices</a> .
public static final String	<i>XMLNS_ATOM_URI</i> on page 1330	Constant for XMLNS URI: <a href="http://www.w3.org/2005/Atom">http://www.w3.org/2005/Atom</a> .

Modifier and Type	Member	Description
public static final String	<i>XMLNS_DATASERVICES_URI</i> on page 1330	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/08/dataservices">http://schemas.microsoft.com/ado/2007/08/dataservices</a> .
public static final String	<i>XMLNS_EDM_URI</i> on page 1330	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/05/edm">http://schemas.microsoft.com/ado/2007/05/edm</a> .
public static final String	<i>XMLNS_EDMX_URI</i> on page 1330	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/06/edmx">http://schemas.microsoft.com/ado/2007/06/edmx</a> .
public static final String	<i>XMLNS_GENERICPLAYER_URI</i> on page 1331	Constant for XMLNS URI: <a href="http://www.sap.com/Protocols/SAPData/GenericPlayer">http://www.sap.com/Protocols/SAPData/GenericPlayer</a> .
public static final String	<i>XMLNS_METADATA_URI</i> on page 1331	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/08/dataservices/metadata">http://schemas.microsoft.com/ado/2007/08/dataservices/metadata</a> .
public static final String	<i>XMLNS_SAP_URI</i> on page 1331	Constant for XMLNS URI: <a href="http://www.sap.com/Protocols/SAPData">http://www.sap.com/Protocols/SAPData</a> .

#### Inherited members from ISDMPersistable

Modifier and Type	Member	Description
public void	<i>read(BufferedReader)</i> on page 1332	
public void	<i>write(BufferedWriter)</i> on page 1332	

#### *getAssociation()* method

Returns the value of appropriate SDMOData element.

#### Syntax

```
public abstract String getAssociation ()
```

#### Returns

the value of appropriate SDMOData element

*ELEMENT\_ASSOCIATIONSET* variable

Name of the appropriate SDMODData element.

*Syntax*

```
public static final String ELEMENT_ASSOCIATIONSET
```

*ISDMODDataCollection* interface

Deprecated. since 3.0, Use IODataCollection Represents the 'Collection' element of the SDMODData Service Document.

*Syntax*

```
public abstract interface ISDMODDataCollection extends
ISDMParserDocument
```

*Derived classes*

- *SDMODDataCollection* on page 1489

*Members*

All members of ISDMODDataCollection, including inherited members. **Variables**

Modifier and Type	Variable	Description
public static final String	<i>ATTRIBUTE_CREATABLE</i> on page 1119	Name of the appropriate SDMODData attribute.
public static final String	<i>ATTRIBUTE_DELETABLE</i> on page 1119	Name of the appropriate SDMODData attribute.
public static final String	<i>ATTRIBUTE_DISPLAYOR- DER</i> on page 1119	Name of the appropriate SDMODData extension attribute.
public static final String	<i>ATTRIBUTE_FILTERABLE</i> on page 1119	Name of the appropriate SDMODData attribute.
public static final String	<i>ATTRIBUTE_HREF</i> on page 1120	Name of the appropriate SDMODData attribute.
public static final String	<i>ATTRIBUTE_SEARCHABLE</i> on page 1120	Name of the appropriate SDMODData attribute.
public static final String	<i>ATTRIBUTE_SEMANTICS</i> on page 1120	Name of the appropriate SDMSDMODData attribute.
public static final String	<i>ATTRIBUTE_UPDATABLE</i> on page 1120	Name of the appropriate SDMODData attribute.



Modifier and Type	Variable	Description
public static final String	<i>ATTRIBUTE_VALUE_REL_SEARCH</i> on page 1120	Possible value of the appropriate SDMODData attribute.
public static final String	<i>ELEMENT_COLLECTION</i> on page 1120	Name of the appropriate SDMODData element.
public static final String	<i>ELEMENT_LINK</i> on page 1120	Name of the appropriate SDMODData element.
public static final String	<i>ELEMENT_MEMBERTITLE</i> on page 1121	Name of the appropriate SDMODData element.
public static final String	<i>ELEMENT_TITLE</i> on page 1121	Name of the appropriate SDMODData element.

### Methods

Modifier and Type	Method	Description
public abstract int	<i>getDisplayOrder()</i> on page 1115	Returns the value of the appropriate SDMODData extension attribute.
public abstract String	<i>getHref()</i> on page 1115	Returns the value of the 'href' SDMODData attribute.
public abstract List< ISDMODDataIcon >	<i>getIcons()</i> on page 1116	Returns list of the appropriate SDMODData elements.
public abstract String	<i>getId()</i> on page 1116	Returns the value of the 'href' SDMODData attribute as a relative href (matchable with appropriate entitySet)
public abstract List< ISDMODDataLink >	<i>getLinks()</i> on page 1116	Returns the value of the appropriate SDMODData elements.
public abstract String	<i>getMemberTitle()</i> on page 1116	Returns the value of the appropriate SDMSDMODData element.
public abstract ISDMODDataLink	<i>getSearchLink()</i> on page 1116	Returns SDMSDMODData Link object that should be used for retrieving Open Search Description XML.

Modifier and Type	Method	Description
public abstract String	<i>getSemantics()</i> on page 1117	Returns the value of the appropriate SDMODData attribute.
public abstract ISDMODData-Link	<i>getSubscriptionLink()</i> on page 1117	Returns SDMSDMODData Link object that should be used for subscription or null if there is no subscription link defined.
public abstract String	<i>getTitle()</i> on page 1117	Returns the value of the appropriate SDMODData element.
public abstract String	<i>getUrl()</i> on page 1117	Returns SDMSDMODData Link object that should be used for self related operations.
public abstract boolean	<i>isCreatable()</i> on page 1118	Returns the value of the appropriate SDMODData attribute.
public abstract boolean	<i>isDeletable()</i> on page 1118	Returns the value of the appropriate SDMODData attribute.
public abstract boolean	<i>isFilterable()</i> on page 1118	Returns the value of the appropriate SDMODData attribute.
public abstract boolean	<i>isSearchable()</i> on page 1118	Returns the value of the appropriate SDMODData attribute.
public abstract boolean	<i>isUpdatable()</i> on page 1118	Returns the value of the appropriate SDMODData attribute.
public abstract void	<i>setEntitySet(ISDMODDataEntitySet)</i> on page 1119	Sets the data held by the appropriate element of the SDMODData Schema.

#### Inherited members from ISDMParserDocument

Modifier and Type	Member	Description
public static final String	<i>ATTRIBUTE_ETAG</i> on page 1329	Name of the appropriate SDMODData element.
public static final String	<i>ATTRIBUTE_VALUEPREFIX_EDMTYPE</i> on page 1329	Value prefix for EDM Type type values.
public abstract ISDMParserDocument	<i>clone()</i> on page 1317	Creates a copy of this object.

Modifier and Type	Member	Description
public static Map< String, String >	<i>DEFAULT_PREFIXMAP-PING</i> on page 1329	The default XML Namespace-to-Prefix mapping used for building XMLS.
public static final String[]	<i>EDMDATETIME_PATTERNS</i> on page 1329	Possible EDM DateTime patterns Note: Some pattern are not supported by OData specification but still widely used.
public static final String[]	<i>EDMDATETIMEOFFSET_PATTERNS</i> on page 1329	Possible EDM TimeOffset patterns Note: Some pattern are not supported by OData specification but still widely used.
public static final String	<i>EDMTIME_PATTERN</i> on page 1329	EDM Time pattern.
public static String	<i>ELEMENT_FEED</i> on page 1329	Name of the appropriate SDMOData element.
public static final String	<i>ELEMENT_ID</i> on page 1330	Name of the appropriate SDMOData element.
public abstract String	<i>getAttribute(String...)</i> on page 1317	Returns the value of the first attribute with the given route.
public abstract List< String >	<i>getAttributes(String...)</i> on page 1317	Returns all the values of attributes with the given route.
public abstract Map< String, String >	<i>getChildAttribute-Map(String...)</i> on page 1318	Returns all the name-value pairs of attributes contained by the element with the given route.
public abstract List< String >	<i>getChildAttributes(String...)</i> on page 1318	Returns all the values of attributes contained by the element with the given route.
public abstract List< ISDMParseDocument >	<i>getChildDocuments(String...)</i> on page 1318	Returns the elements contained by the element with the given route.
public abstract List< ISDMParseDocument >	<i>getChildDocumentsWithAttribute(String, String, String...)</i> on page 1319	Returns the elements contained by the element with the given route and having the given attribute with the given value.

Modifier and Type	Member	Description
public abstract List< ISDMParseDocument >	<i>getChildDocumentsWithAttribute(String, String, boolean, String...)</i> on page 1319	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public abstract ISDMParseDocument	<i>getDocument(String...)</i> on page 1320	Returns the first element with the given route.
public abstract List< ISDMParseDocument >	<i>getDocuments(String...)</i> on page 1320	Returns all the elements with the given route.
public abstract List< ISDMParseDocument >	<i>getDocumentsWithAttribute(String, String, String...)</i> on page 1321	Returns the elements with the given route that contains the given attribute with the given value.
public abstract List< ISDMParseDocument >	<i>getDocumentsWithAttribute(String, String, boolean, String...)</i> on page 1321	Returns the elements with the given route that contains the given attribute with the given value.
public abstract ISDMParseDocument	<i>getDocumentWithAttribute(String, String, String...)</i> on page 1322	Returns the first element with the given route that contains the given attribute with the given value.
public abstract ISDMParseDocument	<i>getDocumentWithAttribute(String, String, boolean, String...)</i> on page 1322	Returns the first element with the given route that contains the given attribute with the given value.
public abstract String	<i>getElementName()</i> on page 1323	Returns The name of the root element of this document.
public abstract String	<i>getFunctionImportComplexProperty Value(String...)</i> on page 1323	
public abstract String	<i>getPrefixForUri(String)</i> on page 1323	Returns the appropriate namespace prefix for the given XML name-space URI.
public abstract String[]	<i>getStrings()</i> on page 1324	Returns all the string values contained by this document.

Modifier and Type	Member	Description
public abstract String	<i>getValue(String...)</i> on page 1324	Returns the value of the first element with the given route.
public abstract List< String >	<i>getValues(String...)</i> on page 1324	Returns all the values of elements with the given route.
public abstract void	<i>putAttribute(String, String...)</i> on page 1325	Sets the value of the attribute with the given route If attribute does not exist it will be created as well as all other non existing elements in the route.
public abstract void	<i>putDocument(ISDMParseDocument, String...)</i> on page 1325	Insert the document under the element with the given route inserted document will be placed before already existing documents with the same route name under All missing elements from the route will be created.
public abstract void	<i>putValue(String, String...)</i> on page 1325	Sets the value of the first element with the given route.
public abstract boolean	<i>removeAttribute(String...)</i> on page 1326	Removes first element with the given route.
public abstract boolean	<i>removeAttributes(String...)</i> on page 1326	Removes all the attribute with the given route.
public abstract boolean	<i>removeDocument(String...)</i> on page 1326	Removes first element with the given route For removing multiple element use setDocuemtns with null arguments.
public static final String	<i>ROOT_DOCUMENT_NAME</i> on page 1330	The default root element name for a new document.
public abstract void	<i>setAttributes(List&lt; String &gt;, String...)</i> on page 1327	Sets all the values of the attributes with the given route Values will be paired to attributes in order Attributes with greater or equals index than size of new values will be untouched Attributes paired with null values will be removed.

Modifier and Type	Member	Description
public abstract void	<i>setDocuments(List&lt; ISDMParserDocument &gt;, String...)</i> on page 1327	Replaces all the elements with the given route Documents will be paired to elements in order Elements with greater or equals index than size of new elements will be untouched Element paired with null will be removed.
public abstract void	<i>setElementName(String, String...)</i> on page 1328	Sets the name of the root element with the given route Use empty route for setting root name of this document.
public abstract void	<i>setValues(List&lt; String &gt;, String...)</i> on page 1328	Sets all the values of the elements with the given route Values will be paired to elements in order Elements with greater or equals index than size of new values will be untouched Null values will be treated as empty strings.
public abstract String	<i>toXMLString()</i> on page 1328	Returns the XML string representation of this object.
public static final String	<i>XMLNS_APPLICATION_URI</i> on page 1330	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/08/dataservices">http://schemas.microsoft.com/ado/2007/08/dataservices</a> .
public static final String	<i>XMLNS_ATOM_URI</i> on page 1330	Constant for XMLNS URI: <a href="http://www.w3.org/2005/Atom">http://www.w3.org/2005/Atom</a> .
public static final String	<i>XMLNS_DATASERVICES_URI</i> on page 1330	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/08/dataservices">http://schemas.microsoft.com/ado/2007/08/dataservices</a> .
public static final String	<i>XMLNS_EDM_URI</i> on page 1330	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/05/edm">http://schemas.microsoft.com/ado/2007/05/edm</a> .
public static final String	<i>XMLNS_EDMX_URI</i> on page 1330	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/06/edmx">http://schemas.microsoft.com/ado/2007/06/edmx</a> .

Modifier and Type	Member	Description
public static final String	<i>XMLNS_GENERICPLAYER_URI</i> on page 1331	Constant for XMLNS URI: <a href="http://www.sap.com/Protocols/SAPData/GenericPlayer">http://www.sap.com/Protocols/SAPData/GenericPlayer</a> .
public static final String	<i>XMLNS_METADATA_URI</i> on page 1331	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/08/dataservices/metadata">http://schemas.microsoft.com/ado/2007/08/dataservices/metadata</a> .
public static final String	<i>XMLNS_SAP_URI</i> on page 1331	Constant for XMLNS URI: <a href="http://www.sap.com/Protocols/SAPData">http://www.sap.com/Protocols/SAPData</a> .

#### Inherited members from ISDMPersistable

Modifier and Type	Member	Description
public void	<i>read(BufferedReader)</i> on page 1332	
public void	<i>write(BufferedWriter)</i> on page 1332	

#### *getDisplayOrder()* method

Returns the value of the appropriate SDMODData extension attribute.

#### *Syntax*

```
public abstract int getDisplayOrder ()
```

#### *Returns*

The value of the appropriate SDMODData extension attribute

#### *getHref()* method

Returns the value of the 'href' SDMODData attribute.

#### *Syntax*

```
public abstract String getHref ()
```

#### *Returns*

The value of the 'href' SDMODData attribute

### *getIcons() method*

Returns list of the appropriate SDMODData elements.

#### *Syntax*

```
public abstract List< ISDMODDataIcon > getIcons ()
```

#### *Returns*

list of the appropriate SDMODData elements

### *getId() method*

Returns the value of the 'href' SDMODData attribute as a relative href (matchable with appropriate entitySet)

#### *Syntax*

```
public abstract String getId ()
```

#### *Returns*

The value of the 'href' SDMODData attribute

### *getLinks() method*

Returns the value of the appropriate SDMODData elements.

#### *Syntax*

```
public abstract List< ISDMODDataLink > getLinks ()
```

#### *Returns*

The value of the appropriate SDMODData elements

### *getMemberTitle() method*

Returns the value of the appropriate SDMSDMODData element.

#### *Syntax*

```
public abstract String getMemberTitle ()
```

#### *Returns*

The value of the appropriate SDMSDMODData element

### *getSearchLink() method*

Returns SDMSDMODData Link object that should be used for retrieving Open Search Description XML.

#### *Syntax*

```
public abstract ISDMODDataLink getSearchLink ()
```



*Returns*

SDMSDMOData Link for search

*getSemantics() method*

Returns the value of the appropriate SDMOData attribute.

*Syntax*

```
public abstract String getSemantics ()
```

*Returns*

The value of the appropriate SDMOData attribute

*getSubscriptionLink() method*

Returns SDMSDMOData Link object that should be used for subscription or null if there is no subscription link defined.

*Syntax*

```
public abstract ISDMODataLink getSubscriptionLink ()
```

*Returns*

SDMSDMOData Link for subscribe

*getTitle() method*

Returns the value of the appropriate SDMOData element.

*Syntax*

```
public abstract String getTitle ()
```

*Returns*

The value of the appropriate SDMOData element

*getUrl() method*

Returns SDMSDMOData Link object that should be used for self related operations.

*Syntax*

```
public abstract String getUrl ()
```

*Returns*

SDMSDMOData Link for self Returns the full URL of the collectionThe full URL of the collection

### *isCreatable() method*

Returns the value of the appropriate SDMODData attribute.

#### *Syntax*

```
public abstract boolean isCreatable ()
```

#### *Returns*

The value of the appropriate SDMODData attribute

### *isDeletable() method*

Returns the value of the appropriate SDMODData attribute.

#### *Syntax*

```
public abstract boolean isDeletable ()
```

#### *Returns*

The value of the appropriate SDMODData attribute

### *isFilterable() method*

Returns the value of the appropriate SDMODData attribute.

#### *Syntax*

```
public abstract boolean isFilterable ()
```

#### *Returns*

The value of the appropriate SDMODData attribute

### *isSearchable() method*

Returns the value of the appropriate SDMODData attribute.

#### *Syntax*

```
public abstract boolean isSearchable ()
```

#### *Returns*

The value of the appropriate SDMODData attribute

### *isUpdatable() method*

Returns the value of the appropriate SDMODData attribute.

#### *Syntax*

```
public abstract boolean isUpdatable ()
```

**Returns**

The value of the appropriate SDMOData attribute

**setEntitySet(ISDMODataEntitySet) method**

Sets the data held by the appropriate element of the SDMOData Schema.

**Syntax**

```
public abstract void setEntitySet ( ISDMODataEntitySet
entitySet )
```

**Parameters**

- **entitySet** – The SDMOData EntitySet to use the data from.

**Usage**

If EntitySet is set base attributes of collection will be overwritten with the appropriate values of the EntitySet.

**ATTRIBUTE\_CREATABLE variable**

Name of the appropriate SDMOData attribute.

**Syntax**

```
public static final String ATTRIBUTE_CREATABLE
```

**ATTRIBUTE\_DELETABLE variable**

Name of the appropriate SDMOData attribute.

**Syntax**

```
public static final String ATTRIBUTE_DELETABLE
```

**ATTRIBUTE\_DISPLAYORDER variable**

Name of the appropriate SDMOData extension attribute.

**Syntax**

```
public static final String ATTRIBUTE_DISPLAYORDER
```

**ATTRIBUTE\_FILTERABLE variable**

Name of the appropriate SDMOData attribute.

**Syntax**

```
public static final String ATTRIBUTE_FILTERABLE
```

### *ATTRIBUTE\_HREF variable*

Name of the appropriate SDMOData attribute.

#### *Syntax*

```
public static final String ATTRIBUTE_HREF
```

### *ATTRIBUTE\_SEARCHABLE variable*

Name of the appropriate SDMOData attribute.

#### *Syntax*

```
public static final String ATTRIBUTE_SEARCHABLE
```

### *ATTRIBUTE\_SEMANTICS variable*

Name of the appropriate SDMSDMOData attribute.

#### *Syntax*

```
public static final String ATTRIBUTE_SEMANTICS
```

### *ATTRIBUTE\_UPDATABLE variable*

Name of the appropriate SDMOData attribute.

#### *Syntax*

```
public static final String ATTRIBUTE_UPDATABLE
```

### *ATTRIBUTE\_VALUE\_REL\_SEARCH variable*

Possible value of the appropriate SDMOData attribute.

#### *Syntax*

```
public static final String ATTRIBUTE_VALUE_REL_SEARCH
```

### *ELEMENT\_COLLECTION variable*

Name of the appropriate SDMOData element.

#### *Syntax*

```
public static final String ELEMENT_COLLECTION
```

### *ELEMENT\_LINK variable*

Name of the appropriate SDMOData element.

#### *Syntax*

```
public static final String ELEMENT_LINK
```

***ELEMENT\_MEMBERTITLE* variable**

Name of the appropriate SDMODData element.

**Syntax**

```
public static final String ELEMENT_MEMBERTITLE
```

***ELEMENT\_TITLE* variable**

Name of the appropriate SDMODData element.

**Syntax**

```
public static final String ELEMENT_TITLE
```

***ISDMODDataComplexType* interface**

Deprecated. since 3.0, Use IODataComplexType Represents the appropriate SDMODData element.

**Syntax**

```
public abstract interface ISDMODDataComplexType extends
ISDMParserDocument
```

**Derived classes**

- *SDMODDataComplexType* on page 1511

**Members**

All members of ISDMODDataComplexType, including inherited members. **Variables**

Modifier and Type	Variable	Description
public static final String	<i>ATTRIBUTE_NAME</i> on page 1127	Name of the appropriate SDMODData attribute.
public static final String	<i>ELEMENT_COMPLEXTYPE</i> on page 1127	Name of the appropriate SDMODData element.
public static final String	<i>ELEMENT_PROPERTY</i> on page 1127	Name of the appropriate SDMODData element.

**Methods**

Modifier and Type	Method	Description
public abstract String	<i>getName()</i> on page 1127	Returns the value of the appropriate SDMODData element.

Modifier and Type	Method	Description
public abstract List< ISDMO-DataProperty >	<i>getProperties()</i> on page 1127	Returns the list of the appropriate SDMOData elements.

#### Inherited members from ISDMParserDocument

Modifier and Type	Member	Description
public static final String	<i>ATTRIBUTE_ETAG</i> on page 1329	Name of the appropriate SDMOData element.
public static final String	<i>ATTRIBUTE_VALUEPREFIX_EDMTYPE</i> on page 1329	Value prefix for EDM Type type values.
public abstract ISDMParserDocument	<i>clone()</i> on page 1317	Creates a copy of this object.
public static Map< String, String >	<i>DEFAULT_PREFIXMAPPING</i> on page 1329	The default XML Namespace-to-Prefix mapping used for building XMLS.
public static final String[]	<i>EDMDATETIME_PATTERNS</i> on page 1329	Possible EDM DateTime patterns Note: Some pattern are not supported by OData specification but still widely used.
public static final String[]	<i>EDMDATETIMEOFFSET_PATTERNS</i> on page 1329	Possible EDM TimeOffset patterns Note: Some pattern are not supported by OData specification but still widely used.
public static final String	<i>EDMTIME_PATTERN</i> on page 1329	EDM Time pattern.
public static String	<i>ELEMENT_FEED</i> on page 1329	Name of the appropriate SDMOData element.
public static final String	<i>ELEMENT_ID</i> on page 1330	Name of the appropriate SDMOData element.
public abstract String	<i>getAttribute(String...)</i> on page 1317	Returns the value of the first attribute with the given route.
public abstract List< String >	<i>getAttributes(String...)</i> on page 1317	Returns all the values of attributes with the given route.

Modifier and Type	Member	Description
public abstract Map< String, String >	<i>getChildAttribute-Map(String...)</i> on page 1318	Returns all the name-value pairs of attributes contained by the element with the given route.
public abstract List< String >	<i>getChildAttributes(String...)</i> on page 1318	Returns all the values of attributes contained by the element with the given route.
public abstract List< ISDMParseDocument >	<i>getChildDocuments(String...)</i> on page 1318	Returns the elements contained by the element with the given route.
public abstract List< ISDMParseDocument >	<i>getChildDocumentsWithAttribute(String, String, String...)</i> on page 1319	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public abstract List< ISDMParseDocument >	<i>getChildDocumentsWithAttribute(String, String, boolean, String...)</i> on page 1319	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public abstract ISDMParseDocument	<i>getDocument(String...)</i> on page 1320	Returns the first element with the given route.
public abstract List< ISDMParseDocument >	<i>getDocuments(String...)</i> on page 1320	Returns all the elements with the given route.
public abstract List< ISDMParseDocument >	<i>getDocumentsWithAttribute(String, String, String...)</i> on page 1321	Returns the elements with the given route that contains the given attribute with the given value.
public abstract List< ISDMParseDocument >	<i>getDocumentsWithAttribute(String, String, boolean, String...)</i> on page 1321	Returns the elements with the given route that contains the given attribute with the given value.
public abstract ISDMParseDocument	<i>getDocumentWithAttribute(String, String, String...)</i> on page 1322	Returns the first element with the given route that contains the given attribute with the given value.

Modifier and Type	Member	Description
public abstract ISDMParserDocument	<i>getDocumentWithAttribute(String, String, boolean, String...)</i> on page 1322	Returns the first element with the given route that contains the given attribute with the given value.
public abstract String	<i>getElementName()</i> on page 1323	Returns The name of the root element of this document.
public abstract String	<i>getFunctionImportComplexPropertyValue(String...)</i> on page 1323	
public abstract String	<i>getPrefixForUri(String)</i> on page 1323	Returns the appropriate name-space prefix for the given XML name-space URI.
public abstract String[]	<i>getStrings()</i> on page 1324	Returns all the string values contained by this document.
public abstract String	<i>getValue(String...)</i> on page 1324	Returns the value of the first element with the given route.
public abstract List< String >	<i>getValues(String...)</i> on page 1324	Returns all the values of elements with the given route.
public abstract void	<i>putAttribute(String, String...)</i> on page 1325	Sets the value of the attribute with the given route If attribute does not exist it will be created as well as all other non existing elements in the route.
public abstract void	<i>putDocument(ISDMParserDocument, String...)</i> on page 1325	Insert the document under the element with the given route inserted document will be placed before already existing documents with the same route name under All missing elements from the route will be created.
public abstract void	<i>putValue(String, String...)</i> on page 1325	Sets the value of the first element with the given route.
public abstract boolean	<i>removeAttribute(String...)</i> on page 1326	Removes first element with the given route.



Modifier and Type	Member	Description
public abstract boolean	<i>removeAttributes(String...)</i> on page 1326	Removes all the attribute with the given route.
public abstract boolean	<i>removeDocument(String...)</i> on page 1326	Removes first element with the given route For removing multiple element use setDocuemtns with null arguments.
public static final String	<i>ROOT_DOCUMENT_NAME</i> on page 1330	The default root element name for a new document.
public abstract void	<i>setAttributes(List&lt; String &gt;, String...)</i> on page 1327	Sets all the values of the attributes with the given route Values will be paired to attributes in order Attributes with greater or equals index than size of new values will be untouched Attributes paired with null values will be removed.
public abstract void	<i>setDocuments(List&lt; ISDMParserDocument &gt;, String...)</i> on page 1327	Replaces all the elements with the given route Documents will be paired to elements in order Elements with greater or equals index than size of new elements will be untouched Element paired with null will be removed.
public abstract void	<i>setElementName(String, String...)</i> on page 1328	Sets the name of the root element with the given route Use empty route for setting root name of this document.
public abstract void	<i>setValues(List&lt; String &gt;, String...)</i> on page 1328	Sets all the values of the elements with the given rout Values will be paired to elements in order Elements with greater or equals index than size of new values will be untouched Null values will be treated as empty strings.
public abstract String	<i>toXMLString()</i> on page 1328	Returns the XML string representation of this object.

Modifier and Type	Member	Description
public static final String	<i>XMLNS_APPLICATION_URI</i> on page 1330	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/08/dataservices">http://schemas.microsoft.com/ado/2007/08/dataservices</a> .
public static final String	<i>XMLNS_ATOM_URI</i> on page 1330	Constant for XMLNS URI: <a href="http://www.w3.org/2005/Atom">http://www.w3.org/2005/Atom</a> .
public static final String	<i>XMLNS_DATASERVICES_URI</i> on page 1330	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/08/dataservices">http://schemas.microsoft.com/ado/2007/08/dataservices</a> .
public static final String	<i>XMLNS_EDM_URI</i> on page 1330	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/05/edm">http://schemas.microsoft.com/ado/2007/05/edm</a> .
public static final String	<i>XMLNS_EDMX_URI</i> on page 1330	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/06/edmx">http://schemas.microsoft.com/ado/2007/06/edmx</a> .
public static final String	<i>XMLNS_GENERICPLAYER_URI</i> on page 1331	Constant for XMLNS URI: <a href="http://www.sap.com/Protocols/SAPData/GenericPlayer">http://www.sap.com/Protocols/SAPData/GenericPlayer</a> .
public static final String	<i>XMLNS_METADATA_URI</i> on page 1331	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/08/dataservices/metadata">http://schemas.microsoft.com/ado/2007/08/dataservices/metadata</a> .
public static final String	<i>XMLNS_SAP_URI</i> on page 1331	Constant for XMLNS URI: <a href="http://www.sap.com/Protocols/SAPData">http://www.sap.com/Protocols/SAPData</a> .

#### Inherited members from ISDMPersistable

Modifier and Type	Member	Description
public void	<i>read(BufferedReader)</i> on page 1332	
public void	<i>write(BufferedWriter)</i> on page 1332	

*getName() method*

Returns the value of the appropriate SDMODData element.

*Syntax*

```
public abstract String getName ()
```

*Returns*

The value of the appropriate SDMODData element

*getProperties() method*

Returns the list of the appropriate SDMODData elements.

*Syntax*

```
public abstract List< ISDMODDataProperty > getProperties ()
```

*Returns*

The list of the appropriate SDMODData elements

*ATTRIBUTE\_NAME variable*

Name of the appropriate SDMODData attribute.

*Syntax*

```
public static final String ATTRIBUTE_NAME
```

*ELEMENT\_COMPLEXTYPE variable*

Name of the appropriate SDMODData element.

*Syntax*

```
public static final String ELEMENT_COMPLEXTYPE
```

*ELEMENT\_PROPERTY variable*

Name of the appropriate SDMODData element.

*Syntax*

```
public static final String ELEMENT_PROPERTY
```

*ISDMODDataEntitySet interface*

Deprecated. since 3.0, Use IODataEntitySet Represents the appropriate SDMODData element.

*Syntax*

```
public abstract interface ISDMODDataEntitySet extends
ISDMParserDocument
```

*Derived classes*

- *SDMODataEntitySet* on page 1526

*Members*

All members of *ISDMODataEntitySet*, including inherited members. **Variables**

Modifier and Type	Variable	Description
public static final String	<i>ATTRIBUTE_CREATABLE</i> on page 1135	Name of the appropriate <i>SDMOData</i> attribute.
public static final String	<i>ATTRIBUTE_DELETABLE</i> on page 1135	Name of the appropriate <i>SDMOData</i> attribute.
public static final String	<i>ATTRIBUTE_NAME</i> on page 1135	Name of the appropriate <i>SDMOData</i> attribute.
public static final String	<i>ATTRIBUTE_SEARCHABLE</i> on page 1135	Name of the appropriate <i>SDMOData</i> attribute.
public static final String	<i>ATTRIBUTE_UPDATABLE</i> on page 1135	Name of the appropriate <i>SDMOData</i> attribute.
public static final String	<i>ELEMENT_ENTITYSET</i> on page 1135	Name of the appropriate <i>SDMOData</i> element.

**Methods**

Modifier and Type	Method	Description
public abstract String	<i>getName()</i> on page 1133	
public abstract boolean	<i>isCreatable()</i> on page 1134	
public abstract boolean	<i>isDeletable()</i> on page 1134	
public abstract boolean	<i>isSearchable()</i> on page 1134	
public abstract boolean	<i>isSearchable(String)</i> on page 1134	Returns the value of the given <i>SDMOData</i> attribute.
public abstract boolean	<i>isUpdatable()</i> on page 1134	

**Inherited members from *ISDMParserDocument***

Modifier and Type	Member	Description
public static final String	<i>ATTRIBUTE_ETAG</i> on page 1329	Name of the appropriate <i>SDMOData</i> element.

Modifier and Type	Member	Description
public static final String	<i>ATTRIBUTE_VALUEPREFIX_EDMTYPE</i> on page 1329	Value prefix for EDM Type type values.
public abstract ISDMParseDocument	<i>clone()</i> on page 1317	Creates a copy of this object.
public static Map< String, String >	<i>DEFAULT_PREFIXMAPPING</i> on page 1329	The default XML Namespace-to-Prefix mapping used for building XMLS.
public static final String[]	<i>EDMDATETIME_PATTERNS</i> on page 1329	Possible EDM DateTime patterns Note: Some pattern are not supported by OData specification but still widely used.
public static final String[]	<i>EDMDATETIMEOFFSET_PATTERNS</i> on page 1329	Possible EDM TimeOffset patterns Note: Some pattern are not supported by OData specification but still widely used.
public static final String	<i>EDMTIME_PATTERN</i> on page 1329	EDM Time pattern.
public static String	<i>ELEMENT_FEED</i> on page 1329	Name of the appropriate SDMOData element.
public static final String	<i>ELEMENT_ID</i> on page 1330	Name of the appropriate SDMOData element.
public abstract String	<i>getAttribute(String...)</i> on page 1317	Returns the value of the first attribute with the given route.
public abstract List< String >	<i>getAttributes(String...)</i> on page 1317	Returns all the values of attributes with the given route.
public abstract Map< String, String >	<i>getChildAttributeMap(String...)</i> on page 1318	Returns all the name-value pairs of attributes contained by the element with the given route.
public abstract List< String >	<i>getChildAttributes(String...)</i> on page 1318	Returns all the values of attributes contained by the element with the given route.
public abstract List< ISDMParseDocument >	<i>getChildDocuments(String...)</i> on page 1318	Returns the elements contained by the element with the given route.

Modifier and Type	Member	Description
public abstract List< ISDMParseDocument >	<i>getChildDocumentsWithAttribute(String, String, String...)</i> on page 1319	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public abstract List< ISDMParseDocument >	<i>getChildDocumentsWithAttribute(String, String, boolean, String...)</i> on page 1319	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public abstract ISDMParseDocument	<i>getDocument(String...)</i> on page 1320	Returns the first element with the given route.
public abstract List< ISDMParseDocument >	<i>getDocuments(String...)</i> on page 1320	Returns all the elements with the given route.
public abstract List< ISDMParseDocument >	<i>getDocumentsWithAttribute(String, String, String...)</i> on page 1321	Returns the elements with the given route that contains the given attribute with the given value.
public abstract List< ISDMParseDocument >	<i>getDocumentsWithAttribute(String, String, boolean, String...)</i> on page 1321	Returns the elements with the given route that contains the given attribute with the given value.
public abstract ISDMParseDocument	<i>getDocumentWithAttribute(String, String, String...)</i> on page 1322	Returns the first element with the given route that contains the given attribute with the given value.
public abstract ISDMParseDocument	<i>getDocumentWithAttribute(String, String, boolean, String...)</i> on page 1322	Returns the first element with the given route that contains the given attribute with the given value.
public abstract String	<i>getElementName()</i> on page 1323	Returns The name of the root element of this document.
public abstract String	<i>getFunctionImportComplexPropertyValue(String...)</i> on page 1323	
public abstract String	<i>getPrefixForUri(String)</i> on page 1323	Returns the appropriate namespace prefix for the given XML name-space URI.

Modifier and Type	Member	Description
public abstract String[]	<i>getStrings()</i> on page 1324	Returns all the string values contained by this document.
public abstract String	<i>getValue(String...)</i> on page 1324	Returns the value of the first element with the given route.
public abstract List< String >	<i>getValues(String...)</i> on page 1324	Returns all the values of elements with the given route.
public abstract void	<i>putAttribute(String, String...)</i> on page 1325	Sets the value of the attribute with the given route If attribute does not exist it will be created as well as all other non existing elements in the route.
public abstract void	<i>putDocument(ISDMParserDocument, String...)</i> on page 1325	Insert the document under the element with the given route inserted document will be placed before already existing documents with the same route name under All missing elements from the route will be created.
public abstract void	<i>putValue(String, String...)</i> on page 1325	Sets the value of the first element with the given route.
public abstract boolean	<i>removeAttribute(String...)</i> on page 1326	Removes first element with the given route.
public abstract boolean	<i>removeAttributes(String...)</i> on page 1326	Removes all the attribute with the given route.
public abstract boolean	<i>removeDocument(String...)</i> on page 1326	Removes first element with the given route For removing multiple element use setDocuemtns with null arguments.
public static final String	<i>ROOT_DOCUMENT_NAME</i> on page 1330	The default root element name for a new document.

Modifier and Type	Member	Description
public abstract void	<i>setAttributes(List&lt; String &gt;, String...)</i> on page 1327	Sets all the values of the attributes with the given route Values will be paired to attributes in order Attributes with greater or equals index than size of new values will be untouched Attributes paired with null values will be removed.
public abstract void	<i>setDocuments(List&lt; ISDMParserDocument &gt;, String...)</i> on page 1327	Replaces all the elements with the given route Documents will be paired to elements in order Elements with greater or equals index than size of new elements will be untouched Element paired with null will be removed.
public abstract void	<i>setElementName(String, String...)</i> on page 1328	Sets the name of the root element with the given route Use empty route for setting root name of this document.
public abstract void	<i>setValues(List&lt; String &gt;, String...)</i> on page 1328	Sets all the values of the elements with the given rout Values will be paired to elements in order Elements with greater or equals index than size of new values will be untouched Null values will be treated as empty strings.
public abstract String	<i>toXMLString()</i> on page 1328	Returns the XML string representation of this object.
public static final String	<i>XMLNS_APPLICATION_URI</i> on page 1330	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/08/dataservices">http://schemas.microsoft.com/ado/2007/08/dataservices</a> .
public static final String	<i>XMLNS_ATOM_URI</i> on page 1330	Constant for XMLNS URI: <a href="http://www.w3.org/2005/Atom">http://www.w3.org/2005/Atom</a> .



Modifier and Type	Member	Description
public static final String	<i>XMLNS_DATASERVICES_URI</i> on page 1330	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/08/dataservices">http://schemas.microsoft.com/ado/2007/08/dataservices</a> .
public static final String	<i>XMLNS_EDM_URI</i> on page 1330	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/05/edm">http://schemas.microsoft.com/ado/2007/05/edm</a> .
public static final String	<i>XMLNS_EDMX_URI</i> on page 1330	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/06/edmx">http://schemas.microsoft.com/ado/2007/06/edmx</a> .
public static final String	<i>XMLNS_GENERICPLAYER_URI</i> on page 1331	Constant for XMLNS URI: <a href="http://www.sap.com/Protocols/SAPData/GenericPlayer">http://www.sap.com/Protocols/SAPData/GenericPlayer</a> .
public static final String	<i>XMLNS_METADATA_URI</i> on page 1331	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/08/dataservices/metadata">http://schemas.microsoft.com/ado/2007/08/dataservices/metadata</a> .
public static final String	<i>XMLNS_SAP_URI</i> on page 1331	Constant for XMLNS URI: <a href="http://www.sap.com/Protocols/SAPData">http://www.sap.com/Protocols/SAPData</a> .

#### Inherited members from ISDMPersistable

Modifier and Type	Member	Description
public void	<i>read(BufferedReader)</i> on page 1332	
public void	<i>write(BufferedWriter)</i> on page 1332	

#### *getName()* method

##### Syntax

```
public abstract String getName ()
```

##### Returns

The value of the appropriate SDMOData attribute

*isCreatable() method*

*Syntax*

```
public abstract boolean isCreatable ()
```

*Returns*

The value of the appropriate SDMOData attribute

*isDeletable() method*

*Syntax*

```
public abstract boolean isDeletable ()
```

*Returns*

The value of the appropriate SDMOData attribute

*isSearchable() method*

*Syntax*

```
public abstract boolean isSearchable ()
```

*Returns*

The value of the appropriate SDMOData attribute

*isSearchable(String) method*

Returns the value of the given SDMOData attribute.

*Syntax*

```
public abstract boolean isSearchable (String searchAttributeName)
```

*Parameters*

- **searchAttributeName** – The name of the SDMOData attribute

*Returns*

The value of the given SDMOData attribute

*isUpdatable() method*

*Syntax*

```
public abstract boolean isUpdatable ()
```

*Returns*

The value of the appropriate SDMOData attribute

***ATTRIBUTE\_CREATABLE* variable**

Name of the appropriate SDMOData attribute.

***Syntax***

```
public static final String ATTRIBUTE_CREATABLE
```

***ATTRIBUTE\_DELETABLE* variable**

Name of the appropriate SDMOData attribute.

***Syntax***

```
public static final String ATTRIBUTE_DELETABLE
```

***ATTRIBUTE\_NAME* variable**

Name of the appropriate SDMOData attribute.

***Syntax***

```
public static final String ATTRIBUTE_NAME
```

***ATTRIBUTE\_SEARCHABLE* variable**

Name of the appropriate SDMOData attribute.

***Syntax***

```
public static final String ATTRIBUTE_SEARCHABLE
```

***ATTRIBUTE\_UPDATABLE* variable**

Name of the appropriate SDMOData attribute.

***Syntax***

```
public static final String ATTRIBUTE_UPDATABLE
```

***ELEMENT\_ENTITYSET* variable**

Name of the appropriate SDMOData element.

***Syntax***

```
public static final String ELEMENT_ENTITYSET
```

***ISDMODataEntityType* interface**

Deprecated. since 3.0, Use IODataEntityType Represents the appropriate SDMOData element.

***Syntax***

```
public abstract interface ISDMODataEntityType extends
ISDMParserDocument
```

*Derived classes*

- *SDMODataEntityType* on page 1542

*Members*

All members of *ISDMODataEntityType*, including inherited members. **Variables**

Modifier and Type	Variable	Description
public static final String	<i>ATTRIBUTE_HASSTREAM</i> on page 1146	Name of the appropriate <i>SDMOData</i> attribute.
public static final String	<i>ATTRIBUTE_NAME</i> on page 1146	Name of the appropriate <i>SDMOData</i> attribute.
public static final String	<i>ELEMENT_ENTITYTYPE</i> on page 1146	Name of the appropriate <i>SDMOData</i> element.
public static final String	<i>ELEMENT_KEY</i> on page 1146	Name of the appropriate <i>SDMOData</i> element.
public static final String	<i>ELEMENT_PROPERTY</i> on page 1146	Name of the appropriate <i>SDMOData</i> element.
public static final String	<i>ELEMENT_PROPERTYREF</i> on page 1147	Name of the appropriate <i>SDMOData</i> element.

**Methods**

Modifier and Type	Method	Description
public abstract List< <i>ISDMODataProperty</i> >	<i>getGPUseInSearchPropertiesData()</i> on page 1142	Returns The list of appropriate <i>SDMOData</i> elements with 'true' use-in-search (Generic Player names-pace) attribute value.
public abstract List< <i>ISDMODataProperty</i> >	<i>getGPVisibleInDetailPropertiesData()</i> on page 1143	Returns The list of appropriate <i>SDMOData</i> elements with 'true' visible-in-detail (Generic Player names-pace) attribute value.
public abstract List< <i>ISDMODataProperty</i> >	<i>getGPVisibleInListPropertiesData()</i> on page 1143	Returns The list of appropriate <i>SDMOData</i> elements with 'true' visible-in-list (Generic Player names-pace) attribute value.

Modifier and Type	Method	Description
public abstract List< String >	<i>getKeyPropertyNames()</i> on page 1143	Returns the list of the values of the 'PropertyRef' SDMODData element contained by the 'Key' SDMODData element.
public abstract String	<i>getName()</i> on page 1143	Returns The value of the appropriate SDMODData attribute.
public abstract List< ISDMO-DataNavigationProperty >	<i>getNavigationProperties()</i> on page 1144	Returns The list of appropriate SDMODData elements.
public abstract ISDMODDataNavigationProperty	<i>getNavigationProperty(String)</i> on page 1144	Returns The appropriate SDMODData element with the given name.
public abstract List< ISDMO-DataProperty >	<i>getProperties()</i> on page 1144	Returns The list of appropriate SDMODData elements.
public abstract List< ISDMO-DataProperty >	<i>getPropertiesWithAttribute(String, String)</i> on page 1144	Returns The list of appropriate SDMODData elements with given attribute value.
public abstract List< ISDMO-DataProperty >	<i>getPropertiesWithAttribute(String, String, boolean)</i> on page 1145	Returns The list of appropriate SDMODData elements with given attribute value.
public abstract ISDMODDataProperty	<i>getProperty(String)</i> on page 1145	Returns The appropriate SDMODData element with the given name.
public abstract List< ISDMO-DataProperty >	<i>getSAPSearchablePropertiesData()</i> on page 1145	Returns The list of appropriate SDMODData elements with 'true' searchable (SAP names-pace) attribute value.
public abstract List< ISDMO-DataProperty >	<i>getSearchablePropertiesData(String)</i> on page 1145	Returns The list of appropriate SDMODData elements with 'true' attribute value of the given attribute.
public abstract boolean	<i>hasStream()</i> on page 1146	Returns The value of the appropriate SDMODData attribute.

### Inherited members from ISDMParserDocument

Modifier and Type	Member	Description
public static final String	<i>ATTRIBUTE_ETAG</i> on page 1329	Name of the appropriate SDMOData element.
public static final String	<i>ATTRIBUTE_VALUEPREFIX_EDMTYPE</i> on page 1329	Value prefix for EDM Type type values.
public abstract ISDMParseDocument	<i>clone()</i> on page 1317	Creates a copy of this object.
public static Map< String, String >	<i>DEFAULT_PREFIXMAPPING</i> on page 1329	The default XML Namespace-to-Prefix mapping used for building XMLS.
public static final String[]	<i>EDMDATETIME_PATTERNS</i> on page 1329	Possible EDM DateTime patterns Note: Some pattern are not supported by OData specification but still widely used.
public static final String[]	<i>EDMDATETIMEOFFSET_PATTERNS</i> on page 1329	Possible EDM DateTimeOffset patterns Note: Some pattern are not supported by OData specification but still widely used.
public static final String	<i>EDMTIME_PATTERN</i> on page 1329	EDM Time pattern.
public static String	<i>ELEMENT_FEED</i> on page 1329	Name of the appropriate SDMOData element.
public static final String	<i>ELEMENT_ID</i> on page 1330	Name of the appropriate SDMOData element.
public abstract String	<i>getAttribute(String...)</i> on page 1317	Returns the value of the first attribute with the given route.
public abstract List< String >	<i>getAttributes(String...)</i> on page 1317	Returns all the values of attributes with the given route.
public abstract Map< String, String >	<i>getChildAttributeMap(String...)</i> on page 1318	Returns all the name-value pairs of attributes contained by the element with the given route.
public abstract List< String >	<i>getChildAttributes(String...)</i> on page 1318	Returns all the values of attributes contained by the element with the given route.

Modifier and Type	Member	Description
public abstract List< ISDMParseDocument >	<i>getChildDocuments(String...)</i> on page 1318	Returns the elements contained by the element with the given route.
public abstract List< ISDMParseDocument >	<i>getChildDocumentsWithAttribute(String, String, String...)</i> on page 1319	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public abstract List< ISDMParseDocument >	<i>getChildDocumentsWithAttribute(String, String, boolean, String...)</i> on page 1319	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public abstract ISDMParseDocument	<i>getDocument(String...)</i> on page 1320	Returns the first element with the given route.
public abstract List< ISDMParseDocument >	<i>getDocuments(String...)</i> on page 1320	Returns all the elements with the given route.
public abstract List< ISDMParseDocument >	<i>getDocumentsWithAttribute(String, String, String...)</i> on page 1321	Returns the elements with the given route that contains the given attribute with the given value.
public abstract List< ISDMParseDocument >	<i>getDocumentsWithAttribute(String, String, boolean, String...)</i> on page 1321	Returns the elements with the given route that contains the given attribute with the given value.
public abstract ISDMParseDocument	<i>getDocumentWithAttribute(String, String, String...)</i> on page 1322	Returns the first element with the given route that contains the given attribute with the given value.
public abstract ISDMParseDocument	<i>getDocumentWithAttribute(String, String, boolean, String...)</i> on page 1322	Returns the first element with the given route that contains the given attribute with the given value.
public abstract String	<i>getElementName()</i> on page 1323	Returns The name of the root element of this document.
public abstract String	<i>getFunctionImportComplexPropertyValue(String...)</i> on page 1323	

Modifier and Type	Member	Description
public abstract String	<i>getPrefixForUri(String)</i> on page 1323	Returns the appropriate name-space prefix for the given XML name-space URI.
public abstract String[]	<i>getStrings()</i> on page 1324	Returns all the string values contained by this document.
public abstract String	<i>getValue(String...)</i> on page 1324	Returns the value of the first element with the given route.
public abstract List< String >	<i>getValues(String...)</i> on page 1324	Returns all the values of elements with the given route.
public abstract void	<i>putAttribute(String, String...)</i> on page 1325	Sets the value of the attribute with the given route. If attribute does not exist it will be created as well as all other non existing elements in the route.
public abstract void	<i>putDocument(ISDMParseDocument, String...)</i> on page 1325	Insert the document under the element with the given route. Inserted document will be placed before already existing documents with the same route name. All missing elements from the route will be created.
public abstract void	<i>putValue(String, String...)</i> on page 1325	Sets the value of the first element with the given route.
public abstract boolean	<i>removeAttribute(String...)</i> on page 1326	Removes first element with the given route.
public abstract boolean	<i>removeAttributes(String...)</i> on page 1326	Removes all the attribute with the given route.
public abstract boolean	<i>removeDocument(String...)</i> on page 1326	Removes first element with the given route. For removing multiple element use setDocuments with null arguments.
public static final String	<i>ROOT_DOCUMENT_NAME</i> on page 1330	The default root element name for a new document.



Modifier and Type	Member	Description
public abstract void	<i>setAttributes(List&lt; String &gt;, String...)</i> on page 1327	Sets all the values of the attributes with the given route Values will be paired to attributes in order Attributes with greater or equals index than size of new values will be untouched Attributes paired with null values will be removed.
public abstract void	<i>setDocuments(List&lt; ISDMParserDocument &gt;, String...)</i> on page 1327	Replaces all the elements with the given route Documents will be paired to elements in order Elements with greater or equals index than size of new elements will be untouched Element paired with null will be removed.
public abstract void	<i>setElementName(String, String...)</i> on page 1328	Sets the name of the root element with the given route Use empty route for setting root name of this document.
public abstract void	<i>setValues(List&lt; String &gt;, String...)</i> on page 1328	Sets all the values of the elements with the given rout Values will be paired to elements in order Elements with greater or equals index than size of new values will be untouched Null values will be treated as empty strings.
public abstract String	<i>toXMLString()</i> on page 1328	Returns the XML string representation of this object.
public static final String	<i>XMLNS_APPLICATION_URI</i> on page 1330	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/08/dataservices">http://schemas.microsoft.com/ado/2007/08/dataservices</a> .
public static final String	<i>XMLNS_ATOM_URI</i> on page 1330	Constant for XMLNS URI: <a href="http://www.w3.org/2005/Atom">http://www.w3.org/2005/Atom</a> .

Modifier and Type	Member	Description
public static final String	<i>XMLNS_DATASERVICES_URI</i> on page 1330	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/08/dataservices">http://schemas.microsoft.com/ado/2007/08/dataservices</a> .
public static final String	<i>XMLNS_EDM_URI</i> on page 1330	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/05/edm">http://schemas.microsoft.com/ado/2007/05/edm</a> .
public static final String	<i>XMLNS_EDMX_URI</i> on page 1330	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/06/edmx">http://schemas.microsoft.com/ado/2007/06/edmx</a> .
public static final String	<i>XMLNS_GENERICPLAYER_URI</i> on page 1331	Constant for XMLNS URI: <a href="http://www.sap.com/Protocols/SAPData/GenericPlayer">http://www.sap.com/Protocols/SAPData/GenericPlayer</a> .
public static final String	<i>XMLNS_METADATA_URI</i> on page 1331	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/08/dataservices/metadata">http://schemas.microsoft.com/ado/2007/08/dataservices/metadata</a> .
public static final String	<i>XMLNS_SAP_URI</i> on page 1331	Constant for XMLNS URI: <a href="http://www.sap.com/Protocols/SAPData">http://www.sap.com/Protocols/SAPData</a> .

#### Inherited members from ISDMPersistable

Modifier and Type	Member	Description
public void	<i>read(BufferedReader)</i> on page 1332	
public void	<i>write(BufferedWriter)</i> on page 1332	

#### *getGPUseInSearchPropertiesData()* method

Returns The list of appropriate SDMOData elements with 'true' use-in-search (Generic Player names-pace) attribute value.

#### *Syntax*

```
public abstract List< ISDMODataProperty >
getGPUseInSearchPropertiesData ()
```

#### *Returns*

The list of appropriate SDMOData elements with 'true' use-in-search (Generic Player names-pace) attribute value

*getGPVisibleInDetailPropertiesData() method*

Returns The list of appropriate SDMODData elements with 'true' visible-in-detail (Generic Player names-pace) attribute value.

*Syntax*

```
public abstract List< ISDMODDataProperty >
getGPVisibleInDetailPropertiesData ()
```

*Returns*

The list of appropriate SDMODData elements with 'true' visible-in-detail (Generic Player names-pace) attribute value

*getGPVisibleInListPropertiesData() method*

Returns The list of appropriate SDMODData elements with 'true' visible-in-list (Generic Player names-pace) attribute value.

*Syntax*

```
public abstract List< ISDMODDataProperty >
getGPVisibleInListPropertiesData ()
```

*Returns*

The list of appropriate SDMODData elements with 'true' visible-in-list (Generic Player names-pace) attribute value

*getKeyPropertyNames() method*

Returns the list of the values of the 'PropertyRef' SDMODData element contained by the 'Key' SDMODData element.

*Syntax*

```
public abstract List< String > getKeyPropertyNames ()
```

*Returns*

The list of the values of the 'PropertyRef' SDMODData element

*getName() method*

Returns The value of the appropriate SDMODData attribute.

*Syntax*

```
public abstract String getName ()
```

*Returns*

The value of the appropriate SDMODData attribute

### *getNavigationProperties() method*

Returns The list of appropriate SDMODData elements.

#### *Syntax*

```
public abstract List< ISDMODDataNavigationProperty >  
getNavigationProperties ()
```

#### *Returns*

The list of appropriate SDMODData elements

### *getNavigationProperty(String) method*

Returns The appropriate SDMODData element with the given name.

#### *Syntax*

```
public abstract ISDMODDataNavigationProperty  
getNavigationProperty ( String name )
```

#### *Returns*

The appropriate SDMODData element with the given name

### *getProperties() method*

Returns The list of appropriate SDMODData elements.

#### *Syntax*

```
public abstract List< ISDMODDataProperty > getProperties ()
```

#### *Returns*

The list of appropriate SDMODData elements

### *getPropertiesWithAttribute(String, String) method*

Returns The list of appropriate SDMODData elements with given attribute value.

#### *Syntax*

```
public abstract List< ISDMODDataProperty >  
getPropertiesWithAttribute ( String attributeName , String  
attributeValue )
```

#### *Returns*

The list of appropriate SDMODData elements with given attribute value

***getPropertiesWithAttribute(String, String, boolean) method***

Returns The list of appropriate SDMODData elements with given attribute value.

***Syntax***

```
public abstract List< ISDMODDataProperty >
getPropertiesWithAttribute ( String attributeName , String
attributeValue , boolean addByDefault )
```

***Returns***

The list of appropriate SDMODData elements with given attribute value

***getProperty(String) method***

Returns The appropriate SDMODData element with the given name.

***Syntax***

```
public abstract ISDMODDataProperty getProperty ( String
propertyName )
```

***Returns***

The appropriate SDMODData element with the given name

***getSAPSearchablePropertiesData() method***

Returns The list of appropriate SDMODData elements with 'true' searchable (SAP names-pace) attribute value.

***Syntax***

```
public abstract List< ISDMODDataProperty >
getSAPSearchablePropertiesData ( )
```

***Returns***

The list of appropriate SDMODData elements with 'true' searchable (SAP names-pace) attribute value

***getSearchablePropertiesData(String) method***

Returns The list of appropriate SDMODData elements with 'true' attribute value of the given attribute.

***Syntax***

```
public abstract List< ISDMODDataProperty >
getSearchablePropertiesData ( String searchAttributeName )
```

### *Returns*

The list of appropriate SDMODData elements with 'true' attribute value of the given attribute

### *hasStream() method*

Returns The value of the appropriate SDMODData attribute.

### *Syntax*

```
public abstract boolean hasStream ()
```

### *Returns*

The value of the appropriate SDMODData attribute

### *ATTRIBUTE\_HASSTREAM variable*

Name of the appropriate SDMODData attribute.

### *Syntax*

```
public static final String ATTRIBUTE_HASSTREAM
```

### *ATTRIBUTE\_NAME variable*

Name of the appropriate SDMODData attribute.

### *Syntax*

```
public static final String ATTRIBUTE_NAME
```

### *ELEMENT\_ENTITYTYPE variable*

Name of the appropriate SDMODData element.

### *Syntax*

```
public static final String ELEMENT_ENTITYTYPE
```

### *ELEMENT\_KEY variable*

Name of the appropriate SDMODData element.

### *Syntax*

```
public static final String ELEMENT_KEY
```

### *ELEMENT\_PROPERTY variable*

Name of the appropriate SDMODData element.

### *Syntax*

```
public static final String ELEMENT_PROPERTY
```

***ELEMENT\_PROPERTYREF* variable**

Name of the appropriate SDMODData element.

**Syntax**

```
public static final String ELEMENT_PROPERTYREF
```

***ISDMODDataEntry* interface**

Deprecated. since 3.0, Use IODataEntry Represents the 'entry' SDMODData element with maintained reference to the appropriate SDMODData Schema document.

**Syntax**

```
public abstract interface ISDMODDataEntry extends
ISDMParserDocument, Serializable
```

**Derived classes**

- *ISDMODDataSubscriptionEntry* on page 1270
- *SDMODDataEntry* on page 1562
- *SDMODDataReturnTypeInfoEntry* on page 1741

**Members**

All members of ISDMODDataEntry, including inherited members. **Variables**

Modifier and Type	Variable	Description
public static final String	<i>ATTRIBUTE_SEMANTICS</i> on page 1168	Name of the appropriate SDMODData attribute.
public static final String	<i>ATTRIBUTE_TERM</i> on page 1169	Name of the appropriate SDMODData attribute.
public static final String	<i>ATTRIBUTE_VALUE_SEMANTICS_ACTION</i> on page 1169	Value option for appropriate SDMODData attribute.
public static final String	<i>ELEMENT_AUTHOR</i> on page 1169	Name of the appropriate SDMODData element.
public static final String	<i>ELEMENT_CATEGORY</i> on page 1169	Name of the appropriate SDMODData element.
public static final String	<i>ELEMENT_CONTENT</i> on page 1169	Name of the appropriate SDMODData element.
public static final String	<i>ELEMENT_ENTRY</i> on page 1169	Name of the appropriate SDMODData element.

Modifier and Type	Variable	Description
public static final String	<i>ELEMENT_LINK</i> on page 1169	Name of the appropriate SDMODData element.
public static final String	<i>ELEMENT_NAME</i> on page 1170	Name of the appropriate SDMODData element.
public static final String	<i>ELEMENT_PROPERTIES</i> on page 1170	Name of the appropriate SDMODData element.
public static final String	<i>ELEMENT_SUMMARY</i> on page 1170	Name of the appropriate SDMODData element.
public static final String	<i>ELEMENT_TITLE</i> on page 1170	Name of the appropriate SDMODData element.
public static final String	<i>ELEMENT_UPDATED</i> on page 1170	Name of the appropriate SDMODData element.
public static final String	<i>PROPERTY_LEVEL_SEPARATOR</i> on page 1170	

### Methods

Modifier and Type	Method	Description
public abstract List< ISDMO-DataLink >	<i>getActionLinks()</i> on page 1157	Returns SDMODData Link objects that are set as action links (Has semantics (SAP name-space) attribute with value 'action')
public abstract String	<i>getAuthorName()</i> on page 1157	Returns The value of the 'name' SDMODData element of the 'author' SDMODData element.
public cacheState	<i>getCachestate()</i> on page 1158	
public Long	<i>getCacheTimestamp()</i> on page 1158	
public abstract String	<i>getCollectionId()</i> on page 1158	Returns the Id of the SDMOCa-ta Collection that this Entry belongs to.
public abstract String	<i>getEtag()</i> on page 1158	Returns the Id of the SDMODa-ta Collection that this Entry belongs to.



Modifier and Type	Method	Description
public abstract String	<i>getFilterUrl()</i> on page 1158	Returns the full execution URL that can be used for filtering collection search for this single entry.
public abstract List< ISDMO-DataProperty >	<i>getGPUseInSearchPropertiesData()</i> on page 1159	Returns the value and meta information (retrieved from SDMOData Schema document) of the properties of this SDMO-Data Entry document with 'true' use-in-search (Generic Player name-space) attribute value.
public abstract List< ISDMO-DataProperty >	<i>getGPVisibleInDetailPropertiesData()</i> on page 1159	Returns the value and meta information (retrieved from SDMOData Schema document) of the properties of this SDMO-Data Entry document with 'true' visible-in-detail (Generic Player name-space) attribute value.
public abstract List< ISDMO-DataProperty >	<i>getGPVisibleInListPropertiesData()</i> on page 1159	Returns the value and meta information (retrieved from SDMOData Schema document) of the properties of this SDMO-Data Entry document with 'true' visible-in-list (Generic Player name-space) attribute value.
public abstract List< ISDMO-DataIcon >	<i>getIcons()</i> on page 1159	Returns the list of the appropriate SDMOData elements.
public abstract String	<i>getId()</i> on page 1160	Returns The Id of this SDMO-Data Entry (value of appropriate SDMOData Id element)
public boolean	<i>getIsLocal()</i> on page 1160	
public abstract Map< String, String >	<i>getKeyPropertyValues()</i> on page 1160	Returns the values of the properties that are marked as key properties in the SDMOData Schema document.
public abstract Date	<i>getLastUpdated()</i> on page 1160	Returns The parsed value of the 'updated' SDMOData Element.

Modifier and Type	Method	Description
public abstract List< ISDMO-DataLink >	<i>getLinks()</i> on page 1160	Returns the list of the appropriate SDMODData elements.
public abstract List< ISDMO-DataProperty >	<i>getPropertiesData()</i> on page 1161	Returns the value and meta information (retrieved from SDMODData Schema document) of the properties of this SDMO-data Entry document.
public abstract List< ISDMO-DataProperty >	<i>getPropertiesDataWithAttribute(String, String)</i> on page 1161	Returns the value and meta information (retrieved from SDMODData Schema document) of the properties of this SDMO-Data Entry document with the given attribute value.
public abstract List< ISDMO-DataProperty >	<i>getPropertiesDataWithAttribute(String, String, boolean)</i> on page 1161	Returns the value and meta information (retrieved from SDMODData Schema document) of the properties of this SDMO-Data Entry document with the given attribute value.
public abstract ISDMParserDocument	<i>getPropertiesDocument()</i> on page 1162	Returns the representer document of SDMODData 'properties' (Metadata name-space) document This method is created for performance reasons mostly to use in search methods.
public abstract String	<i>getPropertyValue(String...)</i> on page 1162	Returns the value of the appropriate property.
public abstract< T > T	<i>getPropertyValue-Parsed(String...)</i> on page 1163	Returns the value of the appropriate property parsed to it's real type.
public abstract Map< String, String >	<i>getPropertyValues()</i> on page 1163	Returns the all the values of properties contained by this SDMODData Entry document Key for the properties will be their name of their full path in case they are enclosed by Complex Types.

Modifier and Type	Method	Description
public abstract List< String >	<i>getPropertyValues(List&lt;String[]&gt;)</i> on page 1163	Return list of property values for the given property paths.
public abstract List< ISDMO-DataLink >	<i>getRelatedDataLinks()</i> on page 1164	Returns SDMOData Link objects that represents links to Related Data.
public abstract List< ISDMO-DataProperty >	<i>getSAPSearchableProperties-Data()</i> on page 1164	Returns the value and meta information (retrieved from SDMOData Schema document) of the properties of this SDMOData Entry document with 'true' searchable (SAP name-space) attribute value.
public abstract ISDMOData-Schema	<i>getSchema()</i> on page 1164	Returns the appropriate SDMOData Schema object.
public abstract ISDMOData-Link	<i>getSelfLink()</i> on page 1164	Returns SDMSDMOData Link object that should be used for self related operations (with 'rel' attribute value 'self' or 'edit')
public abstract ISDMOData-Link	<i>getSubscriptionLink()</i> on page 1165	Returns SDMOData Link object that should be used for subscription or null if there is no subscription link defined.
public abstract String	<i>getSummary()</i> on page 1165	Returns The value of the appropriate SDMOData element.
public abstract String	<i>getTitle()</i> on page 1165	Returns The value of the appropriate SDMOData element.
public abstract void	<i>putComplexPropertyValue(String, String...)</i> on page 1165	Puts the new property element as a sub-element of the 'complex properties' SDMOData element.
public abstract void	<i>putId(String)</i> on page 1166	Sets id of this SDMOData Entry document (value of appropriate SDMOData Id element)
public abstract void	<i>putPropertyValue(String, String)</i> on page 1166	Puts the new property element as a sub-element of the 'properties' SDMOData element.

Modifier and Type	Method	Description
public abstract void	<i>putPropertyValue(String, String, boolean)</i> on page 1166	Puts the new property element as a sub-element of the 'properties' SDMODData element.
public abstract void	<i>setAuthorName(String)</i> on page 1167	Sets the value of the 'name' SDMODData element of the 'author' SDMODData element.
public void	<i>setCacheState(cacheState)</i> on page 1167	
public void	<i>setCacheTimestamp(Long)</i> on page 1167	
public abstract void	<i>setCollectionId(String)</i> on page 1167	Maintains the Id of the SDMO-Cata Collection that this Entry belongs to.
public void	<i>setIsLocal(boolean)</i> on page 1168	
public abstract void	<i>setSchema(ISDMODDataSchema)</i> on page 1168	Maintains the reference to the appropriate SDMODData Schema object.
public abstract void	<i>setSummary(String)</i> on page 1168	Sets the value of the appropriate SDMODData element.
public abstract void	<i>setTitle(String)</i> on page 1168	Sets the value of the appropriate SDMODData element.

#### Inherited members from ISDMParserDocument

Modifier and Type	Member	Description
public static final String	<i>ATTRIBUTE_ETAG</i> on page 1329	Name of the appropriate SDMODData element.
public static final String	<i>ATTRIBUTE_VALUEPREFIX_EDMTYPE</i> on page 1329	Value prefix for EDM Type type values.
public abstract ISDMParserDocument	<i>clone()</i> on page 1317	Creates a copy of this object.

Modifier and Type	Member	Description
public static Map< String, String >	<i>DEFAULT_PREFIXMAP-PING</i> on page 1329	The default XML Namespace-to-Prefix mapping used for building XMLS.
public static final String[]	<i>EDMDATETIME_PATTERNS</i> on page 1329	Possible EDM DateTime patterns Note: Some pattern are not supported by OData specification but still widely used.
public static final String[]	<i>EDMDATETIMEOFFSET_PATTERNS</i> on page 1329	Possible EDM TimeOffset patterns Note: Some pattern are not supported by OData specification but still widely used.
public static final String	<i>EDMTIME_PATTERN</i> on page 1329	EDM Time pattern.
public static String	<i>ELEMENT_FEED</i> on page 1329	Name of the appropriate SDMOData element.
public static final String	<i>ELEMENT_ID</i> on page 1330	Name of the appropriate SDMOData element.
public abstract String	<i>getAttribute(String...)</i> on page 1317	Returns the value of the first attribute with the given route.
public abstract List< String >	<i>getAttributes(String...)</i> on page 1317	Returns all the values of attributes with the given route.
public abstract Map< String, String >	<i>getChildAttribute-Map(String...)</i> on page 1318	Returns all the name-value pairs of attributes contained by the element with the given route.
public abstract List< String >	<i>getChildAttributes(String...)</i> on page 1318	Returns all the values of attributes contained by the element with the given route.
public abstract List< ISDMParseDocument >	<i>getChildDocuments(String...)</i> on page 1318	Returns the elements contained by the element with the given route.
public abstract List< ISDMParseDocument >	<i>getChildDocumentsWithAttribute(String, String, String...)</i> on page 1319	Returns the elements contained by the element with the given route and having the given attribute with the given value.

Modifier and Type	Member	Description
public abstract List< ISDMParserDocument >	<i>getChildDocumentsWithAttribute(String, String, boolean, String...)</i> on page 1319	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public abstract ISDMParserDocument	<i>getDocument(String...)</i> on page 1320	Returns the first element with the given route.
public abstract List< ISDMParserDocument >	<i>getDocuments(String...)</i> on page 1320	Returns all the elements with the given route.
public abstract List< ISDMParserDocument >	<i>getDocumentsWithAttribute(String, String, String...)</i> on page 1321	Returns the elements with the given route that contains the given attribute with the given value.
public abstract List< ISDMParserDocument >	<i>getDocumentsWithAttribute(String, String, boolean, String...)</i> on page 1321	Returns the elements with the given route that contains the given attribute with the given value.
public abstract ISDMParserDocument	<i>getDocumentWithAttribute(String, String, String...)</i> on page 1322	Returns the first element with the given route that contains the given attribute with the given value.
public abstract ISDMParserDocument	<i>getDocumentWithAttribute(String, String, boolean, String...)</i> on page 1322	Returns the first element with the given route that contains the given attribute with the given value.
public abstract String	<i>getElementName()</i> on page 1323	Returns The name of the root element of this document.
public abstract String	<i>getFunctionImportComplexProperty Value(String...)</i> on page 1323	
public abstract String	<i>getPrefixForUri(String)</i> on page 1323	Returns the appropriate namespace prefix for the given XML name-space URI.
public abstract String[]	<i>getStrings()</i> on page 1324	Returns all the string values contained by this document.

Modifier and Type	Member	Description
public abstract String	<i>getValue(String...)</i> on page 1324	Returns the value of the first element with the given route.
public abstract List< String >	<i>getValues(String...)</i> on page 1324	Returns all the values of elements with the given route.
public abstract void	<i>putAttribute(String, String...)</i> on page 1325	Sets the value of the attribute with the given route If attribute does not exist it will be created as well as all other non existing elements in the route.
public abstract void	<i>putDocument(ISDMParseDocument, String...)</i> on page 1325	Insert the document under the element with the given route inserted document will be placed before already existing documents with the same route name under All missing elements from the route will be created.
public abstract void	<i>putValue(String, String...)</i> on page 1325	Sets the value of the first element with the given route.
public abstract boolean	<i>removeAttribute(String...)</i> on page 1326	Removes first element with the given route.
public abstract boolean	<i>removeAttributes(String...)</i> on page 1326	Removes all the attribute with the given route.
public abstract boolean	<i>removeDocument(String...)</i> on page 1326	Removes first element with the given route For removing multiple element use setDocuemtns with null arguments.
public static final String	<i>ROOT_DOCUMENT_NAME</i> on page 1330	The default root element name for a new document.
public abstract void	<i>setAttributes(List&lt; String &gt;, String...)</i> on page 1327	Sets all the values of the attributes with the given route Values will be paired to attributes in order Attributes with greater or equals index than size of new values will be untouched Attributes paired with null values will be removed.

Modifier and Type	Member	Description
public abstract void	<i>setDocuments(List&lt; ISDMParserDocument &gt;, String...)</i> on page 1327	Replaces all the elements with the given route Documents will be paired to elements in order Elements with greater or equals index than size of new elements will be untouched Element paired with null will be removed.
public abstract void	<i>setElementName(String, String...)</i> on page 1328	Sets the name of the root element with the given route Use empty route for setting root name of this document.
public abstract void	<i>setValues(List&lt; String &gt;, String...)</i> on page 1328	Sets all the values of the elements with the given route Values will be paired to elements in order Elements with greater or equals index than size of new values will be untouched Null values will be treated as empty strings.
public abstract String	<i>toXMLString()</i> on page 1328	Returns the XML string representation of this object.
public static final String	<i>XMLNS_APPLICATION_URI</i> on page 1330	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/08/dataservices">http://schemas.microsoft.com/ado/2007/08/dataservices</a> .
public static final String	<i>XMLNS_ATOM_URI</i> on page 1330	Constant for XMLNS URI: <a href="http://www.w3.org/2005/Atom">http://www.w3.org/2005/Atom</a> .
public static final String	<i>XMLNS_DATASERVICES_URI</i> on page 1330	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/08/dataservices">http://schemas.microsoft.com/ado/2007/08/dataservices</a> .
public static final String	<i>XMLNS_EDM_URI</i> on page 1330	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/05/edm">http://schemas.microsoft.com/ado/2007/05/edm</a> .
public static final String	<i>XMLNS_EDMX_URI</i> on page 1330	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/06/edmx">http://schemas.microsoft.com/ado/2007/06/edmx</a> .



Modifier and Type	Member	Description
public static final String	<i>XMLNS_GENERICPLAYER_URI</i> on page 1331	Constant for XMLNS URI: <a href="http://www.sap.com/Protocols/SAPData/GenericPlayer">http://www.sap.com/Protocols/SAPData/GenericPlayer</a> .
public static final String	<i>XMLNS_METADATA_URI</i> on page 1331	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/08/dataservices/metadata">http://schemas.microsoft.com/ado/2007/08/dataservices/metadata</a> .
public static final String	<i>XMLNS_SAP_URI</i> on page 1331	Constant for XMLNS URI: <a href="http://www.sap.com/Protocols/SAPData">http://www.sap.com/Protocols/SAPData</a> .

#### Inherited members from ISDMPersistable

Modifier and Type	Member	Description
public void	<i>read(BufferedReader)</i> on page 1332	
public void	<i>write(BufferedWriter)</i> on page 1332	

#### *getActionLinks()* method

Returns SDMODData Link objects that are set as action links (Has semantics (SAP namespace) attribute with value 'action')

#### *Syntax*

```
public abstract List< ISDMODDataLink > getActionLinks ()
```

#### *Returns*

List of SDMODData Action Link documents

#### *getAuthorName()* method

Returns The value of the 'name' SDMODData element of the 'author' SDMODData element.

#### *Syntax*

```
public abstract String getAuthorName ()
```

#### *Returns*

The value of the 'name' SDMODData element of the 'author' SDMODData element

*getCacheState() method*

*Syntax*

```
public cacheState getCacheState ()
```

*getCacheTimestamp() method*

*Syntax*

```
public Long getCacheTimestamp ()
```

*getCollectionId() method*

Returns the Id of the SDMOCata Collection that this Entry belongs to.

*Syntax*

```
public abstract String getCollectionId ()
```

*Returns*

The Id of the SDMOCata Collection that this Entry belongs to

*getEtag() method*

Returns the Id of the SDMOData Collection that this Entry belongs to.

*Syntax*

```
public abstract String getEtag ()
```

*Returns*

The Id of the SDMOData Collection that this Entry belongs to

*getFilterUrl() method*

Returns the full execution URL hat can be used for filtering collection search for this single entry.

*Syntax*

```
public abstract String getFilterUrl ()
```

*Returns*

The full filter URL

***getGPUseInSearchPropertiesData() method***

Returns the value and meta information (retrieved from SDMOData Schema document) of the properties of this SDMOData Entry document with 'true' use-in-search (Generic Player name-space) attribute value.

***Syntax***

```
public abstract List< ISDMODataProperty >
getGPUseInSearchPropertiesData ()
```

***Returns***

The meta-informations and values of the appropriate properties

***getGPVisibleInDetailPropertiesData() method***

Returns the value and meta information (retrieved from SDMOData Schema document) of the properties of this SDMOData Entry document with 'true' visible-in-detail (Generic Player name-space) attribute value.

***Syntax***

```
public abstract List< ISDMODataProperty >
getGPVisibleInDetailPropertiesData ()
```

***Returns***

The meta-informations and values of the appropriate properties

***getGPVisibleInListPropertiesData() method***

Returns the value and meta information (retrieved from SDMOData Schema document) of the properties of this SDMOData Entry document with 'true' visible-in-list (Generic Player name-space) attribute value.

***Syntax***

```
public abstract List< ISDMODataProperty >
getGPVisibleInListPropertiesData ()
```

***Returns***

The meta-informations and values of the appropriate properties

***getIcons() method***

Returns the list of the appropriate SDMOData elements.

***Syntax***

```
public abstract List< ISDMODataIcon > getIcons ()
```

### *Returns*

The list of the appropriate SDMOData elements

### *getId() method*

Returns The Id of this SDMOData Entry (value of appropriate SDMOData Id element)

### *Syntax*

```
public abstract String getId ()
```

### *Returns*

The Id of this SDMOData Entry

### *getIsLocal() method*

### *Syntax*

```
public boolean getIsLocal ()
```

### *getKeyPropertyValues() method*

Returns the values of the properties that are marked as key properties in the SDMOData Schema document.

### *Syntax*

```
public abstract Map< String, String > getKeyPropertyValues  
( )
```

### *Returns*

The name-value pairs of the key properties

### *getLastUpdated() method*

Returns The parsed value of the 'updated' SDMOData Element.

### *Syntax*

```
public abstract Date getLastUpdated ()
```

### *Returns*

The parsed value of the value of the 'updated' SDMOData element or null is parsing failed

### *getLinks() method*

Returns the list of the appropriate SDMOData elements.

### *Syntax*

```
public abstract List< ISDMODataLink > getLinks ()
```

**Returns**

The list of the appropriate SDMOData elements

***getPropertiesData()* method**

Returns the value and meta information (retrieved from SDMOData Schema document) of the properties of this SDMOData Entry document.

**Syntax**

```
public abstract List< ISDMODataProperty > getPropertiesData
()
```

**Returns**

The meta-informations and values of the contained properties

***getPropertiesDataWithAttribute(String, String)* method**

Returns the value and meta information (retrieved from SDMOData Schema document) of the properties of this SDMOData Entry document with the given attribute value.

**Syntax**

```
public abstract List< ISDMODataProperty >
getPropertiesDataWithAttribute ( String attributeName , String
attributeValue )
```

**Parameters**

- **attributeName** – The name of the attribute
- **attributeValue** – The expected value of the attribute

**Returns**

The meta-informations and values of the appropriate properties

***getPropertiesDataWithAttribute(String, String, boolean)* method**

Returns the value and meta information (retrieved from SDMOData Schema document) of the properties of this SDMOData Entry document with the given attribute value.

**Syntax**

```
public abstract List< ISDMODataProperty >
getPropertiesDataWithAttribute ( String attributeName , String
attributeValue , boolean addByDefault )
```

**Parameters**

- **attributeName** – The name of the attribute

- **attributeValue** – The expected value of the attribute
- **addByDefault** – true if the Property should be add in case if there is no attribute with the given name

### Returns

The meta-informations and values of the appropriate properties

### *getPropertiesDocument()* method

Returns the representer document of SDMOData 'properties' (Metadata name-space) document This method is created for performance reasons mostly to use in search methods.

### Syntax

```
public abstract ISDMParseDocument getPropertiesDocument ()
```

### Returns

The SDMParseDocument representation of SDMOData 'properties' (Metadata name-space) document

### *getPropertyValue(String...)* method

Returns the value of the appropriate property.

### Syntax

```
public abstract String getPropertyValue (String... propertyPath )  
throws IllegalArgumentException
```

### Parameters

- **propertyPath** – The path to the property with or without the name-space prefix including names of the enclosing complex types if any (Without enclosing complex type this argument should be simple the name of the property)

### Returns

The value of the property

### Exceptions

- **IllegalArgumentException** – if the property name is null or ambiguous.

### Usage

Name of property may or may not contain name-space prefix as long as the property name is not ambiguous

*getPropertyValueParsed(String...) method*

Returns the value of the appropriate property parsed to it's real type.

*Syntax*

```
public abstract< T > T getPropertyValueParsed ( String...
propertyPath ) throws ClassCastException
```

*Parameters*

- **propertyPath** – The path to the property with or without the name-space prefix including names of the enclosing complex types if any (Without enclosing complex type this argument should be simple the name of the property)

*Returns*

The value of the property

*Exceptions*

- **IllegalArgumentException** – if the property name is null or ambiguous
- **ClassCastException** – if the property value can not be parsed to the expected type

*Usage*

Name of property may or may not contain name-space prefix as long as the property name is not ambiguous

*getPropertyValues() method*

Returns the all the values of properties contained by this SDMOData Entry document Key for the properties will be their name of their full path in case they are enclosed by Complex Types.

*Syntax*

```
public abstract Map< String, String > getPropertyValues ()
```

*Returns*

The name/path and value pairs of the contained properties

*Usage*

The name of the properties will contain their current name-space prefixes.

*getPropertyValues(List< String[]>) method*

Return list of property values for the given property paths.

*Syntax*

```
public abstract List< String > getPropertyValues ( List<
String[]> propertyPathes )
```

### *Parameters*

- **propertyPathes** – Name of the property or path including the name of the enclosing Complex Types

### *Returns*

The list of the values of the properties

### *getRelatedDataLinks() method*

Returns SDMOData Link objects that represents links to Related Data.

### *Syntax*

```
public abstract List< ISDMODataLink > getRelatedDataLinks ()
```

### *Returns*

List of SDMOData Related Link documents

### *getSAPSearchablePropertiesData() method*

Returns the value and meta information (retrieved from SDMOData Schema document) of the properties of this SDMOData Entry document with 'true' searchable (SAP name-space) attribute value.

### *Syntax*

```
public abstract List< ISDMODataProperty >  
getSAPSearchablePropertiesData ()
```

### *Returns*

The meta-informations and values of the appropriate properties

### *getSchema() method*

Returns the appropriate SDMOData Schema object.

### *Syntax*

```
public abstract ISDMODataSchema getSchema ()
```

### *Returns*

The appropriate SDMOData Schema object.

### *getSelfLink() method*

Returns SDMSDMOData Link object that should be used for self related operations (with 'rel' attribute value 'self' or 'edit')

### *Syntax*

```
public abstract ISDMODataLink getSelfLink ()
```



*Returns*

SDMSDMODData self Link

*getSubscriptionLink() method*

Returns SDMODData Link object that should be used for subscription or null if there is no subscription link defined.

*Syntax*

```
public abstract ISDMODDataLink getSubscriptionLink ()
```

*Returns*

SDMODData Link for subscribe

*getSummary() method*

Returns The value of the appropriate SDMODData element.

*Syntax*

```
public abstract String getSummary ()
```

*Returns*

The value of the appropriate SDMODData element

*getTitle() method*

Returns The value of the appropriate SDMODData element.

*Syntax*

```
public abstract String getTitle ()
```

*Returns*

The value of the appropriate SDMODData element

*putComplexPropertyValue(String, String...) method*

Puts the new property element as a sub-element of the 'complex properties' SDMODData element.

*Syntax*

```
public abstract void putComplexPropertyValue (String
propertyValue , String... propertyName )
```

*Parameters*

- **propertyName** – The route of the property with or without name-space until the complex type.

- **propertyValue** – The value of the property

### *Usage*

An element with the same name will be overwritten by the new element. Not-prefixed property name will be automatically prefixed with the current prefix of DataServices XML name-space.

### *putId(String) method*

Sets id of this SDMODData Entry document (value of appropriate SDMODData Id element)

### *Syntax*

```
public abstract void putId ( String id ) throws  
IllegalArgumentException
```

### *Parameters*

- **id** – The new id.

### *putPropertyValue(String, String) method*

Puts the new property element as a sub-element of the 'properties' SDMODData element.

### *Syntax*

```
public abstract void putPropertyValue ( String propertyName ,  
String propertyValue )
```

### *Parameters*

- **propertyName** – The name of the property with or without name-space.
- **propertyValue** – The value of the property

### *Usage*

An element with the same name will be overwritten by the new element. Not-prefixed property name will be automatically prefixed with the current prefix of DataServices XML name-space.

### *putPropertyValue(String, String, boolean) method*

Puts the new property element as a sub-element of the 'properties' SDMODData element.

### *Syntax*

```
public abstract void putPropertyValue ( String propertyName ,  
String propertyValue , boolean useDefaultPrefix )
```

*Parameters*

- **useDefaultPrefix** – If true not-prefixed property name will be automatically prefixed with the current prefix of DataServices XML names-pace.
- **propertyName** – The name of the property with or without name-space.
- **propertyValue** – The value of the property

*Usage*

An element with the same name will be overwritten by the new element.

If name of the property is not prefixed and useDefaultPreix is false, name of the property should be prefixed by the caller. (Use getPrefix for get the valid prefix for a name-space URI)

*setAuthorName(String) method*

Sets the value of the 'name' SDMODData element of the 'author' SDMODData element.

*Syntax*

```
public abstract void setAuthorName ( String authorName )
```

*Parameters*

- **authorName** – The new value of the element

*setCacheState(cacheState) method**Syntax*

```
public void setCacheState ( cacheState cacheState )
```

*setCacheTimestamp(Long) method**Syntax*

```
public void setCacheTimestamp ( Long timestamp )
```

*setCollectionId(String) method*

Maintains the Id of the SDMOCata Collection that this Entry belongs to.

*Syntax*

```
public abstract void setCollectionId ( String collectionId )
```

*Parameters*

- **collectionId** – The Id of the SDMOCata Collection that this Entry belongs to

### *setIsLocal(boolean) method*

#### *Syntax*

```
public void setIsLocal (boolean isLocal)
```

### *setSchema(ISDMODataSchema) method*

Maintains the reference to the appropriate SDMODData Schema object.

#### *Syntax*

```
public abstract void setSchema ( ISDMODataSchema schema )
```

#### *Parameters*

- **schema** – The appropriate SDMODData Schema object.

### *setSummary(String) method*

Sets the value of the appropriate SDMODData element.

#### *Syntax*

```
public abstract void setSummary (String summary)
```

#### *Parameters*

- **summary** – The new value of the element

### *setTitle(String) method*

Sets the value of the appropriate SDMODData element.

#### *Syntax*

```
public abstract void setTitle (String title)
```

#### *Parameters*

- **title** – The new value of the element

### *ATTRIBUTE\_SEMANTICS variable*

Name of the appropriate SDMODData attribute.

#### *Syntax*

```
public static final String ATTRIBUTE_SEMANTICS
```

***ATTRIBUTE\_TERM variable***

Name of the appropriate SDMOData attribute.

***Syntax***

```
public static final String ATTRIBUTE_TERM
```

***ATTRIBUTE\_VALUE\_SEMANTICS\_ACTION variable***

Value option for appropriate SDMOData attribute.

***Syntax***

```
public static final String ATTRIBUTE_VALUE_SEMANTICS_ACTION
```

***ELEMENT\_AUTHOR variable***

Name of the appropriate SDMOData element.

***Syntax***

```
public static final String ELEMENT_AUTHOR
```

***ELEMENT\_CATEGORY variable***

Name of the appropriate SDMOData element.

***Syntax***

```
public static final String ELEMENT_CATEGORY
```

***ELEMENT\_CONTENT variable***

Name of the appropriate SDMOData element.

***Syntax***

```
public static final String ELEMENT_CONTENT
```

***ELEMENT\_ENTRY variable***

Name of the appropriate SDMOData element.

***Syntax***

```
public static final String ELEMENT_ENTRY
```

***ELEMENT\_LINK variable***

Name of the appropriate SDMOData element.

***Syntax***

```
public static final String ELEMENT_LINK
```

### *ELEMENT\_NAME variable*

Name of the appropriate SDMODData element.

#### *Syntax*

```
public static final String ELEMENT_NAME
```

### *ELEMENT\_PROPERTIES variable*

Name of the appropriate SDMODData element.

#### *Syntax*

```
public static final String ELEMENT_PROPERTIES
```

### *ELEMENT\_SUMMARY variable*

Name of the appropriate SDMODData element.

#### *Syntax*

```
public static final String ELEMENT_SUMMARY
```

### *ELEMENT\_TITLE variable*

Name of the appropriate SDMODData element.

#### *Syntax*

```
public static final String ELEMENT_TITLE
```

### *ELEMENT\_UPDATED variable*

Name of the appropriate SDMODData element.

#### *Syntax*

```
public static final String ELEMENT_UPDATED
```

### *PROPERTY\_LEVEL\_SEPARATOR variable*

#### *Syntax*

```
public static final String PROPERTY_LEVEL_SEPARATOR
```

### *ISDMODataError interface*

Deprecated. since 3.0, Use IODataError Represents the appropriate SDMODData element.

#### *Syntax*

```
public abstract interface ISDMODataError extends  
ISDMParserDocument
```

*Derived classes*

- *SDMODataError* on page 1598

*Members*

All members of *ISDMODataError*, including inherited members. **Variables**

Modifier and Type	Variable	Description
public static final String	<i>ATTRIBUTE_LANGUAGE</i> on page 1177	Name of the appropriate <i>SDMOData</i> attribute.
public static final String	<i>ELEMENT_ERROR</i> on page 1177	Name of the appropriate <i>SDMOData</i> element.
public static final String	<i>ELEMENT_ERRORCODE</i> on page 1177	Name of the appropriate <i>SDMOData</i> element.
public static final String	<i>ELEMENT_MESSAGE</i> on page 1177	Name of the appropriate <i>SDMOData</i> element.

**Methods**

Modifier and Type	Method	Description
public abstract String	<i>getErrorCode()</i> on page 1176	Returns The value of the 'code' <i>SDMOData</i> element.
public abstract String	<i>getLang()</i> on page 1176	Returns The value of the appropriate <i>SDMOData</i> attribute of the 'message' element.
public abstract String	<i>getMessage()</i> on page 1177	Return the localized error message.

**Inherited members from *ISDMParserDocument***

Modifier and Type	Member	Description
public static final String	<i>ATTRIBUTE_ETAG</i> on page 1329	Name of the appropriate <i>SDMOData</i> element.
public static final String	<i>ATTRIBUTE_VALUEPREFIX_EDMTYPE</i> on page 1329	Value prefix for EDM Type type values.
public abstract <i>ISDMParserDocument</i>	<i>clone()</i> on page 1317	Creates a copy of this object.

Modifier and Type	Member	Description
public static Map< String, String >	<i>DEFAULT_PREFIXMAP-PING</i> on page 1329	The default XML Namespace-to-Prefix mapping used for building XMLS.
public static final String[]	<i>EDMDATETIME_PATTERNS</i> on page 1329	Possible EDM DateTime patterns Note: Some pattern are not supported by OData specification but still widely used.
public static final String[]	<i>EDMDATETIMEOFFSET_PATTERNS</i> on page 1329	Possible EDM TimeOffset patterns Note: Some pattern are not supported by OData specification but still widely used.
public static final String	<i>EDMTIME_PATTERN</i> on page 1329	EDM Time pattern.
public static String	<i>ELEMENT_FEED</i> on page 1329	Name of the appropriate SDMOData element.
public static final String	<i>ELEMENT_ID</i> on page 1330	Name of the appropriate SDMOData element.
public abstract String	<i>getAttribute(String...)</i> on page 1317	Returns the value of the first attribute with the given route.
public abstract List< String >	<i>getAttributes(String...)</i> on page 1317	Returns all the values of attributes with the given route.
public abstract Map< String, String >	<i>getChildAttribute-Map(String...)</i> on page 1318	Returns all the name-value pairs of attributes contained by the element with the given route.
public abstract List< String >	<i>getChildAttributes(String...)</i> on page 1318	Returns all the values of attributes contained by the element with the given route.
public abstract List< ISDMParseDocument >	<i>getChildDocuments(String...)</i> on page 1318	Returns the elements contained by the element with the given route.
public abstract List< ISDMParseDocument >	<i>getChildDocumentsWithAttribute(String, String, String...)</i> on page 1319	Returns the elements contained by the element with the given route and having the given attribute with the given value.



Modifier and Type	Member	Description
public abstract List< ISDMParseDocument >	<i>getChildDocumentsWithAttribute(String, String, boolean, String...)</i> on page 1319	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public abstract ISDMParseDocument	<i>getDocument(String...)</i> on page 1320	Returns the first element with the given route.
public abstract List< ISDMParseDocument >	<i>getDocuments(String...)</i> on page 1320	Returns all the elements with the given route.
public abstract List< ISDMParseDocument >	<i>getDocumentsWithAttribute(String, String, String...)</i> on page 1321	Returns the elements with the given route that contains the given attribute with the given value.
public abstract List< ISDMParseDocument >	<i>getDocumentsWithAttribute(String, String, boolean, String...)</i> on page 1321	Returns the elements with the given route that contains the given attribute with the given value.
public abstract ISDMParseDocument	<i>getDocumentWithAttribute(String, String, String...)</i> on page 1322	Returns the first element with the given route that contains the given attribute with the given value.
public abstract ISDMParseDocument	<i>getDocumentWithAttribute(String, String, boolean, String...)</i> on page 1322	Returns the first element with the given route that contains the given attribute with the given value.
public abstract String	<i>getElementName()</i> on page 1323	Returns The name of the root element of this document.
public abstract String	<i>getFunctionImportComplexProperty Value(String...)</i> on page 1323	
public abstract String	<i>getPrefixForUri(String)</i> on page 1323	Returns the appropriate namespace prefix for the given XML name-space URI.
public abstract String[]	<i>getStrings()</i> on page 1324	Returns all the string values contained by this document.

Modifier and Type	Member	Description
public abstract String	<i>getValue(String...)</i> on page 1324	Returns the value of the first element with the given route.
public abstract List< String >	<i>getValues(String...)</i> on page 1324	Returns all the values of elements with the given route.
public abstract void	<i>putAttribute(String, String...)</i> on page 1325	Sets the value of the attribute with the given route If attribute does not exist it will be created as well as all other non existing elements in the route.
public abstract void	<i>putDocument(ISDMParserDocument, String...)</i> on page 1325	Insert the document under the element with the given route inserted document will be placed before already existing documents with the same route name under All missing elements from the route will be created.
public abstract void	<i>putValue(String, String...)</i> on page 1325	Sets the value of the first element with the given route.
public abstract boolean	<i>removeAttribute(String...)</i> on page 1326	Removes first element with the given route.
public abstract boolean	<i>removeAttributes(String...)</i> on page 1326	Removes all the attribute with the given route.
public abstract boolean	<i>removeDocument(String...)</i> on page 1326	Removes first element with the given route For removing multiple element use setDocuemtns with null arguments.
public static final String	<i>ROOT_DOCUMENT_NAME</i> on page 1330	The default root element name for a new document.
public abstract void	<i>setAttributes(List&lt; String &gt;, String...)</i> on page 1327	Sets all the values of the attributes with the given route Values will be paired to attributes in order Attributes with greater or equals index than size of new values will be untouched Attributes paired with null values will be removed.

Modifier and Type	Member	Description
public abstract void	<i>setDocuments(List&lt; ISDMParserDocument &gt;, String...)</i> on page 1327	Replaces all the elements with the given route Documents will be paired to elements in order Elements with greater or equals index than size of new elements will be untouched Element paired with null will be removed.
public abstract void	<i>setElementName(String, String...)</i> on page 1328	Sets the name of the root element with the given route Use empty route for setting root name of this document.
public abstract void	<i>setValues(List&lt; String &gt;, String...)</i> on page 1328	Sets all the values of the elements with the given route Values will be paired to elements in order Elements with greater or equals index than size of new values will be untouched Null values will be treated as empty strings.
public abstract String	<i>toXMLString()</i> on page 1328	Returns the XML string representation of this object.
public static final String	<i>XMLNS_APPLICATION_URI</i> on page 1330	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/08/dataservices">http://schemas.microsoft.com/ado/2007/08/dataservices</a> .
public static final String	<i>XMLNS_ATOM_URI</i> on page 1330	Constant for XMLNS URI: <a href="http://www.w3.org/2005/Atom">http://www.w3.org/2005/Atom</a> .
public static final String	<i>XMLNS_DATASERVICES_URI</i> on page 1330	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/08/dataservices">http://schemas.microsoft.com/ado/2007/08/dataservices</a> .
public static final String	<i>XMLNS_EDM_URI</i> on page 1330	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/05/edm">http://schemas.microsoft.com/ado/2007/05/edm</a> .
public static final String	<i>XMLNS_EDMX_URI</i> on page 1330	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/06/edmx">http://schemas.microsoft.com/ado/2007/06/edmx</a> .

Modifier and Type	Member	Description
public static final String	<i>XMLNS_GENERICPLAYER_URI</i> on page 1331	Constant for XMLNS URI: <a href="http://www.sap.com/Protocols/SAPData/GenericPlayer">http://www.sap.com/Protocols/SAPData/GenericPlayer</a> .
public static final String	<i>XMLNS_METADATA_URI</i> on page 1331	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/08/dataservices/metadata">http://schemas.microsoft.com/ado/2007/08/dataservices/metadata</a> .
public static final String	<i>XMLNS_SAP_URI</i> on page 1331	Constant for XMLNS URI: <a href="http://www.sap.com/Protocols/SAPData">http://www.sap.com/Protocols/SAPData</a> .

#### Inherited members from ISDMPersistable

Modifier and Type	Member	Description
public void	<i>read(BufferedReader)</i> on page 1332	
public void	<i>write(BufferedWriter)</i> on page 1332	

#### *getErrorCode()* method

Returns The value of the 'code' SDMODData element.

#### *Syntax*

```
public abstract String getErrorCode ()
```

#### *Returns*

The value of the 'code' SDMODData element

#### *getLang()* method

Returns The value of the appropriate SDMODData attribute of the 'message' element.

#### *Syntax*

```
public abstract String getLang ()
```

#### *Returns*

The value of the appropriate SDMODData attribute of the 'message' element

***getMessage() method***

Return the localized error message.

***Syntax***

```
public abstract String getMessage ()
```

***Returns***

The value of the 'message' SDMODData element

***ATTRIBUTE\_LANGUAGE variable***

Name of the appropriate SDMODData attribute.

***Syntax***

```
public static final String ATTRIBUTE_LANGUAGE
```

***ELEMENT\_ERROR variable***

Name of the appropriate SDMODData element.

***Syntax***

```
public static final String ELEMENT_ERROR
```

***ELEMENT\_ERRORCODE variable***

Name of the appropriate SDMODData element.

***Syntax***

```
public static final String ELEMENT_ERRORCODE
```

***ELEMENT\_MESSAGE variable***

Name of the appropriate SDMODData element.

***Syntax***

```
public static final String ELEMENT_MESSAGE
```

***ISDMODDataFunctionImport interface***

Deprecated. since 3.0, Use IODataFunctionImport Represents the 'FunctionImport' SDMODData element.

***Syntax***

```
public abstract interface ISDMODDataFunctionImport extends
ISDMParserDocument
```

*Derived classes*

- *SDMODataFunctionImport* on page 1613

*Members*

All members of ISDMODataFunctionImport, including inherited members. **Variables**

Modifier and Type	Variable	Description
public static final String	<i>ATTRIBUTE_ACTION_FOR</i> on page 1186	Name of the appropriate SDMSMODData attribute.
public static final String	<i>ATTRIBUTE_ENTITYSET</i> on page 1186	Name of the appropriate SDMODData attribute.
public static final String	<i>ATTRIBUTE_HTTPMETHOD</i> on page 1187	Name of the appropriate SDMODData attribute.
public static final String	<i>ATTRIBUTE_NAME</i> on page 1187	Name of the appropriate SDMODData attribute.
public static final String	<i>ATTRIBUTE_RETURNTYPE</i> on page 1187	Name of the appropriate SDMODData attribute.
public static final String	<i>ELEMENT_FUNCTIONALIMPORT</i> on page 1187	Name of the appropriate SDMODData element.
public static final String	<i>ELEMENT_PARAMETER</i> on page 1187	Name of the appropriate SDMODData element.

**Methods**

Modifier and Type	Method	Description
public abstract String	<i>getActionFor()</i> on page 1184	Returns The value of the appropriate SDMODData attribute.
public abstract String	<i>getCollectionId()</i> on page 1184	Returns The value of the 'EntitySet' SDMODData attribute.
public abstract String	<i>getEntitySet()</i> on page 1184	Returns The value of the 'EntitySet' SDMODData attribute.
public abstract String	<i>getExecutionUrl(Map&lt; String, String &gt;)</i> on page 1185	Calculate the full execution URL for executing this Function Import according to the passed parameters.

Modifier and Type	Method	Description
public abstract String	<i>getHTTPMethod()</i> on page 1185	Returns The value of the appropriate SDMODData attribute.
public abstract List< String >	<i>getInputParameterNames()</i> on page 1185	Returns The list of the appropriate SDMODData element with 'In' or 'InOut' attribute value.
public abstract String	<i>getName()</i> on page 1185	Returns The value of the appropriate SDMODData attribute.
public abstract List< String >	<i>getOutputParameterNames()</i> on page 1185	Returns The list of the appropriate SDMODData element with 'Out' or 'InOut' attribute value.
public abstract List< ISDMO-DataParameter >	<i>getParameters()</i> on page 1186	Returns The list of the appropriate SDMODData element.
public abstract String	<i>getReturnType()</i> on page 1186	Returns The value of the appropriate SDMODData attribute.
public RETURNTYPE_ENUM	<i>getReturnTypeEnum()</i> on page 1186	Returns The return type of this Function Import SDMODData document.

#### Inherited members from ISDMParserDocument

Modifier and Type	Member	Description
public static final String	<i>ATTRIBUTE_ETAG</i> on page 1329	Name of the appropriate SDMODData element.
public static final String	<i>ATTRIBUTE_VALUEPREFIX_EDMTYPE</i> on page 1329	Value prefix for EDM Type type values.
public abstract ISDMParserDocument	<i>clone()</i> on page 1317	Creates a copy of this object.
public static Map< String, String >	<i>DEFAULT_PREFIXMAPPING</i> on page 1329	The default XML Namespace-to-Prefix mapping used for building XMLS.
public static final String[]	<i>EDMDATETIME_PATTERNS</i> on page 1329	Possible EDM DateTime patterns Note: Some pattern are not supported by OData specification but still widely used.

Modifier and Type	Member	Description
public static final String[]	<i>EDMDATETIMEOFFSET_PATTERNS</i> on page 1329	Possible EDM TimeOffset patterns Note: Some pattern are not supported by OData specification but still widely used.
public static final String	<i>EDMTIME_PATTERN</i> on page 1329	EDM Time pattern.
public static String	<i>ELEMENT_FEED</i> on page 1329	Name of the appropriate SDMOData element.
public static final String	<i>ELEMENT_ID</i> on page 1330	Name of the appropriate SDMOData element.
public abstract String	<i>getAttribute(String...)</i> on page 1317	Returns the value of the first attribute with the given route.
public abstract List< String >	<i>getAttributes(String...)</i> on page 1317	Returns all the values of attributes with the given route.
public abstract Map< String, String >	<i>getChildAttributeMap(String...)</i> on page 1318	Returns all the name-value pairs of attributes contained by the element with the given route.
public abstract List< String >	<i>getChildAttributes(String...)</i> on page 1318	Returns all the values of attributes contained by the element with the given route.
public abstract List< ISDMParseDocument >	<i>getChildDocuments(String...)</i> on page 1318	Returns the elements contained by the element with the given route.
public abstract List< ISDMParseDocument >	<i>getChildDocumentsWithAttribute(String, String, String...)</i> on page 1319	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public abstract List< ISDMParseDocument >	<i>getChildDocumentsWithAttribute(String, String, boolean, String...)</i> on page 1319	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public abstract ISDMParseDocument	<i>getDocument(String...)</i> on page 1320	Returns the first element with the given route.
public abstract List< ISDMParseDocument >	<i>getDocuments(String...)</i> on page 1320	Returns all the elements with the given route.



Modifier and Type	Member	Description
public abstract List< ISDMParseDocument >	<i>getDocumentsWithAttribute(String, String, String...)</i> on page 1321	Returns the elements with the given route that contains the given attribute with the given value.
public abstract List< ISDMParseDocument >	<i>getDocumentsWithAttribute(String, String, boolean, String...)</i> on page 1321	Returns the elements with the given route that contains the given attribute with the given value.
public abstract ISDMParseDocument	<i>getDocumentWithAttribute(String, String, String...)</i> on page 1322	Returns the first element with the given route that contains the given attribute with the given value.
public abstract ISDMParseDocument	<i>getDocumentWithAttribute(String, String, boolean, String...)</i> on page 1322	Returns the first element with the given route that contains the given attribute with the given value.
public abstract String	<i>getElementName()</i> on page 1323	Returns The name of the root element of this document.
public abstract String	<i>getFunctionImportComplexPropertyValue(String...)</i> on page 1323	
public abstract String	<i>getPrefixForUri(String)</i> on page 1323	Returns the appropriate namespace prefix for the given XML name-space URI.
public abstract String[]	<i>getStrings()</i> on page 1324	Returns all the string values contained by this document.
public abstract String	<i>getValue(String...)</i> on page 1324	Returns the value of the first element with the given route.
public abstract List< String >	<i>getValues(String...)</i> on page 1324	Returns all the values of elements with the given route.
public abstract void	<i>putAttribute(String, String...)</i> on page 1325	Sets the value of the attribute with the given route If attribute does not exist it will be created as well as all other non existing elements in the route.

Modifier and Type	Member	Description
public abstract void	<i>putDocument(ISDMParseDocument, String...)</i> on page 1325	Insert the document under the element with the given route inserted document will be placed before already existing documents with the same route name under All missing elements from the route will be created.
public abstract void	<i>putValue(String, String...)</i> on page 1325	Sets the value of the first element with the given route.
public abstract boolean	<i>removeAttribute(String...)</i> on page 1326	Removes first element with the given route.
public abstract boolean	<i>removeAttributes(String...)</i> on page 1326	Removes all the attribute with the given route.
public abstract boolean	<i>removeDocument(String...)</i> on page 1326	Removes first element with the given route For removing multiple element use setDocuemtns with null arguments.
public static final String	<i>ROOT_DOCUMENT_NAME</i> on page 1330	The default root element name for a new document.
public abstract void	<i>setAttributes(List&lt;String&gt;, String...)</i> on page 1327	Sets all the values of the attributes with the given route Values will be paired to attributes in order Attributes with greater or equals index than size of new values will be untouched Attributes paired with null values will be removed.
public abstract void	<i>setDocuments(List&lt;ISDMParseDocument&gt;, String...)</i> on page 1327	Replaces all the elements with the given route Documents will be paired to elements in order Elements with greater or equals index than size of new elements will be untouched Element paired with null will be removed.

Modifier and Type	Member	Description
public abstract void	<i>setElementName(String, String...)</i> on page 1328	Sets the name of the root element with the given route Use empty route for setting root name of this document.
public abstract void	<i>setValues(List&lt; String &gt;, String...)</i> on page 1328	Sets all the values of the elements with the given rout Values will be paired to elements in order Elements with greater or equals index than size of new values will be untouched Null values will be treated as empty strings.
public abstract String	<i>toXMLString()</i> on page 1328	Returns the XML string representation of this object.
public static final String	<i>XMLNS_APPLICATION_URI</i> on page 1330	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/08/dataservices">http://schemas.microsoft.com/ado/2007/08/dataservices</a> .
public static final String	<i>XMLNS_ATOM_URI</i> on page 1330	Constant for XMLNS URI: <a href="http://www.w3.org/2005/Atom">http://www.w3.org/2005/Atom</a> .
public static final String	<i>XMLNS_DATASERVICES_URI</i> on page 1330	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/08/dataservices">http://schemas.microsoft.com/ado/2007/08/dataservices</a> .
public static final String	<i>XMLNS_EDM_URI</i> on page 1330	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/05/edm">http://schemas.microsoft.com/ado/2007/05/edm</a> .
public static final String	<i>XMLNS_EDMX_URI</i> on page 1330	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/06/edmx">http://schemas.microsoft.com/ado/2007/06/edmx</a> .
public static final String	<i>XMLNS_GENERICPLAYER_URI</i> on page 1331	Constant for XMLNS URI: <a href="http://www.sap.com/Protocols/SAPData/GenericPlayer">http://www.sap.com/Protocols/SAPData/GenericPlayer</a> .
public static final String	<i>XMLNS_METADATA_URI</i> on page 1331	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/08/dataservices/metadata">http://schemas.microsoft.com/ado/2007/08/dataservices/metadata</a> .

Modifier and Type	Member	Description
public static final String	<i>XMLNS_SAP_URI</i> on page 1331	Constant for XMLNS URI: <a href="http://www.sap.com/Protocols/SAPData">http://www.sap.com/Protocols/SAPData</a> .

**Inherited members from ISDMPersistable**

Modifier and Type	Member	Description
public void	<i>read(BufferedReader)</i> on page 1332	
public void	<i>write(BufferedWriter)</i> on page 1332	

*getActionFor() method*

Returns The value of the appropriate SDMOData attribute.

*Syntax*

```
public abstract String getActionFor ()
```

*Returns*

The value of the appropriate SDMOData attribute

*getCollectionId() method*

Returns The value of the 'EntitySet' SDMOData attribute.

*Syntax*

```
public abstract String getCollectionId ()
```

*Returns*

The value of the 'EntitySet' SDMOData attribute

*getEntitySet() method*

Returns The value of the 'EntitySet' SDMOData attribute.

*Syntax*

```
public abstract String getEntitySet ()
```

*Returns*

The value of the 'EntitySet' SDMOData attribute

*getExecutionUrl(Map< String, String >) method*

Calculate the full execution URL for executing this Function Import according to the passed parameters.

*Syntax*

```
public abstract String getExecutionUrl (Map< String, String >
parameters )
```

*Returns*

The full execution URL

*getHTTPMethod() method*

Returns The value of the appropriate SDMODData attribute.

*Syntax*

```
public abstract String getHTTPMethod ()
```

*Returns*

The value of the appropriate SDMODData attribute

*getInputParameterNames() method*

Returns The list of the appropriate SDMODData element with 'In' or 'InOut' attribute value.

*Syntax*

```
public abstract List< String > getInputParameterNames ()
```

*Returns*

The list of the appropriate SDMODData element with 'In' or 'InOut' attribute value

*getName() method*

Returns The value of the appropriate SDMODData attribute.

*Syntax*

```
public abstract String getName ()
```

*Returns*

The value of the appropriate SDMODData attribute

*getOutputParameterNames() method*

Returns The list of the appropriate SDMODData element with 'Out' or 'InOut' attribute value.

*Syntax*

```
public abstract List< String > getOutputParameterNames ()
```

### *Returns*

The list of the appropriate SDMODData element with 'Out' or 'InOut' attribute value

### *getParameters() method*

Returns The list of the appropriate SDMODData element.

### *Syntax*

```
public abstract List< ISDMODDataParameter > getParameters ()
```

### *Returns*

The list of the appropriate SDMODData element

### *getReturnType() method*

Returns The value of the appropriate SDMODData attribute.

### *Syntax*

```
public abstract String getReturnType ()
```

### *Returns*

The value of the appropriate SDMODData attribute

### *getReturnTypeEnum() method*

Returns The return type of this Function Import SDMODData document.

### *Syntax*

```
public RETURNNTYPE_ENUM getReturnTypeEnum ()
```

### *Returns*

The return type of this Function Import SDMODData document

### *ATTRIBUTE\_ACTION\_FOR variable*

Name of the appropriate SDMSDMODData attribute.

### *Syntax*

```
public static final String ATTRIBUTE_ACTION_FOR
```

### *ATTRIBUTE\_ENTITYSET variable*

Name of the appropriate SDMODData attribute.

### *Syntax*

```
public static final String ATTRIBUTE_ENTITYSET
```

*ATTRIBUTE\_HTTPMETHOD variable*

Name of the appropriate SDMOData attribute.

*Syntax*

```
public static final String ATTRIBUTE_HTTPMETHOD
```

*ATTRIBUTE\_NAME variable*

Name of the appropriate SDMOData attribute.

*Syntax*

```
public static final String ATTRIBUTE_NAME
```

*ATTRIBUTE\_RETURNTYPE variable*

Name of the appropriate SDMOData attribute.

*Syntax*

```
public static final String ATTRIBUTE_RETURNTYPE
```

*ELEMENT\_FUNCTIONALIMPORT variable*

Name of the appropriate SDMOData element.

*Syntax*

```
public static final String ELEMENT_FUNCTIONALIMPORT
```

*ELEMENT\_PARAMETER variable*

Name of the appropriate SDMOData element.

*Syntax*

```
public static final String ELEMENT_PARAMETER
```

*ISDMODataIcon interface*

Deprecated. since 3.0, Use IODataIcon Represents the appropriate SDMOData element.

*Syntax*

```
public interface ISDMODataIcon extends ISDMParserDocument
```

*Derived classes*

- *SDMODataIcon* on page 1632

*Members*

All members of ISDMODataIcon, including inherited members. **Variables**

Modifier and Type	Variable	Description
public static final String	<i>ATTRIBUTE_HEIGHT</i> on page 1194	Name of the appropriate SDMSDMOData attribute.
public static final String	<i>ATTRIBUTE_WIDTH</i> on page 1194	Name of the appropriate SDMSDMOData attribute.
public static final String	<i>ELEMENT_ICON</i> on page 1194	Name of the appropriate SDMSDMOData element.

### Methods

Modifier and Type	Method	Description
public int	<i>getHeight()</i> on page 1193	Returns The value of the appropriate SDMOData attribute.
public String	<i>getUrl()</i> on page 1193	Returns The value of the appropriate SDMOData attribute.
public int	<i>getWidth()</i> on page 1193	Returns The value of the appropriate SDMOData attribute.

### Inherited members from ISDMParserDocument

Modifier and Type	Member	Description
public static final String	<i>ATTRIBUTE_ETAG</i> on page 1329	Name of the appropriate SDMOData element.
public static final String	<i>ATTRIBUTE_VALUEPREFIX_EDMTYPE</i> on page 1329	Value prefix for EDM Type type values.
public abstract ISDMParserDocument	<i>clone()</i> on page 1317	Creates a copy of this object.
public static Map< String, String >	<i>DEFAULT_PREFIXMAPPING</i> on page 1329	The default XML Namespace-to-Prefix mapping used for building XMLS.
public static final String[]	<i>EDMDATETIME_PATTERNS</i> on page 1329	Possible EDM DateTime patterns Note: Some pattern are not supported by OData specification but still widely used.



Modifier and Type	Member	Description
public static final String[]	<i>EDMDATETIMEOFFSET_PATTERNS</i> on page 1329	Possible EDM TimeOffset patterns Note: Some pattern are not supported by OData specification but still widely used.
public static final String	<i>EDMTIME_PATTERN</i> on page 1329	EDM Time pattern.
public static String	<i>ELEMENT_FEED</i> on page 1329	Name of the appropriate SDMOData element.
public static final String	<i>ELEMENT_ID</i> on page 1330	Name of the appropriate SDMOData element.
public abstract String	<i>getAttribute(String...)</i> on page 1317	Returns the value of the first attribute with the given route.
public abstract List< String >	<i>getAttributes(String...)</i> on page 1317	Returns all the values of attributes with the given route.
public abstract Map< String, String >	<i>getChildAttributeMap(String...)</i> on page 1318	Returns all the name-value pairs of attributes contained by the element with the given route.
public abstract List< String >	<i>getChildAttributes(String...)</i> on page 1318	Returns all the values of attributes contained by the element with the given route.
public abstract List< ISDMParseDocument >	<i>getChildDocuments(String...)</i> on page 1318	Returns the elements contained by the element with the given route.
public abstract List< ISDMParseDocument >	<i>getChildDocumentsWithAttribute(String, String, String...)</i> on page 1319	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public abstract List< ISDMParseDocument >	<i>getChildDocumentsWithAttribute(String, String, boolean, String...)</i> on page 1319	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public abstract ISDMParseDocument	<i>getDocument(String...)</i> on page 1320	Returns the first element with the given route.
public abstract List< ISDMParseDocument >	<i>getDocuments(String...)</i> on page 1320	Returns all the elements with the given route.

Modifier and Type	Member	Description
public abstract List< ISDMParseDocument >	<i>getDocumentsWithAttribute(String, String, String...)</i> on page 1321	Returns the elements with the given route that contains the given attribute with the given value.
public abstract List< ISDMParseDocument >	<i>getDocumentsWithAttribute(String, String, boolean, String...)</i> on page 1321	Returns the elements with the given route that contains the given attribute with the given value.
public abstract ISDMParseDocument	<i>getDocumentWithAttribute(String, String, String...)</i> on page 1322	Returns the first element with the given route that contains the given attribute with the given value.
public abstract ISDMParseDocument	<i>getDocumentWithAttribute(String, String, boolean, String...)</i> on page 1322	Returns the first element with the given route that contains the given attribute with the given value.
public abstract String	<i>getElementName()</i> on page 1323	Returns The name of the root element of this document.
public abstract String	<i>getFunctionImportComplexPropertyValue(String...)</i> on page 1323	
public abstract String	<i>getPrefixForUri(String)</i> on page 1323	Returns the appropriate namespace prefix for the given XML name-space URI.
public abstract String[]	<i>getStrings()</i> on page 1324	Returns all the string values contained by this document.
public abstract String	<i>getValue(String...)</i> on page 1324	Returns the value of the first element with the given route.
public abstract List< String >	<i>getValues(String...)</i> on page 1324	Returns all the values of elements with the given route.
public abstract void	<i>putAttribute(String, String...)</i> on page 1325	Sets the value of the attribute with the given route If attribute does not exist it will be created as well as all other non existing elements in the route.

Modifier and Type	Member	Description
public abstract void	<i>putDocument(ISDMParseDocument, String...)</i> on page 1325	Insert the document under the element with the given route inserted document will be placed before already existing documents with the same route name under All missing elements from the route will be created.
public abstract void	<i>putValue(String, String...)</i> on page 1325	Sets the value of the first element with the given route.
public abstract boolean	<i>removeAttribute(String...)</i> on page 1326	Removes first element with the given route.
public abstract boolean	<i>removeAttributes(String...)</i> on page 1326	Removes all the attribute with the given route.
public abstract boolean	<i>removeDocument(String...)</i> on page 1326	Removes first element with the given route For removing multiple element use setDocuemtns with null arguments.
public static final String	<i>ROOT_DOCUMENT_NAME</i> on page 1330	The default root element name for a new document.
public abstract void	<i>setAttributes(List&lt;String&gt;, String...)</i> on page 1327	Sets all the values of the attributes with the given route Values will be paired to attributes in order Attributes with greater or equals index than size of new values will be untouched Attributes paired with null values will be removed.
public abstract void	<i>setDocuments(List&lt;ISDMParseDocument&gt;, String...)</i> on page 1327	Replaces all the elements with the given route Documents will be paired to elements in order Elements with greater or equals index than size of new elements will be untouched Element paired with null will be removed.

Modifier and Type	Member	Description
public abstract void	<i>setElementName(String, String...)</i> on page 1328	Sets the name of the root element with the given route Use empty route for setting root name of this document.
public abstract void	<i>setValues(List&lt; String &gt;, String...)</i> on page 1328	Sets all the values of the elements with the given rout Values will be paired to elements in order Elements with greater or equals index than size of new values will be untouched Null values will be treated as empty strings.
public abstract String	<i>toXMLString()</i> on page 1328	Returns the XML string representation of this object.
public static final String	<i>XMLNS_APPLICATION_URI</i> on page 1330	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/08/dataservices">http://schemas.microsoft.com/ado/2007/08/dataservices</a> .
public static final String	<i>XMLNS_ATOM_URI</i> on page 1330	Constant for XMLNS URI: <a href="http://www.w3.org/2005/Atom">http://www.w3.org/2005/Atom</a> .
public static final String	<i>XMLNS_DATASERVICES_URI</i> on page 1330	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/08/dataservices">http://schemas.microsoft.com/ado/2007/08/dataservices</a> .
public static final String	<i>XMLNS_EDM_URI</i> on page 1330	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/05/edm">http://schemas.microsoft.com/ado/2007/05/edm</a> .
public static final String	<i>XMLNS_EDMX_URI</i> on page 1330	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/06/edmx">http://schemas.microsoft.com/ado/2007/06/edmx</a> .
public static final String	<i>XMLNS_GENERICPLAYER_URI</i> on page 1331	Constant for XMLNS URI: <a href="http://www.sap.com/Protocols/SAPData/GenericPlayer">http://www.sap.com/Protocols/SAPData/GenericPlayer</a> .
public static final String	<i>XMLNS_METADATA_URI</i> on page 1331	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/08/dataservices/metadata">http://schemas.microsoft.com/ado/2007/08/dataservices/metadata</a> .

Modifier and Type	Member	Description
public static final String	<i>XMLNS_SAP_URI</i> on page 1331	Constant for XMLNS URI: <a href="http://www.sap.com/Protocols/SAPData">http://www.sap.com/Protocols/SAPData</a> .

#### Inherited members from ISDMPersistable

Modifier and Type	Member	Description
public void	<i>read(BufferedReader)</i> on page 1332	
public void	<i>write(BufferedWriter)</i> on page 1332	

#### *getHeight()* method

Returns The value of the appropriate SDMOData attribute.

#### *Syntax*

```
public int getHeight ()
```

#### *Returns*

The value of the appropriate SDMOData attribute

#### *getUrl()* method

Returns The value of the appropriate SDMOData attribute.

#### *Syntax*

```
public String getUrl ()
```

#### *Returns*

The value of the appropriate SDMOData attribute

#### *getWidth()* method

Returns The value of the appropriate SDMOData attribute.

#### *Syntax*

```
public int getWidth ()
```

#### *Returns*

The value of the appropriate SDMOData attribute

*ATTRIBUTE\_HEIGHT variable*

Name of the appropriate SDMSDMOData attribute.

*Syntax*

```
public static final String ATTRIBUTE_HEIGHT
```

*ATTRIBUTE\_WIDTH variable*

Name of the appropriate SDMSDMOData attribute.

*Syntax*

```
public static final String ATTRIBUTE_WIDTH
```

*ELEMENT\_ICON variable*

Name of the appropriate SDMSDMOData element.

*Syntax*

```
public static final String ELEMENT_ICON
```

*ISDMODataLink interface*

Deprecated. since 3.0, Use IODataLink Represents the appropriate SDMOData element.

*Syntax*

```
public abstract interface ISDMODataLink extends  
ISDMParserDocument
```

*Derived classes*

- *SDMODataLink* on page 1648

*Members*

All members of ISDMODataLink, including inherited members. **Variables**

Modifier and Type	Variable	Description
public static final String	<i>ATTRIBUTE_HREF</i> on page 1205	Name of the appropriate SDMOData attribute.
public static final String	<i>ATTRIBUTE_REL</i> on page 1205	Name of the appropriate SDMOData attribute.
public static final String	<i>ATTRIBUTE_REL_VAL-UE_EDIT</i> on page 1205	Value option for the appropriate SDMOData parameter.
public static final String	<i>ATTRIBUTE_REL_VAL-UE_SELF</i> on page 1205	Value option for the appropriate SDMOData parameter.

Modifier and Type	Variable	Description
public static final String	<i>ATTRIBUTE_SEMANTICS</i> on page 1205	Name of the appropriate SDMODData attribute.
public static final String	<i>ATTRIBUTE_TITLE</i> on page 1205	Name of the appropriate SDMODData attribute.
public static final String	<i>ATTRIBUTE_VALUE-PART_RELATED</i> on page 1205	String that should be part of every rel attribute of a Related Data Link.
public static final String	<i>ATTRIBUTE_VALUESUFFIX_SUBSCRIPTION</i> on page 1206	String that should be end of every rel attribute of a Subscription Link.
public static final String	<i>ELEMENT_INLINE</i> on page 1206	Name of the appropriate SDMODData element.
public static final String	<i>ELEMENT_LINK</i> on page 1206	Name of the appropriate SDMODData element.
public static final String	<i>ELEMENT_PARAMETER</i> on page 1206	Name of the appropriate SDMODData element.
public static final String	<i>ELEMENT_PARAMETER-SET</i> on page 1206	Name of the appropriate SDMODData element.

## Methods

Modifier and Type	Method	Description
public abstract String	<i>getHref()</i> on page 1201	Returns the value of the appropriate SDMODData attribute.
public abstract List< ISDMODDataEntry >	<i>getInlineEntries()</i> on page 1202	Returns the list of SDMODData Entries contained by the appropriate SDMODData 'inline' element.
public abstract List< String >	<i>getInputParameterNames()</i> on page 1202	Returns the list of the appropriate SDMODData Parameter elements that should be used as input parameter.
public abstract List< String >	<i>getOutputParameterNames()</i> on page 1202	Returns the list of the appropriate SDMODData Parameter elements that should be used as output parameter.

Modifier and Type	Method	Description
public abstract List< ISDMO-DataParameter >	<i>getParameters()</i> on page 1202	Returns the list of the appropriate SDMODData Parameter elements.
public abstract String	<i>getRel()</i> on page 1203	Returns the value of the appropriate SDMODData attribute.
public abstract ISDMODData-Schema	<i>getSchema()</i> on page 1203	Returns the Schema that is to be used for 'Inline entries'.
public abstract String	<i>getSemantics()</i> on page 1203	Returns The value of the appropriate SDMODData extension (vCard) attribute.
public abstract String	<i>getTargetCollectionId()</i> on page 1203	Returns the Id of the collection that this link points to (if any)
public abstract String	<i>getTitle()</i> on page 1203	Returns the value of the appropriate SDMODData attribute.
public abstract String	<i>getUrl()</i> on page 1204	Returns the full URL for this SDMODData Link object without parameters.
public abstract String	<i>getUrlWithParameters(Map&lt;String, String &gt;)</i> on page 1204	Returns the full URL for this SDMODData Link object extended with the given parameter names and values.
public abstract void	<i>setSchema(ISDMODDataSchema)</i> on page 1204	Sets the Schema that is to be used for 'Inline entries'.
public abstract void	<i>setTargetCollectionId(String)</i> on page 1204	Maintains the Id of the collection that this link points to (if any)

#### Inherited members from ISDMParserDocument

Modifier and Type	Member	Description
public static final String	<i>ATTRIBUTE_ETAG</i> on page 1329	Name of the appropriate SDMODData element.
public static final String	<i>ATTRIBUTE_VALUEPREFIX_EDMTYPE</i> on page 1329	Value prefix for EDM Type type values.



Modifier and Type	Member	Description
public abstract ISDMParserDocument	<i>clone()</i> on page 1317	Creates a copy of this object.
public static Map< String, String >	<i>DEFAULT_PREFIXMAP-PING</i> on page 1329	The default XML Namespace-to-Prefix mapping used for building XMLS.
public static final String[]	<i>EDMDATETIME_PATTERNS</i> on page 1329	Possible EDM DateTime patterns Note: Some pattern are not supported by OData specification but still widely used.
public static final String[]	<i>EDMDATETIMEOFFSET_PATTERNS</i> on page 1329	Possible EDM TimeOffset patterns Note: Some pattern are not supported by OData specification but still widely used.
public static final String	<i>EDMTIME_PATTERN</i> on page 1329	EDM Time pattern.
public static String	<i>ELEMENT_FEED</i> on page 1329	Name of the appropriate SDMOData element.
public static final String	<i>ELEMENT_ID</i> on page 1330	Name of the appropriate SDMOData element.
public abstract String	<i>getAttribute(String...)</i> on page 1317	Returns the value of the first attribute with the given route.
public abstract List< String >	<i>getAttributes(String...)</i> on page 1317	Returns all the values of attributes with the given route.
public abstract Map< String, String >	<i>getChildAttribute-Map(String...)</i> on page 1318	Returns all the name-value pairs of attributes contained by the element with the given route.
public abstract List< String >	<i>getChildAttributes(String...)</i> on page 1318	Returns all the values of attributes contained by the element with the given route.
public abstract List< ISDMParserDocument >	<i>getChildDocuments(String...)</i> on page 1318	Returns the elements contained by the element with the given route.

Modifier and Type	Member	Description
public abstract List< ISDMParseDocument >	<i>getChildDocumentsWithAttribute(String, String, String...)</i> on page 1319	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public abstract List< ISDMParseDocument >	<i>getChildDocumentsWithAttribute(String, String, boolean, String...)</i> on page 1319	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public abstract ISDMParseDocument	<i>getDocument(String...)</i> on page 1320	Returns the first element with the given route.
public abstract List< ISDMParseDocument >	<i>getDocuments(String...)</i> on page 1320	Returns all the elements with the given route.
public abstract List< ISDMParseDocument >	<i>getDocumentsWithAttribute(String, String, String...)</i> on page 1321	Returns the elements with the given route that contains the given attribute with the given value.
public abstract List< ISDMParseDocument >	<i>getDocumentsWithAttribute(String, String, boolean, String...)</i> on page 1321	Returns the elements with the given route that contains the given attribute with the given value.
public abstract ISDMParseDocument	<i>getDocumentWithAttribute(String, String, String...)</i> on page 1322	Returns the first element with the given route that contains the given attribute with the given value.
public abstract ISDMParseDocument	<i>getDocumentWithAttribute(String, String, boolean, String...)</i> on page 1322	Returns the first element with the given route that contains the given attribute with the given value.
public abstract String	<i>getElementName()</i> on page 1323	Returns The name of the root element of this document.
public abstract String	<i>getFunctionImportComplexPropertyValue(String...)</i> on page 1323	
public abstract String	<i>getPrefixForUri(String)</i> on page 1323	Returns the appropriate namespace prefix for the given XML name-space URI.

Modifier and Type	Member	Description
public abstract String[]	<i>getStrings()</i> on page 1324	Returns all the string values contained by this document.
public abstract String	<i>getValue(String...)</i> on page 1324	Returns the value of the first element with the given route.
public abstract List< String >	<i>getValues(String...)</i> on page 1324	Returns all the values of elements with the given route.
public abstract void	<i>putAttribute(String, String...)</i> on page 1325	Sets the value of the attribute with the given route If attribute does not exist it will be created as well as all other non existing elements in the route.
public abstract void	<i>putDocument(ISDMParserDocument, String...)</i> on page 1325	Insert the document under the element with the given route inserted document will be placed before already existing documents with the same route name under All missing elements from the route will be created.
public abstract void	<i>putValue(String, String...)</i> on page 1325	Sets the value of the first element with the given route.
public abstract boolean	<i>removeAttribute(String...)</i> on page 1326	Removes first element with the given route.
public abstract boolean	<i>removeAttributes(String...)</i> on page 1326	Removes all the attribute with the given route.
public abstract boolean	<i>removeDocument(String...)</i> on page 1326	Removes first element with the given route For removing multiple element use setDocuemtns with null arguments.
public static final String	<i>ROOT_DOCUMENT_NAME</i> on page 1330	The default root element name for a new document.

Modifier and Type	Member	Description
public abstract void	<i>setAttributes(List&lt; String &gt;, String...)</i> on page 1327	Sets all the values of the attributes with the given route Values will be paired to attributes in order Attributes with greater or equals index than size of new values will be untouched Attributes paired with null values will be removed.
public abstract void	<i>setDocuments(List&lt; ISDMParserDocument &gt;, String...)</i> on page 1327	Replaces all the elements with the given route Documents will be paired to elements in order Elements with greater or equals index than size of new elements will be untouched Element paired with null will be removed.
public abstract void	<i>setElementName(String, String...)</i> on page 1328	Sets the name of the root element with the given route Use empty route for setting root name of this document.
public abstract void	<i>setValues(List&lt; String &gt;, String...)</i> on page 1328	Sets all the values of the elements with the given rout Values will be paired to elements in order Elements with greater or equals index than size of new values will be untouched Null values will be treated as empty strings.
public abstract String	<i>toXMLString()</i> on page 1328	Returns the XML string representation of this object.
public static final String	<i>XMLNS_APPLICATION_URI</i> on page 1330	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/08/dataservices">http://schemas.microsoft.com/ado/2007/08/dataservices</a> .
public static final String	<i>XMLNS_ATOM_URI</i> on page 1330	Constant for XMLNS URI: <a href="http://www.w3.org/2005/Atom">http://www.w3.org/2005/Atom</a> .

Modifier and Type	Member	Description
public static final String	<i>XMLNS_DATASERVICES_URI</i> on page 1330	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/08/dataservices">http://schemas.microsoft.com/ado/2007/08/dataservices</a> .
public static final String	<i>XMLNS_EDM_URI</i> on page 1330	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/05/edm">http://schemas.microsoft.com/ado/2007/05/edm</a> .
public static final String	<i>XMLNS_EDMX_URI</i> on page 1330	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/06/edmx">http://schemas.microsoft.com/ado/2007/06/edmx</a> .
public static final String	<i>XMLNS_GENERICPLAYER_URI</i> on page 1331	Constant for XMLNS URI: <a href="http://www.sap.com/Protocols/SAPData/GenericPlayer">http://www.sap.com/Protocols/SAPData/GenericPlayer</a> .
public static final String	<i>XMLNS_METADATA_URI</i> on page 1331	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/08/dataservices/metadata">http://schemas.microsoft.com/ado/2007/08/dataservices/metadata</a> .
public static final String	<i>XMLNS_SAP_URI</i> on page 1331	Constant for XMLNS URI: <a href="http://www.sap.com/Protocols/SAPData">http://www.sap.com/Protocols/SAPData</a> .

#### Inherited members from ISDMPersistable

Modifier and Type	Member	Description
public void	<i>read(BufferedReader)</i> on page 1332	
public void	<i>write(BufferedWriter)</i> on page 1332	

#### *getHref()* method

Returns the value of the appropriate SDMOData attribute.

#### Syntax

```
public abstract String getHref ()
```

#### Returns

The value of the appropriate SDMOData attribute

### *getInlineEntries() method*

Returns the list of SDMOData Entries contained by the appropriate SDMOData 'inline' element.

#### *Syntax*

```
public abstract List< ISDMODataEntry > getInlineEntries ()
```

#### *Returns*

The List of 'inline' SDMOData Entries

### *getInputParameterNames() method*

Returns the list of the appropriate SDMOData Parameter elements that should be used as input parameter.

#### *Syntax*

```
public abstract List< String > getInputParameterNames ()
```

#### *Returns*

The list of the appropriate SDMOData Parameter elements that should be used as input parameter

### *getOutputParameterNames() method*

Returns the list of the appropriate SDMOData Parameter elements that should be used as output parameter.

#### *Syntax*

```
public abstract List< String > getOutputParameterNames ()
```

#### *Returns*

The list of the appropriate SDMOData Parameter elements that should be used as output parameter

### *getParameters() method*

Returns the list of the appropriate SDMOData Parameter elements.

#### *Syntax*

```
public abstract List< ISDMODataParameter > getParameters ()
```

#### *Returns*

The list of the appropriate SDMOData Parameter elements

*getRel() method*

Returns the value of the appropriate SDMOData attribute.

*Syntax*

```
public abstract String getRel ()
```

*Returns*

The value of the appropriate SDMOData attribute

*getSchema() method*

Returns the Schema that is to be used for 'Inline entries'.

*Syntax*

```
public abstract ISDMODataSchema getSchema ()
```

*Returns*

The relevant schema

*getSemantics() method*

Returns The value of the appropriate SDMOData extension (vCard) attribute.

*Syntax*

```
public abstract String getSemantics ()
```

*Returns*

The value of the appropriate SDMOData extension (vCard) attribute

*getTargetCollectionId() method*

Returns the Id of the collection that this link points to (if any)

*Syntax*

```
public abstract String getTargetCollectionId ()
```

*Returns*

The Id of the collection that this link points to

*getTitle() method*

Returns the value of the appropriate SDMOData attribute.

*Syntax*

```
public abstract String getTitle ()
```

### *Returns*

The value of the appropriate SDMOData attribute

### *getUrl() method*

Returns the full URL for this SDMOData Link object without parameters.

### *Syntax*

```
public abstract String getUrl ()
```

### *Returns*

The full URL of this link without parameters

### *getUrlWithParameters(Map< String, String >) method*

Returns the full URL for this SDMOData Link object extended with the given parameter names and values.

### *Syntax*

```
public abstract String getUrlWithParameters (Map< String,  
String > parameters )
```

### *Returns*

The full URL of this link with parameters

### *setSchema(ISDMODataSchema) method*

Sets the Schema that is to be used for 'Inline entries'.

### *Syntax*

```
public abstract void setSchema ( ISDMODataSchema schema )
```

### *Parameters*

- **schema** – The relevant schema

### *setTargetCollectionId(String) method*

Maintains the Id of the collection that this link points to (if any)

### *Syntax*

```
public abstract void setTargetCollectionId (String  
targetCollectionId )
```

### *Parameters*

- **targetCollectionId** – The Id of the collection that this link points to



***ATTRIBUTE\_HREF variable***

Name of the appropriate SDMOData attribute.

***Syntax***

```
public static final String ATTRIBUTE_HREF
```

***ATTRIBUTE\_REL variable***

Name of the appropriate SDMOData attribute.

***Syntax***

```
public static final String ATTRIBUTE_REL
```

***ATTRIBUTE\_REL\_VALUE\_EDIT variable***

Value option for the appropriate SDMOData parameter.

***Syntax***

```
public static final String ATTRIBUTE_REL_VALUE_EDIT
```

***ATTRIBUTE\_REL\_VALUE\_SELF variable***

Value option for the appropriate SDMOData parameter.

***Syntax***

```
public static final String ATTRIBUTE_REL_VALUE_SELF
```

***ATTRIBUTE\_SEMANTICS variable***

Name of the appropriate SDMOData attribute.

***Syntax***

```
public static final String ATTRIBUTE_SEMANTICS
```

***ATTRIBUTE\_TITLE variable***

Name of the appropriate SDMOData attribute.

***Syntax***

```
public static final String ATTRIBUTE_TITLE
```

***ATTRIBUTE\_VALUEPART\_RELATED variable***

String that should be part of every rel attribute of a Related Data Link.

***Syntax***

```
public static final String ATTRIBUTE_VALUEPART_RELATED
```

### *ATTRIBUTE\_VALUESUFFIX\_SUBSCRIPTION variable*

String that should be end of every rel attribute of a Subscription Link.

#### *Syntax*

```
public static final String  
ATTRIBUTE_VALUESUFFIX_SUBSCRIPTION
```

### *ELEMENT\_INLINE variable*

Name of the appropriate SDMOData element.

#### *Syntax*

```
public static final String ELEMENT_INLINE
```

### *ELEMENT\_LINK variable*

Name of the appropriate SDMOData element.

#### *Syntax*

```
public static final String ELEMENT_LINK
```

### *ELEMENT\_PARAMETER variable*

Name of the appropriate SDMOData element.

#### *Syntax*

```
public static final String ELEMENT_PARAMETER
```

### *ELEMENT\_PARAMETERSET variable*

Name of the appropriate SDMOData element.

#### *Syntax*

```
public static final String ELEMENT_PARAMETERSET
```

### *ISDMODataNavigationProperty interface*

Deprecated. since 3.0, Use IODataNavigationProperty Represents the appropriate SDMOData element.

#### *Syntax*

```
public abstract interface ISDMODataNavigationProperty extends  
ISDMParserDocument
```

#### *Derived classes*

- *SDMODataNavigationProperty* on page 1669

**Members**

All members of ISDMODataNavigationProperty, including inherited members. **Variables**

Modifier and Type	Variable	Description
public static final String	<i>ATTRIBUTE_FROMROLE</i> on page 1213	Name of the appropriate SDMODData attribute.
public static final String	<i>ATTRIBUTE_NAME</i> on page 1213	Name of the appropriate SDMODData attribute.
public static final String	<i>ATTRIBUTE_RELATIONSHIP</i> on page 1213	Name of the appropriate SDMODData attribute.
public static final String	<i>ATTRIBUTE_TOROLE</i> on page 1213	Name of the appropriate SDMODData attribute.
public static final String	<i>ELEMENT_NAVIGATIONPROPERTY</i> on page 1214	Name of the appropriate SDMODData element.

**Methods**

Modifier and Type	Method	Description
public abstract String	<i>getFromRole()</i> on page 1212	Returns The value of the appropriate SDMODData attribute.
public abstract String	<i>getName()</i> on page 1212	Returns The value of the appropriate SDMODData attribute.
public abstract String	<i>getRelationship()</i> on page 1213	Returns The value of the appropriate SDMODData attribute.
public abstract String	<i>getToRole()</i> on page 1213	Returns The value of the appropriate SDMODData attribute.

**Inherited members from ISDMParserDocument**

Modifier and Type	Member	Description
public static final String	<i>ATTRIBUTE_ETAG</i> on page 1329	Name of the appropriate SDMODData element.
public static final String	<i>ATTRIBUTE_VALUEPREFIX_EDMTYPE</i> on page 1329	Value prefix for EDM Type type values.
public abstract ISDMParserDocument	<i>clone()</i> on page 1317	Creates a copy of this object.

Modifier and Type	Member	Description
public static Map< String, String >	<i>DEFAULT_PREFIXMAP-PING</i> on page 1329	The default XML Namespace-to-Prefix mapping used for building XMLS.
public static final String[]	<i>EDMDATETIME_PATTERNS</i> on page 1329	Possible EDM DateTime patterns Note: Some pattern are not supported by OData specification but still widely used.
public static final String[]	<i>EDMDATETIMEOFFSET_PATTERNS</i> on page 1329	Possible EDM TimeOffset patterns Note: Some pattern are not supported by OData specification but still widely used.
public static final String	<i>EDMTIME_PATTERN</i> on page 1329	EDM Time pattern.
public static String	<i>ELEMENT_FEED</i> on page 1329	Name of the appropriate SDMOData element.
public static final String	<i>ELEMENT_ID</i> on page 1330	Name of the appropriate SDMOData element.
public abstract String	<i>getAttribute(String...)</i> on page 1317	Returns the value of the first attribute with the given route.
public abstract List< String >	<i>getAttributes(String...)</i> on page 1317	Returns all the values of attributes with the given route.
public abstract Map< String, String >	<i>getChildAttribute-Map(String...)</i> on page 1318	Returns all the name-value pairs of attributes contained by the element with the given route.
public abstract List< String >	<i>getChildAttributes(String...)</i> on page 1318	Returns all the values of attributes contained by the element with the given route.
public abstract List< ISDMParseDocument >	<i>getChildDocuments(String...)</i> on page 1318	Returns the elements contained by the element with the given route.
public abstract List< ISDMParseDocument >	<i>getChildDocumentsWithAttribute(String, String, String...)</i> on page 1319	Returns the elements contained by the element with the given route and having the given attribute with the given value.

Modifier and Type	Member	Description
public abstract List< ISDMParseDocument >	<i>getChildDocumentsWithAttribute(String, String, boolean, String...)</i> on page 1319	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public abstract ISDMParseDocument	<i>getDocument(String...)</i> on page 1320	Returns the first element with the given route.
public abstract List< ISDMParseDocument >	<i>getDocuments(String...)</i> on page 1320	Returns all the elements with the given route.
public abstract List< ISDMParseDocument >	<i>getDocumentsWithAttribute(String, String, String...)</i> on page 1321	Returns the elements with the given route that contains the given attribute with the given value.
public abstract List< ISDMParseDocument >	<i>getDocumentsWithAttribute(String, String, boolean, String...)</i> on page 1321	Returns the elements with the given route that contains the given attribute with the given value.
public abstract ISDMParseDocument	<i>getDocumentWithAttribute(String, String, String...)</i> on page 1322	Returns the first element with the given route that contains the given attribute with the given value.
public abstract ISDMParseDocument	<i>getDocumentWithAttribute(String, String, boolean, String...)</i> on page 1322	Returns the first element with the given route that contains the given attribute with the given value.
public abstract String	<i>getElementName()</i> on page 1323	Returns The name of the root element of this document.
public abstract String	<i>getFunctionImportComplexProperty Value(String...)</i> on page 1323	
public abstract String	<i>getPrefixForUri(String)</i> on page 1323	Returns the appropriate namespace prefix for the given XML name-space URI.
public abstract String[]	<i>getStrings()</i> on page 1324	Returns all the string values contained by this document.

Modifier and Type	Member	Description
public abstract String	<i>getValue(String...)</i> on page 1324	Returns the value of the first element with the given route.
public abstract List< String >	<i>getValues(String...)</i> on page 1324	Returns all the values of elements with the given route.
public abstract void	<i>putAttribute(String, String...)</i> on page 1325	Sets the value of the attribute with the given route If attribute does not exist it will be created as well as all other non existing elements in the route.
public abstract void	<i>putDocument(ISDMParserDocument, String...)</i> on page 1325	Insert the document under the element with the given route inserted document will be placed before already existing documents with the same route name under All missing elements from the route will be created.
public abstract void	<i>putValue(String, String...)</i> on page 1325	Sets the value of the first element with the given route.
public abstract boolean	<i>removeAttribute(String...)</i> on page 1326	Removes first element with the given route.
public abstract boolean	<i>removeAttributes(String...)</i> on page 1326	Removes all the attribute with the given route.
public abstract boolean	<i>removeDocument(String...)</i> on page 1326	Removes first element with the given route For removing multiple element use setDocuemtns with null arguments.
public static final String	<i>ROOT_DOCUMENT_NAME</i> on page 1330	The default root element name for a new document.
public abstract void	<i>setAttributes(List&lt; String &gt;, String...)</i> on page 1327	Sets all the values of the attributes with the given route Values will be paired to attributes in order Attributes with greater or equals index than size of new values will be untouched Attributes paired with null values will be removed.

Modifier and Type	Member	Description
public abstract void	<i>setDocuments(List&lt; ISDMParserDocument &gt;, String...)</i> on page 1327	Replaces all the elements with the given route Documents will be paired to elements in order Elements with greater or equals index than size of new elements will be untouched Element paired with null will be removed.
public abstract void	<i>setElementName(String, String...)</i> on page 1328	Sets the name of the root element with the given route Use empty route for setting root name of this document.
public abstract void	<i>setValues(List&lt; String &gt;, String...)</i> on page 1328	Sets all the values of the elements with the given route Values will be paired to elements in order Elements with greater or equals index than size of new values will be untouched Null values will be treated as empty strings.
public abstract String	<i>toXMLString()</i> on page 1328	Returns the XML string representation of this object.
public static final String	<i>XMLNS_APPLICATION_URI</i> on page 1330	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/08/dataservices">http://schemas.microsoft.com/ado/2007/08/dataservices</a> .
public static final String	<i>XMLNS_ATOM_URI</i> on page 1330	Constant for XMLNS URI: <a href="http://www.w3.org/2005/Atom">http://www.w3.org/2005/Atom</a> .
public static final String	<i>XMLNS_DATASERVICES_URI</i> on page 1330	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/08/dataservices">http://schemas.microsoft.com/ado/2007/08/dataservices</a> .
public static final String	<i>XMLNS_EDM_URI</i> on page 1330	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/05/edm">http://schemas.microsoft.com/ado/2007/05/edm</a> .
public static final String	<i>XMLNS_EDMX_URI</i> on page 1330	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/06/edmx">http://schemas.microsoft.com/ado/2007/06/edmx</a> .

Modifier and Type	Member	Description
public static final String	<i>XMLNS_GENERICPLAYER_URI</i> on page 1331	Constant for XMLNS URI: <a href="http://www.sap.com/Protocols/SAPData/GenericPlayer">http://www.sap.com/Protocols/SAPData/GenericPlayer</a> .
public static final String	<i>XMLNS_METADATA_URI</i> on page 1331	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/08/dataservices/metadata">http://schemas.microsoft.com/ado/2007/08/dataservices/metadata</a> .
public static final String	<i>XMLNS_SAP_URI</i> on page 1331	Constant for XMLNS URI: <a href="http://www.sap.com/Protocols/SAPData">http://www.sap.com/Protocols/SAPData</a> .

#### Inherited members from ISDMPersistable

Modifier and Type	Member	Description
public void	<i>read(BufferedReader)</i> on page 1332	
public void	<i>write(BufferedWriter)</i> on page 1332	

#### *getFromRole()* method

Returns The value of the appropriate SDMOData attribute.

#### *Syntax*

```
public abstract String getFromRole ()
```

#### *Returns*

The value of the appropriate SDMOData attribute

#### *getName()* method

Returns The value of the appropriate SDMOData attribute.

#### *Syntax*

```
public abstract String getName ()
```

#### *Returns*

The value of the appropriate SDMOData attribute



*getRelationship() method*

Returns The value of the appropriate SDMODData attribute.

*Syntax*

```
public abstract String getRelationship ()
```

*Returns*

The value of the appropriate SDMODData attribute

*getToRole() method*

Returns The value of the appropriate SDMODData attribute.

*Syntax*

```
public abstract String getToRole ()
```

*Returns*

The value of the appropriate SDMODData attribute

*ATTRIBUTE\_FROMROLE variable*

Name of the appropriate SDMODData attribute.

*Syntax*

```
public static final String ATTRIBUTE_FROMROLE
```

*ATTRIBUTE\_NAME variable*

Name of the appropriate SDMODData attribute.

*Syntax*

```
public static final String ATTRIBUTE_NAME
```

*ATTRIBUTE\_RELATIONSHIP variable*

Name of the appropriate SDMODData attribute.

*Syntax*

```
public static final String ATTRIBUTE_RELATIONSHIP
```

*ATTRIBUTE\_TOROLE variable*

Name of the appropriate SDMODData attribute.

*Syntax*

```
public static final String ATTRIBUTE_TOROLE
```

***ELEMENT\_NAVIGATIONPROPERTY* variable**

Name of the appropriate SDMODData element.

**Syntax**

```
public static final String ELEMENT_NAVIGATIONPROPERTY
```

***ISDMODDataOpenSearchDescription* interface**

Deprecated. since 3.0, Use IODataOpenSearchDescription Represents the appropriate SDMODData element.

**Syntax**

```
public abstract interface ISDMODDataOpenSearchDescription
extends ISDMParserDocument, Serializable
```

**Derived classes**

- *SDMODDataOpenSearchDescription* on page 1685

**Members**

All members of ISDMODDataOpenSearchDescription, including inherited members.

**Variables**

Modifier and Type	Variable	Description
public static final String	<i>ELEMENT_DESCRIPTION</i> on page 1220	Name of the appropriate SDMODData element.
public static final String	<i>ELEMENT_OPENSEARCH-DESCRIPTION</i> on page 1220	Name of the appropriate SDMODData element.
public static final String	<i>ELEMENT_SHORTNAME</i> on page 1221	Name of the appropriate SDMODData element.
public static final String	<i>ELEMENT_URL</i> on page 1221	Name of the appropriate SDMODData element.

**Methods**

Modifier and Type	Method	Description
public abstract String	<i>getDescription()</i> on page 1220	Returns The value of the appropriate SDMODData element.
public abstract String	<i>getShortName()</i> on page 1220	Returns The value of the appropriate SDMODData element.

Modifier and Type	Method	Description
public abstract List< ISDMO-DataURL >	<i>getUrls()</i> on page 1220	Returns The list of the appropriate SDMODData element.

#### Inherited members from ISDMParserDocument

Modifier and Type	Member	Description
public static final String	<i>ATTRIBUTE_ETAG</i> on page 1329	Name of the appropriate SDMODData element.
public static final String	<i>ATTRIBUTE_VALUEPREFIX_EDMTYPE</i> on page 1329	Value prefix for EDM Type type values.
public abstract ISDMParserDocument	<i>clone()</i> on page 1317	Creates a copy of this object.
public static Map< String, String >	<i>DEFAULT_PREFIXMAPPING</i> on page 1329	The default XML Namespace-to-Prefix mapping used for building XMLS.
public static final String[]	<i>EDMDATETIME_PATTERNS</i> on page 1329	Possible EDM DateTime patterns Note: Some pattern are not supported by OData specification but still widely used.
public static final String[]	<i>EDMDATETIMEOFFSET_PATTERNS</i> on page 1329	Possible EDM TimeOffset patterns Note: Some pattern are not supported by OData specification but still widely used.
public static final String	<i>EDMTIME_PATTERN</i> on page 1329	EDM Time pattern.
public static String	<i>ELEMENT_FEED</i> on page 1329	Name of the appropriate SDMODData element.
public static final String	<i>ELEMENT_ID</i> on page 1330	Name of the appropriate SDMODData element.
public abstract String	<i>getAttribute(String...)</i> on page 1317	Returns the value of the first attribute with the given route.
public abstract List< String >	<i>getAttributes(String...)</i> on page 1317	Returns all the values of attributes with the given route.

Modifier and Type	Member	Description
public abstract Map< String, String >	<i>getChildAttribute-Map(String...)</i> on page 1318	Returns all the name-value pairs of attributes contained by the element with the given route.
public abstract List< String >	<i>getChildAttributes(String...)</i> on page 1318	Returns all the values of attributes contained by the element with the given route.
public abstract List< ISDMParserDocument >	<i>getChildDocuments(String...)</i> on page 1318	Returns the elements contained by the element with the given route.
public abstract List< ISDMParserDocument >	<i>getChildDocumentsWithAttribute(String, String, String...)</i> on page 1319	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public abstract List< ISDMParserDocument >	<i>getChildDocumentsWithAttribute(String, String, boolean, String...)</i> on page 1319	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public abstract ISDMParserDocument	<i>getDocument(String...)</i> on page 1320	Returns the first element with the given route.
public abstract List< ISDMParserDocument >	<i>getDocuments(String...)</i> on page 1320	Returns all the elements with the given route.
public abstract List< ISDMParserDocument >	<i>getDocumentsWithAttribute(String, String, String...)</i> on page 1321	Returns the elements with the given route that contains the given attribute with the given value.
public abstract List< ISDMParserDocument >	<i>getDocumentsWithAttribute(String, String, boolean, String...)</i> on page 1321	Returns the elements with the given route that contains the given attribute with the given value.
public abstract ISDMParserDocument	<i>getDocumentWithAttribute(String, String, String...)</i> on page 1322	Returns the first element with the given route that contains the given attribute with the given value.

Modifier and Type	Member	Description
public abstract ISDMParserDocument	<i>getDocumentWithAttribute(String, String, boolean, String...)</i> on page 1322	Returns the first element with the given route that contains the given attribute with the given value.
public abstract String	<i>getElementName()</i> on page 1323	Returns The name of the root element of this document.
public abstract String	<i>getFunctionImportComplexProperty Value(String...)</i> on page 1323	
public abstract String	<i>getPrefixForUri(String)</i> on page 1323	Returns the appropriate name-space prefix for the given XML name-space URI.
public abstract String[]	<i>getStrings()</i> on page 1324	Returns all the string values contained by this document.
public abstract String	<i>getValue(String...)</i> on page 1324	Returns the value of the first element with the given route.
public abstract List< String >	<i>getValues(String...)</i> on page 1324	Returns all the values of elements with the given route.
public abstract void	<i>putAttribute(String, String...)</i> on page 1325	Sets the value of the attribute with the given route If attribute does not exist it will be created as well as all other non existing elements in the route.
public abstract void	<i>putDocument(ISDMParserDocument, String...)</i> on page 1325	Insert the document under the element with the given route inserted document will be placed before already existing documents with the same route name under All missing elements from the route will be created.
public abstract void	<i>putValue(String, String...)</i> on page 1325	Sets the value of the first element with the given route.
public abstract boolean	<i>removeAttribute(String...)</i> on page 1326	Removes first element with the given route.

Modifier and Type	Member	Description
public abstract boolean	<i>removeAttributes(String...)</i> on page 1326	Removes all the attribute with the given route.
public abstract boolean	<i>removeDocument(String...)</i> on page 1326	Removes first element with the given route For removing multiple element use setDocuemtns with null arguments.
public static final String	<i>ROOT_DOCUMENT_NAME</i> on page 1330	The default root element name for a new document.
public abstract void	<i>setAttributes(List&lt; String &gt;, String...)</i> on page 1327	Sets all the values of the attributes with the given route Values will be paired to attributes in order Attributes with greater or equals index than size of new values will be untouched Attributes paired with null values will be removed.
public abstract void	<i>setDocuments(List&lt; ISDMParserDocument &gt;, String...)</i> on page 1327	Replaces all the elements with the given route Documents will be paired to elements in order Elements with greater or equals index than size of new elements will be untouched Element paired with null will be removed.
public abstract void	<i>setElementName(String, String...)</i> on page 1328	Sets the name of the root element with the given route Use empty route for setting root name of this document.
public abstract void	<i>setValues(List&lt; String &gt;, String...)</i> on page 1328	Sets all the values of the elements with the given rout Values will be paired to elements in order Elements with greater or equals index than size of new values will be untouched Null values will be treated as empty strings.
public abstract String	<i>toXMLString()</i> on page 1328	Returns the XML string representation of this object.

Modifier and Type	Member	Description
public static final String	<i>XMLNS_APPLICATION_URI</i> on page 1330	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/08/dataservices">http://schemas.microsoft.com/ado/2007/08/dataservices</a> .
public static final String	<i>XMLNS_ATOM_URI</i> on page 1330	Constant for XMLNS URI: <a href="http://www.w3.org/2005/Atom">http://www.w3.org/2005/Atom</a> .
public static final String	<i>XMLNS_DATASERVICES_URI</i> on page 1330	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/08/dataservices">http://schemas.microsoft.com/ado/2007/08/dataservices</a> .
public static final String	<i>XMLNS_EDM_URI</i> on page 1330	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/05/edm">http://schemas.microsoft.com/ado/2007/05/edm</a> .
public static final String	<i>XMLNS_EDMX_URI</i> on page 1330	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/06/edmx">http://schemas.microsoft.com/ado/2007/06/edmx</a> .
public static final String	<i>XMLNS_GENERICPLAYER_URI</i> on page 1331	Constant for XMLNS URI: <a href="http://www.sap.com/Protocols/SAPData/GenericPlayer">http://www.sap.com/Protocols/SAPData/GenericPlayer</a> .
public static final String	<i>XMLNS_METADATA_URI</i> on page 1331	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/08/dataservices/metadata">http://schemas.microsoft.com/ado/2007/08/dataservices/metadata</a> .
public static final String	<i>XMLNS_SAP_URI</i> on page 1331	Constant for XMLNS URI: <a href="http://www.sap.com/Protocols/SAPData">http://www.sap.com/Protocols/SAPData</a> .

#### Inherited members from ISDMPersistable

Modifier and Type	Member	Description
public void	<i>read(BufferedReader)</i> on page 1332	
public void	<i>write(BufferedWriter)</i> on page 1332	

### *getDescription() method*

Returns The value of the appropriate SDMODData element.

#### *Syntax*

```
public abstract String getDescription ()
```

#### *Returns*

The value of the appropriate SDMODData element

### *getShortName() method*

Returns The value of the appropriate SDMODData element.

#### *Syntax*

```
public abstract String getShortName ()
```

#### *Returns*

The value of the appropriate SDMODData element

### *getUrls() method*

Returns The list of the appropriate SDMODData element.

#### *Syntax*

```
public abstract List< ISDMODDataURL > getUrls ()
```

#### *Returns*

The list of the appropriate SDMODData element

### *ELEMENT\_DESCRIPTION variable*

Name of the appropriate SDMODData element.

#### *Syntax*

```
public static final String ELEMENT_DESCRIPTION
```

### *ELEMENT\_OPENSEARCHDESCRIPTION variable*

Name of the appropriate SDMODData element.

#### *Syntax*

```
public static final String ELEMENT_OPENSEARCHDESCRIPTION
```



***ELEMENT\_SHORTNAME* variable**

Name of the appropriate SDMOData element.

**Syntax**

```
public static final String ELEMENT_SHORTNAME
```

***ELEMENT\_URL* variable**

Name of the appropriate SDMOData element.

**Syntax**

```
public static final String ELEMENT_URL
```

***ISDMODataParameter* interface**

Deprecated. since 3.0, Use IODataParameter Represents the appropriate SDMOData element.

**Syntax**

```
public abstract interface ISDMODataParameter extends
ISDMParserDocument
```

**Derived classes**

- *SDMODataParameter* on page 1701

**Members**

All members of ISDMODataParameter, including inherited members. **Variables**

Modifier and Type	Variable	Description
public static final String	<i>ATTRIBUTE_MODE</i> on page 1227	Name of the appropriate SDMOData attribute.
public static final String	<i>ATTRIBUTE_NAME</i> on page 1227	Name of the appropriate SDMOData attribute.
public static final String	<i>ATTRIBUTE_TYPE</i> on page 1228	Name of the appropriate SDMOData attribute.
public static final String	<i>ELEMENT_PARAMETER</i> on page 1228	Name of the appropriate SDMOData element.
public static final String	<i>VALUE_MODE_IN</i> on page 1228	Value option for the 'Mode' SDMOData attribute.
public static final String	<i>VALUE_MODE_OUT</i> on page 1228	Value option for the 'Mode' SDMOData attribute.

**Methods**

Modifier and Type	Method	Description
public abstract String	<i>getMode()</i> on page 1227	Returns The value of the appropriate SDMOData attribute.
public abstract String	<i>getName()</i> on page 1227	Returns The value of the appropriate SDMOData attribute.
public abstract String	<i>getType()</i> on page 1227	Returns The value of the appropriate SDMOData attribute.

#### Inherited members from ISDMParserDocument

Modifier and Type	Member	Description
public static final String	<i>ATTRIBUTE_ETAG</i> on page 1329	Name of the appropriate SDMOData element.
public static final String	<i>ATTRIBUTE_VALUEPREFIX_EDMTYPE</i> on page 1329	Value prefix for EDM Type type values.
public abstract ISDMParserDocument	<i>clone()</i> on page 1317	Creates a copy of this object.
public static Map< String, String >	<i>DEFAULT_PREFIXMAPPING</i> on page 1329	The default XML Namespace-to-Prefix mapping used for building XMLS.
public static final String[]	<i>EDMDATETIME_PATTERNS</i> on page 1329	Possible EDM DateTime patterns Note: Some pattern are not supported by OData specification but still widely used.
public static final String[]	<i>EDMDATETIMEOFFSET_PATTERNS</i> on page 1329	Possible EDM TimeOffset patterns Note: Some pattern are not supported by OData specification but still widely used.
public static final String	<i>EDMTIME_PATTERN</i> on page 1329	EDM Time pattern.
public static String	<i>ELEMENT_FEED</i> on page 1329	Name of the appropriate SDMOData element.
public static final String	<i>ELEMENT_ID</i> on page 1330	Name of the appropriate SDMOData element.

Modifier and Type	Member	Description
public abstract String	<i>getAttribute(String...)</i> on page 1317	Returns the value of the first attribute with the given route.
public abstract List< String >	<i>getAttributes(String...)</i> on page 1317	Returns all the values of attributes with the given route.
public abstract Map< String, String >	<i>getChildAttributeMap(String...)</i> on page 1318	Returns all the name-value pairs of attributes contained by the element with the given route.
public abstract List< String >	<i>getChildAttributes(String...)</i> on page 1318	Returns all the values of attributes contained by the element with the given route.
public abstract List< ISDMParseDocument >	<i>getChildDocuments(String...)</i> on page 1318	Returns the elements contained by the element with the given route.
public abstract List< ISDMParseDocument >	<i>getChildDocumentsWithAttribute(String, String, String...)</i> on page 1319	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public abstract List< ISDMParseDocument >	<i>getChildDocumentsWithAttribute(String, String, boolean, String...)</i> on page 1319	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public abstract ISDMParseDocument	<i>getDocument(String...)</i> on page 1320	Returns the first element with the given route.
public abstract List< ISDMParseDocument >	<i>getDocuments(String...)</i> on page 1320	Returns all the elements with the given route.
public abstract List< ISDMParseDocument >	<i>getDocumentsWithAttribute(String, String, String...)</i> on page 1321	Returns the elements with the given route that contains the given attribute with the given value.
public abstract List< ISDMParseDocument >	<i>getDocumentsWithAttribute(String, String, boolean, String...)</i> on page 1321	Returns the elements with the given route that contains the given attribute with the given value.

Modifier and Type	Member	Description
public abstract ISDMParserDocument	<i>getDocumentWithAttribute(String, String, String...)</i> on page 1322	Returns the first element with the given route that contains the given attribute with the given value.
public abstract ISDMParserDocument	<i>getDocumentWithAttribute(String, String, boolean, String...)</i> on page 1322	Returns the first element with the given route that contains the given attribute with the given value.
public abstract String	<i>getElementName()</i> on page 1323	Returns The name of the root element of this document.
public abstract String	<i>getFunctionImportComplexProperty Value(String...)</i> on page 1323	
public abstract String	<i>getPrefixForUri(String)</i> on page 1323	Returns the appropriate namespace prefix for the given XML name-space URI.
public abstract String[]	<i>getStrings()</i> on page 1324	Returns all the string values contained by this document.
public abstract String	<i>getValue(String...)</i> on page 1324	Returns the value of the first element with the given route.
public abstract List< String >	<i>getValues(String...)</i> on page 1324	Returns all the values of elements with the given route.
public abstract void	<i>putAttribute(String, String...)</i> on page 1325	Sets the value of the attribute with the given route If attribute does not exist it will be created as well as all other non existing elements in the route.
public abstract void	<i>putDocument(ISDMParserDocument, String...)</i> on page 1325	Insert the document under the element with the given route inserted document will be placed before already existing documents with the same route name under All missing elements from the route will be created.
public abstract void	<i>putValue(String, String...)</i> on page 1325	Sets the value of the first element with the given route.

Modifier and Type	Member	Description
public abstract boolean	<i>removeAttribute(String...)</i> on page 1326	Removes first element with the given route.
public abstract boolean	<i>removeAttributes(String...)</i> on page 1326	Removes all the attribute with the given route.
public abstract boolean	<i>removeDocument(String...)</i> on page 1326	Removes first element with the given route For removing multiple element use setDocuemtns with null arguments.
public static final String	<i>ROOT_DOCUMENT_NAME</i> on page 1330	The default root element name for a new document.
public abstract void	<i>setAttributes(List&lt; String &gt;, String...)</i> on page 1327	Sets all the values of the attributes with the given route Values will be paired to attributes in order Attributes with greater or equals index than size of new values will be untouched Attributes paired with null values will be removed.
public abstract void	<i>setDocuments(List&lt; ISDMParserDocument &gt;, String...)</i> on page 1327	Replaces all the elements with the given route Documents will be paired to elements in order Elements with greater or equals index than size of new elements will be untouched Element paired with null will be removed.
public abstract void	<i>setElementName(String, String...)</i> on page 1328	Sets the name of the root element with the given route Use empty route for setting root name of this document.
public abstract void	<i>setValues(List&lt; String &gt;, String...)</i> on page 1328	Sets all the values of the elements with the given rout Values will be paired to elements in order Elements with greater or equals index than size of new values will be untouched Null values will be treated as empty strings.

Modifier and Type	Member	Description
public abstract String	<i>toXMLString()</i> on page 1328	Returns the XML string representation of this object.
public static final String	<i>XMLNS_APPLICATION_URI</i> on page 1330	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/08/dataservices">http://schemas.microsoft.com/ado/2007/08/dataservices</a> .
public static final String	<i>XMLNS_ATOM_URI</i> on page 1330	Constant for XMLNS URI: <a href="http://www.w3.org/2005/Atom">http://www.w3.org/2005/Atom</a> .
public static final String	<i>XMLNS_DATASERVICES_URI</i> on page 1330	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/08/dataservices">http://schemas.microsoft.com/ado/2007/08/dataservices</a> .
public static final String	<i>XMLNS_EDM_URI</i> on page 1330	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/05/edm">http://schemas.microsoft.com/ado/2007/05/edm</a> .
public static final String	<i>XMLNS_EDMX_URI</i> on page 1330	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/06/edmx">http://schemas.microsoft.com/ado/2007/06/edmx</a> .
public static final String	<i>XMLNS_GENERICPLAYER_URI</i> on page 1331	Constant for XMLNS URI: <a href="http://www.sap.com/Protocols/SAPData/GenericPlayer">http://www.sap.com/Protocols/SAPData/GenericPlayer</a> .
public static final String	<i>XMLNS_METADATA_URI</i> on page 1331	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/08/dataservices/metadata">http://schemas.microsoft.com/ado/2007/08/dataservices/metadata</a> .
public static final String	<i>XMLNS_SAP_URI</i> on page 1331	Constant for XMLNS URI: <a href="http://www.sap.com/Protocols/SAPData">http://www.sap.com/Protocols/SAPData</a> .

#### Inherited members from ISDMPersistable

Modifier and Type	Member	Description
public void	<i>read(BufferedReader)</i> on page 1332	
public void	<i>write(BufferedWriter)</i> on page 1332	

*getMode() method*

Returns The value of the appropriate SDMOData attribute.

*Syntax*

```
public abstract String getMode ()
```

*Returns*

The value of the appropriate SDMOData attribute

*getName() method*

Returns The value of the appropriate SDMOData attribute.

*Syntax*

```
public abstract String getName ()
```

*Returns*

The value of the appropriate SDMOData attribute

*getType() method*

Returns The value of the appropriate SDMOData attribute.

*Syntax*

```
public abstract String getType ()
```

*Returns*

The value of the appropriate SDMOData attribute

*ATTRIBUTE\_MODE variable*

Name of the appropriate SDMOData attribute.

*Syntax*

```
public static final String ATTRIBUTE_MODE
```

*ATTRIBUTE\_NAME variable*

Name of the appropriate SDMOData attribute.

*Syntax*

```
public static final String ATTRIBUTE_NAME
```

*ATTRIBUTE\_TYPE variable*

Name of the appropriate SDMODData attribute.

*Syntax*

```
public static final String ATTRIBUTE_TYPE
```

*ELEMENT\_PARAMETER variable*

Name of the appropriate SDMODData element.

*Syntax*

```
public static final String ELEMENT_PARAMETER
```

*VALUE\_MODE\_IN variable*

Value option for the 'Mode' SDMODData attribute.

*Syntax*

```
public static final String VALUE_MODE_IN
```

*VALUE\_MODE\_OUT variable*

Value option for the 'Mode' SDMODData attribute.

*Syntax*

```
public static final String VALUE_MODE_OUT
```

*ISDMODDataProperty interface*

Deprecated. since 3.0, Use IODataProperty Represents the appropriate SDMODData element.

*Syntax*

```
public abstract interface ISDMODDataProperty extends  
ISDMParserDocument
```

*Derived classes*

- *SDMODDataProperty* on page 1716

*Members*

All members of ISDMODDataProperty, including inherited members. **Variables**

Modifier and Type	Variable	Description
public static final String	<i>ATTRIBUTE_COLLATION</i> on page 1244	Name of the appropriate SDMODData attribute.



<b>Modifier and Type</b>	<b>Variable</b>	<b>Description</b>
public static final String	<i>ATTRIBUTE_CREATABLE</i> on page 1244	Name of the appropriate SDMOData attribute.
public static final String	<i>ATTRIBUTE_DEFAULTVALUE</i> on page 1244	Name of the appropriate SDMOData attribute.
public static final String	<i>ATTRIBUTE_DELETABLE</i> on page 1244	Name of the appropriate SDMOData attribute.
public static final String	<i>ATTRIBUTE_DETAIL_DISPLAYORDER</i> on page 1244	Name of the display-order SDMOData attribute.
public static final String	<i>ATTRIBUTE_FILTERABLE</i> on page 1244	Name of the appropriate SDMOData attribute.
public static final String	<i>ATTRIBUTE_FIXEDLENGTH</i> on page 1244	Name of the appropriate SDMOData attribute.
public static final String	<i>ATTRIBUTE_LABEL</i> on page 1245	Name of the appropriate SDMOData attribute.
public static final String	<i>ATTRIBUTE_LIST_DISPLAYORDER</i> on page 1245	Name of the display-order SDMOData attribute.
public static final String	<i>ATTRIBUTE_MAXLENGTH</i> on page 1245	Name of the appropriate SDMOData attribute.
public static final String	<i>ATTRIBUTE_NAME</i> on page 1245	Name of the appropriate SDMOData attribute.
public static final String	<i>ATTRIBUTE_NULLABLE</i> on page 1245	Name of the appropriate SDMOData attribute.
public static final String	<i>ATTRIBUTE_PRECISION</i> on page 1245	Name of the appropriate SDMOData attribute.
public static final String	<i>ATTRIBUTE_SCALE</i> on page 1245	Name of the appropriate SDMOData attribute.
public static final String	<i>ATTRIBUTE_SEARCHABLE</i> on page 1246	Name of the appropriate SDMOData attribute.
public static final String	<i>ATTRIBUTE_SEMANTICS</i> on page 1246	Name of the appropriate SDMOData attribute.
public static final String	<i>ATTRIBUTE_TYPE</i> on page 1246	Name of the appropriate SDMOData attribute.

Modifier and Type	Variable	Description
public static final String	<i>ATTRIBUTE_UNICODE</i> on page 1246	Name of the appropriate SDMODData attribute.
public static final String	<i>ATTRIBUTE_UPDATABLE</i> on page 1246	Name of the appropriate SDMODData attribute.
public static final String	<i>ATTRIBUTE_USEIN-SEARCH</i> on page 1246	Name of the appropriate SDMODData attribute.
public static final String	<i>ATTRIBUTE_VISIBLEINDE-TAIL</i> on page 1246	Name of the appropriate SDMODData attribute.
public static final String	<i>ATTRIBUTE_VISIBLEIN-LIST</i> on page 1247	Name of the appropriate SDMODData attribute.
public static final String	<i>ELEMENT_PROPERTY</i> on page 1247	Name of the appropriate SDMODData element.

### Methods

Modifier and Type	Method	Description
public abstract List< ISDMO-DataProperty >	<i>getChildPropertiesData()</i> on page 1237	Returns all the child properties added to this document with putChildProperty method.
public abstract List< ISDMO-DataProperty >	<i>getChildPropertiesDataWithAttribute(String, String)</i> on page 1237	Returns list of appropriate contained Property SDMODData elements with the given attribute value.
public abstract List< ISDMO-DataProperty >	<i>getChildPropertiesDataWithAttribute(String, String, boolean)</i> on page 1238	Returns list of appropriate contained Property SDMODData elements with the given attribute value.
public abstract ISDMODDataProperty	<i>getChildPropertyData(String)</i> on page 1238	Return a single child property added with putChildProperty method.
public abstract String	<i>getCollation()</i> on page 1238	Returns the value of the appropriate SDMODData attribute.
public abstract String	<i>getDefaultValue()</i> on page 1239	Returns the value of the appropriate SDMODData attribute.

Modifier and Type	Method	Description
public abstract int	<i>getDetailDisplayOrder()</i> on page 1239	In current version it return the same value as <i>getListDisplayOrder</i> .
public abstract String	<i>getLabel()</i> on page 1239	Returns The value of the appropriate SDMOData attribute.
public abstract int	<i>getListDisplayOrder()</i> on page 1239	In current version it returns the same value as <i>getDetailDisplayOrder</i> .
public abstract int	<i>getMaxLength()</i> on page 1239	Returns the value of the appropriate SDMOData attribute with <code>defaultValue = 0;</code> .
public abstract String	<i>getName()</i> on page 1240	Returns The value of the appropriate SDMOData attribute.
public abstract String	<i>getPrecision()</i> on page 1240	Returns the value of the appropriate SDMOData attribute.
public abstract String	<i>getScale()</i> on page 1240	Returns the value of the appropriate SDMOData attribute.
public abstract String	<i>getSemantics()</i> on page 1240	Returns the value of the appropriate SDMOData attribute with <code>defaultValue = 0;</code> .
public abstract String	<i>getType()</i> on page 1241	Returns The value of the appropriate SDMOData attribute.
public abstract String	<i>getValue()</i> on page 1241	Returns the value of the property if there is a single property instance that is represented by this object and value is set with <code>setValue</code> method.
public abstract boolean	<i>hasFixedLength()</i> on page 1241	Returns The value of the appropriate SDMOData attribute.
public abstract boolean	<i>isComplex()</i> on page 1241	Returns if the property has complex type and has child properties.
public abstract boolean	<i>isCreatable()</i> on page 1242	Returns The value of the appropriate SDMOData attribute.

Modifier and Type	Method	Description
public abstract boolean	<i>isDeletable()</i> on page 1242	Returns The value of the appropriate SDMODData attribute.
public abstract boolean	<i>isFilterable()</i> on page 1242	Returns The value of the appropriate SDMODData attribute.
public abstract boolean	<i>isNullable()</i> on page 1242	Returns The value of the appropriate SDMODData attribute.
public abstract boolean	<i>isSearchable()</i> on page 1242	Returns The value of the appropriate SDMODData attribute.
public abstract boolean	<i>isUnicode()</i> on page 1243	Returns the value of the appropriate SDMODData attribute.
public abstract boolean	<i>isUpdatable()</i> on page 1243	Returns The value of the appropriate SDMODData attribute.
public abstract void	<i>putChildPropertyData(ISDMODDataProperty)</i> on page 1243	Put new child property to this property document.
public abstract void	<i>setValue(String)</i> on page 1243	Sets the value of the property, represented by this object.

#### Inherited members from ISDMParserDocument

Modifier and Type	Member	Description
public static final String	<i>ATTRIBUTE_ETAG</i> on page 1329	Name of the appropriate SDMODData element.
public static final String	<i>ATTRIBUTE_VALUEPREFIX_EDMTYPE</i> on page 1329	Value prefix for EDM Type type values.
public abstract ISDMParserDocument	<i>clone()</i> on page 1317	Creates a copy of this object.
public static Map< String, String >	<i>DEFAULT_PREFIXMAPPING</i> on page 1329	The default XML Namespace-to-Prefix mapping used for building XMLS.
public static final String[]	<i>EDMDATETIME_PATTERNS</i> on page 1329	Possible EDM DateTime patterns Note: Some pattern are not supported by OData specification but still widely used.

Modifier and Type	Member	Description
public static final String[]	<i>EDMDATETIMEOFFSET_PATTERNS</i> on page 1329	Possible EDM TimeOffset patterns Note: Some pattern are not supported by OData specification but still widely used.
public static final String	<i>EDMTIME_PATTERN</i> on page 1329	EDM Time pattern.
public static String	<i>ELEMENT_FEED</i> on page 1329	Name of the appropriate SDMOData element.
public static final String	<i>ELEMENT_ID</i> on page 1330	Name of the appropriate SDMOData element.
public abstract String	<i>getAttribute(String...)</i> on page 1317	Returns the value of the first attribute with the given route.
public abstract List< String >	<i>getAttributes(String...)</i> on page 1317	Returns all the values of attributes with the given route.
public abstract Map< String, String >	<i>getChildAttributeMap(String...)</i> on page 1318	Returns all the name-value pairs of attributes contained by the element with the given route.
public abstract List< String >	<i>getChildAttributes(String...)</i> on page 1318	Returns all the values of attributes contained by the element with the given route.
public abstract List< ISDMParseDocument >	<i>getChildDocuments(String...)</i> on page 1318	Returns the elements contained by the element with the given route.
public abstract List< ISDMParseDocument >	<i>getChildDocumentsWithAttribute(String, String, String...)</i> on page 1319	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public abstract List< ISDMParseDocument >	<i>getChildDocumentsWithAttribute(String, String, boolean, String...)</i> on page 1319	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public abstract ISDMParseDocument	<i>getDocument(String...)</i> on page 1320	Returns the first element with the given route.
public abstract List< ISDMParseDocument >	<i>getDocuments(String...)</i> on page 1320	Returns all the elements with the given route.

Modifier and Type	Member	Description
public abstract List< ISDMParseDocument >	<i>getDocumentsWithAttribute(String, String, String...)</i> on page 1321	Returns the elements with the given route that contains the given attribute with the given value.
public abstract List< ISDMParseDocument >	<i>getDocumentsWithAttribute(String, String, boolean, String...)</i> on page 1321	Returns the elements with the given route that contains the given attribute with the given value.
public abstract ISDMParseDocument	<i>getDocumentWithAttribute(String, String, String...)</i> on page 1322	Returns the first element with the given route that contains the given attribute with the given value.
public abstract ISDMParseDocument	<i>getDocumentWithAttribute(String, String, boolean, String...)</i> on page 1322	Returns the first element with the given route that contains the given attribute with the given value.
public abstract String	<i>getElementName()</i> on page 1323	Returns The name of the root element of this document.
public abstract String	<i>getFunctionImportComplexPropertyValue(String...)</i> on page 1323	
public abstract String	<i>getPrefixForUri(String)</i> on page 1323	Returns the appropriate namespace prefix for the given XML name-space URI.
public abstract String[]	<i>getStrings()</i> on page 1324	Returns all the string values contained by this document.
public abstract String	<i>getValue(String...)</i> on page 1324	Returns the value of the first element with the given route.
public abstract List< String >	<i>getValues(String...)</i> on page 1324	Returns all the values of elements with the given route.
public abstract void	<i>putAttribute(String, String...)</i> on page 1325	Sets the value of the attribute with the given route If attribute does not exist it will be created as well as all other non existing elements in the route.

Modifier and Type	Member	Description
public abstract void	<i>putDocument(ISDMParseDocument, String...)</i> on page 1325	Insert the document under the element with the given route inserted document will be placed before already existing documents with the same route name under All missing elements from the route will be created.
public abstract void	<i>putValue(String, String...)</i> on page 1325	Sets the value of the first element with the given route.
public abstract boolean	<i>removeAttribute(String...)</i> on page 1326	Removes first element with the given route.
public abstract boolean	<i>removeAttributes(String...)</i> on page 1326	Removes all the attribute with the given route.
public abstract boolean	<i>removeDocument(String...)</i> on page 1326	Removes first element with the given route For removing multiple element use setDocuemtns with null arguments.
public static final String	<i>ROOT_DOCUMENT_NAME</i> on page 1330	The default root element name for a new document.
public abstract void	<i>setAttributes(List&lt;String&gt;, String...)</i> on page 1327	Sets all the values of the attributes with the given route Values will be paired to attributes in order Attributes with greater or equals index than size of new values will be untouched Attributes paired with null values will be removed.
public abstract void	<i>setDocuments(List&lt;ISDMParseDocument&gt;, String...)</i> on page 1327	Replaces all the elements with the given route Documents will be paired to elements in order Elements with greater or equals index than size of new elements will be untouched Element paired with null will be removed.

Modifier and Type	Member	Description
public abstract void	<i>setElementName(String, String...)</i> on page 1328	Sets the name of the root element with the given route Use empty route for setting root name of this document.
public abstract void	<i>setValues(List&lt; String &gt;, String...)</i> on page 1328	Sets all the values of the elements with the given rout Values will be paired to elements in order Elements with greater or equals index than size of new values will be untouched Null values will be treated as empty strings.
public abstract String	<i>toXMLString()</i> on page 1328	Returns the XML string representation of this object.
public static final String	<i>XMLNS_APPLICATION_URI</i> on page 1330	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/08/dataservices">http://schemas.microsoft.com/ado/2007/08/dataservices</a> .
public static final String	<i>XMLNS_ATOM_URI</i> on page 1330	Constant for XMLNS URI: <a href="http://www.w3.org/2005/Atom">http://www.w3.org/2005/Atom</a> .
public static final String	<i>XMLNS_DATASERVICES_URI</i> on page 1330	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/08/dataservices">http://schemas.microsoft.com/ado/2007/08/dataservices</a> .
public static final String	<i>XMLNS_EDM_URI</i> on page 1330	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/05/edm">http://schemas.microsoft.com/ado/2007/05/edm</a> .
public static final String	<i>XMLNS_EDMX_URI</i> on page 1330	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/06/edmx">http://schemas.microsoft.com/ado/2007/06/edmx</a> .
public static final String	<i>XMLNS_GENERICPLAYER_URI</i> on page 1331	Constant for XMLNS URI: <a href="http://www.sap.com/Protocols/SAPData/GenericPlayer">http://www.sap.com/Protocols/SAPData/GenericPlayer</a> .
public static final String	<i>XMLNS_METADATA_URI</i> on page 1331	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/08/dataservices/metadata">http://schemas.microsoft.com/ado/2007/08/dataservices/metadata</a> .



Modifier and Type	Member	Description
public static final String	<i>XMLNS_SAP_URI</i> on page 1331	Constant for XMLNS URI: <a href="http://www.sap.com/Protocols/SAPData">http://www.sap.com/Protocols/SAPData</a> .

#### Inherited members from ISDMPersistable

Modifier and Type	Member	Description
public void	<i>read(BufferedReader)</i> on page 1332	
public void	<i>write(BufferedWriter)</i> on page 1332	

#### Usage

May contain additional data retrieved from several source documents

#### *getChildPropertiesData()* method

Returns all the child properties added to this document with putChildProperty method.

#### Syntax

```
public abstract List< ISDMODataProperty >
getChildPropertiesData ()
```

#### Returns

List of child properties.

#### *getChildPropertiesDataWithAttribute(String, String)* method

Returns list of appropriate contained Property SDMODData elements with the given attribute value.

#### Syntax

```
public abstract List< ISDMODataProperty >
getChildPropertiesDataWithAttribute (String attributeName , String
attributeValue )
```

#### Parameters

- **attributeName** – the name of the attribute that value should be checked
- **attributeValue** – expected value of the attribute

#### Returns

list of appropriate contained Property SDMODData elements with the given attribute value

### *getChildPropertiesDataWithAttribute(String, String, boolean) method*

Returns list of appropriate contained Property SDMODData elements with the given attribute value.

#### *Syntax*

```
public abstract List< ISDMODDataProperty >  
getChildPropertiesDataWithAttribute ( String attributeName , String  
attributeValue , boolean addByDefault )
```

#### *Parameters*

- **attributeName** – the name of the attribute that value should be checked
- **attributeValue** – expected value of the attribute
- **addByDefault** – true if the child Property should be add in case if there is no attribute with the given name

#### *Returns*

list of appropriate contained Property SDMODData elements with the given attribute value

### *getChildPropertyData(String) method*

Return a single child property added with putChildProperty method.

#### *Syntax*

```
public abstract ISDMODDataProperty getChildPropertyData  
( String propertyName )
```

#### *Parameters*

- **propertyName** – The name of the child property that should be returned.

#### *Returns*

The found child property or null if there is no child property with the given name.

### *getCollation() method*

Returns the value of the appropriate SDMODData attribute.

#### *Syntax*

```
public abstract String getCollation ()
```

#### *Returns*

The value of the appropriate SDMODData attribute

*getDefaultValue() method*

Returns the value of the appropriate SDMOData attribute.

*Syntax*

```
public abstract String getDefaultValue ()
```

*Returns*

The value of the appropriate SDMOData attribute

*getDetailDisplayOrder() method*

In current version it return the same value as getListDisplayOrder.

*Syntax*

```
public abstract int getDetailDisplayOrder ()
```

*Returns*

The value of 'display-order' attribute with default value = 0;

*getLabel() method*

Returns The value of the appropriate SDMOData attribute.

*Syntax*

```
public abstract String getLabel ()
```

*Returns*

The value of the appropriate SDMOData attribute

*getListDisplayOrder() method*

In current version it returns the same value as getDetailDisplayOrder.

*Syntax*

```
public abstract int getListDisplayOrder ()
```

*Returns*

The value of 'display-order' attribute with default value = 0;

*getMaxLength() method*

Returns the value of the appropriate SDMOData attribute with default value = 0;.

*Syntax*

```
public abstract int getMaxLength ()
```

### *Returns*

The value of the appropriate SDMOData attribute with defaultValue = 0;

### *getName() method*

Returns The value of the appropriate SDMOData attribute.

### *Syntax*

```
public abstract String getName ()
```

### *Returns*

The value of the appropriate SDMOData attribute

### *getPrecision() method*

Returns the value of the appropriate SDMOData attribute.

### *Syntax*

```
public abstract String getPrecision ()
```

### *Returns*

The value of the appropriate SDMOData attribute

### *getScale() method*

Returns the value of the appropriate SDMOData attribute.

### *Syntax*

```
public abstract String getScale ()
```

### *Returns*

The value of the appropriate SDMOData attribute

### *getSemantics() method*

Returns the value of the appropriate SDMOData attribute with defaultValue = 0;.

### *Syntax*

```
public abstract String getSemantics ()
```

### *Returns*

The value of the appropriate SDMOData attribute with defaultValue = 0;

*getType() method*

Returns The value of the appropriate SDMODData attribute.

*Syntax*

```
public abstract String getType ()
```

*Returns*

The value of the appropriate SDMODData attribute

*getValue() method*

Returns the value of the property if there is a single property instance that is represented by this object and value is set with setValue method.

*Syntax*

```
public abstract String getValue ()
```

*Returns*

the value of the property instance represented by this object.

*Usage*

Otherwise it returns null.

Typically this object contains value only if this object was returned by an SDMODData Entry.

*hasFixedLength() method*

Returns The value of the appropriate SDMODData attribute.

*Syntax*

```
public abstract boolean hasFixedLength ()
```

*Returns*

The value of the appropriate SDMODData attribute

*isComplex() method*

Returns if the property has complex type and has child properties.

*Syntax*

```
public abstract boolean isComplex ()
```

*Returns*

true if the property has complex type and has child properties.

### *isCreatable() method*

Returns The value of the appropriate SDMODData attribute.

#### *Syntax*

```
public abstract boolean isCreatable ()
```

#### *Returns*

The value of the appropriate SDMODData attribute

### *isDeletable() method*

Returns The value of the appropriate SDMODData attribute.

#### *Syntax*

```
public abstract boolean isDeletable ()
```

#### *Returns*

The value of the appropriate SDMODData attribute

### *isFilterable() method*

Returns The value of the appropriate SDMODData attribute.

#### *Syntax*

```
public abstract boolean isFilterable ()
```

#### *Returns*

The value of the appropriate SDMODData attribute

### *isNullable() method*

Returns The value of the appropriate SDMODData attribute.

#### *Syntax*

```
public abstract boolean isNullable ()
```

#### *Returns*

The value of the appropriate SDMODData attribute

### *isSearchable() method*

Returns The value of the appropriate SDMODData attribute.

#### *Syntax*

```
public abstract boolean isSearchable ()
```

**Returns**

The value of the appropriate SDMOData attribute

**isUnicode() method**

Returns the value of the appropriate SDMOData attribute.

**Syntax**

```
public abstract boolean isUnicode ()
```

**Returns**

The value of the appropriate SDMOData attribute

**isUpdatable() method**

Returns The value of the appropriate SDMOData attribute.

**Syntax**

```
public abstract boolean isUpdatable ()
```

**Returns**

The value of the appropriate SDMOData attribute

**putChildPropertyData(ISDMODataProperty) method**

Put new child property to this property document.

**Syntax**

```
public abstract void putChildPropertyData ( ISDMODataProperty
property )
```

**Parameters**

- **property** – The child property

**setValue(String) method**

Sets the value of the property, represented by this object.

**Syntax**

```
public abstract void setValue (String value )
```

**Parameters**

- **value** – The value of the property instance represented by this object.

**Usage**

This method should be used only if there a property instance that is represented by this object.

Typically this method is used when property object is returned by an SDMODData Entry object.

### *ATTRIBUTE\_COLLATION variable*

Name of the appropriate SDMODData attribute.

#### *Syntax*

```
public static final String ATTRIBUTE_COLLATION
```

### *ATTRIBUTE\_CREATABLE variable*

Name of the appropriate SDMODData attribute.

#### *Syntax*

```
public static final String ATTRIBUTE_CREATABLE
```

### *ATTRIBUTE\_DEFAULTVALUE variable*

Name of the appropriate SDMODData attribute.

#### *Syntax*

```
public static final String ATTRIBUTE_DEFAULTVALUE
```

### *ATTRIBUTE\_DELETABLE variable*

Name of the appropriate SDMODData attribute.

#### *Syntax*

```
public static final String ATTRIBUTE_DELETABLE
```

### *ATTRIBUTE\_DETAIL\_DISPLAYORDER variable*

Name of the display-order SDMODData attribute.

#### *Syntax*

```
public static final String ATTRIBUTE_DETAIL_DISPLAYORDER
```

### *ATTRIBUTE\_FILTERABLE variable*

Name of the appropriate SDMODData attribute.

#### *Syntax*

```
public static final String ATTRIBUTE_FILTERABLE
```

### *ATTRIBUTE\_FIXEDLENGTH variable*

Name of the appropriate SDMODData attribute.

#### *Syntax*

```
public static final String ATTRIBUTE_FIXEDLENGTH
```



***ATTRIBUTE\_LABEL variable***

Name of the appropriate SDMOData attribute.

***Syntax***

```
public static final String ATTRIBUTE_LABEL
```

***ATTRIBUTE\_LIST\_DISPLAYORDER variable***

Name of the display-order SDMOData attribute.

***Syntax***

```
public static final String ATTRIBUTE_LIST_DISPLAYORDER
```

***ATTRIBUTE\_MAXLENGTH variable***

Name of the appropriate SDMOData attribute.

***Syntax***

```
public static final String ATTRIBUTE_MAXLENGTH
```

***ATTRIBUTE\_NAME variable***

Name of the appropriate SDMOData attribute.

***Syntax***

```
public static final String ATTRIBUTE_NAME
```

***ATTRIBUTE\_NULLABLE variable***

Name of the appropriate SDMOData attribute.

***Syntax***

```
public static final String ATTRIBUTE_NULLABLE
```

***ATTRIBUTE\_PRECISION variable***

Name of the appropriate SDMOData attribute.

***Syntax***

```
public static final String ATTRIBUTE_PRECISION
```

***ATTRIBUTE\_SCALE variable***

Name of the appropriate SDMOData attribute.

***Syntax***

```
public static final String ATTRIBUTE_SCALE
```

*ATTRIBUTE\_SEARCHABLE variable*

Name of the appropriate SDMOData attribute.

*Syntax*

```
public static final String ATTRIBUTE_SEARCHABLE
```

*ATTRIBUTE\_SEMANTICS variable*

Name of the appropriate SDMOData attribute.

*Syntax*

```
public static final String ATTRIBUTE_SEMANTICS
```

*ATTRIBUTE\_TYPE variable*

Name of the appropriate SDMOData attribute.

*Syntax*

```
public static final String ATTRIBUTE_TYPE
```

*ATTRIBUTE\_UNICODE variable*

Name of the appropriate SDMOData attribute.

*Syntax*

```
public static final String ATTRIBUTE_UNICODE
```

*ATTRIBUTE\_UPDATABLE variable*

Name of the appropriate SDMOData attribute.

*Syntax*

```
public static final String ATTRIBUTE_UPDATABLE
```

*ATTRIBUTE\_USEINSEARCH variable*

Name of the appropriate SDMOData attribute.

*Syntax*

```
public static final String ATTRIBUTE_USEINSEARCH
```

*ATTRIBUTE\_VISIBLEINDETAIL variable*

Name of the appropriate SDMOData attribute.

*Syntax*

```
public static final String ATTRIBUTE_VISIBLEINDETAIL
```

***ATTRIBUTE\_VISIBLEINLIST* variable**

Name of the appropriate SDMODData attribute.

***Syntax***

```
public static final String ATTRIBUTE_VISIBLEINLIST
```

***ELEMENT\_PROPERTY* variable**

Name of the appropriate SDMODData element.

***Syntax***

```
public static final String ELEMENT_PROPERTY
```

***ISDMODDataSchema* interface**

Deprecated. since 3.0, Use IODataSchema Represents the SDMODData Service Document.

***Syntax***

```
public abstract interface ISDMODDataSchema extends
ISDMParserDocument
```

***Derived classes***

- *SDMODDataSchema* on page 1804

***Members***

All members of ISDMODDataSchema, including inherited members. **Variables**

<b>Modifier and Type</b>	<b>Variable</b>	<b>Description</b>
public static final String	<i>ACTION_FOR</i> on page 1258	name of the appropriate SDMO-data attribute
public static final String	<i>ATTRIBUTE_ENTITYSET</i> on page 1259	Name of the appropriate SDMODData attribute.
public static final String	<i>ATTRIBUTE_ENTITYTYPE</i> on page 1259	Name of the appropriate SDMODData attribute.
public static final String	<i>ATTRIBUTE_NAME</i> on page 1259	Name of the appropriate SDMODData attribute.
public static final String	<i>ATTRIBUTE_NAMESPACE</i> on page 1259	Name of the appropriate SDMODData attribute.
public static final String	<i>ELEMENT_COMPLEXTYPE</i> on page 1259	Name of the appropriate SDMODData element.

Modifier and Type	Variable	Description
public static final String	<i>ELEMENT_DATASERVICES</i> on page 1259	Name of the appropriate SDMODData element.
public static final String	<i>ELEMENT_EDMX</i> on page 1259	Name of the appropriate SDMODData element.
public static final String	<i>ELEMENT_ENTITYCONTAINER</i> on page 1260	Name of the appropriate SDMODData element.
public static final String	<i>ELEMENT_ENTITYSET</i> on page 1260	Name of the appropriate SDMODData element.
public static final String	<i>ELEMENT_ENTITYTYPE</i> on page 1260	Name of the appropriate SDMODData element.
public static final String	<i>ELEMENT_FUNCTIONALIMPORT</i> on page 1260	Name of the appropriate SDMODData element.
public static final String	<i>ELEMENT_SCHEMA</i> on page 1260	Name of the appropriate SDMODData element.

### Methods

Modifier and Type	Method	Description
public abstract ISDMODDataAssociation	<i>getAssociation(String)</i> on page 1254	Returns the appropriate SDMODData Association element with the given relationship attribute.
public abstract List< ISDMODDataAssociation >	<i>getAssociations()</i> on page 1254	Returns the list of the appropriate SDMODData elements.
public abstract ISDMODDataAssociationSet	<i>getAssociationSet(String)</i> on page 1255	Returns the appropriate AssociationSet with for given association.
public abstract List< ISDMODDataAssociationSet >	<i>getAssociationSets()</i> on page 1255	Returns the list of the appropriate SDMODData elements.
public abstract ISDMODDataComplexType	<i>getComplexType(String)</i> on page 1255	Returns The 'ComplexType' SDMODData element associated with the reference.
public abstract List< ISDMODDataComplexType >	<i>getComplexTypes()</i> on page 1256	Returns The list of the appropriate SDMODData element.
public abstract ISDMODDataEntitySet	<i>getEntitySet(String)</i> on page 1256	Returns The appropriate SDMODData EntitySet.

Modifier and Type	Method	Description
public abstract ISDMODataEntityType	<i>getEntityType(String)</i> on page 1256	Returns The 'EntityType' SDMODData element associated with the reference argument.
public abstract ISDMODataEntityType	<i>getEntityTypeForCollection(String)</i> on page 1257	Returns the 'EntityType' SDMODData element contained by the 'EntitySet' element that is associated with the collectionId matching.
public abstract List< ISDMODataFunctionImport >	<i>getFunctionImports()</i> on page 1257	Returns The list of the 'FunctionImport' SDMODData element.
public abstract List< ISDMODataFunctionImport >	<i>getFunctionImportsForCollection(String)</i> on page 1257	Returns List of FunctionImports valid for the appropriate collection.
public abstract ISDMODataServiceDocument	<i>getServiceDocument()</i> on page 1258	Returns the appropriate SDMODData Service Document.
public abstract String	<i>getTargetCollectionIdForNavigationProperty(String, String)</i> on page 1258	Resolves the target collection Id of the given SDMODData Navigation Property element.
public abstract void	<i>setServiceDocument(ISDMODataServiceDocument)</i> on page 1258	Maintains reference to the appropriate SDMODData Service Document.

#### Inherited members from ISDMParserDocument

Modifier and Type	Member	Description
public static final String	<i>ATTRIBUTE_ETAG</i> on page 1329	Name of the appropriate SDMODData element.
public static final String	<i>ATTRIBUTE_VALUEPREFIX_EDMTYPE</i> on page 1329	Value prefix for EDM Type type values.
public abstract ISDMParserDocument	<i>clone()</i> on page 1317	Creates a copy of this object.
public static Map< String, String >	<i>DEFAULT_PREFIXMAPPING</i> on page 1329	The default XML Namespace-to-Prefix mapping used for building XMLS.

Modifier and Type	Member	Description
public static final String[]	<i>EDMDATETIME_PATTERNS</i> on page 1329	Possible EDM DateTime patterns Note: Some pattern are not supported by OData specification but still widely used.
public static final String[]	<i>EDMDATETIMEOFFSET_PATTERNS</i> on page 1329	Possible EDM TimeOffset patterns Note: Some pattern are not supported by OData specification but still widely used.
public static final String	<i>EDMTIME_PATTERN</i> on page 1329	EDM Time pattern.
public static String	<i>ELEMENT_FEED</i> on page 1329	Name of the appropriate SDMODData element.
public static final String	<i>ELEMENT_ID</i> on page 1330	Name of the appropriate SDMODData element.
public abstract String	<i>getAttribute(String...)</i> on page 1317	Returns the value of the first attribute with the given route.
public abstract List< String >	<i>getAttributes(String...)</i> on page 1317	Returns all the values of attributes with the given route.
public abstract Map< String, String >	<i>getChildAttributeMap(String...)</i> on page 1318	Returns all the name-value pairs of attributes contained by the element with the given route.
public abstract List< String >	<i>getChildAttributes(String...)</i> on page 1318	Returns all the values of attributes contained by the element with the given route.
public abstract List< ISDMParserDocument >	<i>getChildDocuments(String...)</i> on page 1318	Returns the elements contained by the element with the given route.
public abstract List< ISDMParserDocument >	<i>getChildDocumentsWithAttribute(String, String, String...)</i> on page 1319	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public abstract List< ISDMParserDocument >	<i>getChildDocumentsWithAttribute(String, String, boolean, String...)</i> on page 1319	Returns the elements contained by the element with the given route and having the given attribute with the given value.

Modifier and Type	Member	Description
public abstract ISDMParserDocument	<i>getDocument(String...)</i> on page 1320	Returns the first element with the given route.
public abstract List< ISDMParserDocument >	<i>getDocuments(String...)</i> on page 1320	Returns all the elements with the given route.
public abstract List< ISDMParserDocument >	<i>getDocumentsWithAttribute(String, String, String...)</i> on page 1321	Returns the elements with the given route that contains the given attribute with the given value.
public abstract List< ISDMParserDocument >	<i>getDocumentsWithAttribute(String, String, boolean, String...)</i> on page 1321	Returns the elements with the given route that contains the given attribute with the given value.
public abstract ISDMParserDocument	<i>getDocumentWithAttribute(String, String, String...)</i> on page 1322	Returns the first element with the given route that contains the given attribute with the given value.
public abstract ISDMParserDocument	<i>getDocumentWithAttribute(String, String, boolean, String...)</i> on page 1322	Returns the first element with the given route that contains the given attribute with the given value.
public abstract String	<i>getElementName()</i> on page 1323	Returns The name of the root element of this document.
public abstract String	<i>getFunctionImportComplexPropertyValue(String...)</i> on page 1323	
public abstract String	<i>getPrefixForUri(String)</i> on page 1323	Returns the appropriate namespace prefix for the given XML name-space URI.
public abstract String[]	<i>getStrings()</i> on page 1324	Returns all the string values contained by this document.
public abstract String	<i>getValue(String...)</i> on page 1324	Returns the value of the first element with the given route.
public abstract List< String >	<i>getValues(String...)</i> on page 1324	Returns all the values of elements with the given route.

Modifier and Type	Member	Description
public abstract void	<i>putAttribute(String, String...)</i> on page 1325	Sets the value of the attribute with the given route. If attribute does not exist it will be created as well as all other non existing elements in the route.
public abstract void	<i>putDocument(ISDMParseDocument, String...)</i> on page 1325	Insert the document under the element with the given route. Inserted document will be placed before already existing documents with the same route name under. All missing elements from the route will be created.
public abstract void	<i>putValue(String, String...)</i> on page 1325	Sets the value of the first element with the given route.
public abstract boolean	<i>removeAttribute(String...)</i> on page 1326	Removes first element with the given route.
public abstract boolean	<i>removeAttributes(String...)</i> on page 1326	Removes all the attribute with the given route.
public abstract boolean	<i>removeDocument(String...)</i> on page 1326	Removes first element with the given route. For removing multiple element use <code>setDocuments</code> with null arguments.
public static final String	<i>ROOT_DOCUMENT_NAME</i> on page 1330	The default root element name for a new document.
public abstract void	<i>setAttributes(List&lt;String&gt;, String...)</i> on page 1327	Sets all the values of the attributes with the given route. Values will be paired to attributes in order. Attributes with greater or equals index than size of new values will be untouched. Attributes paired with null values will be removed.



Modifier and Type	Member	Description
public abstract void	<i>setDocuments(List&lt; ISDMParserDocument &gt;, String...)</i> on page 1327	Replaces all the elements with the given route Documents will be paired to elements in order Elements with greater or equals index than size of new elements will be untouched Element paired with null will be removed.
public abstract void	<i>setElementName(String, String...)</i> on page 1328	Sets the name of the root element with the given route Use empty route for setting root name of this document.
public abstract void	<i>setValues(List&lt; String &gt;, String...)</i> on page 1328	Sets all the values of the elements with the given route Values will be paired to elements in order Elements with greater or equals index than size of new values will be untouched Null values will be treated as empty strings.
public abstract String	<i>toXMLString()</i> on page 1328	Returns the XML string representation of this object.
public static final String	<i>XMLNS_APPLICATION_URI</i> on page 1330	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/08/dataservices">http://schemas.microsoft.com/ado/2007/08/dataservices</a> .
public static final String	<i>XMLNS_ATOM_URI</i> on page 1330	Constant for XMLNS URI: <a href="http://www.w3.org/2005/Atom">http://www.w3.org/2005/Atom</a> .
public static final String	<i>XMLNS_DATASERVICES_URI</i> on page 1330	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/08/dataservices">http://schemas.microsoft.com/ado/2007/08/dataservices</a> .
public static final String	<i>XMLNS_EDM_URI</i> on page 1330	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/05/edm">http://schemas.microsoft.com/ado/2007/05/edm</a> .
public static final String	<i>XMLNS_EDMX_URI</i> on page 1330	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/06/edmx">http://schemas.microsoft.com/ado/2007/06/edmx</a> .

Modifier and Type	Member	Description
public static final String	<i>XMLNS_GENERICPLAYER_URI</i> on page 1331	Constant for XMLNS URI: <a href="http://www.sap.com/Protocols/SAPData/GenericPlayer">http://www.sap.com/Protocols/SAPData/GenericPlayer</a> .
public static final String	<i>XMLNS_METADATA_URI</i> on page 1331	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/08/dataservices/metadata">http://schemas.microsoft.com/ado/2007/08/dataservices/metadata</a> .
public static final String	<i>XMLNS_SAP_URI</i> on page 1331	Constant for XMLNS URI: <a href="http://www.sap.com/Protocols/SAPData">http://www.sap.com/Protocols/SAPData</a> .

#### Inherited members from ISDMPersistable

Modifier and Type	Member	Description
public void	<i>read(BufferedReader)</i> on page 1332	
public void	<i>write(BufferedWriter)</i> on page 1332	

#### *getAssociation(String)* method

Returns the appropriate SDMOData Association element with the given relationship attribute.

#### *Syntax*

```
public abstract ISDMODataAssociation getAssociation (String
relationShip )
```

#### *getAssociations()* method

Returns the list of the appropriate SDMOData elements.

#### *Syntax*

```
public abstract List< ISDMODataAssociation > getAssociations
()
```

#### *Returns*

List of the appropriate SDMOData elements

*getAssociationSet(String) method*

Returns the appropriate AssociationSet with for given association.

*Syntax*

```
public abstract ISDMODataAssociationSet getAssociationSet
( String association )
```

*Parameters*

- **association** – The association of the AssociationSet

*Returns*

The appropriate AssociationSet with for given association

*getAssociationSets() method*

Returns the list of the appropriate SDMOData elements.

*Syntax*

```
public abstract List< ISDMODataAssociationSet >
getAssociationSets ()
```

*Returns*

List of the appropriate SDMOData elements

*getComplexType(String) method*

Returns The 'ComplexType' SDMOData element associated with the reference.

*Syntax*

```
public abstract ISDMODataComplexType getComplexType (String
complexTypeReference )
```

*Parameters*

- **complexTypeReference** – Reference to the appropriate Complex Type (example: 'namespace.complextypename')

*Returns*

The 'ComplexType' SDMOData element associated with the reference

### *getComplexTypes() method*

Returns The list of the appropriate SDMODData element.

#### *Syntax*

```
public abstract List< ISDMODataComplexType > getComplexTypes  
( )
```

#### *Returns*

The list of the appropriate SDMODData element

### *getEntitySet(String) method*

Returns The appropriate SDMODData EntitySet.

#### *Syntax*

```
public abstract ISDMODataEntitySet getEntitySet ( String  
collectionId )
```

#### *Parameters*

- **collectionId** – The href of the collection to find the SDMODData EntitySet for

#### *Returns*

The appropriate SDMODData EntitySet

### *getEntityType(String) method*

Returns The 'EntityType' SDMODData element associated with the reference argument.

#### *Syntax*

```
public abstract ISDMODataEntityType getEntityType ( String  
entityTypeReference )
```

#### *Parameters*

- **entityTypeReference** – Reference to the appropriate Entity Type (example: 'namespace.entitytypename')

#### *Returns*

The 'EntityType' SDMODData element associated with the reference argument

*getEntityTypeForCollection(String) method*

Returns the 'EntityType' SDMOData element contained by the 'EntitySet' element that is associated with the collectionId matching.

*Syntax*

```
public abstract ISDMODataEntityType
getEntityTypeForCollection ( String collectionId )
```

*Parameters*

- **collectionId** – The Id to be compared with the name of 'EntitySet' elements

*Returns*

The matching EntityType

*getFunctionImports() method*

Returns The list of the 'FunctionImport' SDMOData element.

*Syntax*

```
public abstract List< ISDMODataFunctionImport >
getFunctionImports ( )
```

*Returns*

The list of the 'FunctionImport' SDMOData element

*getFunctionImportsForCollection(String) method*

Returns List of FunctionImports valid for the appropriate collection.

*Syntax*

```
public abstract List< ISDMODataFunctionImport >
getFunctionImportsForCollection ( String collectionId )
```

*Parameters*

- **collectionId** – The href of the appropriate collection.

*Returns*

List of FunctionImports valid for the appropriate collection.

### *getServiceDocument() method*

Returns the appropriate SDMOData Service Document.

#### *Syntax*

```
public abstract ISDMODataServiceDocument getServiceDocument  
( )
```

#### *Returns*

The appropriate SDMOData Service Document

### *getTargetCollectionIdForNavigationProperty(String, String) method*

Resolves the target collection Id of the given SDMOData Navigation Property element.

#### *Syntax*

```
public abstract String  
getTargetCollectionIdForNavigationProperty ( String  
sourceCollectionId , String navigationPropertyName )
```

#### *Parameters*

- **sourceCollectionId** – The source Id of the source collection that is linked with the target collection
- **navigationPropertyName** – The name of the Navigation Property

#### *Returns*

The Id of the target collection

### *setServiceDocument(ISDMODataServiceDocument) method*

Maintains reference to the appropriate SDMOData Service Document.

#### *Syntax*

```
public abstract void setServiceDocument  
( ISDMODataServiceDocument serviceDocument )
```

#### *Parameters*

- **serviceDocument** – The appropriate SDMOData Service Document

### *ACTION\_FOR variable*

name of the appropriate SDMOData attribute

#### *Syntax*

```
public static final String ACTION_FOR
```

***ATTRIBUTE\_ENTITYSET*** variable

Name of the appropriate SDMOData attribute.

***Syntax***

```
public static final String ATTRIBUTE_ENTITYSET
```

***ATTRIBUTE\_ENTITYTYPE*** variable

Name of the appropriate SDMOData attribute.

***Syntax***

```
public static final String ATTRIBUTE_ENTITYTYPE
```

***ATTRIBUTE\_NAME*** variable

Name of the appropriate SDMOData attribute.

***Syntax***

```
public static final String ATTRIBUTE_NAME
```

***ATTRIBUTE\_NAMESPACE*** variable

Name of the appropriate SDMOData attribute.

***Syntax***

```
public static final String ATTRIBUTE_NAMESPACE
```

***ELEMENT\_COMPLEXTYPE*** variable

Name of the appropriate SDMOData element.

***Syntax***

```
public static final String ELEMENT_COMPLEXTYPE
```

***ELEMENT\_DATASERVICES*** variable

Name of the appropriate SDMOData element.

***Syntax***

```
public static final String ELEMENT_DATASERVICES
```

***ELEMENT\_EDMX*** variable

Name of the appropriate SDMOData element.

***Syntax***

```
public static final String ELEMENT_EDMX
```

### *ELEMENT\_ENTITYCONTAINER variable*

Name of the appropriate SDMOData element.

#### *Syntax*

```
public static final String ELEMENT_ENTITYCONTAINER
```

### *ELEMENT\_ENTITYSET variable*

Name of the appropriate SDMOData element.

#### *Syntax*

```
public static final String ELEMENT_ENTITYSET
```

### *ELEMENT\_ENTITYTYPE variable*

Name of the appropriate SDMOData element.

#### *Syntax*

```
public static final String ELEMENT_ENTITYTYPE
```

### *ELEMENT\_FUNCTIONALIMPORT variable*

Name of the appropriate SDMOData element.

#### *Syntax*

```
public static final String ELEMENT_FUNCTIONALIMPORT
```

### *ELEMENT\_SCHEMA variable*

Name of the appropriate SDMOData element.

#### *Syntax*

```
public static final String ELEMENT_SCHEMA
```

### *ISDMODataServiceDocument interface*

Deprecated. since 3.0, Use IODataServiceDocument Represents the SDMOData Service Document.

#### *Syntax*

```
public abstract interface ISDMODataServiceDocument extends  
ISDMParserDocument
```

#### *Derived classes*

- *SDMODataServiceDocument* on page 1824

#### *Members*

All members of ISDMODataServiceDocument, including inherited members. **Variables**



Modifier and Type	Variable	Description
public static final String	<i>ATTRIBUTE_BASE</i> on page 1269	Name of the appropriate SDMODData attribute.
public static final String	<i>ATTRIBUTE_LANG</i> on page 1269	Name of the appropriate SDMODData attribute.
public static final String	<i>ELEMENT_COLLECTION</i> on page 1269	Name of the appropriate SDMODData element.
public static final String	<i>ELEMENT_SERVICE</i> on page 1269	Name of the appropriate SDMODData element.
public static final String	<i>ELEMENT_WORKSPACE</i> on page 1269	Name of the appropriate SDMODData element.
public static final String	<i>URL_SUFFIX_METADATA</i> on page 1270	URL value suffix for retrieving SDMODData Schema document.

## Methods

Modifier and Type	Method	Description
public abstract List< ISDMO-DataCollection >	<i>getAllCollections()</i> on page 1267	Returns the list of all 'collection' SDMODData element contained by the 'workspace' elements.
public abstract String	<i>getBaseUrl()</i> on page 1267	Returns The value of the 'base' SDMODData attribute.
public abstract String	<i>getEtag()</i> on page 1267	Returns The value of the 'etag' SDMODData attribute.
public abstract String	<i>getLanguage()</i> on page 1267	Returns the value of the 'lang' SDMODData attribute.
public abstract ISDMODDataOpenSearchDescription	<i>getOpenSearchDescription(String)</i> on page 1267	Returns the appropriate Open-Search Description Document for the given collection.
public abstract ISDMODDataSchema	<i>getSchema()</i> on page 1268	Returns the appropriate SDMO-Data Schema document.
public abstract String	<i>getSchemaUrl()</i> on page 1268	Returns The full URL that can be used for retrieving the SDMODData Schema document.
public abstract List< ISDMO-DataWorkspace >	<i>getWorkspaces()</i> on page 1268	Returns the list of appropriate SDMODData elements.

Modifier and Type	Method	Description
public abstract void	<i>setOpenSearchDescription(String, ISDMODataOpenSearchDescription)</i> on page 1268	Maintains the appropriate OpenSearch Description Document for the given collection.
public abstract void	<i>setSchema(ISDMODataSchema)</i> on page 1269	Maintains the appropriate SDMOData Schema document.

#### Inherited members from ISDMParserDocument

Modifier and Type	Member	Description
public static final String	<i>ATTRIBUTE_ETAG</i> on page 1329	Name of the appropriate SDMOData element.
public static final String	<i>ATTRIBUTE_VALUEPREFIX_EDMTYPE</i> on page 1329	Value prefix for EDM Type type values.
public abstract ISDMParserDocument	<i>clone()</i> on page 1317	Creates a copy of this object.
public static Map< String, String >	<i>DEFAULT_PREFIXMAPPING</i> on page 1329	The default XML Namespace-to-Prefix mapping used for building XMLS.
public static final String[]	<i>EDMDATETIME_PATTERNS</i> on page 1329	Possible EDM DateTime patterns Note: Some pattern are not supported by OData specification but still widely used.
public static final String[]	<i>EDMDATETIMEOFFSET_PATTERNS</i> on page 1329	Possible EDM TimeOffset patterns Note: Some pattern are not supported by OData specification but still widely used.
public static final String	<i>EDMTIME_PATTERN</i> on page 1329	EDM Time pattern.
public static String	<i>ELEMENT_FEED</i> on page 1329	Name of the appropriate SDMOData element.
public static final String	<i>ELEMENT_ID</i> on page 1330	Name of the appropriate SDMOData element.
public abstract String	<i>getAttribute(String...)</i> on page 1317	Returns the value of the first attribute with the given route.

Modifier and Type	Member	Description
public abstract List< String >	<i>getAttributes(String...)</i> on page 1317	Returns all the values of attributes with the given route.
public abstract Map< String, String >	<i>getChildAttribute-Map(String...)</i> on page 1318	Returns all the name-value pairs of attributes contained by the element with the given route.
public abstract List< String >	<i>getChildAttributes(String...)</i> on page 1318	Returns all the values of attributes contained by the element with the given route.
public abstract List< ISDMParseDocument >	<i>getChildDocuments(String...)</i> on page 1318	Returns the elements contained by the element with the given route.
public abstract List< ISDMParseDocument >	<i>getChildDocumentsWithAttribute(String, String, String...)</i> on page 1319	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public abstract List< ISDMParseDocument >	<i>getChildDocumentsWithAttribute(String, String, boolean, String...)</i> on page 1319	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public abstract ISDMParseDocument	<i>getDocument(String...)</i> on page 1320	Returns the first element with the given route.
public abstract List< ISDMParseDocument >	<i>getDocuments(String...)</i> on page 1320	Returns all the elements with the given route.
public abstract List< ISDMParseDocument >	<i>getDocumentsWithAttribute(String, String, String...)</i> on page 1321	Returns the elements with the given route that contains the given attribute with the given value.
public abstract List< ISDMParseDocument >	<i>getDocumentsWithAttribute(String, String, boolean, String...)</i> on page 1321	Returns the elements with the given route that contains the given attribute with the given value.
public abstract ISDMParseDocument	<i>getDocumentWithAttribute(String, String, String...)</i> on page 1322	Returns the first element with the given route that contains the given attribute with the given value.

Modifier and Type	Member	Description
public abstract ISDMParserDocument	<i>getDocumentWithAttribute(String, String, boolean, String...)</i> on page 1322	Returns the first element with the given route that contains the given attribute with the given value.
public abstract String	<i>getElementName()</i> on page 1323	Returns The name of the root element of this document.
public abstract String	<i>getFunctionImportComplexPropertyValue(String...)</i> on page 1323	
public abstract String	<i>getPrefixForUri(String)</i> on page 1323	Returns the appropriate name-space prefix for the given XML name-space URI.
public abstract String[]	<i>getStrings()</i> on page 1324	Returns all the string values contained by this document.
public abstract String	<i>getValue(String...)</i> on page 1324	Returns the value of the first element with the given route.
public abstract List< String >	<i>getValues(String...)</i> on page 1324	Returns all the values of elements with the given route.
public abstract void	<i>putAttribute(String, String...)</i> on page 1325	Sets the value of the attribute with the given route If attribute does not exist it will be created as well as all other non existing elements in the route.
public abstract void	<i>putDocument(ISDMParserDocument, String...)</i> on page 1325	Insert the document under the element with the given route inserted document will be placed before already existing documents with the same route name under All missing elements from the route will be created.
public abstract void	<i>putValue(String, String...)</i> on page 1325	Sets the value of the first element with the given route.
public abstract boolean	<i>removeAttribute(String...)</i> on page 1326	Removes first element with the given route.

Modifier and Type	Member	Description
public abstract boolean	<i>removeAttributes(String...)</i> on page 1326	Removes all the attribute with the given route.
public abstract boolean	<i>removeDocument(String...)</i> on page 1326	Removes first element with the given route For removing multiple element use setDocuemtns with null arguments.
public static final String	<i>ROOT_DOCUMENT_NAME</i> on page 1330	The default root element name for a new document.
public abstract void	<i>setAttributes(List&lt; String &gt;, String...)</i> on page 1327	Sets all the values of the attributes with the given route Values will be paired to attributes in order Attributes with greater or equals index than size of new values will be untouched Attributes paired with null values will be removed.
public abstract void	<i>setDocuments(List&lt; ISDMParserDocument &gt;, String...)</i> on page 1327	Replaces all the elements with the given route Documents will be paired to elements in order Elements with greater or equals index than size of new elements will be untouched Element paired with null will be removed.
public abstract void	<i>setElementName(String, String...)</i> on page 1328	Sets the name of the root element with the given route Use empty route for setting root name of this document.
public abstract void	<i>setValues(List&lt; String &gt;, String...)</i> on page 1328	Sets all the values of the elements with the given rout Values will be paired to elements in order Elements with greater or equals index than size of new values will be untouched Null values will be treated as empty strings.
public abstract String	<i>toXMLString()</i> on page 1328	Returns the XML string representation of this object.

Modifier and Type	Member	Description
public static final String	<i>XMLNS_APPLICATION_URI</i> on page 1330	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/08/dataservices">http://schemas.microsoft.com/ado/2007/08/dataservices</a> .
public static final String	<i>XMLNS_ATOM_URI</i> on page 1330	Constant for XMLNS URI: <a href="http://www.w3.org/2005/Atom">http://www.w3.org/2005/Atom</a> .
public static final String	<i>XMLNS_DATASERVICES_URI</i> on page 1330	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/08/dataservices">http://schemas.microsoft.com/ado/2007/08/dataservices</a> .
public static final String	<i>XMLNS_EDM_URI</i> on page 1330	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/05/edm">http://schemas.microsoft.com/ado/2007/05/edm</a> .
public static final String	<i>XMLNS_EDMX_URI</i> on page 1330	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/06/edmx">http://schemas.microsoft.com/ado/2007/06/edmx</a> .
public static final String	<i>XMLNS_GENERICPLAYER_URI</i> on page 1331	Constant for XMLNS URI: <a href="http://www.sap.com/Protocols/SAPData/GenericPlayer">http://www.sap.com/Protocols/SAPData/GenericPlayer</a> .
public static final String	<i>XMLNS_METADATA_URI</i> on page 1331	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/08/dataservices/metadata">http://schemas.microsoft.com/ado/2007/08/dataservices/metadata</a> .
public static final String	<i>XMLNS_SAP_URI</i> on page 1331	Constant for XMLNS URI: <a href="http://www.sap.com/Protocols/SAPData">http://www.sap.com/Protocols/SAPData</a> .

#### Inherited members from ISDMPersistable

Modifier and Type	Member	Description
public void	<i>read(BufferedReader)</i> on page 1332	
public void	<i>write(BufferedWriter)</i> on page 1332	

*getAllCollections() method*

Returns the list of all 'collection' SDMODData element contained by the 'workspace' elements.

*Syntax*

```
public abstract List< ISDMODDataCollection > getAllCollections
()
```

*Returns*

The list of all 'collection' SDMODData element contained by the 'workspace' elements

*getBaseUrl() method*

Returns The value of the 'base' SDMODData attribute.

*Syntax*

```
public abstract String getBaseUrl ()
```

*Returns*

The value of the 'base' SDMODData attribute

*getEtag() method*

Returns The value of the 'etag' SDMODData attribute.

*Syntax*

```
public abstract String getEtag ()
```

*Returns*

The value of the 'etag' SDMODData attribute

*getLanguage() method*

Returns the value of the 'lang' SDMODData attribute.

*Syntax*

```
public abstract String getLanguage ()
```

*Returns*

The value of the 'lang' SDMODData attribute

*getOpenSearchDescription(String) method*

Returns the appropriate OpenSearch Description Document for the given collection.

*Syntax*

```
public abstract ISDMODDataOpenSearchDescription
getOpenSearchDescription ( String collectionId )
```

### *Parameters*

- **collectionId** – The Id of the collection

### *Returns*

The appropriate OpenSearch Description Document

### *getSchema() method*

Returns the appropriate SDMOData Schema document.

### *Syntax*

```
public abstract ISDMODataSchema getSchema ()
```

### *Returns*

The appropriate SDMOData Schema document

### *getSchemaUrl() method*

Returns The full URL that can be used for retrieving the SDMOData Schema document.

### *Syntax*

```
public abstract String getSchemaUrl ()
```

### *Returns*

The full URL that can be used for retrieving the SDMOData Schema document

### *getWorkspaces() method*

Returns the list of appropriate SDMOData elements.

### *Syntax*

```
public abstract List< ISDMODataWorkspace > getWorkspaces ()
```

### *Returns*

The list of appropriate SDMOData elements

### *setOpenSearchDescription(String, ISDMODataOpenSearchDescription) method*

Maintains the appropriate OpenSearch Description Document for the given collection.

### *Syntax*

```
public abstract void setOpenSearchDescription (String  
collectionId , ISDMODataOpenSearchDescription openSearchDescription )
```

### *Parameters*

- **collectionId** – The Id of the collection



- **openSearchDescription** – The appropriate OpenSearch Description Document

*setSchema(ISDMODataSchema) method*

Maintains the appropriate SDMOData Schema document.

*Syntax*

```
public abstract void setSchema ( ISDMODataSchema schema )
```

*Parameters*

- **schema** – The appropriate SDMOData Schema document

*ATTRIBUTE\_BASE variable*

Name of the appropriate SDMOData attribute.

*Syntax*

```
public static final String ATTRIBUTE_BASE
```

*ATTRIBUTE\_LANG variable*

Name of the appropriate SDMOData attribute.

*Syntax*

```
public static final String ATTRIBUTE_LANG
```

*ELEMENT\_COLLECTION variable*

Name of the appropriate SDMOData element.

*Syntax*

```
public static final String ELEMENT_COLLECTION
```

*ELEMENT\_SERVICE variable*

Name of the appropriate SDMOData element.

*Syntax*

```
public static final String ELEMENT_SERVICE
```

*ELEMENT\_WORKSPACE variable*

Name of the appropriate SDMOData element.

*Syntax*

```
public static final String ELEMENT_WORKSPACE
```

*URL\_SUFFIX\_METADATA* variable

URL value suffix for retrieving SDMODData Schema document.

*Syntax*

```
public static final String URL_SUFFIX_METADATA
```

*ISDMODDataSubscriptionEntry* interface

Deprecated. since 3.0, Use IODataSubscriptionEntry Subclass of SDMODDataEntry to be used for subscription s.

*Syntax*

```
public abstract interface ISDMODDataSubscriptionEntry extends  
ISDMODDataEntry
```

*Derived classes*

- *SDMODDataSubscriptionEntry* on page 1843

*Members*

All members of ISDMODDataSubscriptionEntry, including inherited members. **Variables**

Modifier and Type	Variable	Description
public static final String	<i>ELEMENT_COLLECTION</i> on page 1283	Name of the appropriate SDMODData element.
public static final String	<i>ELEMENT_DELIVERYADDRESS</i> on page 1283	Name of the appropriate SDMODData element.
public static final String	<i>ELEMENT_FILTER</i> on page 1283	Name of the appropriate SDMODData element.
public static final String	<i>ELEMENT_SELECT</i> on page 1283	Name of the appropriate SDMODData element.

**Methods**

Modifier and Type	Method	Description
public abstract String	<i>getCollection()</i> on page 1281	Returns The value of the appropriate entry property.
public abstract String	<i>getDeliveryAddress()</i> on page 1281	Returns The value of the appropriate entry property.
public abstract String	<i>getFilter()</i> on page 1282	Returns The value of the appropriate entry property.

Modifier and Type	Method	Description
public abstract String	<i>getSelect()</i> on page 1282	Returns The value of the appropriate entry property.
public abstract void	<i>setCollection(String)</i> on page 1282	Sets the value of the appropriate entry property.
public abstract void	<i>setDeliveryAddress(String)</i> on page 1282	Sets the value of the appropriate entry property.
public abstract void	<i>setFilter(String)</i> on page 1282	Sets the value of the appropriate entry property.
public abstract void	<i>setSelect(String)</i> on page 1283	Sets the value of the appropriate entry property.

#### Inherited members from ISDMODataEntry

Modifier and Type	Member	Description
public static final String	<i>ATTRIBUTE_SEMANTICS</i> on page 1168	Name of the appropriate SDMODData attribute.
public static final String	<i>ATTRIBUTE_TERM</i> on page 1169	Name of the appropriate SDMODData attribute.
public static final String	<i>ATTRIBUTE_VALUE_SEMANTICS_ACTION</i> on page 1169	Value option for appropriate SDMODData attribute.
public static final String	<i>ELEMENT_AUTHOR</i> on page 1169	Name of the appropriate SDMODData element.
public static final String	<i>ELEMENT_CATEGORY</i> on page 1169	Name of the appropriate SDMODData element.
public static final String	<i>ELEMENT_CONTENT</i> on page 1169	Name of the appropriate SDMODData element.
public static final String	<i>ELEMENT_ENTRY</i> on page 1169	Name of the appropriate SDMODData element.
public static final String	<i>ELEMENT_LINK</i> on page 1169	Name of the appropriate SDMODData element.
public static final String	<i>ELEMENT_NAME</i> on page 1170	Name of the appropriate SDMODData element.

Modifier and Type	Member	Description
public static final String	<i>ELEMENT_PROPERTIES</i> on page 1170	Name of the appropriate SDMODData element.
public static final String	<i>ELEMENT_SUMMARY</i> on page 1170	Name of the appropriate SDMODData element.
public static final String	<i>ELEMENT_TITLE</i> on page 1170	Name of the appropriate SDMODData element.
public static final String	<i>ELEMENT_UPDATED</i> on page 1170	Name of the appropriate SDMODData element.
public abstract List< ISDMO-DataLink >	<i>getActionLinks()</i> on page 1157	Returns SDMODData Link objects that are set as action links (Has semantics (SAP namespace) attribute with value 'action')
public abstract String	<i>getAuthorName()</i> on page 1157	Returns The value of the 'name' SDMODData element of the 'author' SDMODData element.
public cacheState	<i>getCachestate()</i> on page 1158	
public Long	<i>getCacheTimestamp()</i> on page 1158	
public abstract String	<i>getCollectionId()</i> on page 1158	Returns the Id of the SDMOCata Collection that this Entry belongs to.
public abstract String	<i>getEtag()</i> on page 1158	Returns the Id of the SDMOData Collection that this Entry belongs to.
public abstract String	<i>getFilterUrl()</i> on page 1158	Returns the full execution URL that can be used for filtering collection search for this single entry.

Modifier and Type	Member	Description
public abstract List< ISDMO-DataProperty >	<i>getGPUseInSearchPropertiesData()</i> on page 1159	Returns the value and meta information (retrieved from SDMOData Schema document) of the properties of this SDMO-Data Entry document with 'true' use-in-search (Generic Player name-space) attribute value.
public abstract List< ISDMO-DataProperty >	<i>getGPVisibleInDetailPropertiesData()</i> on page 1159	Returns the value and meta information (retrieved from SDMOData Schema document) of the properties of this SDMO-Data Entry document with 'true' visible-in-detail (Generic Player name-space) attribute value.
public abstract List< ISDMO-DataProperty >	<i>getGPVisibleInListPropertiesData()</i> on page 1159	Returns the value and meta information (retrieved from SDMOData Schema document) of the properties of this SDMO-Data Entry document with 'true' visible-in-list (Generic Player name-space) attribute value.
public abstract List< ISDMO-DataIcon >	<i>getIcons()</i> on page 1159	Returns the list of the appropriate SDMOData elements.
public abstract String	<i>getId()</i> on page 1160	Returns The Id of this SDMO-Data Entry (value of appropriate SDMOData Id element)
public boolean	<i>getIsLocal()</i> on page 1160	
public abstract Map< String, String >	<i>getKeyPropertyValues()</i> on page 1160	Returns the values of the properties that are marked as key properties in the SDMOData Schema document.
public abstract Date	<i>getLastUpdated()</i> on page 1160	Returns The parsed value of the 'updated' SDMOData Element.
public abstract List< ISDMO-DataLink >	<i>getLinks()</i> on page 1160	Returns the list of the appropriate SDMOData elements.

Modifier and Type	Member	Description
public abstract List< ISDMO-DataProperty >	<i>getPropertiesData()</i> on page 1161	Returns the value and meta information (retrieved from SDMOData Schema document) of the properties of this SDMO-data Entry document.
public abstract List< ISDMO-DataProperty >	<i>getPropertiesDataWithAttribute(String, String)</i> on page 1161	Returns the value and meta information (retrieved from SDMOData Schema document) of the properties of this SDMO-Data Entry document with the given attribute value.
public abstract List< ISDMO-DataProperty >	<i>getPropertiesDataWithAttribute(String, String, boolean)</i> on page 1161	Returns the value and meta information (retrieved from SDMOData Schema document) of the properties of this SDMO-Data Entry document with the given attribute value.
public abstract ISDMParseDocument	<i>getPropertiesDocument()</i> on page 1162	Returns the representer document of SDMOData 'properties' (Metadata name-space) document This method is created for performance reasons mostly to use in search methods.
public abstract String	<i>getPropertyValue(String...)</i> on page 1162	Returns the value of the appropriate property.
public abstract< T > T	<i>getPropertyValueParsed(String...)</i> on page 1163	Returns the value of the appropriate property parsed to it's real type.
public abstract Map< String, String >	<i>getPropertyValues()</i> on page 1163	Returns the all the values of properties contained by this SDMOData Entry document Key for the properties will be their name of their full path in case they are enclosed by Complex Types.
public abstract List< String >	<i>getPropertyValues(List&lt;String[]&gt;)</i> on page 1163	Return list of property values for the given property paths.

Modifier and Type	Member	Description
public abstract List< ISDMO-DataLink >	<i>getRelatedDataLinks()</i> on page 1164	Returns SDMODData Link objects that represents links to Related Data.
public abstract List< ISDMO-DataProperty >	<i>getSAPSearchableProperties-Data()</i> on page 1164	Returns the value and meta information (retrieved from SDMODData Schema document) of the properties of this SDMO-Data Entry document with 'true' searchable (SAP name-space) attribute value.
public abstract ISDMODData-Schema	<i>getSchema()</i> on page 1164	Returns the appropriate SDMO-Data Schema object.
public abstract ISDMODData-Link	<i>getSelfLink()</i> on page 1164	Returns SDMSDMODData Link object that should be used for self related operations (with 'rel' attribute value 'self' or 'edit')
public abstract ISDMODData-Link	<i>getSubscriptionLink()</i> on page 1165	Returns SDMODData Link object that should be used for subscription or null if there is no subscription link defined.
public abstract String	<i>getSummary()</i> on page 1165	Returns The value of the appropriate SDMODData element.
public abstract String	<i>getTitle()</i> on page 1165	Returns The value of the appropriate SDMODData element.
public static final String	<i>PROPERTY_LEVEL_SEPA-RATOR</i> on page 1170	
public abstract void	<i>putComplexPropertyValue(String, String...)</i> on page 1165	Puts the new property element as a sub-element of the 'complex properties' SDMODData element.
public abstract void	<i>putId(String)</i> on page 1166	Sets id of this SDMODData Entry document (value of appropriate SDMODData Id element)
public abstract void	<i>putPropertyValue(String, String)</i> on page 1166	Puts the new property element as a sub-element of the 'properties' SDMODData element.

Modifier and Type	Member	Description
public abstract void	<i>putPropertyValue(String, String, boolean)</i> on page 1166	Puts the new property element as a sub-element of the 'properties' SDMODData element.
public abstract void	<i>setAuthorName(String)</i> on page 1167	Sets the value of the 'name' SDMODData element of the 'author' SDMODData element.
public void	<i>setCacheState(cacheState)</i> on page 1167	
public void	<i>setCacheTimestamp(Long)</i> on page 1167	
public abstract void	<i>setCollectionId(String)</i> on page 1167	Maintains the Id of the SDMO-Cata Collection that this Entry belongs to.
public void	<i>setIsLocal(boolean)</i> on page 1168	
public abstract void	<i>setSchema(ISDMODDataSchema)</i> on page 1168	Maintains the reference to the appropriate SDMODData Schema object.
public abstract void	<i>setSummary(String)</i> on page 1168	Sets the value of the appropriate SDMODData element.
public abstract void	<i>setTitle(String)</i> on page 1168	Sets the value of the appropriate SDMODData element.

#### Inherited members from ISDMParserDocument

Modifier and Type	Member	Description
public static final String	<i>ATTRIBUTE_ETAG</i> on page 1329	Name of the appropriate SDMODData element.
public static final String	<i>ATTRIBUTE_VALUEPREFIX_EDMTYPE</i> on page 1329	Value prefix for EDM Type type values.
public abstract ISDMParserDocument	<i>clone()</i> on page 1317	Creates a copy of this object.



Modifier and Type	Member	Description
public static Map< String, String >	<i>DEFAULT_PREFIXMAP-PING</i> on page 1329	The default XML Namespace-to-Prefix mapping used for building XMLS.
public static final String[]	<i>EDMDATETIME_PATTERNS</i> on page 1329	Possible EDM DateTime patterns Note: Some pattern are not supported by OData specification but still widely used.
public static final String[]	<i>EDMDATETIMEOFFSET_PATTERNS</i> on page 1329	Possible EDM TimeOffset patterns Note: Some pattern are not supported by OData specification but still widely used.
public static final String	<i>EDMTIME_PATTERN</i> on page 1329	EDM Time pattern.
public static String	<i>ELEMENT_FEED</i> on page 1329	Name of the appropriate SDMOData element.
public static final String	<i>ELEMENT_ID</i> on page 1330	Name of the appropriate SDMOData element.
public abstract String	<i>getAttribute(String...)</i> on page 1317	Returns the value of the first attribute with the given route.
public abstract List< String >	<i>getAttributes(String...)</i> on page 1317	Returns all the values of attributes with the given route.
public abstract Map< String, String >	<i>getChildAttribute-Map(String...)</i> on page 1318	Returns all the name-value pairs of attributes contained by the element with the given route.
public abstract List< String >	<i>getChildAttributes(String...)</i> on page 1318	Returns all the values of attributes contained by the element with the given route.
public abstract List< ISDMParseDocument >	<i>getChildDocuments(String...)</i> on page 1318	Returns the elements contained by the element with the given route.
public abstract List< ISDMParseDocument >	<i>getChildDocumentsWithAttribute(String, String, String...)</i> on page 1319	Returns the elements contained by the element with the given route and having the given attribute with the given value.

Modifier and Type	Member	Description
public abstract List< ISDMParseDocument >	<i>getChildDocumentsWithAttribute(String, String, boolean, String...)</i> on page 1319	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public abstract ISDMParseDocument	<i>getDocument(String...)</i> on page 1320	Returns the first element with the given route.
public abstract List< ISDMParseDocument >	<i>getDocuments(String...)</i> on page 1320	Returns all the elements with the given route.
public abstract List< ISDMParseDocument >	<i>getDocumentsWithAttribute(String, String, String...)</i> on page 1321	Returns the elements with the given route that contains the given attribute with the given value.
public abstract List< ISDMParseDocument >	<i>getDocumentsWithAttribute(String, String, boolean, String...)</i> on page 1321	Returns the elements with the given route that contains the given attribute with the given value.
public abstract ISDMParseDocument	<i>getDocumentWithAttribute(String, String, String...)</i> on page 1322	Returns the first element with the given route that contains the given attribute with the given value.
public abstract ISDMParseDocument	<i>getDocumentWithAttribute(String, String, boolean, String...)</i> on page 1322	Returns the first element with the given route that contains the given attribute with the given value.
public abstract String	<i>getElementName()</i> on page 1323	Returns The name of the root element of this document.
public abstract String	<i>getFunctionImportComplexProperty Value(String...)</i> on page 1323	
public abstract String	<i>getPrefixForUri(String)</i> on page 1323	Returns the appropriate namespace prefix for the given XML name-space URI.
public abstract String[]	<i>getStrings()</i> on page 1324	Returns all the string values contained by this document.

Modifier and Type	Member	Description
public abstract String	<i>getValue(String...)</i> on page 1324	Returns the value of the first element with the given route.
public abstract List< String >	<i>getValues(String...)</i> on page 1324	Returns all the values of elements with the given route.
public abstract void	<i>putAttribute(String, String...)</i> on page 1325	Sets the value of the attribute with the given route If attribute does not exist it will be created as well as all other non existing elements in the route.
public abstract void	<i>putDocument(ISDMParseDocument, String...)</i> on page 1325	Insert the document under the element with the given route inserted document will be placed before already existing documents with the same route name under All missing elements from the route will be created.
public abstract void	<i>putValue(String, String...)</i> on page 1325	Sets the value of the first element with the given route.
public abstract boolean	<i>removeAttribute(String...)</i> on page 1326	Removes first element with the given route.
public abstract boolean	<i>removeAttributes(String...)</i> on page 1326	Removes all the attribute with the given route.
public abstract boolean	<i>removeDocument(String...)</i> on page 1326	Removes first element with the given route For removing multiple element use setDocuemtns with null arguments.
public static final String	<i>ROOT_DOCUMENT_NAME</i> on page 1330	The default root element name for a new document.
public abstract void	<i>setAttributes(List&lt; String &gt;, String...)</i> on page 1327	Sets all the values of the attributes with the given route Values will be paired to attributes in order Attributes with greater or equals index than size of new values will be untouched Attributes paired with null values will be removed.

Modifier and Type	Member	Description
public abstract void	<i>setDocuments(List&lt; ISDMParserDocument &gt;, String...)</i> on page 1327	Replaces all the elements with the given route Documents will be paired to elements in order Elements with greater or equals index than size of new elements will be untouched Element paired with null will be removed.
public abstract void	<i>setElementName(String, String...)</i> on page 1328	Sets the name of the root element with the given route Use empty route for setting root name of this document.
public abstract void	<i>setValues(List&lt; String &gt;, String...)</i> on page 1328	Sets all the values of the elements with the given route Values will be paired to elements in order Elements with greater or equals index than size of new values will be untouched Null values will be treated as empty strings.
public abstract String	<i>toXMLString()</i> on page 1328	Returns the XML string representation of this object.
public static final String	<i>XMLNS_APPLICATION_URI</i> on page 1330	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/08/dataservices">http://schemas.microsoft.com/ado/2007/08/dataservices</a> .
public static final String	<i>XMLNS_ATOM_URI</i> on page 1330	Constant for XMLNS URI: <a href="http://www.w3.org/2005/Atom">http://www.w3.org/2005/Atom</a> .
public static final String	<i>XMLNS_DATASERVICES_URI</i> on page 1330	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/08/dataservices">http://schemas.microsoft.com/ado/2007/08/dataservices</a> .
public static final String	<i>XMLNS_EDM_URI</i> on page 1330	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/05/edm">http://schemas.microsoft.com/ado/2007/05/edm</a> .
public static final String	<i>XMLNS_EDMX_URI</i> on page 1330	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/06/edmx">http://schemas.microsoft.com/ado/2007/06/edmx</a> .

Modifier and Type	Member	Description
public static final String	<i>XMLNS_GENERICPLAYER_URI</i> on page 1331	Constant for XMLNS URI: <a href="http://www.sap.com/Protocols/SAPData/GenericPlayer">http://www.sap.com/Protocols/SAPData/GenericPlayer</a> .
public static final String	<i>XMLNS_METADATA_URI</i> on page 1331	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/08/dataservices/metadata">http://schemas.microsoft.com/ado/2007/08/dataservices/metadata</a> .
public static final String	<i>XMLNS_SAP_URI</i> on page 1331	Constant for XMLNS URI: <a href="http://www.sap.com/Protocols/SAPData">http://www.sap.com/Protocols/SAPData</a> .

#### Inherited members from ISDMPersistable

Modifier and Type	Member	Description
public void	<i>read(BufferedReader)</i> on page 1332	
public void	<i>write(BufferedWriter)</i> on page 1332	

#### *getCollection()* method

Returns The value of the appropriate entry property.

#### *Syntax*

```
public abstract String getCollection ()
```

#### *Returns*

The value of the appropriate entry property

#### *getDeliveryAddress()* method

Returns The value of the appropriate entry property.

#### *Syntax*

```
public abstract String getDeliveryAddress ()
```

#### *Returns*

The value of the appropriate entry property

### *getFilter() method*

Returns The value of the appropriate entry property.

#### *Syntax*

```
public abstract String getFilter ()
```

#### *Returns*

The value of the appropriate entry property

### *getSelect() method*

Returns The value of the appropriate entry property.

#### *Syntax*

```
public abstract String getSelect ()
```

#### *Returns*

The value of the appropriate entry property

### *setCollection(String) method*

Sets the value of the appropriate entry property.

#### *Syntax*

```
public abstract void setCollection (String collection)
```

#### *Parameters*

- **collection** – The new value of the appropriate entry property

### *setDeliveryAddress(String) method*

Sets the value of the appropriate entry property.

#### *Syntax*

```
public abstract void setDeliveryAddress (String deliveryAddress)
```

#### *Parameters*

- **deliveryAddress** –

### *setFilter(String) method*

Sets the value of the appropriate entry property.

#### *Syntax*

```
public abstract void setFilter (String filterString)
```

*Parameters*

- **filterString** – The new value of the appropriate entry property

*setSelect(String) method*

Sets the value of the appropriate entry property.

*Syntax*

```
public abstract void setSelect (String selectString )
```

*Parameters*

- **selectString** – The new value of the appropriate entry property

*ELEMENT\_COLLECTION variable*

Name of the appropriate SDMODData element.

*Syntax*

```
public static final String ELEMENT_COLLECTION
```

*ELEMENT\_DELIVERYADDRESS variable*

Name of the appropriate SDMODData element.

*Syntax*

```
public static final String ELEMENT_DELIVERYADDRESS
```

*ELEMENT\_FILTER variable*

Name of the appropriate SDMODData element.

*Syntax*

```
public static final String ELEMENT_FILTER
```

*ELEMENT\_SELECT variable*

Name of the appropriate SDMODData element.

*Syntax*

```
public static final String ELEMENT_SELECT
```

*ISDMODDataURL interface*

Deprecated. since 3.0, Use IODataURL Represents the appropriate SDMODData element.

*Syntax*

```
public abstract interface ISDMODDataURL extends  
ISDMParserDocument
```

*Derived classes*

- *SDMODataURL* on page 1878

*Members*

All members of ISDMODataURL, including inherited members. **Variables**

Modifier and Type	Variable	Description
public static final String	<i>ATTRIBUTE_TEMPLATE</i> on page 1291	Name of the appropriate SDMOData attribute.
public static final String	<i>ATTRIBUTE_TYPE</i> on page 1291	Name of the appropriate SDMOData attribute.
public static final String	<i>ELEMENT_URL</i> on page 1291	Name of the appropriate SDMOData element.

**Methods**

Modifier and Type	Method	Description
public abstract List< String >	<i>getMandatoryTemplateParameters()</i> on page 1289	Returns the list of mandatory template parameter names.
public abstract List< String >	<i>getOptionalTemplateParameters()</i> on page 1290	Returns the list of optional template parameter names.
public abstract String	<i>getTemplate()</i> on page 1290	Returns the value of the appropriate SDMOData attribute.
public abstract List< String >	<i>getTemplateParameters()</i> on page 1290	Returns the list of all template parameter names.
public abstract String	<i>getType()</i> on page 1290	Returns the value of the appropriate SDMOData attribute.
public abstract String	<i>getUrl()</i> on page 1290	Returns the full URL of this SDMOData attribute without parameters.
public abstract String	<i>getUrlFromTemplate(Map&lt; String, String &gt;)</i> on page 1291	Returns the full URL of this SDMOData attribute extended with parameter names and values according to the given parameter map.

**Inherited members from ISDMParserDocument**



Modifier and Type	Member	Description
public static final String	<i>ATTRIBUTE_ETAG</i> on page 1329	Name of the appropriate SDMOData element.
public static final String	<i>ATTRIBUTE_VALUEPREFIX_EDMTYPE</i> on page 1329	Value prefix for EDM Type type values.
public abstract ISDMParserDocument	<i>clone()</i> on page 1317	Creates a copy of this object.
public static Map< String, String >	<i>DEFAULT_PREFIXMAPPING</i> on page 1329	The default XML Namespace-to-Prefix mapping used for building XMLS.
public static final String[]	<i>EDMDATETIME_PATTERNS</i> on page 1329	Possible EDM DateTime patterns Note: Some pattern are not supported by OData specification but still widely used.
public static final String[]	<i>EDMDATETIMEOFFSET_PATTERNS</i> on page 1329	Possible EDM DateTimeOffset patterns Note: Some pattern are not supported by OData specification but still widely used.
public static final String	<i>EDMTIME_PATTERN</i> on page 1329	EDM Time pattern.
public static String	<i>ELEMENT_FEED</i> on page 1329	Name of the appropriate SDMOData element.
public static final String	<i>ELEMENT_ID</i> on page 1330	Name of the appropriate SDMOData element.
public abstract String	<i>getAttribute(String...)</i> on page 1317	Returns the value of the first attribute with the given route.
public abstract List< String >	<i>getAttributes(String...)</i> on page 1317	Returns all the values of attributes with the given route.
public abstract Map< String, String >	<i>getChildAttributeMap(String...)</i> on page 1318	Returns all the name-value pairs of attributes contained by the element with the given route.
public abstract List< String >	<i>getChildAttributes(String...)</i> on page 1318	Returns all the values of attributes contained by the element with the given route.

Modifier and Type	Member	Description
public abstract List< ISDMParserDocument >	<i>getChildDocuments(String...)</i> on page 1318	Returns the elements contained by the element with the given route.
public abstract List< ISDMParserDocument >	<i>getChildDocumentsWithAttribute(String, String, String...)</i> on page 1319	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public abstract List< ISDMParserDocument >	<i>getChildDocumentsWithAttribute(String, String, boolean, String...)</i> on page 1319	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public abstract ISDMParserDocument	<i>getDocument(String...)</i> on page 1320	Returns the first element with the given route.
public abstract List< ISDMParserDocument >	<i>getDocuments(String...)</i> on page 1320	Returns all the elements with the given route.
public abstract List< ISDMParserDocument >	<i>getDocumentsWithAttribute(String, String, String...)</i> on page 1321	Returns the elements with the given route that contains the given attribute with the given value.
public abstract List< ISDMParserDocument >	<i>getDocumentsWithAttribute(String, String, boolean, String...)</i> on page 1321	Returns the elements with the given route that contains the given attribute with the given value.
public abstract ISDMParserDocument	<i>getDocumentWithAttribute(String, String, String...)</i> on page 1322	Returns the first element with the given route that contains the given attribute with the given value.
public abstract ISDMParserDocument	<i>getDocumentWithAttribute(String, String, boolean, String...)</i> on page 1322	Returns the first element with the given route that contains the given attribute with the given value.
public abstract String	<i>getElementName()</i> on page 1323	Returns The name of the root element of this document.
public abstract String	<i>getFunctionImportComplexPropertyValue(String...)</i> on page 1323	

Modifier and Type	Member	Description
public abstract String	<i>getPrefixForUri(String)</i> on page 1323	Returns the appropriate name-space prefix for the given XML name-space URI.
public abstract String[]	<i>getStrings()</i> on page 1324	Returns all the string values contained by this document.
public abstract String	<i>getValue(String...)</i> on page 1324	Returns the value of the first element with the given route.
public abstract List< String >	<i>getValues(String...)</i> on page 1324	Returns all the values of elements with the given route.
public abstract void	<i>putAttribute(String, String...)</i> on page 1325	Sets the value of the attribute with the given route. If attribute does not exist it will be created as well as all other non existing elements in the route.
public abstract void	<i>putDocument(ISDMParseDocument, String...)</i> on page 1325	Insert the document under the element with the given route. Inserted document will be placed before already existing documents with the same route name. All missing elements from the route will be created.
public abstract void	<i>putValue(String, String...)</i> on page 1325	Sets the value of the first element with the given route.
public abstract boolean	<i>removeAttribute(String...)</i> on page 1326	Removes first element with the given route.
public abstract boolean	<i>removeAttributes(String...)</i> on page 1326	Removes all the attribute with the given route.
public abstract boolean	<i>removeDocument(String...)</i> on page 1326	Removes first element with the given route. For removing multiple element use setDocuments with null arguments.
public static final String	<i>ROOT_DOCUMENT_NAME</i> on page 1330	The default root element name for a new document.

Modifier and Type	Member	Description
public abstract void	<i>setAttributes(List&lt; String &gt;, String...)</i> on page 1327	Sets all the values of the attributes with the given route Values will be paired to attributes in order Attributes with greater or equals index than size of new values will be untouched Attributes paired with null values will be removed.
public abstract void	<i>setDocuments(List&lt; ISDMParserDocument &gt;, String...)</i> on page 1327	Replaces all the elements with the given route Documents will be paired to elements in order Elements with greater or equals index than size of new elements will be untouched Element paired with null will be removed.
public abstract void	<i>setElementName(String, String...)</i> on page 1328	Sets the name of the root element with the given route Use empty route for setting root name of this document.
public abstract void	<i>setValues(List&lt; String &gt;, String...)</i> on page 1328	Sets all the values of the elements with the given route Values will be paired to elements in order Elements with greater or equals index than size of new values will be untouched Null values will be treated as empty strings.
public abstract String	<i>toXMLString()</i> on page 1328	Returns the XML string representation of this object.
public static final String	<i>XMLNS_APPLICATION_URI</i> on page 1330	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/08/dataservices">http://schemas.microsoft.com/ado/2007/08/dataservices</a> .
public static final String	<i>XMLNS_ATOM_URI</i> on page 1330	Constant for XMLNS URI: <a href="http://www.w3.org/2005/Atom">http://www.w3.org/2005/Atom</a> .

Modifier and Type	Member	Description
public static final String	<i>XMLNS_DATASERVICES_URI</i> on page 1330	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/08/dataservices">http://schemas.microsoft.com/ado/2007/08/dataservices</a> .
public static final String	<i>XMLNS_EDM_URI</i> on page 1330	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/05/edm">http://schemas.microsoft.com/ado/2007/05/edm</a> .
public static final String	<i>XMLNS_EDMX_URI</i> on page 1330	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/06/edmx">http://schemas.microsoft.com/ado/2007/06/edmx</a> .
public static final String	<i>XMLNS_GENERICPLAYER_URI</i> on page 1331	Constant for XMLNS URI: <a href="http://www.sap.com/Protocols/SAPData/GenericPlayer">http://www.sap.com/Protocols/SAPData/GenericPlayer</a> .
public static final String	<i>XMLNS_METADATA_URI</i> on page 1331	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/08/dataservices/metadata">http://schemas.microsoft.com/ado/2007/08/dataservices/metadata</a> .
public static final String	<i>XMLNS_SAP_URI</i> on page 1331	Constant for XMLNS URI: <a href="http://www.sap.com/Protocols/SAPData">http://www.sap.com/Protocols/SAPData</a> .

#### Inherited members from ISDMPersistable

Modifier and Type	Member	Description
public void	<i>read(BufferedReader)</i> on page 1332	
public void	<i>write(BufferedWriter)</i> on page 1332	

#### *getMandatoryTemplateParameters()* method

Returns the list of mandatory template parameter names.

#### Syntax

```
public abstract List< String > getMandatoryTemplateParameters
()
```

#### Returns

the list of mandatory template parameter names

### *getOptionalTemplateParameters() method*

Returns the list of optional template parameter names.

#### *Syntax*

```
public abstract List< String > getOptionalTemplateParameters  
( )
```

#### *Returns*

the list of optional template parameter names

### *getTemplate() method*

Returns the value of the appropriate SDMOData attribute.

#### *Syntax*

```
public abstract String getTemplate ( )
```

#### *Returns*

The value of the appropriate SDMOData attribute

### *getTemplateParameters() method*

Returns the list of all template parameter names.

#### *Syntax*

```
public abstract List< String > getTemplateParameters ( )
```

#### *Returns*

the list of all template parameter names

### *getType() method*

Returns the value of the appropriate SDMOData attribute.

#### *Syntax*

```
public abstract String getType ( )
```

#### *Returns*

The value of the appropriate SDMOData attribute

### *getUrl() method*

Returns the full URL of this SDMOData attribute without parameters.

#### *Syntax*

```
public abstract String getUrl ( )
```

**Returns**

The full URL this SDMOData attribute without parameters

***getUrlFromTemplate(Map< String, String >) method***

Returns the full URL of this SDMOData attribute extended with parameter names and values according to the given parameter map.

**Syntax**

```
public abstract String getUrlFromTemplate (Map< String,
String > parameters )
```

**Returns**

The full URL this SDMOData attribute with parameters names and values

***ATTRIBUTE\_TEMPLATE variable***

Name of the appropriate SDMOData attribute.

**Syntax**

```
public static final String ATTRIBUTE_TEMPLATE
```

***ATTRIBUTE\_TYPE variable***

Name of the appropriate SDMOData attribute.

**Syntax**

```
public static final String ATTRIBUTE_TYPE
```

***ELEMENT\_URL variable***

Name of the appropriate SDMOData element.

**Syntax**

```
public static final String ELEMENT_URL
```

***ISDMODataWorkspace interface***

Deprecated. since 3.0, Use IODataWorkspace

**Syntax**

```
public abstract interface ISDMODataWorkspace extends
ISDMParserDocument
```

**Derived classes**

- *SDMODataWorkspace* on page 1896

*Members*All members of ISDMODataWorkspace, including inherited members. **Variables**

Modifier and Type	Variable	Description
public static final String	<i>ATTRIBUTE_SEMANTICS</i> on page 1298	Name of the appropriate SDMOData attribute.
public static final String	<i>ELEMENT_TITLE</i> on page 1298	Name of the appropriate SDMOData element.
public static final String	<i>ELEMENT_WORKSPACE</i> on page 1298	Name of the appropriate SDMOData element.

**Methods**

Modifier and Type	Method	Description
public abstract List< ISDMO-DataCollection >	<i>getCollections()</i> on page 1297	Returns The list of of 'collection' SDMOData element.
public abstract String	<i>getSemantics()</i> on page 1297	Returns the value of the appropriate SDMOData attribute.
public abstract String	<i>getTitle()</i> on page 1298	Returns the value of the appropriate SDMOData element.

**Inherited members from ISDMParserDocument**

Modifier and Type	Member	Description
public static final String	<i>ATTRIBUTE_ETAG</i> on page 1329	Name of the appropriate SDMOData element.
public static final String	<i>ATTRIBUTE_VALUEPREFIX_EDMTYPE</i> on page 1329	Value prefix for EDM Type type values.
public abstract ISDMParserDocument	<i>clone()</i> on page 1317	Creates a copy of this object.
public static Map< String, String >	<i>DEFAULT_PREFIXMAPPING</i> on page 1329	The default XML Namespace-to-Prefix mapping used for building XMLS.



Modifier and Type	Member	Description
public static final String[]	<i>EDMDATETIME_PATTERNS</i> on page 1329	Possible EDM DateTime patterns Note: Some pattern are not supported by OData specification but still widely used.
public static final String[]	<i>EDMDATETIMEOFFSET_PATTERNS</i> on page 1329	Possible EDM TimeOffset patterns Note: Some pattern are not supported by OData specification but still widely used.
public static final String	<i>EDMTIME_PATTERN</i> on page 1329	EDM Time pattern.
public static String	<i>ELEMENT_FEED</i> on page 1329	Name of the appropriate SDMOData element.
public static final String	<i>ELEMENT_ID</i> on page 1330	Name of the appropriate SDMOData element.
public abstract String	<i>getAttribute(String...)</i> on page 1317	Returns the value of the first attribute with the given route.
public abstract List< String >	<i>getAttributes(String...)</i> on page 1317	Returns all the values of attributes with the given route.
public abstract Map< String, String >	<i>getChildAttributeMap(String...)</i> on page 1318	Returns all the name-value pairs of attributes contained by the element with the given route.
public abstract List< String >	<i>getChildAttributes(String...)</i> on page 1318	Returns all the values of attributes contained by the element with the given route.
public abstract List< ISDMParserDocument >	<i>getChildDocuments(String...)</i> on page 1318	Returns the elements contained by the element with the given route.
public abstract List< ISDMParserDocument >	<i>getChildDocumentsWithAttribute(String, String, String...)</i> on page 1319	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public abstract List< ISDMParserDocument >	<i>getChildDocumentsWithAttribute(String, String, boolean, String...)</i> on page 1319	Returns the elements contained by the element with the given route and having the given attribute with the given value.

Modifier and Type	Member	Description
public abstract ISDMParseDocument	<i>getDocument(String...)</i> on page 1320	Returns the first element with the given route.
public abstract List< ISDMParseDocument >	<i>getDocuments(String...)</i> on page 1320	Returns all the elements with the given route.
public abstract List< ISDMParseDocument >	<i>getDocumentsWithAttribute(String, String, String...)</i> on page 1321	Returns the elements with the given route that contains the given attribute with the given value.
public abstract List< ISDMParseDocument >	<i>getDocumentsWithAttribute(String, String, boolean, String...)</i> on page 1321	Returns the elements with the given route that contains the given attribute with the given value.
public abstract ISDMParseDocument	<i>getDocumentWithAttribute(String, String, String...)</i> on page 1322	Returns the first element with the given route that contains the given attribute with the given value.
public abstract ISDMParseDocument	<i>getDocumentWithAttribute(String, String, boolean, String...)</i> on page 1322	Returns the first element with the given route that contains the given attribute with the given value.
public abstract String	<i>getElementName()</i> on page 1323	Returns The name of the root element of this document.
public abstract String	<i>getFunctionImportComplexPropertyValue(String...)</i> on page 1323	
public abstract String	<i>getPrefixForUri(String)</i> on page 1323	Returns the appropriate namespace prefix for the given XML name-space URI.
public abstract String[]	<i>getStrings()</i> on page 1324	Returns all the string values contained by this document.
public abstract String	<i>getValue(String...)</i> on page 1324	Returns the value of the first element with the given route.
public abstract List< String >	<i>getValues(String...)</i> on page 1324	Returns all the values of elements with the given route.

Modifier and Type	Member	Description
public abstract void	<i>putAttribute(String, String...)</i> on page 1325	Sets the value of the attribute with the given route. If attribute does not exist it will be created as well as all other non existing elements in the route.
public abstract void	<i>putDocument(ISDMParseDocument, String...)</i> on page 1325	Insert the document under the element with the given route. Inserted document will be placed before already existing documents with the same route name. All missing elements from the route will be created.
public abstract void	<i>putValue(String, String...)</i> on page 1325	Sets the value of the first element with the given route.
public abstract boolean	<i>removeAttribute(String...)</i> on page 1326	Removes first element with the given route.
public abstract boolean	<i>removeAttributes(String...)</i> on page 1326	Removes all the attribute with the given route.
public abstract boolean	<i>removeDocument(String...)</i> on page 1326	Removes first element with the given route. For removing multiple element use <code>setDocuments</code> with null arguments.
public static final String	<i>ROOT_DOCUMENT_NAME</i> on page 1330	The default root element name for a new document.
public abstract void	<i>setAttributes(List&lt;String&gt;, String...)</i> on page 1327	Sets all the values of the attributes with the given route. Values will be paired to attributes in order. Attributes with greater or equals index than size of new values will be untouched. Attributes paired with null values will be removed.

Modifier and Type	Member	Description
public abstract void	<i>setDocuments(List&lt; ISDMParserDocument &gt;, String...)</i> on page 1327	Replaces all the elements with the given route Documents will be paired to elements in order Elements with greater or equals index than size of new elements will be untouched Element paired with null will be removed.
public abstract void	<i>setElementName(String, String...)</i> on page 1328	Sets the name of the root element with the given route Use empty route for setting root name of this document.
public abstract void	<i>setValues(List&lt; String &gt;, String...)</i> on page 1328	Sets all the values of the elements with the given route Values will be paired to elements in order Elements with greater or equals index than size of new values will be untouched Null values will be treated as empty strings.
public abstract String	<i>toXMLString()</i> on page 1328	Returns the XML string representation of this object.
public static final String	<i>XMLNS_APPLICATION_URI</i> on page 1330	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/08/dataservices">http://schemas.microsoft.com/ado/2007/08/dataservices</a> .
public static final String	<i>XMLNS_ATOM_URI</i> on page 1330	Constant for XMLNS URI: <a href="http://www.w3.org/2005/Atom">http://www.w3.org/2005/Atom</a> .
public static final String	<i>XMLNS_DATASERVICES_URI</i> on page 1330	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/08/dataservices">http://schemas.microsoft.com/ado/2007/08/dataservices</a> .
public static final String	<i>XMLNS_EDM_URI</i> on page 1330	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/05/edm">http://schemas.microsoft.com/ado/2007/05/edm</a> .
public static final String	<i>XMLNS_EDMX_URI</i> on page 1330	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/06/edmx">http://schemas.microsoft.com/ado/2007/06/edmx</a> .

Modifier and Type	Member	Description
public static final String	<i>XMLNS_GENERICPLAYER_URI</i> on page 1331	Constant for XMLNS URI: <a href="http://www.sap.com/Protocols/SAPData/GenericPlayer">http://www.sap.com/Protocols/SAPData/GenericPlayer</a> .
public static final String	<i>XMLNS_METADATA_URI</i> on page 1331	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/08/dataservices/metadata">http://schemas.microsoft.com/ado/2007/08/dataservices/metadata</a> .
public static final String	<i>XMLNS_SAP_URI</i> on page 1331	Constant for XMLNS URI: <a href="http://www.sap.com/Protocols/SAPData">http://www.sap.com/Protocols/SAPData</a> .

#### Inherited members from ISDMPersistable

Modifier and Type	Member	Description
public void	<i>read(BufferedReader)</i> on page 1332	
public void	<i>write(BufferedWriter)</i> on page 1332	

#### *getCollections()* method

Returns The list of of 'collection' SDMODData element.

#### *Syntax*

```
public abstract List< ISDMODDataCollection > getCollections
()
```

#### *Returns*

The list of of 'collection' SDMODData element.

#### *getSemantics()* method

Returns the value of the appropriate SDMODData attribute.

#### *Syntax*

```
public abstract String getSemantics ()
```

#### *Returns*

The value of the appropriate SDMODData attribute

### *getTitle() method*

Returns the value of the appropriate SDMODData element.

#### *Syntax*

```
public abstract String getTitle ()
```

#### *Returns*

The value of the appropriate SDMODData element

### *ATTRIBUTE\_SEMANTICS variable*

Name of the appropriate SDMODData attribute.

#### *Syntax*

```
public static final String ATTRIBUTE_SEMANTICS
```

### *ELEMENT\_TITLE variable*

Name of the appropriate SDMODData element.

#### *Syntax*

```
public static final String ELEMENT_TITLE
```

### *ELEMENT\_WORKSPACE variable*

Name of the appropriate SDMODData element.

#### *Syntax*

```
public static final String ELEMENT_WORKSPACE
```

### *ISDMParser interface*

Deprecated. since 3.0, Use IParser Main interface for SDMODData parser.

#### *Syntax*

```
public abstract interface ISDMParser
```

#### *Derived classes*

- *SDMParser* on page 1911

#### *Members*

All members of ISDMParser, including inherited members. **Methods**

Modifier and Type	Method	Description
public abstract String	<i>buildSDMODataDocumentXML(ISDMParserDocument)</i> on page 1301	Replaced by com.sap.mobile.lib.parser.IParser#buildODataDocument(IParserDocument).
public String	<i>buildSDMODataEntryJson(ISDMODataEntry, String, ISDMODataSchema)</i> on page 1301	Replaced by com.sap.mobile.lib.parser.IParser#buildODataEntryRequestBody(ODataEntry ,String , IODataSchema , int).
public abstract String	<i>buildSDMODataEntryXML(ISDMODataEntry)</i> on page 1302	Replaced by com.sap.mobile.lib.parser.IParser#buildODataEntryRequestBody(ODataEntry ,String , IODataSchema , int).
public void	<i>enableParserPerformanceLog(boolean, Context)</i> on page 1302	Replaced by com.sap.mobile.lib.parser.IParser#enableParserPerformanceLog(boolean,Context).
public abstract List< ISDMODataEntry >	<i>parseFunctionImportResultXML(String, ISDMODataFunctionImport, ISDMODataSchema)</i> on page 1302	Replaced by com.sap.mobile.lib.parser.IParser#parseFunctionImportResult(String , IODataFunctionImport , IODataSchema).
public abstract List< ISDMODataEntry >	<i>parseFunctionImportResultXML(InputStream, ISDMODataFunctionImport, ISDMODataSchema)</i> on page 1303	Replaced by com.sap.mobile.lib.parser.IParser#parseFunctionImportResult(InputStream , IODataFunctionImport , IODataSchema ).
public abstract List< ISDMODataEntry >	<i>parseSDMODataEntriesXML(String, String, ISDMODataSchema)</i> on page 1304	Replaced by com.sap.mobile.lib.parser.IParser#parseODataEntries(String , String , IODataSchema ).
public abstract List< ISDMODataEntry >	<i>parseSDMODataEntriesXML(InputStream, String, ISDMODataSchema)</i> on page 1304	Replaced by com.sap.mobile.lib.parser.IParser#parseODataEntries(InputStream , String , IODataSchema ).

Modifier and Type	Method	Description
public abstract ISDMODataError	<i>parseSDMODataErrorXML(String)</i> on page 1305	Replaced by com.sap.mobile.lib.parser.IParser#parseODataError(String).
public abstract ISDMODataError	<i>parseSDMODataErrorXML(InputStream)</i> on page 1306	Replaced by com.sap.mobile.lib.parser.IParser#parseODataError(InputStream).
public abstract ISDMODataOpenSearchDescription	<i>parseSDMODataOpenSearchDescriptionXML(String, String, ISDMODataServiceDocument)</i> on page 1306	Replaced by com.sap.mobile.lib.parser.IParser#parseODataOpenSearchDescription(String, String, IODataServiceDocument).
public abstract ISDMODataOpenSearchDescription	<i>parseSDMODataOpenSearchDescriptionXML(InputStream, String, ISDMODataServiceDocument)</i> on page 1307	Replaced by com.sap.mobile.lib.parser.IParser#parseODataOpenSearchDescription(InputStream, String, IODataServiceDocument).
public abstract ISDMODataSchema	<i>parseSDMODataSchemaXML(String, ISDMODataServiceDocument)</i> on page 1307	Replaced by com.sap.mobile.lib.parser.IParser#parseODataSchema(String, IODataServiceDocument).
public abstract ISDMODataSchema	<i>parseSDMODataSchemaXML(InputStream, ISDMODataServiceDocument)</i> on page 1308	Replaced by com.sap.mobile.lib.parser.IParser#parseODataSchema(InputStream, IODataServiceDocument).
public abstract ISDMODataServiceDocument	<i>parseSDMODataServiceDocumentXML(String)</i> on page 1309	Replaced by com.sap.mobile.lib.parser.IParser#parseODataServiceDocument(String).
public abstract ISDMODataServiceDocument	<i>parseSDMODataServiceDocumentXML(InputStream)</i> on page 1309	Replaced by com.sap.mobile.lib.parser.IParser#parseODataServiceDocument(InputStream).
public abstract ISDMParserDocument	<i>parseXML(String)</i> on page 1310	Replaced by com.sap.mobile.lib.parser.IParser#parse(String).
public abstract ISDMParserDocument	<i>parseXML(InputStream)</i> on page 1310	Replaced by com.sap.mobile.lib.parser.IParser#parse(InputStream).



*buildSDMODataDocumentXML(ISDMParserDocument) method*

Replaced by `com.sap.mobile.lib.parser.IParser#buildODataDocument(IParserDocument)`.

*Syntax*

```
public abstract String buildSDMODataDocumentXML
( ISDMParserDocument document ) throws SDMParserException,
IllegalArgumentException
```

*Parameters*

- **document** – The `SDMParserDocument` object to build the XML from

*Returns*

The built document XML

*Exceptions*

- **SDMParserException class** – If building XML has failed
- **IllegalArgumentException** – If the argument is null

*Usage*

Builds and XML representation of the document argument

*buildSDMODataEntryJson(ISDMODataEntry, String, ISDMODataSchema) method*

Replaced by

```
com.sap.mobile.lib.parser.IParser#buildODataEntryRequestBody( IODataEntry ,String ,
IODataSchema , int).
```

*Syntax*

```
public String buildSDMODataEntryJson ( ISDMODataEntry entry ,
String collectionId , ISDMODataSchema schema )
```

*Parameters*

- **entry** – The `SDMODataEntry` object to build the XML from
- **collectionId** – Collection to which the post needs to be made

*Returns*

The built document Json

*Usage*

Builds a valid `SDMODataEntry` JSON Post body from the entry argument

### *buildSDMODataEntryXML(ISDMODataEntry) method*

Replaced by

`com.sap.mobile.lib.parser.IParser#buildODataEntryRequestBody( IODataEntry ,String , IODataSchema , int).`

### *Syntax*

```
public abstract String buildSDMODataEntryXML ( ISDMODataEntry  
entry ) throws SDMParseException, IllegalArgumentException
```

### *Parameters*

- **entry** – The SDMODataEntry object to build the XML from

### *Returns*

The built document XML

### *Exceptions*

- **SDMParseException class** – If building XML has failed
- **IllegalArgumentException** – If the argument is null

### *Usage*

Builds a valid SDMOData Entry XML from the entry argument

### *enableParserPerformanceLog(boolean, Context) method*

Replaced by

`com.sap.mobile.lib.parser.IParser#enableParserPerformanceLog(boolean,Context).`

### *Syntax*

```
public void enableParserPerformanceLog ( boolean perflog ,  
Context applicationContext )
```

### *Parameters*

- **perflog** –
- **applicationContext** –

### *parseFunctionImportResultXML(String, ISDMODataFunctionImport, ISDMODataSchema) method*

Replaced by `com.sap.mobile.lib.parser.IParser#parseFunctionImportResult(String , IODataFunctionImport , IODataSchema).`

### *Syntax*

```
public abstract List< ISDMODataEntry >  
parseFunctionImportResultXML ( String xml ,
```

ISDMODataFunctionImport *functionImport* , ISDMODataSchema *schema* )  
 throws SDMParseException, IllegalArgumentException

### Parameters

- **xml** – The Function Import result XML
- **functionImport** – The SDMOData Function Import document
- **schema** – The appropriate SDMOData Schema document

### Returns

List of SDMOData Entry containing the result values

### Exceptions

- **SDMParseException class** – If parsing XML has failed
- **IllegalArgumentException** – If either of the arguments is null

### Usage

Parser a non error result of the execution of a Function Import SDMOData document The result will be converted to a list of SDMOData Entry documents If the result was a simple type it can accessed due the result entries as if it were a property,

*parseFunctionImportResultXML(InputStream, ISDMODataFunctionImport, ISDMODataSchema) method*

Replaced by com.sap.mobile.lib.parser.IParser#parseFunctionImportResult(InputStream , IODataFunctionImport , IODataSchema ).

### Syntax

```
public abstract List< ISDMODataEntry >
parseFunctionImportResultXML ( InputStream stream ,
ISDMODataFunctionImport functionImport , ISDMODataSchema schema )
throws SDMParseException, IllegalArgumentException
```

### Parameters

- **stream** – The function Import result stream
- **functionImport** – The SDMOData Function Import document
- **schema** – The appropriate SDMOData Schema document

### Returns

List of SDMOData Entry containing the result values

### Exceptions

- **SDMParseException class** – If parsing XML has failed

- **IllegalArgumentException** – If either of the arguments is null

### Usage

Parser a non error result of the execution of a Function Import SDMODData document The result will be converted to a list of SDMODData Entry documents If the result was a simple type it can accessed due the result entries as if it were a property,

*parseSDMODDataEntriesXML(String, String, ISDMODDataSchema) method*

Replaced by com.sap.mobile.lib.parser.IParser#parseODataEntries(String, String, IODataSchema ).

### Syntax

```
public abstract List< ISDMODDataEntry >
parseSDMODDataEntriesXML ( String entriesXML , String collectionId ,
ISDMODDataSchema schema ) throws SDMParseException,
IllegalArgumentException
```

### Parameters

- **entriesXML** – The XML source of either a single SDMODData Entry or SDMODData Feed of several SDMODData entries
- **collectionId** – The id of the collection that the result entries should belong to
- **schema** – The relevant SDMODData schema document

### Returns

The list of the SDMODData Entries contained by the source XML

### Exceptions

- **SDMParseException class** – If the XML source is invalid
- **IllegalArgumentException** – If the argument is null

### Usage

Parses SAPData XML structure that represent either a single SDMODData Entry or an SDMODData Feed with several SDMODData entries

*parseSDMODDataEntriesXML(InputStream, String, ISDMODDataSchema) method*

Replaced by com.sap.mobile.lib.parser.IParser#parseODataEntries(InputStream, String, IODataSchema ).

### Syntax

```
public abstract List< ISDMODDataEntry >
parseSDMODDataEntriesXML ( InputStream stream , String collectionId ,
ISDMODDataSchema schema ) throws SDMParseException,
IllegalArgumentException
```

*Parameters*

- **stream** – The stream that holds the XML source of either a single SDMODData Entry or SDMODData Feed of several SDMODData entries
- **collectionId** – The id of the collection that the result entries should belong to
- **schema** – The relevant SDMODData schema document

*Returns*

The list of the SDMODData Entries contained by the source XML

*Exceptions*

- **SDMParserException class** – If the XML source is invalid
- **IllegalArgumentException** – If the argument is null

*Usage*

Parses SAPData XML structure from stream that represent either a single SDMODData Entry or an SDMODData Feed of several SDMODData entries

*parseSDMODDataErrorXML(String) method*

Replaced by `com.sap.mobile.lib.parser.IParser#parseODataError(String)`.

*Syntax*

```
public abstract ISDMODDataError parseSDMODDataErrorXML (String
errorXML ) throws SDMParserException, IllegalArgumentException
```

*Parameters*

- **errorXML** – The SDMODData Error XML

*Returns*

The SDMODData Error document

*Exceptions*

- **SDMParserException class** – If the XML source is invalid
- **IllegalArgumentException** – If the argument is null

*Usage*

Parses the SDMODData Error XML

### *parseSDMODataErrorXML(InputStream) method*

Replaced by `com.sap.mobile.lib.parser.IParser#parseODataError(InputStream)`.

#### *Syntax*

```
public abstract ISDMODataError parseSDMODataErrorXML  
( InputStream stream ) throws SDMParserException,  
IllegalArgumentException
```

#### *Parameters*

- **stream** – The SDMOData Error XML as stream

#### *Returns*

The SDMOData Error document

#### *Exceptions*

- **SDMParserException class** – If the stream source is invalid
- **IllegalArgumentException** – If the argument is null

#### *Usage*

Parses the SDMOData Error XML from stream

### *parseSDMODataOpenSearchDescriptionXML(String, String, ISDMODataServiceDocument) method*

Replaced by `com.sap.mobile.lib.parser.IParser#parseODataOpenSearchDescription(String, String, IODataServiceDocument)`.

#### *Syntax*

```
public abstract ISDMODataOpenSearchDescription  
parseSDMODataOpenSearchDescriptionXML ( String  
openSearchDescriptionXML , String collectionId ,  
ISDMODataServiceDocument serviceDocument ) throws  
SDMParserException, IllegalArgumentException
```

#### *Parameters*

- **openSearchDescriptionXML** – The SDMOData Open Search Description XML

#### *Returns*

SDMOData Open Search Description document

### Exceptions

- **SDMParserException class** – If the XML source is invalid
- **IllegalArgumentException** – If the argument is null

### Usage

Parses the SDMODData Open Search Description XML

*parseSDMODDataOpenSearchDescriptionXML(InputStream, String, ISDMODDataServiceDocument) method*

Replaced by

com.sap.mobile.lib.parser.IParser#parseODataOpenSearchDescription(InputStream , String , IODataServiceDocument ).

### Syntax

```
public abstract ISDMODDataOpenSearchDescription
parseSDMODDataOpenSearchDescriptionXML ( InputStream stream ,
String collectionId , ISDMODDataServiceDocument serviceDocument ) throws
SDMParserException, IllegalArgumentException
```

### Parameters

- **stream** – The stream that holds the SDMODData Open Search Description XML.

### Returns

SDMODData Open Search Description document

### Exceptions

- **SDMParserException class** – If the stream source is invalid.
- **IllegalArgumentException** – If the argument is null.

### Usage

Parses the SDMODData Open Search Description XML from stream

*parseSDMODDataSchemaXML(String, ISDMODDataServiceDocument) method*

Replaced by

com.sap.mobile.lib.parser.IParser#parseODataSchema(String,IODataServiceDocument).

### Syntax

```
public abstract ISDMODDataSchema parseSDMODDataSchemaXML
( String schemaXML , ISDMODDataServiceDocument serviceDocument ) throws
SDMParserException, IllegalArgumentException
```

### *Parameters*

- **schemaXML** – The SDMOData Schema XML
- **serviceDocument** – The appropriate SDMOData Service Document object

### *Returns*

The SDMOData Schema document

### *Exceptions*

- **SDMParserException class** – If the XML source is invalid
- **IllegalArgumentException** – If the argument is null

### *Usage*

Parses the SDMOData Schema XML

*parseSDMODataSchemaXML(InputStream, ISDMODataServiceDocument)*  
*method*

Replaced by

com.sap.mobile.lib.parser.IParser#parseODataSchema(InputStream, IODataServiceDocument).

### *Syntax*

```
public abstract ISDMODataSchema parseSDMODataSchemaXML  
( InputStream stream , ISDMODataServiceDocument serviceDocument )  
throws SDMParserException, IllegalArgumentException
```

### *Parameters*

- **stream** – The stream that holds SDMOData Schema XML
- **serviceDocument** – The appropriate SDMOData Service Document object

### *Returns*

The SDMOData Schema document

### *Exceptions*

- **SDMParserException class** – If the stream source is invalid
- **IllegalArgumentException** – If the argument is null

### *Usage*

Parses the SDMOData Schema XML from stream



*parseSDMODataServiceDocumentXML(String) method*

Replaced by `com.sap.mobile.lib.parser.IParser#parseODataServiceDocument(String)`.

*Syntax*

```
public abstract ISDMODataServiceDocument
parseSDMODataServiceDocumentXML ( String serviceDocumentXML ) throws
SDMParserException, IllegalArgumentException
```

*Parameters*

- **serviceDocumentXML** – The SDMOData Service Document XML

*Returns*

The SDMOData Service Document

*Exceptions*

- **SDMParserException class** – If the XML source is invalid
- **IllegalArgumentException** – If the argument is null

*Usage*

Parses the SDMOData Service Document XML

*parseSDMODataServiceDocumentXML(InputStream) method*

Replaced by

`com.sap.mobile.lib.parser.IParser#parseODataServiceDocument(InputStream)`.

*Syntax*

```
public abstract ISDMODataServiceDocument
parseSDMODataServiceDocumentXML ( InputStream stream ) throws
SDMParserException, IllegalArgumentException
```

*Parameters*

- **stream** – The stream that holds SDMOData Service Document XML

*Returns*

The SDMOData Service Document

*Exceptions*

- **SDMParserException class** – If the stream source is invalid
- **IllegalArgumentException** – If the argument is null

### *Usage*

Parses the SDMOData Service Document XML from stream

### *parseXML(String) method*

Replaced by `com.sap.mobile.lib.parser.IParser#parse(String)`.

### *Syntax*

```
public abstract ISDMParserDocument parseXML (String xml) throws  
SDMParserException, IllegalArgumentException
```

### *Parameters*

- **xml** – A syntactically valid XML

### *Returns*

The Object representation of the parsed XML

### *Exceptions*

- **SDMParserException class** – If the XML source is invalid
- **IllegalArgumentException** – If the argument is null

### *Usage*

Parses the Source XML and converts it to a Java Object containing all the information that were contained by the source XML

### *parseXML(InputStream) method*

Replaced by `com.sap.mobile.lib.parser.IParser#parse(InputStream)`.

### *Syntax*

```
public abstract ISDMParserDocument parseXML (InputStream  
stream) throws SDMParserException, IllegalArgumentException
```

### *Parameters*

- **stream** – A stream that holds a syntactically valid XML

### *Returns*

The Object representation of the parsed XML

### *Exceptions*

- **SDMParserException class** – If the stream source is invalid
- **IllegalArgumentException** – If the argument is null

### Usage

Parses the stream source of an XML and converts it to a Java Object containing all the information that were contained by the source XML

### *ISDMParserDocument* interface

Deprecated. since 3.0, Use IParserDocument Represents a general XML-compatible, persistable object.

### Syntax

```
public abstract interface ISDMParserDocument extends
ISDMPersistable, Serializable
```

### Derived classes

- *ISDMODataAssociation* on page 1091
- *ISDMODataCollection* on page 1108
- *ISDMODataComplexType* on page 1121
- *ISDMODataEntitySet* on page 1127
- *ISDMODataEntityType* on page 1135
- *ISDMODataEntry* on page 1147
- *ISDMODataError* on page 1170
- *ISDMODataFunctionImport* on page 1177
- *ISDMODataIcon* on page 1187
- *ISDMODataLink* on page 1194
- *ISDMODataNavigationProperty* on page 1206
- *ISDMODataOpenSearchDescription* on page 1214
- *ISDMODataParameter* on page 1221
- *ISDMODataProperty* on page 1228
- *ISDMODataSchema* on page 1247
- *ISDMODataServiceDocument* on page 1260
- *ISDMODataURL* on page 1283
- *ISDMODataWorkspace* on page 1291
- *SDMParserDocument* on page 1926

### Members

All members of ISDMParserDocument, including inherited members. **Variables**

Modifier and Type	Variable	Description
public static final String	<i>ATTRIBUTE_ETAG</i> on page 1329	Name of the appropriate SDMOData element.

Modifier and Type	Variable	Description
public static final String	<i>ATTRIBUTE_VALUEPREFIX_EDMTYPE</i> on page 1329	Value prefix for EDM Type type values.
public static Map< String, String >	<i>DEFAULT_PREFIXMAPPING</i> on page 1329	The default XML Namespace-to-Prefix mapping used for building XMLS.
public static final String[]	<i>EDMDATETIME_PATTERNS</i> on page 1329	Possible EDM DateTime patterns Note: Some pattern are not supported by OData specification but still widely used.
public static final String[]	<i>EDMDATETIMEOFFSET_PATTERNS</i> on page 1329	Possible EDM TimeOffset patterns Note: Some pattern are not supported by OData specification but still widely used.
public static final String	<i>EDMTIME_PATTERN</i> on page 1329	EDM Time pattern.
public static String	<i>ELEMENT_FEED</i> on page 1329	Name of the appropriate SDMOData element.
public static final String	<i>ELEMENT_ID</i> on page 1330	Name of the appropriate SDMOData element.
public static final String	<i>ROOT_DOCUMENT_NAME</i> on page 1330	The default root element name for a new document.
public static final String	<i>XMLNS_APPLICATION_URI</i> on page 1330	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/08/dataservices">http://schemas.microsoft.com/ado/2007/08/dataservices</a> .
public static final String	<i>XMLNS_ATOM_URI</i> on page 1330	Constant for XMLNS URI: <a href="http://www.w3.org/2005/Atom">http://www.w3.org/2005/Atom</a> .
public static final String	<i>XMLNS_DATASERVICES_URI</i> on page 1330	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/08/dataservices">http://schemas.microsoft.com/ado/2007/08/dataservices</a> .
public static final String	<i>XMLNS_EDM_URI</i> on page 1330	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/05/edm">http://schemas.microsoft.com/ado/2007/05/edm</a> .

Modifier and Type	Variable	Description
public static final String	<i>XMLNS_EDMX_URI</i> on page 1330	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/06/edmx">http://schemas.microsoft.com/ado/2007/06/edmx</a> .
public static final String	<i>XMLNS_GENERICPLAYER_URI</i> on page 1331	Constant for XMLNS URI: <a href="http://www.sap.com/Protocols/SAPData/GenericPlayer">http://www.sap.com/Protocols/SAPData/GenericPlayer</a> .
public static final String	<i>XMLNS_METADATA_URI</i> on page 1331	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/08/dataservices/metadata">http://schemas.microsoft.com/ado/2007/08/dataservices/metadata</a> .
public static final String	<i>XMLNS_SAP_URI</i> on page 1331	Constant for XMLNS URI: <a href="http://www.sap.com/Protocols/SAPData">http://www.sap.com/Protocols/SAPData</a> .

## Methods

Modifier and Type	Method	Description
public abstract ISDMParseDocument	<i>clone()</i> on page 1317	Creates a copy of this object.
public abstract String	<i>getAttribute(String...)</i> on page 1317	Returns the value of the first attribute with the given route.
public abstract List< String >	<i>getAttributes(String...)</i> on page 1317	Returns all the values of attributes with the given route.
public abstract Map< String, String >	<i>getChildAttributeMap(String...)</i> on page 1318	Returns all the name-value pairs of attributes contained by the element with the given route.
public abstract List< String >	<i>getChildAttributes(String...)</i> on page 1318	Returns all the values of attributes contained by the element with the given route.
public abstract List< ISDMParseDocument >	<i>getChildDocuments(String...)</i> on page 1318	Returns the elements contained by the element with the given route.
public abstract List< ISDMParseDocument >	<i>getChildDocumentsWithAttribute(String, String, String...)</i> on page 1319	Returns the elements contained by the element with the given route and having the given attribute with the given value.

Modifier and Type	Method	Description
public abstract List< ISDMParseDocument >	<i>getChildDocumentsWithAttribute(String, String, boolean, String...)</i> on page 1319	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public abstract ISDMParseDocument	<i>getDocument(String...)</i> on page 1320	Returns the first element with the given route.
public abstract List< ISDMParseDocument >	<i>getDocuments(String...)</i> on page 1320	Returns all the elements with the given route.
public abstract List< ISDMParseDocument >	<i>getDocumentsWithAttribute(String, String, String...)</i> on page 1321	Returns the elements with the given route that contains the given attribute with the given value.
public abstract List< ISDMParseDocument >	<i>getDocumentsWithAttribute(String, String, boolean, String...)</i> on page 1321	Returns the elements with the given route that contains the given attribute with the given value.
public abstract ISDMParseDocument	<i>getDocumentWithAttribute(String, String, String...)</i> on page 1322	Returns the first element with the given route that contains the given attribute with the given value.
public abstract ISDMParseDocument	<i>getDocumentWithAttribute(String, String, boolean, String...)</i> on page 1322	Returns the first element with the given route that contains the given attribute with the given value.
public abstract String	<i>getElementName()</i> on page 1323	Returns The name of the root element of this document.
public abstract String	<i>getFunctionImportComplexProperty Value(String...)</i> on page 1323	
public abstract String	<i>getPrefixForUri(String)</i> on page 1323	Returns the appropriate namespace prefix for the given XML name-space URI.
public abstract String[]	<i>getStrings()</i> on page 1324	Returns all the string values contained by this document.

Modifier and Type	Method	Description
public abstract String	<i>getValue(String...)</i> on page 1324	Returns the value of the first element with the given route.
public abstract List< String >	<i>getValues(String...)</i> on page 1324	Returns all the values of elements with the given route.
public abstract void	<i>putAttribute(String, String...)</i> on page 1325	Sets the value of the attribute with the given route If attribute does not exist it will be created as well as all other non existing elements in the route.
public abstract void	<i>putDocument(ISDMParserDocument, String...)</i> on page 1325	Insert the document under the element with the given route inserted document will be placed before already existing documents with the same route name under All missing elements from the route will be created.
public abstract void	<i>putValue(String, String...)</i> on page 1325	Sets the value of the first element with the given route.
public abstract boolean	<i>removeAttribute(String...)</i> on page 1326	Removes first element with the given route.
public abstract boolean	<i>removeAttributes(String...)</i> on page 1326	Removes all the attribute with the given route.
public abstract boolean	<i>removeDocument(String...)</i> on page 1326	Removes first element with the given route For removing multiple element use setDocuemtns with null arguments.
public abstract void	<i>setAttributes(List&lt; String &gt;, String...)</i> on page 1327	Sets all the values of the attributes with the given route Values will be paired to attributes in order Attributes with greater or equals index than size of new values will be untouched Attributes paired with null values will be removed.

Modifier and Type	Method	Description
public abstract void	<i>setDocuments(List&lt; ISDMParserDocument &gt;, String...)</i> on page 1327	Replaces all the elements with the given route Documents will be paired to elements in order Elements with greater or equals index than size of new elements will be untouched Element paired with null will be removed.
public abstract void	<i>setElementName(String, String...)</i> on page 1328	Sets the name of the root element with the given route Use empty route for setting root name of this document.
public abstract void	<i>setValues(List&lt; String &gt;, String...)</i> on page 1328	Sets all the values of the elements with the given route Values will be paired to elements in order Elements with greater or equals index than size of new values will be untouched Null values will be treated as empty strings.
public abstract String	<i>toXMLString()</i> on page 1328	Returns the XML string representation of this object.

#### Inherited members from ISDMPersistable

Modifier and Type	Member	Description
public void	<i>read(BufferedReader)</i> on page 1332	
public void	<i>write(BufferedWriter)</i> on page 1332	

#### Usage

XML like elements, values and attributes can be access via routes Routes are list of element names where each element contains the next element in the list

Elements can be retrieved as a new ISDMParserDocument containing all the attributes, values and child elements of the represented element.

Empty routes always refer to the given object the method invoked on



*clone() method*

Creates a copy of this object.

*Syntax*

```
public abstract ISDMParserDocument clone () throws
CloneNotSupportedException
```

*Returns*

The new copy of this object

*getAttribute(String...) method*

Returns the value of the first attribute with the given route.

*Syntax*

```
public abstract String getAttribute (String... route ) throws
IllegalArgumentException
```

*Parameters*

- **route** – The route to the attribute

*Returns*

The value of the first attribute or null if there is no such attribute

*Exceptions*

- **IllegalArgumentException** – if the argument is null.

*getAttributes(String...) method*

Returns all the values of attributes with the given route.

*Syntax*

```
public abstract List< String > getAttributes (String... route )
throws IllegalArgumentException
```

*Parameters*

- **route** – The route to the attributes

*Returns*

The list of values

### *Exceptions*

- **IllegalArgumentException** – if the argument is null.

### *getChildAttributeMap(String...) method*

Returns all the name-value pairs of attributes contained by the element with the given route.

### *Syntax*

```
public abstract Map< String, String > getChildAttributeMap  
( String... route ) throws IllegalArgumentException
```

### *Parameters*

- **route** – The route to the element with the child attributes

### *Returns*

The list of values

### *Exceptions*

- **IllegalArgumentException** – if the argument is null.

### *getChildAttributes(String...) method*

Returns all the values of attributes contained by the element with the given route.

### *Syntax*

```
public abstract List< String > getChildAttributes ( String...  
route ) throws IllegalArgumentException
```

### *Parameters*

- **route** – The route to the element with the child attributes

### *Returns*

The list of values

### *Exceptions*

- **IllegalArgumentException** – if the argument is null.

### *getChildDocuments(String...) method*

Returns the elements contained by the element with the given route.

### *Syntax*

```
public abstract List< ISDMParserDocument > getChildDocuments (   
String... route ) throws IllegalArgumentException
```

*Parameters*

- **route** – The route to the element with the child elements

*Returns*

List of elements as new ISDMParser documents

*Exceptions*

- **IllegalArgumentException** – if the argument is null.

*getChildDocumentsWithAttribute(String, String, String...) method*

Returns the elements contained by the element with the given route and having the given attribute with the given value.

*Syntax*

```
public abstract List< ISDMParserDocument >
getChildDocumentsWithAttribute ( String attributeName , String
attributeValue , String... route ) throws IllegalArgumentException
```

*Parameters*

- **route** – The route to the element with the child elements
- **attributeName** – The name of the attribute
- **attributeValue** – The expected value of the attribute

*Returns*

List of elements as new ISDMParser documents

*Exceptions*

- **IllegalArgumentException** – if either of the arguments is null.

*getChildDocumentsWithAttribute(String, String, boolean, String...) method*

Returns the elements contained by the element with the given route and having the given attribute with the given value.

*Syntax*

```
public abstract List< ISDMParserDocument >
getChildDocumentsWithAttribute ( String attributeName , String
attributeValue , boolean addByDefault , String... route )
```

### *Parameters*

- **route** – The route to the element with the child elements
- **attributeName** – The name of the attribute
- **attributeValue** – The expected value of the attribute
- **addByDefault** – true if element should be returned in case it does not contain the given attribute

### *Returns*

List of elements as new ISDMParser documents

### *Exceptions*

- **IllegalArgumentException** – if either of the arguments is null.

### *getDocument(String...) method*

Returns the first element with the given route.

### *Syntax*

```
public abstract ISDMParserDocument getDocument (String...  
route) throws IllegalArgumentException
```

### *Parameters*

- **route** – The route to the element

### *Returns*

The element as a new ISDMParser document or null if there is no such element

### *Exceptions*

- **IllegalArgumentException** – if the argument is null.

### *getDocuments(String...) method*

Returns all the elements with the given route.

### *Syntax*

```
public abstract List< ISDMParserDocument > getDocuments  
(String... route) throws IllegalArgumentException
```

### *Parameters*

- **route** – The route to the elements

*Returns*

List of elements as new ISDMParser documents

*Exceptions*

- **IllegalArgumentException** – if the argument is null.

*getDocumentsWithAttribute(String, String, String...) method*

Returns the elements with the given route that contains the given attribute with the given value.

*Syntax*

```
public abstract List< ISDMParserDocument >
getDocumentsWithAttribute ( String attributeName , String
attributeValue , String... route )
```

*Parameters*

- **route** – The route to the elements
- **attributeName** – The name of the attribute
- **attributeValue** – The expected value of the attribute

*Returns*

List of elements as new ISDMParser documents

*Exceptions*

- **IllegalArgumentException** – if either of the arguments is null.

*getDocumentsWithAttribute(String, String, boolean, String...) method*

Returns the elements with the given route that contains the given attribute with the given value.

*Syntax*

```
public abstract List< ISDMParserDocument >
getDocumentsWithAttribute ( String attributeName , String
attributeValue , boolean addByDefault , String... route )
```

*Parameters*

- **route** – The route to the elements
- **attributeName** – The name of the attribute
- **attributeValue** – The expected value of the attribute

- **addByDefault** – true if element should be returned in case it does not contain the given attribute

### Returns

List of elements as new ISDMParser documents

### Exceptions

- **IllegalArgumentException** – if either of the arguments is null.

### *getDocumentWithAttribute(String, String, String...) method*

Returns the first element with the given route that contains the given attribute with the given value.

### Syntax

```
public abstract ISDMParserDocument getDocumentWithAttribute (
String attributeName , String attributeValue , String... route )
```

### Parameters

- **route** – The route to the element
- **attributeName** – The name of the attribute
- **attributeValue** – The expected value of the attribute

### Returns

The element as a new ISDMParser document or null if there is no such element

### Exceptions

- **IllegalArgumentException** – if either of the arguments is null.

### *getDocumentWithAttribute(String, String, boolean, String...) method*

Returns the first element with the given route that contains the given attribute with the given value.

### Syntax

```
public abstract ISDMParserDocument getDocumentWithAttribute (
String attributeName , String attributeValue , boolean addByDefault ,
String... route )
```

### Parameters

- **route** – The route to the element
- **attributeName** – The name of the attribute
- **attributeValue** – The expected value of the attribute

- **addByDefault** – true if element should be returned in case it does not contain the given attribute

#### Returns

The element as a new ISDMParser document or null if there is no such element

#### Exceptions

- **IllegalArgumentException** – if either of the arguments is null.

#### *getElementName()* method

Returns The name of the root element of this document.

#### Syntax

```
public abstract String getElementName ()
```

#### Returns

The name of the root element of this document

#### *getFunctionImportComplexPropertyValue(String...)* method

#### Syntax

```
public abstract String getFunctionImportComplexPropertyValue  
(String... route)
```

#### *getPrefixForUri(String)* method

Returns the appropriate name-space prefix for the given XML name-space URI.

#### Syntax

```
public abstract String getPrefixForUri (String uri) throws  
IllegalArgumentException
```

#### Parameters

- **uri** – An XML names-pace URI

#### Returns

The appropriate name-space prefix

#### Exceptions

- **IllegalArgumentException** – if the argument is null.

### *getStrings() method*

Returns all the string values contained by this document.

### *Syntax*

```
public abstract String[] getStrings ()
```

### *Returns*

all the string values contained by this document

### *getValue(String...) method*

Returns the value of the first element with the given route.

### *Syntax*

```
public abstract String getValue (String... route ) throws  
IllegalArgumentException
```

### *Parameters*

- **route** – The route to the element

### *Returns*

The value of the first element or null if there is no such element

### *Exceptions*

- **IllegalArgumentException** – if the argument is null.

### *getValues(String...) method*

Returns all the values of elements with the given route.

### *Syntax*

```
public abstract List< String > getValues (String... route ) throws  
IllegalArgumentException
```

### *Parameters*

- **route** – The route to the elements

### *Returns*

The list of values

### *Exceptions*

- **IllegalArgumentException** – if the argument is null.



*putAttribute(String, String...) method*

Sets the value of the attribute with the given route. If attribute does not exist it will be created as well as all other non-existing elements in the route.

*Syntax*

```
public abstract void putAttribute (String value , String... route)
throws IllegalArgumentException
```

*Parameters*

- **value** – The new value
- **route** – The route to the attribute

*Exceptions*

- **IllegalArgumentException** – if either of the arguments is null.

*putDocument(ISDMParseDocument, String...) method*

Insert the document under the element with the given route. Inserted document will be placed before already existing documents with the same route name under. All missing elements from the route will be created.

*Syntax*

```
public abstract void putDocument (ISDMParseDocument document ,
String... route) throws IllegalArgumentException
```

*Parameters*

- **document** – The new document
- **route** – The route to the parent element of the new document

*Exceptions*

- **IllegalArgumentException** – if either of the arguments is null.

*putValue(String, String...) method*

Sets the value of the first element with the given route.

*Syntax*

```
public abstract void putValue (String value , String... route)
throws IllegalArgumentException
```

### *Parameters*

- **value** – The new value
- **route** – The route to the element

### *Exceptions*

- **IllegalArgumentException** – if either of the arguments is null.

### *removeAttribute(String...) method*

Removes first element with the given route.

### *Syntax*

```
public abstract boolean removeAttribute (String... route)
```

### *Parameters*

- **route** – The route to the attribute to remove

### *Returns*

true if at least one attribute has been removed or false otherwise

### *removeAttributes(String...) method*

Removes all the attribute with the given route.

### *Syntax*

```
public abstract boolean removeAttributes (String... route)
```

### *Parameters*

- **route** – The route to the attributes to remove

### *Returns*

true if at least one attribute has been removed or false otherwise

### *removeDocument(String...) method*

Removes first element with the given route For removing multiple element use setDocuemtns with null arguments.

### *Syntax*

```
public abstract boolean removeDocument (String... route) throws  
IllegalArgumentException
```

*Parameters*

- **route** – The route to the element to remove

*Returns*

true if at least one element has been removed or false otherwise

*setAttributes(List< String >, String...) method*

Sets all the values of the attributes with the given route Values will be paired to attributes in order Attributes with greater or equals index than size of new values will be untouched Attributes paired with null values will be removed.

*Syntax*

```
public abstract void setAttributes ( List< String > values ,
String... route ) throws IllegalArgumentException
```

*Parameters*

- **values** – The new values of the attributes
- **route** – The route to the attributes

*Exceptions*

- **IllegalArgumentException** – if either of the arguments is null.

*setDocuments(List< ISDMParserDocument >, String...) method*

Replaces all the elements with the given route Documents will be paired to elements in order Elements with greater or equals index than size of new elements will be untouched Element paired with null will be removed.

*Syntax*

```
public abstract void setDocuments ( List< ISDMParserDocument >
documents , String... route ) throws IllegalArgumentException
```

*Parameters*

- **documents** – The list of new documents or nulls if one or more document should be removed
- **route** – The route to the elements

*Exceptions*

- **IllegalArgumentException** – if either of the arguments is null.

### *setElementName(String, String...) method*

Sets the name of the root element with the given route Use empty route for setting root name of this document.

#### *Syntax*

```
public abstract void setElementName ( String name , String...  
route ) throws IllegalArgumentException
```

#### *Parameters*

- **name** – The new name of the root element
- **route** – The route to the element

#### *Exceptions*

- **IllegalArgumentException** – if either of the arguments is null.

### *setValues(List< String >, String...) method*

Sets all the values of the elements with the given rout Values will be paired to elements in order Elements with greater or equals index than size of new values will be untouched Null values will be treated as empty strings.

#### *Syntax*

```
public abstract void setValues ( List< String > values ,  
String... route ) throws IllegalArgumentException
```

#### *Parameters*

- **values** – The new values of the elements
- **route** – The route to the elements

#### *Exceptions*

- **IllegalArgumentException** – if either of the arguments is null.

### *toXMLString() method*

Returns the XML string representation of this object.

#### *Syntax*

```
public abstract String toXMLString ()
```

#### *Returns*

The XML string representation of this object

***ATTRIBUTE\_ETAG variable***

Name of the appropriate SDMOData element.

***Syntax***

```
public static final String ATTRIBUTE_ETAG
```

***ATTRIBUTE\_VALUEPREFIX\_EDMTYPE variable***

Value prefix for EDM Type type values.

***Syntax***

```
public static final String ATTRIBUTE_VALUEPREFIX_EDMTYPE
```

***DEFAULT\_PREFIXMAPPING variable***

The default XML Namespace-to-Prefix mapping used for building XMLS.

***Syntax***

```
public static Map< String, String > DEFAULT_PREFIXMAPPING
```

***EDMDATETIME\_PATTERNS variable***

Possible EDM DateTime patterns Note: Some pattern are not supported by OData specification but still widely used.

***Syntax***

```
public static final String[] EDMDATETIME_PATTERNS
```

***EDMDATETIMEOFFSET\_PATTERNS variable***

Possible EDM DateTimeOffset patterns Note: Some pattern are not supported by OData specification but still widely used.

***Syntax***

```
public static final String[] EDMDATETIMEOFFSET_PATTERNS
```

***EDMTIME\_PATTERN variable***

EDM Time pattern.

***Syntax***

```
public static final String EDMTIME_PATTERN
```

***ELEMENT\_FEED variable***

Name of the appropriate SDMOData element.

***Syntax***

```
public static String ELEMENT_FEED
```

*ELEMENT\_ID variable*

Name of the appropriate SDMOData element.

*Syntax*

```
public static final String ELEMENT_ID
```

*ROOT\_DOCUMENT\_NAME variable*

The default root element name for a new document.

*Syntax*

```
public static final String ROOT_DOCUMENT_NAME
```

*XMLNS\_APPLICATION\_URI variable*

Constant for XMLNS URI: <http://schemas.microsoft.com/ado/2007/08/dataservices>.

*Syntax*

```
public static final String XMLNS_APPLICATION_URI
```

*XMLNS\_ATOM\_URI variable*

Constant for XMLNS URI: <http://www.w3.org/2005/Atom>.

*Syntax*

```
public static final String XMLNS_ATOM_URI
```

*XMLNS\_DATASERVICES\_URI variable*

Constant for XMLNS URI: <http://schemas.microsoft.com/ado/2007/08/dataservices>.

*Syntax*

```
public static final String XMLNS_DATASERVICES_URI
```

*XMLNS\_EDM\_URI variable*

Constant for XMLNS URI: <http://schemas.microsoft.com/ado/2007/05/edm>.

*Syntax*

```
public static final String XMLNS_EDM_URI
```

*XMLNS\_EDMX\_URI variable*

Constant for XMLNS URI: <http://schemas.microsoft.com/ado/2007/06/edmx>.

*Syntax*

```
public static final String XMLNS_EDMX_URI
```

*XMLNS\_GENERICPLAYER\_URI variable*

Constant for XMLNS URI: <http://www.sap.com/Protocols/SAPData/GenericPlayer>.

*Syntax*

```
public static final String XMLNS_GENERICPLAYER_URI
```

*XMLNS\_METADATA\_URI variable*

Constant for XMLNS URI: <http://schemas.microsoft.com/ado/2007/08/dataservices/metadata>.

*Syntax*

```
public static final String XMLNS_METADATA_URI
```

*XMLNS\_SAP\_URI variable*

Constant for XMLNS URI: <http://www.sap.com/Protocols/SAPData>.

*Syntax*

```
public static final String XMLNS_SAP_URI
```

*ISDMPersistable interface*

Deprecated. since 3.0, Use `com.sap.mobile.lib.persistence.IPersistable` Interface that any object should implement that is to store by `SDMPersistence`.

*Syntax*

```
public interface ISDMPersistable
```

*Derived classes*

- *ISDMCache* on page 1050
- *ISDMParserDocument* on page 1311
- *SDMLogger* on page 1421

*Members*

All members of `ISDMPersistable`, including inherited members. **Methods**

Modifier and Type	Method	Description
public void	<i>read(BufferedReader)</i> on page 1332	
public void	<i>write(BufferedWriter)</i> on page 1332	

*read(BufferedReader) method*

*Syntax*

```
public void read (BufferedReader reader) throws  
SDMPersistenceException
```

*Parameters*

- **reader** – The buffered reader to read the object from.

*Exceptions*

- **SDMPersistenceException class** – if data can not be loaded from the reader.

*write(BufferedWriter) method*

*Syntax*

```
public void write (BufferedWriter writer) throws  
SDMPersistenceException
```

*Parameters*

- **writer** – The buffered writer that object data needs to be written into.

*Exceptions*

- **SDMPersistenceException class** – if data can not be written into the writer

*ISDMPersistence interface*

Deprecated. since 3.0 SDMPersistency is a low-level library responsible for data persistence.

*Syntax*

```
public abstract interface ISDMPersistence
```

*Derived classes*

- *SDMPersistence* on page 1960

*Members*

All members of ISDMPersistence, including inherited members. **Methods**

Modifier and Type	Method	Description
public abstract void	<i>clear()</i> on page 1334	Deletes all data persisted by SDMPersistency.



Modifier and Type	Method	Description
public abstract boolean	<i>isDataPersisted(String)</i> on page 1334	Returns if the data with the given key is persisted.
public abstract InputStream	<i>loadDataStream(String)</i> on page 1334	Loads data stream stored in the file system.
public abstract< Textextends ISDMPersistable > boolean	<i>loadObject(String, T)</i> on page 1334	Loads an object stored in the file system.
public abstract byte[]	<i>loadRawData(String)</i> on page 1335	Loads raw data stored in the file system.
public abstract boolean	<i>loadSDMCache(ISDMCache)</i> on page 1335	Loads SDMCache from the file system.
public abstract boolean	<i>loadSDMCache(String, ISDMCache)</i> on page 1336	Loads SDMCache with the specified key extension from the file system.
public abstract boolean	<i>removeData(String)</i> on page 1336	
public abstract boolean	<i>removeSDMCache()</i> on page 1337	Removes the SDMCache from the file system.
public abstract boolean	<i>removeSDMCache(String)</i> on page 1337	Removes the SDMCache with the specified key extension from the file system.
public void	<i>setEncryptionKey(byte[], String)</i> on page 1337	Set the encryption key in a byte[] format.
public abstract void	<i>storeDataStream(String, InputStream)</i> on page 1338	Stores a data stream, in the file system.
public abstract void	<i>storeObject(String, ISDMPersistable)</i> on page 1338	Stores an ISDMPersistable object in the file system.
public abstract void	<i>storeRawData(String, byte[])</i> on page 1339	Stores a raw data in the file system.
public abstract void	<i>storeSDMCache(ISDMCache)</i> on page 1339	Stores SDMCache in the file system.
public abstract void	<i>storeSDMCache(String, ISDMCache)</i> on page 1339	Stores the SDMCache with the specified key extension in the file system.

### *clear() method*

Deletes all data persisted by SDMPersistence.

### *Syntax*

```
public abstract void clear ()
```

### *isDataPersisted(String) method*

Returns if the data with the given key is persisted.

### *Syntax*

```
public abstract boolean isDataPersisted ( String key )
```

### *Parameters*

- **key** – The key of the data

### *Returns*

True if the data persisted false if not.

### *loadDataStream(String) method*

Loads data stream stored in the file system.

### *Syntax*

```
public abstract InputStream loadDataStream ( String key ) throws  
SDMPersistenceException, IllegalArgumentException
```

### *Parameters*

- **key** – The key used for identifying the object and the input file.

### *Returns*

The data stream

### *Exceptions*

- **SDMPersistenceException class** – if object can not be loaded for any reason.
- **IllegalArgumentException** – if parameter 'key' is null.

### *loadObject(String, T) method*

Loads an object stored in the file system.

### *Syntax*

```
public abstract< TextendsISDMPersistable > boolean loadObject  
( String key , T object ) throws SDMPersistenceException,  
IllegalArgumentException
```

*Parameters*

- **<T>** – The class type of the stored object.
- **key** – The key used for identifying the object and the input file.
- **object** – The object to fill by the stored data.

*Returns*

true if the object has found and successfully loaded and false otherwise.

*Exceptions*

- **SDMPersistenceException class** – if object can not be loaded for any reason.
- **IllegalArgumentException** – if parameter 'object' or parameter 'key' is null.

*loadRawData(String) method*

Loads raw data stored in the file system.

*Syntax*

```
public abstract byte[] loadRawData (String key) throws
SDMPersistenceException, IllegalArgumentException
```

*Parameters*

- **key** – The key used for identifying the object and the input file.

*Returns*

The loaded raw data

*Exceptions*

- **SDMPersistenceException class** – if object can not be loaded for any reason.
- **IllegalArgumentException** – if parameter 'key' is null.

*loadSDMCache(ISDMCache) method*

Loads SDMCache from the file system.

*Syntax*

```
public abstract boolean loadSDMCache ( ISDMCache cache ) throws
SDMPersistenceException, IllegalArgumentException
```

*Parameters*

- **cache** – The SDMCache object to fill by the data.

### *Returns*

true if persisted SDMCache has found and successfully loaded, false otherwise.

### *Exceptions*

- **SDMPersistenceException class** – if object can not be loaded for any reason.
- **IllegalArgumentException** – if parameter 'cache' is null.

### *loadSDMCache(String, ISDMCache) method*

Loads SDMCache with the specified key extension from the file system.

### *Syntax*

```
public abstract boolean loadSDMCache (String key, ISDMCache  
cache) throws SDMPersistenceException
```

### *Parameters*

- **key** – The key extension of the SDMCache
- **cache** – The SDMCache object to fill by the data.

### *Returns*

true if persisted SDMCache has found and successfully loaded, false otherwise.

### *Exceptions*

- **SDMPersistenceException class** – if object can not be loaded for any reason.
- **IllegalArgumentException** – if parameter 'cache' is null.

### *removeData(String) method*

### *Syntax*

```
public abstract boolean removeData (String key) throws  
SDMPersistenceException, IllegalArgumentException
```

### *Parameters*

- **key** – The key used for identifying the object and the file to delete.

### *Returns*

boolean if persisted data with the given key found and successfully removed, false otherwise.

### *Exceptions*

- **SDMPersistenceException class** – if persisted data can not be deleted for any reason.

- **IllegalArgumentException** – if parameter 'key' is null.

#### *removeSDMCache() method*

Removes the SDMCache from the file system.

#### *Syntax*

```
public abstract boolean removeSDMCache () throws  
SDMPersistenceException
```

#### *Returns*

true if persisted SDMCache has found and successfully removes, false otherwise.

#### *Exceptions*

- **SDMPersistenceException class** – if persisted SDMCache can not be deleted for any reason.

#### *removeSDMCache(String) method*

Removes the SDMCache with the specified key extension from the file system.

#### *Syntax*

```
public abstract boolean removeSDMCache (String key) throws  
SDMPersistenceException
```

#### *Parameters*

- **key** – The key extension of the SDMCache

#### *Returns*

true if persisted SDMCache has found and successfully removes, false otherwise.

#### *Exceptions*

- **SDMPersistenceException class** – if persisted SDMCache can not be deleted for any reason.

#### *setEncryptionKey(byte[], String) method*

Set the encryption key in a byte[] format.

#### *Syntax*

```
public void setEncryptionKey (byte[] secretKey , String  
secretKeyAlgorithm ) throws SDMPersistenceException
```

### *Parameters*

- **secretKey** – The secret key for encryption
- **secretKeyAlgorithm** – The algorithm of the Secret Key

### *Exceptions*

- **SDMPersistenceException class** – if any error in encryption occurs

### *storeDataStream(String, InputStream) method*

Stores a data stream, in the file system.

### *Syntax*

```
public abstract void storeDataStream (String key, InputStream stream) throws SDMPersistenceException, IllegalArgumentException
```

### *Parameters*

- **key** – The key used for identifying the object and as a name for the output file.
- **stream** – The data stream to store

### *Exceptions*

- **SDMPersistenceException class** – if data stream can not be persisted for any reason.
- **IllegalArgumentException** – if parameter 'stream' or parameter 'key' is null, or parameter 'key' contains illegal characters.

### *storeObject(String, ISDMPersistable) method*

Stores an ISDMPersistable object in the file system.

### *Syntax*

```
public abstract void storeObject (String key, ISDMPersistable object) throws SDMPersistenceException, IllegalArgumentException
```

### *Parameters*

- **key** – The key used for identifying the object and as a name for the output file.
- **object** – The object to store.

### *Exceptions*

- **SDMPersistenceException class** – if object can not be persisted for any reasons.
- **IllegalArgumentException** – if parameter 'object' or parameter 'key' is null, or parameter 'key' contains illegal characters.

*storeRawData(String, byte[]) method*

Stores a raw data in the file system.

*Syntax*

```
public abstract void storeRawData (String key, byte[] data) throws
SDMPersistenceException, IllegalArgumentException
```

*Parameters*

- **key** – The key used for identifying the object and as a name for the output file.
- **data** – The data to store

*Exceptions*

- **SDMPersistenceException class** – if the data can not be persisted for any reason.
- **IllegalArgumentException** – if parameter 'data' or parameter 'key' is null, or parameter 'key' contains illegal characters.

*storeSDMCache(ISDMCache) method*

Stores SDMCache in the file system.

*Syntax*

```
public abstract void storeSDMCache ( ISDMCache cache ) throws
SDMPersistenceException, IllegalArgumentException
```

*Parameters*

- **cache** – The SDMCache to store

*Exceptions*

- **SDMPersistenceException class** – if SDMCache can not be persisted for any reason.
- **IllegalArgumentException** – if parameter 'cache' is null.

*storeSDMCache(String, ISDMCache) method*

Stores the SDMCache with the specified key extension in the file system.

*Syntax*

```
public abstract void storeSDMCache (String key, ISDMCache cache )
throws SDMPersistenceException
```

*Parameters*

- **key** – The key extension of the SDMCache

- **cache** – The SDMCache to store

### Exceptions

- **SDMPersistenceException** class – if SDMCache can not be persisted for any reason.
- **IllegalArgumentException** – if parameter 'cache' is null.

### ISDMPreferenceChangeListener interface

Deprecated. since 3.0, Use com.sap.mobile.lib.configuration.IPreferenceChangeListener Interface for classes that are to listen changes of preferences.

### Syntax

```
public interface ISDMPreferenceChangeListener
```

### Derived classes

- *SDMCache* on page 1389
- *ConnectionFactory* on page 1037
- *SDMRequestManager* on page 1994
- *SDMPersistence* on page 1960

### Members

All members of ISDMPreferenceChangeListener, including inherited members. **Methods**

Modifier and Type	Method	Description
public void	<i>onPreferenceChanged(String, Object)</i> on page 1340	Callback method for preference change event.

### *onPreferenceChanged(String, Object)* method

Callback method for preference change event.

### Syntax

```
public void onPreferenceChanged (String key , Object value )
```

### Parameters

- **key** – key of the preference
- **value** – value of the preference

### ISDMPreferences interface

Deprecated. since 3.0, Use com.sap.mobile.lib.configuration.IPreferences Main interface for SDMConfiguration.

### Syntax

```
public interface ISDMPreferences
```



*Derived classes*

- *SDMPreferences* on page 1971

*Members*

All members of *ISDMPreferences*, including inherited members. **Variables**

<b>Modifier and Type</b>	<b>Variable</b>	<b>Description</b>
public static final String	<i>BUSINESSSTRANSAC-TION_ENABLED</i> on page 1350	Preference for the indicator to decide if SAP passport should be enabled or not.
public static final String	<i>BYPASS_PROXY</i> on page 1350	Preference for the indicator to decide which URLs need the proxy bypassed.
public static final String	<i>SAP_APPLICATIONID_HEADER_VALUE</i> on page 1350	Preference for application ID (used in request headers)
public static final String	<i>SAPPASSPORT_ENABLED</i> on page 1351	Preference for the indicator to decide if SAP passport should be enabled or not.
public static final String	<i>SDM_CACHE_CAPACITY</i> on page 1351	Preference for the maximum number of documents can be stored in cache.
public static final String	<i>SDM_CACHE_MAX_SEARCH_RESULTS</i> on page 1351	Preference for the maximum entries that can be returned as a result of a search.
public static final String	<i>SDM_CACHE_PARSER_SEARCH_ATTRIBUTE</i> on page 1351	Preference for the name of the XML attribute that should be used to decide if a property is searchable.
public static final String	<i>SDM_CACHE_SEARCH_ATTRIBUTE_XMLNS</i> on page 1351	Preference for the XML namespace URI of the XML attribute that should be used to decide if a property is searchable.
public static final String	<i>SDM_CONNECTIVITY_CONNTIMEOUT</i> on page 1351	Preference for connection time out.

Modifier and Type	Variable	Description
public static final String	<i>SDM_CONNECTIVITY_HANDLER_CLASS_NAME</i> on page 1352	Preference for full name (including package) of the class that should be initialized as connectivity handler.
public static final String	<i>SDM_CONNECTIVITY_HTTP_PORT</i> on page 1352	Preference for default HTTP port.
public static final String	<i>SDM_CONNECTIVITY_HTTPS_PORT</i> on page 1352	Preference for default HTTPS port.
public static final String	<i>SDM_CONNECTIVITY_PROXY_HOST</i> on page 1352	Preference for proxy host if there is a proxy should be used.
public static final String	<i>SDM_CONNECTIVITY_PROXY_PORT</i> on page 1352	Preference for proxy port if there is a proxy should be used.
public static final String	<i>SDM_CONNECTIVITY_SCONNTIMEOUT</i> on page 1352	Preference for socket connection time out.
public static final String	<i>SDM_LOG_LEVEL</i> on page 1352	Preference for the current log severity.
public static final String	<i>SDM_PARSER_FOLDER_PATH</i> on page 1353	Preference for the default folder where Parser related information can be persisted Should not point to a folder that can be removed outside of the application.
public static final String	<i>SDM_PERSISTENCE_BYTE_BUFFER_SIZE</i> on page 1353	Preference for the size of the buffer that is used during persistence Should be changed only in case of low memory available.
public static final String	<i>SDM_PERSISTENCE_CIPHER_TRANSFORMATION</i> on page 1353	Preference for the default cipher transformation algorithm Should be matched with algorithm of the Secure Key generation used for data encryption.

Modifier and Type	Variable	Description
public static final String	<i>SDM_PERSISTENCE_FOLDER_PATH</i> on page 1353	Preference for the default folder where data should be persisted.
public static final String	<i>SDM_PERSISTENCE_SECUREMODE</i> on page 1353	Preference for indicator if persisted data should be encrypted.

## Methods

Modifier and Type	Method	Description
public boolean	<i>containsPreference(String)</i> on page 1344	Checks the existence of the given preference.
public Boolean	<i>getBooleanPreference(String)</i> on page 1345	Returns the value of the given preference or null if there is no preference with the given key.
public Float	<i>getFloatPreference(String)</i> on page 1345	Returns the value of the given preference or null if there is no preference with the given key.
public Integer	<i>getIntPreference(String)</i> on page 1345	Returns the value of the given preference or null if there is no preference with the given key.
public Long	<i>getLongPreference(String)</i> on page 1346	Returns the value of the given preference or null if there is no preference with the given key.
public String	<i>getStringPreference(String)</i> on page 1346	Returns the value of the given preference or null if there is no preference with the given key.
public void	<i>registerPreferenceChangeListener(String, ISDMPreferenceChangeListener)</i> on page 1347	You can register a class implementing the <i>ISDMPreferenceChangeListener</i> interface for the change of a preference with the given key.
public void	<i>removePreference(String)</i> on page 1347	Removes the preferences with the given key.

Modifier and Type	Method	Description
public void	<i>resetPreference(String)</i> on page 1348	Resets the preference's value to it's default value or to null if there is no default value for the given preference.
public void	<i>setBooleanPreference(String, boolean)</i> on page 1348	Sets and validates and persists the value of the preferences with the given type.
public void	<i>setFloatPreference(String, float)</i> on page 1348	Sets and validates and persists the value of the preferences with the given type.
public void	<i>setIntPreference(String, int)</i> on page 1349	Sets and validates and persists the value of the preferences with the given type.
public void	<i>setLongPreference(String, long)</i> on page 1349	Sets and validates and persists the value of the preferences with the given type.
public void	<i>setStringPreference(String, String)</i> on page 1349	Sets and validates and persists the value of the preferences with the given type.
public void	<i>unRegisterPreferenceChangeListener(String, ISDMPreferenceChangeListener)</i> on page 1350	You can unregister a change listener.

#### *containsPreference(String) method*

Checks the existence of the given preference.

#### *Syntax*

```
public boolean containsPreference (String key)
```

#### *Parameters*

- **key** – The key of the preference

#### *Returns*

true if SDMPreference contains the given key or false otherwise

*getBooleanPreference(String) method*

Returns the value of the given preference or null if there is no preference with the given key.

*Syntax*

```
public Boolean getBooleanPreference ( String key ) throws  
SDMPreferencesException
```

*Parameters*

- **key** – The key of the preference

*Returns*

the boolean type preference with the given key

*Exceptions*

- **SDMPreferencesException class** – if preference exists with the given key but with value of different type

*getFloatPreference(String) method*

Returns the value of the given preference or null if there is no preference with the given key.

*Syntax*

```
public Float getFloatPreference ( String key ) throws  
SDMPreferencesException
```

*Parameters*

- **key** – The key of the preference

*Returns*

the float type preference with the given key

*Exceptions*

- **SDMPreferencesException class** – if preference exists with the given key but with value of different type

*getIntPreference(String) method*

Returns the value of the given preference or null if there is no preference with the given key.

*Syntax*

```
public Integer getIntPreference ( String key ) throws  
SDMPreferencesException
```

### *Parameters*

- **key** – The key of the preference

### *Returns*

the integer type preference with the given key

### *Exceptions*

- **SDMPreferencesException class** – if preference exists with the given key but with value of different type

### *getLongPreference(String) method*

Returns the value of the given preference or null if there is no preference with the given key.

### *Syntax*

```
public Long getLongPreference (String key) throws  
SDMPreferencesException
```

### *Parameters*

- **key** – The key of the preference

### *Returns*

the long type preference with the given key

### *Exceptions*

- **SDMPreferencesException class** – if preference exists with the given key but with value of different type

### *getStringPreference(String) method*

Returns the value of the given preference or null if there is no preference with the given key.

### *Syntax*

```
public String getStringPreference (String key) throws  
SDMPreferencesException
```

### *Parameters*

- **key** – The key of the preference

### *Returns*

the String type preference with the given key

*Exceptions*

- **SDMPreferencesException class** – if preference exists with the given key but with value of different type

*registerPreferenceChangeListener(String, ISDMPreferenceChangeListener) method*

You can register a class implementing the ISDMPreferenceChangeListener interface for the change of a preference with the given key.

*Syntax*

```
public void registerPreferenceChangeListener ( String key ,
ISDMPreferenceChangeListener changeListener )
```

*Parameters*

- **key** – key of the preference
- **changeListener** – listener object to be registered

*Exceptions*

- **IllegalArgumentException** – if the argument is null.

*Usage*

If any of the arguments are null, an IllegalArgumentException is thrown.

*removePreference(String) method*

Removes the preferences with the given key.

*Syntax*

```
public void removePreference ( String key ) throws
SDMPreferencesException
```

*Parameters*

- **key** – The key of the preference

*Exceptions*

- **SDMPreferencesException class** – If the preference does not exist or it cannot be removed (e.g. an SDM preference)

### *resetPreference(String) method*

Resets the preference's value to its default value or to null if there is no default value for the given preference.

#### *Syntax*

```
public void resetPreference ( String key )
```

#### *Parameters*

- **key** – The key of the preference

### *setBooleanPreference(String, boolean) method*

Sets and validates and persists the value of the preferences with the given type.

#### *Syntax*

```
public void setBooleanPreference ( String key , boolean value )  
throws SDMPreferencesException
```

#### *Parameters*

- **key** – The key of the preference
- **value** – The new value of the preference

#### *Exceptions*

- **SDMPreferencesException class** – if the new value of the preference is invalid for any reasons

### *setFloatPreference(String, float) method*

Sets and validates and persists the value of the preferences with the given type.

#### *Syntax*

```
public void setFloatPreference ( String key , float value ) throws  
SDMPreferencesException
```

#### *Parameters*

- **key** – The key of the preference
- **value** – The new value of the preference

#### *Exceptions*

- **SDMPreferencesException class** – if the new value of the preference is invalid for any reasons



*setIntPreference(String, int) method*

Sets and validates and persists the value of the preferences with the given type.

*Syntax*

```
public void setIntPreference ( String key , int value ) throws  
SDMPreferencesException
```

*Parameters*

- **key** – The key of the preference
- **value** – The new value of the preference

*Exceptions*

- **SDMPreferencesException class** – if the new value of the preference is invalid for any reasons

*setLongPreference(String, long) method*

Sets and validates and persists the value of the preferences with the given type.

*Syntax*

```
public void setLongPreference ( String key , long value ) throws  
SDMPreferencesException
```

*Parameters*

- **key** – The key of the preference
- **value** – The new value of the preference

*Exceptions*

- **SDMPreferencesException class** – if the new value of the preference is invalid for any reasons

*setStringPreference(String, String) method*

Sets and validates and persists the value of the preferences with the given type.

*Syntax*

```
public void setStringPreference ( String key , String value ) throws  
SDMPreferencesException
```

*Parameters*

- **key** – The key of the preference

- **value** – The new value of the preference

### *Exceptions*

- **SDMPreferenceException class** – if the new value of the preference is invalid for any reasons

*unRegisterPreferenceChangeListener(String, ISDMPreferenceChangeListener)*  
*method*

You can unregister a change listener.

### *Syntax*

```
public void unRegisterPreferenceChangeListener ( String key ,  
ISDMPreferenceChangeListener changeListener )
```

### *Parameters*

- **key** – key of the preference
- **changeListener** – listener object to be unregistered

### *Exceptions*

- **IllegalArgumentException** – if the argument is null.

### *Usage*

If any of the arguments are null, an IllegalArgumentException is thrown.

### *BUSINESSTRANSACTION\_ENABLED variable*

Preference for the indicator to decide if SAP passport should be enabled or not.

### *Syntax*

```
public static final String BUSINESSSTRANSACTION_ENABLED
```

### *BYPASS\_PROXY variable*

Preference for the indicator to decide which URLs need the proxy bypassed.

### *Syntax*

```
public static final String BYPASS_PROXY
```

### *SAP\_APPLICATIONID\_HEADER\_VALUE variable*

Preference for application ID (used in request headers)

### *Syntax*

```
public static final String SAP_APPLICATIONID_HEADER_VALUE
```

***SAPPASSPORT\_ENABLED variable***

Preference for the indicator to decide if SAP passport should be enabled or not.

***Syntax***

```
public static final String SAPPASSPORT_ENABLED
```

***SDM\_CACHE\_CAPACITY variable***

Preference for the maximum number of documents can be stored in cache.

***Syntax***

```
public static final String SDM_CACHE_CAPACITY
```

***SDM\_CACHE\_MAX\_SEARCH\_RESULTS variable***

Preference for the maximum entries that can be returned as a result of a search.

***Syntax***

```
public static final String SDM_CACHE_MAX_SEARCH_RESULTS
```

***SDM\_CACHE\_PARSER\_SEARCH\_ATTRIBUTE variable***

Preference for the name of the XML attribute that should be used to decide if a property is searchable.

***Syntax***

```
public static final String SDM_CACHE_PARSER_SEARCH_ATTRIBUTE
```

***SDM\_CACHE\_SEARCH\_ATTRIBUTE\_XMLNS variable***

Preference for the XML namespace URI of the XML attribute that should be used to decide if a property is searchable.

***Syntax***

```
public static final String SDM_CACHE_SEARCH_ATTRIBUTE_XMLNS
```

***SDM\_CONNECTIVITY\_CONNTIMEOUT variable***

Preference for connection time out.

***Syntax***

```
public static final String SDM_CONNECTIVITY_CONNTIMEOUT
```

### *SDM\_CONNECTIVITY\_HANDLER\_CLASS\_NAME variable*

Preference for full name (including package) of the class that should be initialized as connectivity handler.

#### *Syntax*

```
public static final String  
SDM_CONNECTIVITY_HANDLER_CLASS_NAME
```

### *SDM\_CONNECTIVITY\_HTTP\_PORT variable*

Preference for default HTTP port.

#### *Syntax*

```
public static final String SDM_CONNECTIVITY_HTTP_PORT
```

### *SDM\_CONNECTIVITY\_HTTPS\_PORT variable*

Preference for default HTTPS port.

#### *Syntax*

```
public static final String SDM_CONNECTIVITY_HTTPS_PORT
```

### *SDM\_CONNECTIVITY\_PROXY\_HOST variable*

Preference for proxy host if there is a proxy should be used.

#### *Syntax*

```
public static final String SDM_CONNECTIVITY_PROXY_HOST
```

### *SDM\_CONNECTIVITY\_PROXY\_PORT variable*

Preference for proxy port if there is a proxy should be used.

#### *Syntax*

```
public static final String SDM_CONNECTIVITY_PROXY_PORT
```

### *SDM\_CONNECTIVITY\_SCONNTIMEOUT variable*

Preference for socket connection time out.

#### *Syntax*

```
public static final String SDM_CONNECTIVITY_SCONNTIMEOUT
```

### *SDM\_LOG\_LEVEL variable*

Preference for the current log severity.

#### *Syntax*

```
public static final String SDM_LOG_LEVEL
```

***SDM\_PARSER\_FOLDER\_PATH variable***

Preference for the default folder where Parser related information can be persisted Should not point to a folder that can be removed outside of the application.

***Syntax***

```
public static final String SDM_PARSER_FOLDER_PATH
```

***SDM\_PERSISTENCE\_BYTE\_BUFFER\_SIZE variable***

Preference for the size of the buffer that is used during persistence Should be changed only in case of low memory available.

***Syntax***

```
public static final String SDM_PERSISTENCE_BYTE_BUFFER_SIZE
```

***SDM\_PERSISTENCE\_CIPHER\_TRANSFORMATION variable***

Preference for the default cipher transformation algorithm Should be matched with algorithm of the Secure Key generation used for data encryption.

***Syntax***

```
public static final String
SDM_PERSISTENCE_CIPHER_TRANSFORMATION
```

***SDM\_PERSISTENCE\_FOLDER\_PATH variable***

Preference for the default folder where data should be persisted.

***Syntax***

```
public static final String SDM_PERSISTENCE_FOLDER_PATH
```

***SDM\_PERSISTENCE\_SECUREMODE variable***

Preference for indicator if persisted data should be encrypted.

***Syntax***

```
public static final String SDM_PERSISTENCE_SECUREMODE
```

***ISDMRequest interface***

Deprecated. since 3.0, Use com.sap.mobile.lib.request.IRequest Interface for requests.

***Syntax***

```
public interface ISDMRequest
```

***Derived classes***

- *SDMBaseRequest* on page 1378

- *SDMPushRequest* on page 1987

### Members

All members of *ISDMRequest*, including inherited members. **Variables**

Modifier and Type	Variable	Description
public static final int	<i>ETAG_IF_MATCH</i> on page 1361	etag "if-match"
public static final int	<i>ETAG_IF_NONE_MATCH</i> on page 1361	etag "if-none-match"
public static final int	<i>ETAG_IF_RANGE</i> on page 1362	etag "if-range"
public static final int	<i>PRIORITY_HIGH</i> on page 1362	High priority.
public static final int	<i>PRIORITY_NORMAL</i> on page 1362	Normal priority.
public static final int	<i>REQUEST_METHOD_DELETE</i> on page 1362	HTTP DELETE method.
public static final int	<i>REQUEST_METHOD_GET</i> on page 1362	HTTP GET method.
public static final int	<i>REQUEST_METHOD_POST</i> on page 1362	HTTP POST method.
public static final int	<i>REQUEST_METHOD_PUT</i> on page 1363	HTTP PUT method.

### Methods

Modifier and Type	Method	Description
public byte[]	<i>getData()</i> on page 1356	If the request method is POST, this method is called from the network library.
public InputStream	<i>getDataStream()</i> on page 1356	If the request method is POST, this method is called from the network library.
public Object	<i>getE2eRequest()</i> on page 1357	Get the <i>iRequest</i> object from the <i>ISDMRequest</i> .
public Map< String, String >	<i>getHeaders()</i> on page 1357	Returns the request headers set.

Modifier and Type	Method	Description
public ISDMNetListener	<i>getListener()</i> on page 1357	Returns the listener to be used by the connectivity library to notify the registered listener about a successful or failed request operation.
public String	<i>getPassport()</i> on page 1357	
public int	<i>getPriority()</i> on page 1357	Returns the priority of the request.
public int	<i>getRequestMethod()</i> on page 1358	Returns the request method.
public String	<i>getRequestUrl()</i> on page 1358	Returns the URL where the request must be done.
public String	<i>getTransId()</i> on page 1358	
public boolean	<i>isStreamEnabled()</i> on page 1358	
public void	<i>setData(byte[])</i> on page 1358	Set the request data in case of POST request.
public void	<i>setDataStream(InputStream)</i> on page 1359	Set the request data stream in case of POST request.
public void	<i>setE2eRequest(Object)</i> on page 1359	Set the iRequest object into the ISDMRequest.
public void	<i>setHeaders(Map&lt;String, String&gt;)</i> on page 1359	Set the request headers.
public void	<i>setListener(final ISDMNetListener)</i> on page 1359	Client can register listeners to be used by the connectivity layer to notify the implementation about the result of the request.
public void	<i>setPassport(String)</i> on page 1360	
public void	<i>setPriority(final int)</i> on page 1360	Sets the priority of the request.
public void	<i>setRequestMethod(final int)</i> on page 1360	Sets the request method.

Modifier and Type	Method	Description
public void	<i>setRequestUrl(final String)</i> on page 1360	Sets the URL for the request.
public void	<i>setStreamEnabled(boolean)</i> on page 1361	Used to enable streaming of data when the size of the data to be fetched is greater than 200KB.
public void	<i>setTransId(String)</i> on page 1361	
public boolean	<i>useCookies()</i> on page 1361	This method is used by the network library to check whether it has to send cookies to the server when the current request is performed.

**Usage**

All request objects must implement this interface. The network layer uses this interface to interact with the request objects

***getData()* method**

If the request method is POST, this method is called from the network library.

**Syntax**

```
public byte[] getData ()
```

**Returns**

the content data.

**Usage**

This method must return with the content to be sent to the server.

***getDataStream()* method**

If the request method is POST, this method is called from the network library.

**Syntax**

```
public InputStream getDataStream ()
```

**Returns**

the content data stream.

**Usage**

This method must return with the content stream to be sent to the server.



***getE2eRequest() method***

Get the iRequest object from the ISDMRequest.

***Syntax***

```
public Object getE2eRequest ()
```

***Usage***

Used for E2E tracing.

***getHeaders() method***

Returns the request headers set.

***Syntax***

```
public Map< String, String > getHeaders ()
```

***Returns***

the request headers

***getListener() method***

Returns the listener to be used by the connectivity library to notify the registered listener about a successful or failed request operation.

***Syntax***

```
public ISDMNetListener getListener ()
```

***Returns***

the listener or null.

***Usage***

Method will return null if there is no registered listener.

***getPassport() method******Syntax***

```
public String getPassport ()
```

***getPriority() method***

Returns the priority of the request.

***Syntax***

```
public int getPriority ()
```

*Returns*  
the priority.

*getRequestMethod() method*  
Returns the request method.

*Syntax*  
`public int getRequestMethod ()`

*Returns*  
the request method, with a value of `ISDMRequest.REQUEST_METHOD_*` constants.

*getRequestUrl() method*  
Returns the URL where the request must be done.

*Syntax*  
`public String getRequestUrl ()`

*Returns*  
the URL.

*getTransId() method*

*Syntax*  
`public String getTransId ()`

*isStreamEnabled() method*

*Syntax*  
`public boolean isStreamEnabled ()`

*setData(byte[]) method*  
Set the request data in case of POST request.

*Syntax*  
`public void setData (byte[] data )`

*Parameters*

- **data** – the request data to set

*setDataStream(InputStream) method*

Set the request data stream in case of POST request.

*Syntax*

```
public void setDataStream ( InputStream iStream )
```

*Parameters*

- **data** – the request data stream to set

*setE2eRequest(Object) method*

Set the iRequest object into the ISDMRequest.

*Syntax*

```
public void setE2eRequest ( Object iRequest )
```

*Parameters*

- **iRequest** –

*setHeaders(Map< String, String >) method*

Set the request headers.

*Syntax*

```
public void setHeaders ( Map< String, String > headers )
```

*Parameters*

- **headers** – the request headers to set

*setListener(final ISDMNetListener) method*

Client can register listeners to be used by the connectivity layer to notify the implementation about the result of the request.

*Syntax*

```
public void setListener ( final ISDMNetListener aListener )
```

*Parameters*

- **aListener** – the listener to set.

*Usage*

By default, the SDMBaseRequest object included in the connectivity layer will contain no registered listeners.

Setting this object is not mandatory. However, it can be used to handle incidental errors.

*setPassport(String) method*

*Syntax*

```
public void setPassport ( String passport )
```

*setPriority(final int) method*

Sets the priority of the request.

*Syntax*

```
public void setPriority ( final int aPriority )
```

*Parameters*

- **aPriority** – the priority of the request to set.

*Usage*

Allowed values: ISDMRequest.PRIORITY\_HIGH and ISDMRequest.PRIORITY\_NORMAL. In case of a different value, the default ISDMRequest.PRIORITY\_NORMAL will be used by the network. If the network layer finds an ISDMRequest with ISDMRequest.PRIORITY\_HIGH priority in the queue, that request will be executed first. If there are more than one IRequests with ISDMRequest.PRIORITY\_HIGH priority, the network layer will choose an execution order. If the priority is not one of the predefined values, the priority will be set by default to ISDMRequest.PRIORITY\_NORMAL

*setRequestMethod(final int) method*

Sets the request method.

*Syntax*

```
public void setRequestMethod ( final int aRequestMethod )
```

*Parameters*

- **aRequestMethod** – one of the ISDMRequest.REQUEST\_METHOD\_\* constants.

*setRequestUrl(final String) method*

Sets the URL for the request.

*Syntax*

```
public void setRequestUrl ( final String aUrl )
```

*Parameters*

- **aUrl** – the URL to set.

*setStreamEnabled(boolean) method*

Used to enable streaming of data when the size of the data to be fetched is greater than 200KB.

*Syntax*

```
public void setStreamEnabled ( boolean streamEnabled )
```

*Parameters*

- **streamEnabled** –

*setTransId(String) method**Syntax*

```
public void setTransId ( String transId )
```

*useCookies() method*

This method is used by the network library to check whether it has to send cookies to the server when the current request is performed.

*Syntax*

```
public boolean useCookies ( )
```

*Returns*

the use of cookies in the network library.

*Usage*

Some requests may deny sending any cookies to the server, in this case this method can be used by the request to signal to the network library. The default value for this is false in the `SDMBaseRequest` implementation.

*ETAG\_IF\_MATCH variable*

```
etag "if-match"
```

*Syntax*

```
public static final int ETAG_IF_MATCH
```

*ETAG\_IF\_NONE\_MATCH variable*

```
etag "if-none-match"
```

*Syntax*

```
public static final int ETAG_IF_NONE_MATCH
```

### *ETAG\_IF\_RANGE variable*

etag "if-range"

#### *Syntax*

```
public static final int ETAG_IF_RANGE
```

### *PRIORITY\_HIGH variable*

High priority.

#### *Syntax*

```
public static final int PRIORITY_HIGH
```

#### *Usage*

Requests with high priority will be executed first. If there are more than one IRequests with ISDMRequest.PRIORITY\_HIGH priority, the network layer will choose an execution order.

### *PRIORITY\_NORMAL variable*

Normal priority.

#### *Syntax*

```
public static final int PRIORITY_NORMAL
```

#### *Usage*

This is the default priority.

### *REQUEST\_METHOD\_DELETE variable*

HTTP DELETE method.

#### *Syntax*

```
public static final int REQUEST_METHOD_DELETE
```

### *REQUEST\_METHOD\_GET variable*

HTTP GET method.

#### *Syntax*

```
public static final int REQUEST_METHOD_GET
```

### *REQUEST\_METHOD\_POST variable*

HTTP POST method.

#### *Syntax*

```
public static final int REQUEST_METHOD_POST
```

*REQUEST\_METHOD\_PUT* variable

HTTP PUT method.

*Syntax*

```
public static final int REQUEST_METHOD_PUT
```

*ISDMRequestManager* interface

Deprecated. since 3.0, Use com.sap.mobile.lib.request.IRequestManager

*Syntax*

```
public interface ISDMRequestManager
```

*Derived classes*

- *SDMRequestManager* on page 1994

*Members*

All members of ISDMRequestManager, including inherited members. **Methods**

Modifier and Type	Method	Description
public Vector< ISDMRequest >	<i>getAllRequests()</i> on page 1364	Returns all requests from the connectivity component which are in the queue.
public ISDMConnectivityParameters	<i>getConnectivityParameters()</i> on page 1364	Returns the ConnectivityParameters object containing the settings used by the library.
public int	<i>getQueueSize()</i> on page 1364	Returns the number of requests from the connectivity component which are in the queue.
public Object	<i>getRequest()</i> on page 1365	Returns an ISDMRequest from the queue(s)
public boolean	<i>hasRequests()</i> on page 1365	Returns a boolean indicating the queue has requests or doesn't.
public void	<i>makeRequest(final ISDMRequest)</i> on page 1365	Put a request object into the SDMRequestManager.
public void	<i>makeRequest(final ISDMBundleRequest)</i> on page 1365	

Modifier and Type	Method	Description
public void	<i>sendOnSuccess</i> (final ISDMNetListener, final ISDMRequest, final ISDMResponse) on page 1365	Used to notify the ISDMNetListener implementation about successful request, without blocking ISDMConnectivity threads and reducing the concurrency on the application.
public void	<i>setMainHandlerClassName</i> (final String) on page 1366	Sets the class name of the ISDMConnectionHandler implementation.
public void	<i>terminate</i> () on page 1366	Terminates all the requests in the queue.

***getAllRequests()* method**

Returns all requests from the connectivity component which are in the queue.

***Syntax***

```
public Vector< ISDMRequest > getAllRequests ()
```

***Returns***

all the requests currently in the queue.

***getConnectivityParameters()* method**

Returns the ConnectivityParameters object containing the settings used by the library.

***Syntax***

```
public ISDMConnectivityParameters getConnectivityParameters  
()
```

***getQueueSize()* method**

Returns the number of requests from the connectivity component which are in the queue.

***Syntax***

```
public int getQueueSize ()
```

***Returns***

the number of requests currently in the queue.



*getRequest() method*

Returns an ISDMRequest from the queue(s)

*Syntax*

```
public Object getRequest ()
```

*Returns*

an ISDMRequest implementation

*hasRequests() method*

Returns a boolean indicating the queue has requests or doesn't.

*Syntax*

```
public boolean hasRequests ()
```

*Returns*

whether the queue has requests or it doesn't

*makeRequest(final ISDMRequest) method*

Put a request object into the SDMRequestManager.

*Syntax*

```
public void makeRequest ( final ISDMRequest aRequest )
```

*Parameters*

- **aRequest** – the request.

*makeRequest(final ISDMBundleRequest) method**Syntax*

```
public void makeRequest ( final ISDMBundleRequest  
aBundleRequest )
```

*sendOnSuccess(final ISDMNetListener, final ISDMRequest, final ISDMResponse) method*

Used to notify the ISDMNetListener implementation about successful request, without blocking ISDMConnectivity threads and reducing the concurrency on the application.

*Syntax*

```
public void sendOnSuccess ( final ISDMNetListener listener , final  
ISDMRequest request , final ISDMResponse response )
```

*Parameters*

- **listener** – ISDMNetListener instance
- **request** – ISDMRequest instance
- **response** – HttpResponse instance

*setMainHandlerClassName(final String) method*

Sets the class name of the ISDMConnectionHandler implementation.

*Syntax*

```
public void setMainHandlerClassName ( final String classname )
```

*Parameters*

- **classname** – the name as String

*Usage*

Default class: com.sap.mobile.lib.sdmconnectivity.SocketConnectionHandler

*terminate() method*

Terminates all the requests in the queue.

*Syntax*

```
public void terminate ()
```

*ISDMRequestStateElement interface*

Deprecated. since 3.0, Use com.sap.mobile.lib.request.IRequestStateElement

*Syntax*

```
public abstract interface ISDMRequestStateElement
```

*Derived classes*

- *SDMRequestStateElement* on page 2006

*Members*

All members of ISDMRequestStateElement, including inherited members. **Variables**

Modifier and Type	Variable	Description
public static final int	<i>AUTHENTICATION_ERROR</i> on page 1369	Authentication error.
public static final int	<i>CLIENT_ERROR</i> on page 1369	Client error.

Modifier and Type	Variable	Description
public static final int	<i>HTTP_ERROR</i> on page 1370	Server response status > 302.
public static final int	<i>NETWORK_ERROR</i> on page 1370	There was a network error during a read/write to/from stream.
public static final int	<i>NO_ERROR</i> on page 1370	
public static final int	<i>PARSE_ERROR</i> on page 1370	Problem with parsing the response xml.
public static final int	<i>REQUEST_ERROR</i> on page 1370	Problem with parsing the request.

### Methods

Modifier and Type	Method	Description
public abstract int	<i>getErrorCode()</i> on page 1367	Returns the error code.
public abstract Exception	<i>getException()</i> on page 1368	Returns the Exception if it was set.
public abstract HttpResponseMessage	<i>getHttpResponse()</i> on page 1368	Returns the HttpResponseMessage.
public abstract int	<i>getHttpStatusCode()</i> on page 1368	Returns the HTTP status if it was set.
public abstract void	<i>setErrorCode(final int)</i> on page 1368	Sets the error code.
public abstract void	<i>setException(final Exception)</i> on page 1369	Sets the Exception.
public abstract void	<i>setHttpResponse(HttpResponse)</i> on page 1369	Sets the HttpResponseMessage.
public abstract void	<i>setHttpStatusCode(final int)</i> on page 1369	Sets the HTTP status.

#### *getErrorCode()* method

Returns the error code.

#### Syntax

```
public abstract int getErrorCode ()
```

#### Usage

The error code can be the following:

- HTTP\_ERROR
- PARSE\_ERROR
- NETWORK\_ERROR
- AUTHENTICATION\_ERROR

### *getException() method*

Returns the Exception if it was set.

### *Syntax*

```
public abstract Exception getException ()
```

### *Returns*

the Exception stored in SDMRequestStateElement.

### *Usage*

If not, the returned value will be null.

### *getHttpResponse() method*

Returns the HttpResponse.

### *Syntax*

```
public abstract HttpResponse getHttpResponse ()
```

### *Returns*

The HttpResponse

### *getHttpStatusCode() method*

Returns the HTTP status if it was set.

### *Syntax*

```
public abstract int getHttpStatusCode ()
```

### *Returns*

the HTTP status code, if available.

### *Usage*

If there was no http status set, the value is -1.

### *setErrorCode(final int) method*

Sets the error code.

### *Syntax*

```
public abstract void setErrorCode ( final int code )
```

*Parameters*

- **code** –

*setException(final Exception) method*

Sets the Exception.

*Syntax*

```
public abstract void setException ( final Exception aException )
```

*Parameters*

- **aException** – the Exception to set.

*setHttpResponse(HttpResponse) method*

Sets the HttpResponse.

*Syntax*

```
public abstract void setHttpResponse ( HttpResponse aResponse )
```

*Parameters*

- **aResponse** – The HttpResponse

*setHttpStatusCode(final int) method*

Sets the HTTP status.

*Syntax*

```
public abstract void setHttpStatusCode ( final int httpStatus )
```

*Parameters*

- **httpStatus** – to set

*AUTHENTICATION\_ERROR variable*

Authentication error.

*Syntax*

```
public static final int AUTHENTICATION_ERROR
```

*CLIENT\_ERROR variable*

Client error.

*Syntax*

```
public static final int CLIENT_ERROR
```

### *HTTP\_ERROR variable*

Server response status > 302.

#### *Syntax*

```
public static final int HTTP_ERROR
```

### *NETWORK\_ERROR variable*

There was a network error during a read/write to/from stream.

#### *Syntax*

```
public static final int NETWORK_ERROR
```

### *NO\_ERROR variable*

#### *Syntax*

```
public static final int NO_ERROR
```

### *PARSE\_ERROR variable*

Problem with parsing the response xml.

#### *Syntax*

```
public static final int PARSE_ERROR
```

### *REQUEST\_ERROR variable*

Problem with parsing the request.

#### *Syntax*

```
public static final int REQUEST_ERROR
```

### *ISDMResponse interface*

Deprecated. since 3.0, Use com.sap.mobile.lib.request.IResponse

#### *Syntax*

```
public interface ISDMResponse extends HttpResponseMessage
```

#### *Derived classes*

- *SDMResponseImpl* on page 2012

#### *Members*

All members of ISDMResponse, including inherited members. **Methods**

Modifier and Type	Method	Description
public String	<i>getCookie()</i> on page 1371	
public String	<i>getCorelationId()</i> on page 1371	
public int	<i>getCurrentOffset()</i> on page 1371	
public int	<i>getDataStream(byte[], int)</i> on page 1371	Used to obtain the data in stream.
public int	<i>getDataStream(byte[], int, int, String)</i> on page 1372	
public Map< String, String >	<i>getHeadersMap()</i> on page 1372	
public boolean	<i>isDataAvailable()</i> on page 1372	To check whether the response object is available or it needs to be streamed in chunks.
public void	<i>setCorelationId(String)</i> on page 1372	

***getCookie() method******Syntax***

```
public String getCookie ()
```

***getCorelationId() method******Syntax***

```
public String getCorelationId ()
```

***getCurrentOffset() method******Syntax***

```
public int getCurrentOffset ()
```

***getDataStream(byte[], int) method***

Used to obtain the data in stream.

***Syntax***

```
public int getDataStream (byte[] chunk , int chunkSize )
```

## Parameters

- **chunk** –
- **offset** –

## Usage

Returns the chunk of data of size 'chunkSize' from the given offset.

## *getDataStream(byte[], int, int, String) method*

### Syntax

```
public int getDataStream (byte[] chunk , int chunkSize , int offset ,  
String cookie )
```

## *getHeadersMap() method*

### Syntax

```
public Map< String, String > getHeadersMap ()
```

## *isDataAvailable() method*

To check whether the response object is available or it needs to be streamed in chunks.

### Syntax

```
public boolean isDataAvailable ()
```

## *setCorelationId(String) method*

### Syntax

```
public void setCorelationId (String coRelationId )
```

## *JSONParser class*

Deprecated. since 3.0, Use JSONParser

### Syntax

```
public class JSONParser
```

## Members

All members of JSONParser, including inherited members. **Variables**

Modifier and Type	Variable	Description
protected static String	<i>JSON_TAG_D</i> on page 1375	



Modifier and Type	Variable	Description
protected static String	<i>JSON_TAG_DEFERRED</i> on page 1375	
protected static String	<i>JSON_TAG_DELTA</i> on page 1375	
protected static String	<i>JSON_TAG_METADATA</i> on page 1375	
protected static String	<i>JSON_TAG_RESULTS</i> on page 1375	
protected static String	<i>JSON_TAG_TYPE</i> on page 1376	
protected static String	<i>JSON_TAG_URI</i> on page 1376	

### Constructors

Modifier and Type	Constructor	Description
public	<i>JSONParser()</i> on page 1374	

### Methods

Modifier and Type	Method	Description
protected List< ISDMODa- taEntry >	<i>parseComplexEntry(String, String, ISDMODataSchema, String)</i> on page 1374	
protected List< ISDMODa- taEntry >	<i>parseFunctionImportComplex- Type(String, String, ISDMO- DataSchema, String)</i> on page 1374	
protected List< ISDMODa- taEntry >	<i>parseODataEntries(String, String, ISDMODataSchema)</i> on page 1374	
protected List< ISDMODa- taEntry >	<i>parseODataEntry(String, String, ISDMODataSchema)</i> on page 1375	
protected ISDMODataService- Document	<i>parseODataServiceDocu- ment(String)</i> on page 1375	

Modifier and Type	Method	Description
protected void	<i>populateODataEntry(SDMO-DataEntry, JsonObject)</i> on page 1375	

*JSONParser() constructor**Syntax*

```
public JSONParser ()
```

*parseComplexEntry(String, String, ISDMODataSchema, String) method**Syntax*

```
protected List< ISDMODataEntry > parseComplexEntry (String
complexEntryXml , String functionImport , ISDMODataSchema schema ,
String returnType )
```

*parseFunctionImportComplexType(String, String, ISDMODataSchema, String) method**Syntax*

```
protected List< ISDMODataEntry >
parseFunctionImportComplexType (String entryJson , String
functionImport , ISDMODataSchema schema , String returnType )
```

*parseODataEntries(String, String, ISDMODataSchema) method**Syntax*

```
protected List< ISDMODataEntry > parseODataEntries (String
entriesJson , String collectionId , ISDMODataSchema schema ) throws
SDMParseException
```

*Parameters*

- **entriesJson** –
- **collectionId** –
- **schema** –

*Exceptions*

- **ParserException** –

*parseODataEntry(String, String, ISDMODataSchema) method***Syntax**

```
protected List< ISDMODataEntry > parseODataEntry ( String
entryJson , String collectionId , ISDMODataSchema schema )
```

*parseODataServiceDocument(String) method***Syntax**

```
protected ISDMODataServiceDocument parseODataServiceDocument
( String serviceDocumentXML )
```

*populateODataEntry(SDMODataEntry, JsonObject) method***Syntax**

```
protected void populateODataEntry ( SDMODataEntry oDataEntry ,
JsonObject properties )
```

*JSON\_TAG\_D variable***Syntax**

```
protected static String JSON_TAG_D
```

*JSON\_TAG\_DEFERRED variable***Syntax**

```
protected static String JSON_TAG_DEFERRED
```

*JSON\_TAG\_DELTA variable***Syntax**

```
protected static String JSON_TAG_DELTA
```

*JSON\_TAG\_METADATA variable***Syntax**

```
protected static String JSON_TAG_METADATA
```

*JSON\_TAG\_RESULTS variable***Syntax**

```
protected static String JSON_TAG_RESULTS
```

*JSON\_TAG\_TYPE* variable*Syntax*

```
protected static String JSON_TAG_TYPE
```

*JSON\_TAG\_URI* variable*Syntax*

```
protected static String JSON_TAG_URI
```

*RouteManager* class

Deprecated. since 3.0, Use com.sap.mobile.lib.request.RouteManager

*Syntax*

```
public class RouteManager
```

*Members*

All members of RouteManager, including inherited members. **Variables**

Modifier and Type	Variable	Description
static HashMap< String, SUP-Route >	<i>routeManager</i> on page 1377	

**Methods**

Modifier and Type	Method	Description
public static void	<i>addHeaders(HttpUriRequest, DefaultHttpClient)</i> on page 1376	
public static SUPRoute	<i>getRoute(String)</i> on page 1376	

*addHeaders(HttpUriRequest, DefaultHttpClient)* method*Syntax*

```
public static void addHeaders (HttpUriRequest request ,
DefaultHttpClient httpClient )
```

*getRoute(String)* method*Syntax*

```
public static SUPRoute getRoute (String URL )
```

*routeManager* variable**Syntax**

```
static HashMap< String, SUPRoute > routeManager
```

**SAPSSLSocketFactory** class

Deprecated. since 3.0, Use com.sap.mobile.lib.request.SAPSSLSocketFactory

**Syntax**

```
public class SAPSSLSocketFactory extends SSLSocketFactory
```

**Members**

All members of SAPSSLSocketFactory, including inherited members. **Variables**

Modifier and Type	Variable	Description
SSLContext	<i>sslContext</i> on page 1378	

**Constructors**

Modifier and Type	Constructor	Description
public	<i>SAPSSLSocketFactory(KeyStore, TrustManager[])</i> on page 1377	

**Methods**

Modifier and Type	Method	Description
public Socket	<i>createSocket(Socket, String, int, boolean)</i> on page 1378	
public Socket	<i>createSocket()</i> on page 1378	

**SAPSSLSocketFactory(KeyStore, TrustManager[])** constructor**Syntax**

```
public SAPSSLSocketFactory ( KeyStore truststore , TrustManager[]
trustManagers ) throws NoSuchAlgorithmException,
KeyManagementException, KeyStoreException,
UnrecoverableKeyException
```

*createSocket(Socket, String, int, boolean) method*

**Syntax**

```
public Socket createSocket ( Socket socket , String host , int port ,
boolean autoClose ) throws IOException, UnknownHostException
```

*createSocket() method*

**Syntax**

```
public Socket createSocket () throws IOException
```

*sslContext variable*

**Syntax**

```
SSLContext sslContext
```

*SDMBaseRequest class*

Deprecated. since 3.0, Use com.sap.mobile.lib.request.BaseRequest

**Syntax**

```
public class SDMBaseRequest extends ISDMRequest
```

**Members**

All members of SDMBaseRequest, including inherited members. **Variables**

Modifier and Type	Variable	Description
protected HashMap< String, String >	<i>eTagMap</i> on page 1386	
protected static String	<i>HostURL</i> on page 1386	
protected static boolean	<i>isStreamEnabled</i> on page 1386	
protected byte[]	<i>mData</i> on page 1386	
protected Map< String, String >	<i>mHeaders</i> on page 1386	
protected ISDMNetListener	<i>mListener</i> on page 1387	
protected int	<i>mPriority</i> on page 1387	
protected int	<i>mRequestMethod</i> on page 1387	
protected String	<i>mUrl</i> on page 1387	

Modifier and Type	Variable	Description
protected static ArrayList<String >	<i>setCookie</i> on page 1387	
protected static String	<i>xsrftoken</i> on page 1387	

## Methods

Modifier and Type	Method	Description
public byte[]	<i>getData()</i> on page 1381	If the request method is POST, this method is called from the network library.
public InputStream	<i>getDataStream()</i> on page 1382	If the request method is POST, this method is called from the network library.
public Request	<i>getE2eRequest()</i> on page 1382	Get the iRequest object from the ISDMRequest.
public Map<String, String >	<i>getHeaders()</i> on page 1382	Returns the request headers set.
public ISDMNetListener	<i>getListener()</i> on page 1382	Returns the listener to be used by the connectivity library to notify the registered listener about a successful or failed request operation.
public String	<i>getPassport()</i> on page 1383	
public int	<i>getPriority()</i> on page 1383	Returns the priority of the request.
public int	<i>getRequestMethod()</i> on page 1383	Returns the request method.
public String	<i>getRequestUrl()</i> on page 1383	Returns the URL where the request must be done.
public String	<i>getTransId()</i> on page 1383	
public boolean	<i>isStreamEnabled()</i> on page 1383	
public void	<i>setData(byte[])</i> on page 1384	Set the request data in case of POST request.

Modifier and Type	Method	Description
public void	<i>setDataStream(InputStream)</i> on page 1384	Set the request data stream in case of POST request.
public void	<i>setE2eRequest(Object)</i> on page 1384	Set the iRequest object into the ISDMRequest.
public void	<i>setETag(String, int)</i> on page 1384	
public void	<i>setHeaders(Map&lt;String, String&gt;)</i> on page 1384	Set the request headers.
public void	<i>setListener(ISDMNetListener)</i> on page 1385	
public void	<i>setPassport(String)</i> on page 1385	
public void	<i>setPriority(int)</i> on page 1385	
public void	<i>setRequestMethod(int)</i> on page 1385	
public void	<i>setRequestUrl(String)</i> on page 1385	
public void	<i>setStreamEnabled(boolean)</i> on page 1385	Used to enable streaming of data when the size of the data to be fetched is greater than 200KB.
public void	<i>setTransId(String)</i> on page 1385	
public boolean	<i>useCookies()</i> on page 1386	This method is used by the network library to check whether it has to send cookies to the server when the current request is performed.

#### Inherited members from ISDMRequest

Modifier and Type	Member	Description
public static final int	<i>ETAG_IF_MATCH</i> on page 1361	etag "if-match"
public static final int	<i>ETAG_IF_NONE_MATCH</i> on page 1361	etag "if-none-match"



Modifier and Type	Member	Description
public static final int	<i>ETAG_IF_RANGE</i> on page 1362	etag "if-range"
public static final int	<i>PRIORITY_HIGH</i> on page 1362	High priority.
public static final int	<i>PRIORITY_NORMAL</i> on page 1362	Normal priority.
public static final int	<i>REQUEST_METHOD_DELETE</i> on page 1362	HTTP DELETE method.
public static final int	<i>REQUEST_METHOD_GET</i> on page 1362	HTTP GET method.
public static final int	<i>REQUEST_METHOD_POST</i> on page 1362	HTTP POST method.
public static final int	<i>REQUEST_METHOD_PUT</i> on page 1363	HTTP PUT method.
public void	<i>setListener(final ISDMNetListener)</i> on page 1359	Client can register listeners to be used by the connectivity layer to notify the implementation about the result of the request.
public void	<i>setPriority(final int)</i> on page 1360	Sets the priority of the request.
public void	<i>setRequestMethod(final int)</i> on page 1360	Sets the request method.
public void	<i>setRequestUrl(final String)</i> on page 1360	Sets the URL for the request.

***getData()* method**

If the request method is POST, this method is called from the network library.

***Syntax***

```
public byte[] getData ()
```

***Returns***

the content data.

***Usage***

This method must return with the content to be sent to the server.

### *getDataStream() method*

If the request method is POST, this method is called from the network library.

#### *Syntax*

```
public InputStream getDataStream ()
```

#### *Returns*

the content data stream.

#### *Usage*

This method must return with the content stream to be sent to the server.

### *getE2eRequest() method*

Get the iRequest object from the ISDMRequest.

#### *Syntax*

```
public Request getE2eRequest ()
```

#### *Usage*

Used for E2E tracing.

### *getHeaders() method*

Returns the request headers set.

#### *Syntax*

```
public Map< String, String > getHeaders ()
```

#### *Returns*

the request headers

### *getListener() method*

Returns the listener to be used by the connectivity library to notify the registered listener about a successful or failed request operation.

#### *Syntax*

```
public ISDMNetListener getListener ()
```

#### *Returns*

the listener or null.

#### *Usage*

Method will return null if there is no registered listener.

*getPassport() method***Syntax**

```
public String getPassport ()
```

*getPriority() method*

Returns the priority of the request.

**Syntax**

```
public int getPriority ()
```

**Returns**

the priority.

*getRequestMethod() method*

Returns the request method.

**Syntax**

```
public int getRequestMethod ()
```

**Returns**

the request method, with a value of ISDMRequest.REQUEST\_METHOD\_\* constants.

*getRequestUrl() method*

Returns the URL where the request must be done.

**Syntax**

```
public String getRequestUrl ()
```

**Returns**

the URL.

*getTransId() method***Syntax**

```
public String getTransId ()
```

*isStreamEnabled() method***Syntax**

```
public boolean isStreamEnabled ()
```

### *setData(byte[]) method*

Set the request data in case of POST request.

#### *Syntax*

```
public void setData (byte[] data)
```

#### *Parameters*

- **data** – the request data to set

### *setDataStream(InputStream) method*

Set the request data stream in case of POST request.

#### *Syntax*

```
public void setDataStream (InputStream iStream)
```

#### *Parameters*

- **data** – the request data stream to set

### *setE2eRequest(Object) method*

Set the iRequest object into the ISDMRequest.

#### *Syntax*

```
public void setE2eRequest (Object iRequest)
```

#### *Parameters*

- **iRequest** –

### *setETag(String, int) method*

#### *Syntax*

```
public void setETag (String tag , int i) throws  
IllegalArgumentException
```

### *setHeaders(Map< String, String >) method*

Set the request headers.

#### *Syntax*

```
public void setHeaders (Map< String, String > headers)
```

*Parameters*

- **headers** – the request headers to set

*setListener(ISDMNetListener) method**Syntax*

```
public void setListener ( ISDMNetListener listener )
```

*setPassport(String) method**Syntax*

```
public void setPassport ( String passport )
```

*setPriority(int) method**Syntax*

```
public void setPriority ( int value )
```

*setRequestMethod(int) method**Syntax*

```
public void setRequestMethod ( int requestMethod )
```

*setRequestUrl(String) method**Syntax*

```
public void setRequestUrl ( String aUrl )
```

*setStreamEnabled(boolean) method*

Used to enable streaming of data when the size of the data to be fetched is greater than 200KB.

*Syntax*

```
public void setStreamEnabled ( boolean streamEnabled )
```

*Parameters*

- **streamEnabled** –

*setTransId(String) method**Syntax*

```
public void setTransId ( String transId )
```

### *useCookies() method*

This method is used by the network library to check whether it has to send cookies to the server when the current request is performed.

#### *Syntax*

```
public boolean useCookies ()
```

#### *Returns*

the use of cookies in the network library.

#### *Usage*

Some requests may deny sending any cookies to the server, in this case this method can be used by the request to signal to the network library. The default value for this is false in the `SDMBaseRequest` implementation.

### *eTagMap variable*

#### *Syntax*

```
protected HashMap< String, String > eTagMap
```

### *HostURL variable*

#### *Syntax*

```
protected static String HostURL
```

### *isStreamEnabled variable*

#### *Syntax*

```
protected static boolean isStreamEnabled
```

### *mData variable*

#### *Syntax*

```
protected byte[] mData
```

### *mHeaders variable*

#### *Syntax*

```
protected Map< String, String > mHeaders
```

*mListener variable**Syntax*

```
protected ISDMNetListener mListener
```

*mPriority variable**Syntax*

```
protected int mPriority
```

*mRequestMethod variable**Syntax*

```
protected int mRequestMethod
```

*mUrl variable**Syntax*

```
protected String mUrl
```

*setCookie variable**Syntax*

```
protected static ArrayList< String > setCookie
```

*xsrftoken variable**Syntax*

```
protected static String xsrftoken
```

*SDMBundleRequest class*

Deprecated. since 3.0, Use com.sap.mobile.lib.request.BundleRequest

*Syntax*

```
public class SDMBundleRequest extends ISDMBundleRequest
```

*Members*

All members of SDMBundleRequest, including inherited members. **Constructors**

Modifier and Type	Constructor	Description
public	<i>SDMBundleRequest()</i> on page 1388	

**Methods**

Modifier and Type	Method	Description
public void	<i>addRequest</i> (final <i>ISDMRequest</i> ) on page 1388	
public void	<i>clearRequests</i> () on page 1388	Cleans out the request storage.
public <i>ISDMRequest</i> []	<i>getRequests</i> () on page 1388	Returns all requests from the storage.
public void	<i>removeRequest</i> (final <i>ISDMRequest</i> ) on page 1389	

**Inherited members from *ISDMBundleRequest***

Modifier and Type	Member	Description
public void	<i>addRequest</i> ( <i>ISDMRequest</i> ) on page 1049	Adds a request to the storage.
public void	<i>removeRequest</i> ( <i>ISDMRequest</i> ) on page 1049	Removes the specific request from the storage.

*SDMBundleRequest*() constructor*Syntax*

```
public SDMBundleRequest ()
```

*addRequest*(final *ISDMRequest*) method*Syntax*

```
public void addRequest ( final ISDMRequest request )
```

*clearRequests*() method

Cleans out the request storage.

*Syntax*

```
public void clearRequests ()
```

*getRequests*() method

Returns all requests from the storage.

*Syntax*

```
public ISDMRequest[] getRequests ()
```



**Returns**

the array of requests

***removeRequest(final ISDMRequest) method*****Syntax**

```
public void removeRequest ( final ISDMRequest request )
```

***SDMCache class***

Deprecated. since 3.0, Use Cache The SDMCache component is responsible for storing and accessing OData related objects in the memory of the device.

**Syntax**

```
public class SDMCache extends ISDMCache,
ISDMPreferenceChangeListener, ISDMEntrySearch
```

**Members**

All members of SDMCache, including inherited members. **Variables**

Modifier and Type	Variable	Description
public static final String	<i>ALL_ENTRY_SEARCH_TERM</i> on page 1399	
protected int	<i>cacheCapacity</i> on page 1400	
protected HashMap< String, Map< String, ISDMParserDocument > >	<i>collectionStore</i> on page 1400	
protected static final String	<i>ENTRY_KEY_ODATASchema</i> on page 1400	
protected static final String	<i>ENTRY_KEY_ODATASERVICEDOCUMENT</i> on page 1400	
protected static final String	<i>ENTRY_TYPE_ODATAENTRY</i> on page 1400	

Modifier and Type	Variable	Description
protected static final String	<i>ENTRY_TYPE_ODATASBASEDOCUMENT</i> on page 1400	Search property tag to be used In the default cache search algorithm, this tag will be checked to identify the fields which are included in the search.
protected ISDMEntrySearch	<i>entrySearch</i> on page 1400	
protected ISDMLogger	<i>logger</i> on page 1401	Logger object.
protected int	<i>maxSearchResult</i> on page 1401	
protected String	<i>mLogTag</i> on page 1401	
protected long	<i>mPerformanceTime</i> on page 1401	
protected long	<i>mTimerStart</i> on page 1401	
protected static final String	<i>NON_SAPDATA_DOCUMENTS_HASHMAP_KEY</i> on page 1401	
protected ISDMPreferences	<i>preferences</i> on page 1401	
protected ISDMODataSchema	<i>schema</i> on page 1401	
protected int	<i>searchAlgohythm</i> on page 1402	
protected String	<i>searchField</i> on page 1402	
protected ISDMODataService-Document	<i>serviceDocument</i> on page 1402	

### Constructors

Modifier and Type	Constructor	Description
public	<i>SDMCache(ISDMPreferences, ISDMLogger)</i> on page 1394	
public	<i>SDMCache(ISDMPreferences, ISDMLogger, ISDMODataServiceDocument, ISDMODataSchema)</i> on page 1394	

### Methods

Modifier and Type	Method	Description
protected void	<i>addSearchableProperty-Path(ISDMODDataProperty, String, List&lt;String[]&gt;, String...)</i> on page 1395	
public void	<i>clear()</i> on page 1395	
protected Map< String, ISDM-ParserDocument >	<i>createStore()</i> on page 1395	
protected boolean	<i>fullTermContainSearch(String, ISDMODDataEntry, List&lt;String[]&gt;)</i> on page 1395	
protected boolean	<i>fullTermPrefixSearch(String, ISDMODDataEntry, List&lt;String[]&gt;)</i> on page 1395	
public ISDMEntrySearch	<i>getEntrySearch()</i> on page 1395	
public ISDMParserDocument	<i>getSDMODDataDocument(String)</i> on page 1395	
public List< ISDMODDataEntry >	<i>getSDMODDataEntries(String)</i> on page 1396	
public ISDMODDataEntry	<i>getSDMODDataEntry(String)</i> on page 1396	
public ISDMODDataSchema	<i>getSDMODDataSchema()</i> on page 1396	
public ISDMODDataServiceDocument	<i>getSDMODDataServiceDocument()</i> on page 1396	
public int	<i>getSearchAlgorithm()</i> on page 1396	
public List< ISDMParserDocument >	<i>getStoredDocuments()</i> on page 1396	
public void	<i>onPreferenceChanged(String, Object)</i> on page 1396	
public void	<i>read(BufferedReader)</i> on page 1396	

Modifier and Type	Method	Description
protected boolean	<i>regexSearch(String, ISDMODataEntry)</i> on page 1397	
public boolean	<i>removeSDMODataDocument(String)</i> on page 1397	
public boolean	<i>removeSDMODataEntries(String)</i> on page 1397	
public void	<i>removeStoredDocuments()</i> on page 1397	
public boolean	<i>searchInEntry(String, String, List&lt;String&gt;, ISDMODataEntry, List&lt;String[]&gt;, int)</i> on page 1397	Verifies whether the entry should be found during searching for the incoming search term.
public List< ISDMODataEntry >	<i>searchSDMODataEntries(String, String)</i> on page 1398	
public List< ISDMODataEntry >	<i>searchSDMODataEntries(String, String, int)</i> on page 1398	
public void	<i>setEntrySearch(ISDMEntrySearch)</i> on page 1398	
public void	<i>setSDMODataDocument(String, ISDMParserDocument)</i> on page 1398	
public void	<i>setSDMODataEntries(List&lt; ISDMODataEntry &gt;)</i> on page 1398	
public void	<i>setSDMODataEntry(ISDMODataEntry)</i> on page 1398	
public void	<i>setSDMODataSchema(ISDMODataSchema)</i> on page 1398	
public void	<i>setSDMODataServiceDocument(ISDMODataServiceDocument)</i> on page 1399	

Modifier and Type	Method	Description
public void	<i>setSearchAlgorithm(int)</i> on page 1399	
protected boolean	<i>tokenizedContainAllSearch(List&lt;String&gt;, ISDMODataEntry, List&lt;String[]&gt;)</i> on page 1399	
protected boolean	<i>tokenizedContainSearch(List&lt;String&gt;, ISDMODataEntry, List&lt;String[]&gt;)</i> on page 1399	
protected boolean	<i>tokenizedPrefixSearch(List&lt;String&gt;, ISDMODataEntry, List&lt;String[]&gt;)</i> on page 1399	
public void	<i>write(BufferedWriter)</i> on page 1399	

#### Inherited members from ISDMCache

Modifier and Type	Member	Description
public static final int	<i>DEFAULT_SEARCH</i> on page 1059	Constant ID of default algorithm:
public static final int	<i>FULLTERM_CONTAIN_SEARCH</i> on page 1060	Constant ID of Full Term Contain-search algorithm: Searching for the full search-term as a part of searchable values.
public static final int	<i>FULLTERM_PREFIX_SEARCH</i> on page 1060	Constant ID of Full Term Prefix-search algorithm: Searching for the full search-term as a prefix of searchable values.
public static final int	<i>REGEX_SEARCH</i> on page 1060	Constant ID of regex search algorithm.
public static final int	<i>TOKENIZED_CONTAIN_ALL_SEARCH</i> on page 1060	Constant ID of All Token Contain-search algorithm: Searching for all the tokens of the search-term as a part of searchable values.

Modifier and Type	Member	Description
public static final int	<i>TOKENIZED_CONTAIN_SEARCH</i> on page 1060	Constant ID of Tokenized Contain-search algorithm: Searching for all the tokens of the search-term as a part of searchable values.
public static final int	<i>TOKENIZED_PREFIX_SEARCH</i> on page 1061	Constant ID of Tokenized Prefix-search algorithm: Searching for all the tokens of the search-term as a prefix of searchable values.

**Inherited members from ISDMPersistable**

Modifier and Type	Member	Description
public void	<i>read(BufferedReader)</i> on page 1332	
public void	<i>write(BufferedWriter)</i> on page 1332	

*Usage*

Technical Details: For capacity management, SDMCache uses an LRU (least recently used) like algorithm that ensures that the most recently used entries are not removed first because of reaching the maximum capacity. SDMCache currently supports only the tokenized prefix search as stated above. As a future improvement SDMCache is also going to support custom search logic. SDMCache is an implementer of the android.os.Parcelable interface provided by Android SDK. SDMCache depends on SAPData specific interfaces of SDMParser but does not depend on the real implementation of SDMParser.

*SDMCache(ISDMPreferences, ISDMLogger) constructor**Syntax*

```
public SDMCache ( ISDMPreferences preferences , ISDMLogger logger )
```

*SDMCache(ISDMPreferences, ISDMLogger, ISDMODataServiceDocument, ISDMODataSchema) constructor**Syntax*

```
public SDMCache ( ISDMPreferences preferences , ISDMLogger logger , ISDMODataServiceDocument serviceDocument , ISDMODataSchema schema )
```

*addSearchablePropertyPath(ISDMODataProperty, String, List< String[]>, String...)*  
method

**Syntax**

```
protected void addSearchablePropertyPath ( ISDMODataProperty
property , String searchField , List< String[]> searchablePropertyPathes ,
String... path )
```

*clear()* method

**Syntax**

```
public void clear ()
```

*createStore()* method

**Syntax**

```
protected Map< String, ISDMParserDocument > createStore ()
```

*fullTermContainSearch(String, ISDMODataEntry, List< String[]>)* method

**Syntax**

```
protected boolean fullTermContainSearch ( String searchTerm ,
ISDMODataEntry entry , List< String[]> searchablePropertyPathes )
```

*fullTermPrefixSearch(String, ISDMODataEntry, List< String[]>)* method

**Syntax**

```
protected boolean fullTermPrefixSearch ( String searchTerm ,
ISDMODataEntry entry , List< String[]> searchablePropertyPathes )
```

*getEntrySearch()* method

**Syntax**

```
public ISDMEntrySearch getEntrySearch ()
```

*getSDMODataDocument(String)* method

**Syntax**

```
public ISDMParserDocument getSDMODataDocument ( String key )
```

*getSDMODataEntries(String) method*

*Syntax*

```
public List< ISDMODataEntry > getSDMODataEntries ( String  
collectionId )
```

*getSDMODataEntry(String) method*

*Syntax*

```
public ISDMODataEntry getSDMODataEntry ( String key )
```

*getSDMODataSchema() method*

*Syntax*

```
public ISDMODataSchema getSDMODataSchema ()
```

*getSDMODataServiceDocument() method*

*Syntax*

```
public ISDMODataServiceDocument getSDMODataServiceDocument  
( )
```

*getSearchAlgorithm() method*

*Syntax*

```
public int getSearchAlgorithm ()
```

*getStoredDocuments() method*

*Syntax*

```
public List< ISDMParserDocument > getStoredDocuments ()
```

*onPreferenceChanged(String, Object) method*

*Syntax*

```
public void onPreferenceChanged ( String key , Object value )
```

*read(BufferedReader) method*

*Syntax*

```
public void read ( BufferedReader reader ) throws  
SDMPersistenceException
```



*regexSearch(String, ISDMODataEntry) method***Syntax**

```
protected boolean regexSearch ( String searchTerm ,
ISDMODataEntry entry )
```

*removeSDMODataDocument(String) method***Syntax**

```
public boolean removeSDMODataDocument ( String key )
```

*removeSDMODataEntries(String) method***Syntax**

```
public boolean removeSDMODataEntries ( String collectionId )
```

*removeStoredDocuments() method***Syntax**

```
public void removeStoredDocuments ()
```

*searchInEntry(String, String, List< String >, ISDMODataEntry, List< String[]>, int) method*

Verifies whether the entry should be found during searching for the incoming search term.

**Syntax**

```
public boolean searchInEntry ( String searchTerm , String
collectionId , List< String > searchTokens , ISDMODataEntry entry , List<
String[]> searchablePropertyPathes , int searchAlgorhythm )
```

**Parameters**

- **searchTerm** – The full search-term that the search initiated with,
- **collectionId** – The id of the searched collection
- **searchTokens** – The tokens of splitted lower-case search-term.
- **entry** – The entry that should be checked.
- **searchablePropertyPathes** – The properties of the entry that's values should be used during search.
- **searchAlgorhythm** – The constant ID of the search algorithm.

**Returns**

True if the entry 'matches' with the given search-term, and false otherwise.

*searchSDMODataEntries(String, String) method*

**Syntax**

```
public List< ISDMODataEntry > searchSDMODataEntries ( String  
searchTerm , String collectionId )
```

*searchSDMODataEntries(String, String, int) method*

**Syntax**

```
public List< ISDMODataEntry > searchSDMODataEntries ( String  
searchTerm , String collectionId , int searchAlgorithm )
```

*setEntrySearch(ISDMEntrySearch) method*

**Syntax**

```
public void setEntrySearch ( ISDMEntrySearch entrySearch )
```

*setSDMODataDocument(String, ISDMParserDocument) method*

**Syntax**

```
public void setSDMODataDocument ( String key ,  
ISDMParserDocument document )
```

*setSDMODataEntries(List< ISDMODataEntry >) method*

**Syntax**

```
public void setSDMODataEntries ( List< ISDMODataEntry >  
entries )
```

*setSDMODataEntry(ISDMODataEntry) method*

**Syntax**

```
public void setSDMODataEntry ( ISDMODataEntry entry )
```

**Exceptions**

- **IllegalAccessException** –

*setSDMODataSchema(ISDMODataSchema) method*

**Syntax**

```
public void setSDMODataSchema ( ISDMODataSchema schema )
```

*setSDMODataServiceDocument(ISDMODataServiceDocument) method*

**Syntax**

```
public void setSDMODataServiceDocument
( ISDMODataServiceDocument serviceDocument )
```

*setSearchAlgorithm(int) method*

**Syntax**

```
public void setSearchAlgorithm ( int searchAlgorhythm )
```

*tokenizedContainAllSearch(List< String >, ISDMODataEntry, List< String[]>) method*

**Syntax**

```
protected boolean tokenizedContainAllSearch ( List< String >
searchTermTokens , ISDMODataEntry entry , List< String[]>
searchablePropertyPathes )
```

*tokenizedContainSearch(List< String >, ISDMODataEntry, List< String[]>) method*

**Syntax**

```
protected boolean tokenizedContainSearch ( List< String >
searchTermTokens , ISDMODataEntry entry , List< String[]>
searchablePropertyPathes )
```

*tokenizedPrefixSearch(List< String >, ISDMODataEntry, List< String[]>) method*

**Syntax**

```
protected boolean tokenizedPrefixSearch ( List< String >
searchTermTokens , ISDMODataEntry entry , List< String[]>
searchablePropertyPathes )
```

*write(BufferedWriter) method*

**Syntax**

```
public void write ( BufferedWriter writer ) throws
SDMPersistenceException
```

*ALL\_ENTRY\_SEARCH\_TERM variable*

**Syntax**

```
public static final String ALL_ENTRY_SEARCH_TERM
```

### *cacheCapacity variable*

#### *Syntax*

```
protected int cacheCapacity
```

### *collectionStore variable*

#### *Syntax*

```
protected HashMap< String, Map< String, ISDMParserDocument >  
> collectionStore
```

### *ENTRY\_KEY\_ODATASHEMA variable*

#### *Syntax*

```
protected static final String ENTRY_KEY_ODATASHEMA
```

### *ENTRY\_KEY\_ODATASERVICEDOCUMENT variable*

#### *Syntax*

```
protected static final String ENTRY_KEY_ODATASERVICEDOCUMENT
```

### *ENTRY\_TYPE\_ODATAENTRY variable*

#### *Syntax*

```
protected static final String ENTRY_TYPE_ODATAENTRY
```

### *ENTRY\_TYPE\_ODATASBASEDOCUMENT variable*

Search property tag to be used In the default cache search algorithm, this tag will be checked to identify the fields which are included in the search.

#### *Syntax*

```
protected static final String ENTRY_TYPE_ODATASBASEDOCUMENT
```

#### *Usage*

If configured to be an empty string, all fields are included.

### *entrySearch variable*

#### *Syntax*

```
protected ISDMEntrySearch entrySearch
```

*logger variable*

Logger object.

*Syntax*

```
protected ISDMLogger logger
```

*maxSearchResult variable**Syntax*

```
protected int maxSearchResult
```

*mLogTag variable**Syntax*

```
protected String mLogTag
```

*mPerformanceTime variable**Syntax*

```
protected long mPerformanceTime
```

*mTimerStart variable**Syntax*

```
protected long mTimerStart
```

*NON\_SAPDATA\_DOCUMENTS\_HASHMAP\_KEY variable**Syntax*

```
protected static final String  
NON_SAPDATA_DOCUMENTS_HASHMAP_KEY
```

*preferences variable**Syntax*

```
protected ISDMPreferences preferences
```

*schema variable**Syntax*

```
protected ISDMODataSchema schema
```

*searchAlgorithm variable***Syntax**

```
protected int searchAlgorithm
```

*searchField variable***Syntax**

```
protected String searchField
```

*serviceDocument variable***Syntax**

```
protected ISDMODataServiceDocument serviceDocument
```

*SDMConnectivityException class*

Deprecated. since 3.0, Use com.sap.mobile.lib.request.ConnectivityException  
SDMconnectivityException is used in SDMConnectivity.

**Syntax**

```
public class SDMConnectivityException extends Exception
```

**Members**

All members of SDMConnectivityException, including inherited members. **Constructors**

Modifier and Type	Constructor	Description
public	<i>SDMConnectivityException()</i> on page 1402	Constructs a new SDMconnectivityException.
public	<i>SDMConnectivityException(String)</i> on page 1403	Constructs a new SDMconnectivityException.
public	<i>SDMConnectivityException(Throwable)</i> on page 1403	Constructs a new SDMconnectivityException.
public	<i>SDMConnectivityException(String, Throwable)</i> on page 1403	Constructs a new SDMconnectivityException.

*SDMConnectivityException() constructor*

Constructs a new SDMconnectivityException.

**Syntax**

```
public SDMConnectivityException ()
```

*SDMConnectivityException(String) constructor*

Constructs a new SDMconnectivityException.

*Syntax*

```
public SDMConnectivityException ( String detailMessage )
```

*Parameters*

- **detailMessage** – the message to set.

*SDMConnectivityException(Throwable) constructor*

Constructs a new SDMconnectivityException.

*Syntax*

```
public SDMConnectivityException ( Throwable throwable )
```

*Parameters*

- **throwable** – the Throwable to set.

*SDMConnectivityException(String, Throwable) constructor*

Constructs a new SDMconnectivityException.

*Syntax*

```
public SDMConnectivityException ( String detailMessage , Throwable throwable )
```

*Parameters*

- **detailMessage** – the message to set.
- **throwable** – the Throwable to set.

*SDMConnectivityParameters class*

Deprecated. since 3.0, Use com.sap.mobile.lib.request.ConnectivityParameters

*Syntax*

```
public class SDMConnectivityParameters extends  
ISDMConnectivityParameters
```

*Members*

All members of SDMConnectivityParameters, including inherited members. **Variables**

Modifier and Type	Variable	Description
public static Boolean	<i>autoredirectenabled</i> on page 1407	
public static Boolean	<i>isXsrfEnabled</i> on page 1408	

### Methods

Modifier and Type	Method	Description
public void	<i>enableXsrf(Boolean)</i> on page 1405	Sets the XSRFEnabled flag.
public String	<i>getBaseUrl()</i> on page 1405	
public String	<i>getLanguage()</i> on page 1405	Returns the language setting.
public final TrustManager[]	<i>getTrustManagers()</i> on page 1405	Returns an array filled with TrustManager instances.
public String	<i>getUserName()</i> on page 1406	Returns the username.
public String	<i>getUserPassword()</i> on page 1406	Returns the password.
public boolean	<i>isAutoRedirectEnabled()</i> on page 1406	Returns whether auto redirect is enabled.
public void	<i>setAutoRedirectEnabled(boolean)</i> on page 1406	Enables or disables auto redirect.
public void	<i>setBaseUrl(String)</i> on page 1406	Sets the base URL for requests.
public void	<i>setLanguage(final String)</i> on page 1407	
public void	<i>setServerCertificate(Certificate[])</i> on page 1407	
public void	<i>setServerCertificate(Certificate)</i> on page 1407	
public void	<i>setUserName(String)</i> on page 1407	Sets the username which must be used during authentication.
public void	<i>setUserPassword(String)</i> on page 1407	Sets the password.

### Inherited members from ISDMConnectivityParameters



Modifier and Type	Member	Description
public void	<i>setLanguage(String)</i> on page 1069	Sets the language used in connection.
public void	<i>setServerCertificate(final Certificate[])</i> on page 1069	Sets the server certificate.
public void	<i>setServerCertificate(final Certificate)</i> on page 1070	Sets a single server certificate.

***enableXsrf(Boolean) method***

Sets the XSRFEnabled flag.

***Syntax***

```
public void enableXsrf ( Boolean isXsrfEnabled )
```

***Parameters***

- **isXsrfEnabled** – the boolean to set.

***getBaseUrl() method******Syntax***

```
public String getBaseUrl ()
```

***Returns***

the base URL for the requests.

***getLanguage() method***

Returns the language setting.

***Syntax***

```
public String getLanguage ()
```

***Returns***

the language setting

***getTrustManagers() method***

Returns an array filled with TrustManager instances.

***Syntax***

```
public final TrustManager[] getTrustManagers ()
```

### *Returns*

the array.

### *getUserName() method*

Returns the username.

### *Syntax*

```
public String getUserName ()
```

### *Returns*

the user name.

### *getUserPassword() method*

Returns the password.

### *Syntax*

```
public String getUserPassword ()
```

### *Returns*

the password.

### *isAutoRedirectEnabled() method*

Returns whether auto redirect is enabled.

### *Syntax*

```
public boolean isAutoRedirectEnabled ()
```

### *setAutoRedirectEnabled(boolean) method*

Enables or disables auto redirect.

### *Syntax*

```
public void setAutoRedirectEnabled ( boolean paramboolean )
```

### *Parameters*

- **paramboolean** – the boolean to set

### *setBaseUrl(String) method*

Sets the base URL for requests.

### *Syntax*

```
public void setBaseUrl ( String baseUrl )
```

*Parameters*

- **baseUrl** –

*setLanguage(final String) method**Syntax*

```
public void setLanguage ( final String language )
```

*setServerCertificate(Certificate[]) method**Syntax*

```
public void setServerCertificate ( Certificate[] certificate ) throws  
KeyStoreException
```

*setServerCertificate(Certificate) method**Syntax*

```
public void setServerCertificate ( Certificate arg0 )
```

*setUserName(String) method*

Sets the username which must be used during authentication.

*Syntax*

```
public void setUserName ( String aUserName )
```

*Parameters*

- **aUserName** – the user name to set.

*setUserPassword(String) method*

Sets the password.

*Syntax*

```
public void setUserPassword ( String aPassword )
```

*Parameters*

- **aPassword** – the password to set.

*autoredirectenabled variable**Syntax*

```
public static Boolean autoredirectenabled
```

*isXcsrfEnabled* variable*Syntax*

```
public static Boolean isXcsrfEnabled
```

*SDMConstants* interface

Deprecated. since 3.0, Use com.sap.mobile.lib.configuration.Constants

*Syntax*

```
public interface SDMConstants
```

*Derived classes*

- *SDMPreferences* on page 1971

*Members*

All members of SDMConstants, including inherited members. **Variables**

Modifier and Type	Variable	Description
public static final boolean	<i>DEFAULT_BUSINESS_TRANSACTION_ENABLED</i> on page 1410	SAP Business Transaction XML enablement default setting.
public static final String	<i>DEFAULT_CIPHER_TRANSFORMATION</i> on page 1410	Default cipher transformation.
public static final int	<i>DEFAULT_CONNECTION_TIMEOUT</i> on page 1410	Default connection timeout.
public static final String	<i>DEFAULT_HANDLER_CLASS_NAME</i> on page 1410	Default handler class.
public static final int	<i>DEFAULT_HTTP_PORT</i> on page 1410	Default HTTP port.
public static final int	<i>DEFAULT_HTTPS_PORT</i> on page 1410	Default HTTPS port.
public static final int	<i>DEFAULT_LOG_LEVEL</i> on page 1410	Default log level.
public static final boolean	<i>DEFAULT_PERSISTENCE_BOOLEAN_SECUREMODE</i> on page 1411	Default security mode.

Modifier and Type	Variable	Description
public static final int	<i>DEFAULT_PERSISTENCE_BYTE_BUFFER_SIZE</i> on page 1411	Default buffer size.
public static final String	<i>DEFAULT_PROXY_HOST</i> on page 1411	Default proxy host.
public static final int	<i>DEFAULT_PROXY_PORT</i> on page 1411	Default proxy port.
public static final String	<i>DEFAULT_SAP_APPLICATIONID_HEADER_VALUE</i> on page 1411	Default application ID.
public static final boolean	<i>DEFAULT_SAPPASSPORT_ENABLED</i> on page 1411	SAP Passport enablement default setting.
public static final int	<i>DEFAULT_SEARCH_LIMIT</i> on page 1411	Default for maximum search results retrieved from cache.
public static final int	<i>DEFAULT_SOCKET_CONNECTION_TIMEOUT</i> on page 1412	Default socket connection timeout.
public static final int	<i>DEFAULT_STORE_CAPACITY</i> on page 1412	Default cache capacity.
public static final int	<i>MAX_PERSISTENCE_BYTE_BUFFER_SIZE</i> on page 1412	Maximum buffer size.
public static final int	<i>MAXIMUM_STORE_CAPACITY</i> on page 1412	Maximum cache capacity.
public static final int	<i>MIN_PERSISTENCE_BYTE_BUFFER_SIZE</i> on page 1412	Minimum buffer size.
public static final String	<i>SDM_HTTP_HANDLER_CLASS</i> on page 1412	Socket Connection handler class.
public static final String	<i>SDM_IMO_HANDLER_CLASS</i> on page 1412	IMO Connection handler class.
public static final String	<i>SDM_SHARED_PREFERENCES</i> on page 1413	Shared preferences.

***DEFAULT\_BUSINESSTRANSACTION\_ENABLED*** variable

SAP Business Transaction XML enablement default setting.

***Syntax***

```
public static final boolean  
DEFAULT_BUSINESSTRANSACTION_ENABLED
```

***DEFAULT\_CIPHER\_TRANSFORMATION*** variable

Default cipher transformation.

***Syntax***

```
public static final String DEFAULT_CIPHER_TRANSFORMATION
```

***DEFAULT\_CONNECTION\_TIMEOUT*** variable

Default connection timeout.

***Syntax***

```
public static final int DEFAULT_CONNECTION_TIMEOUT
```

***DEFAULT\_HANDLER\_CLASS\_NAME*** variable

Default handler class.

***Syntax***

```
public static final String DEFAULT_HANDLER_CLASS_NAME
```

***DEFAULT\_HTTP\_PORT*** variable

Default HTTP port.

***Syntax***

```
public static final int DEFAULT_HTTP_PORT
```

***DEFAULT\_HTTPS\_PORT*** variable

Default HTTPS port.

***Syntax***

```
public static final int DEFAULT_HTTPS_PORT
```

***DEFAULT\_LOG\_LEVEL*** variable

Default log level.

***Syntax***

```
public static final int DEFAULT_LOG_LEVEL
```

***DEFAULT\_PERSISTENCE\_BOOLEAN\_SECUREMODE*** variable

Default security mode.

***Syntax***

```
public static final boolean
DEFAULT_PERSISTENCE_BOOLEAN_SECUREMODE
```

***DEFAULT\_PERSISTENCE\_BYTE\_BUFFER\_SIZE*** variable

Default buffer size.

***Syntax***

```
public static final int DEFAULT_PERSISTENCE_BYTE_BUFFER_SIZE
```

***DEFAULT\_PROXY\_HOST*** variable

Default proxy host.

***Syntax***

```
public static final String DEFAULT_PROXY_HOST
```

***DEFAULT\_PROXY\_PORT*** variable

Default proxy port.

***Syntax***

```
public static final int DEFAULT_PROXY_PORT
```

***DEFAULT\_SAP\_APPLICATIONID\_HEADER\_VALUE*** variable

Default application ID.

***Syntax***

```
public static final String
DEFAULT_SAP_APPLICATIONID_HEADER_VALUE
```

***DEFAULT\_SAPPASSPORT\_ENABLED*** variable

SAP Passport enablement default setting.

***Syntax***

```
public static final boolean DEFAULT_SAPPASSPORT_ENABLED
```

***DEFAULT\_SEARCH\_LIMIT*** variable

Default for maximum search results retrieved from cache.

***Syntax***

```
public static final int DEFAULT_SEARCH_LIMIT
```

***DEFAULT\_SOCKET\_CONNECTION\_TIMEOUT variable***

Default socket connection timeout.

***Syntax***

```
public static final int DEFAULT_SOCKET_CONNECTION_TIMEOUT
```

***DEFAULT\_STORE\_CAPACITY variable***

Default cache capacity.

***Syntax***

```
public static final int DEFAULT_STORE_CAPACITY
```

***MAX\_PERSISTENCE\_BYTE\_BUFFER\_SIZE variable***

Maximum buffer size.

***Syntax***

```
public static final int MAX_PERSISTENCE_BYTE_BUFFER_SIZE
```

***MAXIMUM\_STORE\_CAPACITY variable***

Maximum cache capacity.

***Syntax***

```
public static final int MAXIMUM_STORE_CAPACITY
```

***MIN\_PERSISTENCE\_BYTE\_BUFFER\_SIZE variable***

Minimum buffer size.

***Syntax***

```
public static final int MIN_PERSISTENCE_BYTE_BUFFER_SIZE
```

***SDM\_HTTP\_HANDLER\_CLASS variable***

Socket Connection handler class.

***Syntax***

```
public static final String SDM_HTTP_HANDLER_CLASS
```

***SDM\_IMO\_HANDLER\_CLASS variable***

IMO Connection handler class.

***Syntax***

```
public static final String SDM_IMO_HANDLER_CLASS
```



*SDM\_SHARED\_PREFERENCES* variable

Shared preferences.

*Syntax*

```
public static final String SDM_SHARED_PREFERENCES
```

*SDMEncryptDecrypt* class*Syntax*

```
class SDMEncryptDecrypt
```

*Members*

All members of *SDMEncryptDecrypt*, including inherited members. **Variables**

Modifier and Type	Variable	Description
protected final int	<i>DECRYPT</i> on page 1414	
protected final int	<i>ENCRYPT</i> on page 1415	
protected Cipher	<i>mCipher</i> on page 1415	
protected ISDMLogger	<i>mLogger</i> on page 1415	
protected String	<i>mLogTag</i> on page 1415	
protected SecretKey	<i>mSecretKey</i> on page 1415	

**Constructors**

Modifier and Type	Constructor	Description
public	<i>SDMEncryptDecrypt(SecretKey, String, ISDMLogger)</i> on page 1414	Deprecated.

**Methods**

Modifier and Type	Method	Description
public InputStream	<i>decryptStream(InputStream)</i> on page 1414	Deprecated.
public OutputStream	<i>encryptStream(OutputStream)</i> on page 1414	Deprecated.
protected void	<i>initCipher(int)</i> on page 1414	

*SDMEncryptDecrypt(SecretKey, String, ISDMLogger) constructor [deprecated]*  
Deprecated.

**Syntax**

```
public SDMEncryptDecrypt ( SecretKey key , String cipherType ,  
ISDMLogger logger ) throws NoSuchAlgorithmException,  
NoSuchPaddingException, InvalidKeyException
```

**Usage**

Deprecated

*decryptStream(InputStream) method [deprecated]*

Deprecated.

**Syntax**

```
public InputStream decryptStream ( InputStream stream ) throws  
InvalidKeyException
```

**Usage**

Deprecated

*encryptStream(OutputStream) method [deprecated]*

Deprecated.

**Syntax**

```
public OutputStream encryptStream ( OutputStream stream ) throws  
InvalidKeyException
```

**Usage**

Deprecated

*initCipher(int) method*

**Syntax**

```
protected void initCipher ( int mode ) throws InvalidKeyException
```

*DECRYPT variable*

**Syntax**

```
protected final int DECRYPT
```

*ENCRYPT variable**Syntax*

```
protected final int ENCRYPT
```

*mCipher variable**Syntax*

```
protected Cipher mCipher
```

*mLogger variable**Syntax*

```
protected ISDMLogger mLogger
```

*mLogTag variable**Syntax*

```
protected String mLogTag
```

*mSecretKey variable**Syntax*

```
protected SecretKey mSecretKey
```

*SDMHttpChannelListeners class*

Deprecated. since 3.0, Use com.sap.mobile.lib.request.HttpChannelListeners

*Syntax*

```
public class SDMHttpChannelListeners
```

*SDMHttpChannelListeners.AuthenticationSchema class*

Deprecated. since 3.0, Use

com.sap.mobile.lib.request.HttpChannelListeners.AuthenticationSchema

*Syntax*

```
public class AuthenticationSchema
```

*Members*

All members of AuthenticationSchema, including inherited members. **Variables**

Modifier and Type	Variable	Description
public String	<i>realm</i> on page 1416	
public String	<i>schemaName</i> on page 1416	

**Methods**

Modifier and Type	Method	Description
public String	<i>getRealm()</i> on page 1416	
public String	<i>getSchemeName()</i> on page 1416	
public void	<i>processChallenge(ICredential, ISDMRequest)</i> on page 1416	

*getRealm() method***Syntax**

```
public String getRealm ()
```

*getSchemeName() method***Syntax**

```
public String getSchemeName ()
```

*processChallenge(ICredential, ISDMRequest) method***Syntax**

```
public void processChallenge ( ICredential credentials ,  
ISDMRequest request )
```

*realm variable***Syntax**

```
public String realm
```

*schemaName variable***Syntax**

```
public String schemaName
```

*SDMHttpChannelListeners.BasicCredetials class*

Deprecated. since 3.0, Use

`com.sap.mobile.lib.request.HttpChannelListeners.BasicCredetials`

**Syntax**

```
public class BasicCredetials extends ICredential
```

**Members**

All members of `BasicCredetials`, including inherited members. **Variables**

Modifier and Type	Variable	Description
public static String	<i>passwd</i> on page 1417	
public static String	<i>uName</i> on page 1418	

**Constructors**

Modifier and Type	Constructor	Description
public	<i>BasicCredetials(String, String)</i> on page 1417	

**Methods**

Modifier and Type	Method	Description
public Map< String, Object >	<i>getAuthHeader()</i> on page 1417	

*BasicCredetials(String, String) constructor***Syntax**

```
public BasicCredetials ( String username , String pwd )
```

*getAuthHeader() method***Syntax**

```
public Map< String, Object > getAuthHeader ()
```

*passwd variable***Syntax**

```
public static String passwd
```

*uName variable***Syntax**

```
public static String uName
```

***SDMHttpChannelListeners.CookieCredetials class***

Deprecated. since 3.0, Use com.sap.mobile.lib.request.HttpChannelListeners.ICredential

**Syntax**

```
public class CookieCredetials extends ICredential
```

**Members**

All members of CookieCredetials, including inherited members. **Variables**

Modifier and Type	Variable	Description
protected static Cookie	<i>cookieValue</i> on page 1418	

**Constructors**

Modifier and Type	Constructor	Description
public	<i>CookieCredetials(Cookie)</i> on page 1418	

**Methods**

Modifier and Type	Method	Description
public Map< String, Object >	<i>getAuthHeader()</i> on page 1418	

***CookieCredetials(Cookie) constructor*****Syntax**

```
public CookieCredetials ( Cookie cookie )
```

***getAuthHeader() method*****Syntax**

```
public Map< String, Object > getAuthHeader ()
```

***cookieValue variable*****Syntax**

```
protected static Cookie cookieValue
```

*SDMHttpChannelListeners.IAuthenticationChallengeListner interface*

Deprecated. since 3.0, Use

com.sap.mobile.lib.request.HttpChannelListeners.IAuthenticationChallengeListner

*Syntax*

```
public interface IAuthenticationChallengeListner
```

*Derived classes*

- *AuthenticationChallengeListener* on page 2003

*Members*

All members of IAuthenticationChallengeListner, including inherited members. **Methods**

Modifier and Type	Method	Description
public ICredential	<i>OnAuthenticationFailed(Authenticationschema, HttpResponse)</i> on page 1419	

*OnAuthenticationFailed(Authenticationschema, HttpResponse) method**Syntax*

```
public ICredential OnAuthenticationFailed
( Authenticationschema authScheme , HttpResponse response )
```

*SDMHttpChannelListeners.ICredential interface*

Deprecated. since 3.0, Use com.sap.mobile.lib.request.HttpChannelListeners.ICredential

*Syntax*

```
public interface ICredential
```

*Derived classes*

- *BasicCredetials* on page 1417
- *CookieCredetials* on page 1418

*Members*

All members of ICredential, including inherited members. **Methods**

Modifier and Type	Method	Description
public Map< String, Object >	<i>getAuthHeader()</i> on page 1420	

*getAuthHeader() method**Syntax*

```
public Map< String, Object > getAuthHeader ()
```

*SDMHttpChannelListeners.IMutualSSLChallengeListener interface*

Deprecated. since 3.0, Use

```
com.sap.mobile.lib.request.HttpChannelListeners.IMutualSSLChallengeListener
```

*Syntax*

```
public interface IMutualSSLChallengeListener
```

*Members*

All members of IMutualSSLChallengeListener, including inherited members. **Methods**

Modifier and Type	Method	Description
public HttpClientCertInfo	<i>getClientCertificate()</i> on page 1420	

*getClientCertificate() method**Syntax*

```
public HttpClientCertInfo getClientCertificate ()
```

*SDMHttpChannelListeners.ISSLChallengeListener interface*

Deprecated. since 3.0, Use

```
com.sap.mobile.lib.request.HttpChannelListeners.ISSLChallengeListener
```

*Syntax*

```
public interface ISSLChallengeListener
```

*Members*

All members of ISSLChallengeListener, including inherited members. **Methods**

Modifier and Type	Method	Description
public boolean	<i>isServerTrusted(X509Certificate[])</i> on page 1421	



*isServerTrusted(X509Certificate[]) method***Syntax**

```
public boolean isServerTrusted ( X509Certificate[]
    paramArrayOfX509Certificate )
```

**SDMLogger class**

Deprecated. since 3.0, Use com.sap.mobile.lib.supportability.Logger ISDMLogger implementation.

**Syntax**

```
public class SDMLogger extends ISDMLogger, ISDMPersistable
```

**Members**

All members of SDMLogger, including inherited members. **Variables**

Modifier and Type	Variable	Description
public static int	<i>e2eStep</i> on page 1442	
public static int	<i>passportTraceLevel</i> on page 1442	

**Constructors**

Modifier and Type	Constructor	Description
public	<i>SDMLogger()</i> on page 1426	Constructs a new SDMLogger, an ISDMLogger implementation.

**Methods**

Modifier and Type	Method	Description
public boolean	<i>canLog()</i> on page 1426	Implementer should override this method!
public void	<i>cleanUp(final int)</i> on page 1426	Deletes all entries weaker than the threshold priority.
public void	<i>d(final String, final String)</i> on page 1426	Sends a DEBUG log message.
public void	<i>d(final String, final String, final Throwable)</i> on page 1426	Sends a DEBUG log message and logs the exception.

Modifier and Type	Method	Description
public void	<i>d</i> ( <i>final String</i> , <i>final String</i> , <i>final String</i> ) on page 1427	Sends a DEBUG log message.
public void	<i>d</i> ( <i>final String</i> , <i>final String</i> , <i>final Throwable</i> , <i>final String</i> ) on page 1427	Sends a DEBUG log message and logs the exception.
public void	<i>e</i> ( <i>final String</i> , <i>final String</i> ) on page 1428	Sends an ERROR log message.
public void	<i>e</i> ( <i>final String</i> , <i>final String</i> , <i>final Throwable</i> ) on page 1428	Sends an ERROR log message and logs the exception.
public void	<i>e</i> ( <i>final String</i> , <i>final String</i> , <i>final String</i> ) on page 1428	Sends an ERROR log message.
public void	<i>e</i> ( <i>final String</i> , <i>final String</i> , <i>final Throwable</i> , <i>final String</i> ) on page 1429	Sends an ERROR log message and logs the exception.
public Enumeration< LogEntry >	<i>getLogElements</i> () on page 1429	
public Vector< LogEntry >	<i>getLogElements</i> ( <i>final int</i> ) on page 1429	Get the log elements above (and including) the threshold.
public Vector< LogEntry >	<i>getLogElementsByCorrelationId</i> ( <i>final String</i> ) on page 1430	
public Vector< LogEntry >	<i>getLogElementsByPID</i> ( <i>final long</i> ) on page 1430	
public Vector< LogEntry >	<i>getLogElementsByTag</i> ( <i>final String</i> ) on page 1430	
public Vector< LogEntry >	<i>getLogElementsByTimeStamp</i> ( <i>final long</i> , <i>final long</i> ) on page 1430	
public final int	<i>getLogLevel</i> () on page 1430	Returns the log level.
public void	<i>i</i> ( <i>final String</i> , <i>final String</i> ) on page 1430	Sends an INFO log message.
public void	<i>i</i> ( <i>final String</i> , <i>final String</i> , <i>final Throwable</i> ) on page 1431	Sends a INFO log message and logs the exception.

Modifier and Type	Method	Description
public void	<i>i(final String, final String, final String)</i> on page 1431	Sends an INFO log message.
public void	<i>i(final String, final String, final Throwable, final String)</i> on page 1431	Sends a INFO log message and logs the exception.
public void	<i>log(final int, final String, final String, final Throwable, String)</i> on page 1432	Logs a log message.
public void	<i>logFullLocation(boolean)</i> on page 1432	Setting to control log full location (class-path and method name).
public boolean	<i>logsFullLocation()</i> on page 1432	To get the setting which controls log output should contain full location (class and method name) or not.
public boolean	<i>logsToAndroid()</i> on page 1433	To get the setting which controls log output to Android log.
public void	<i>logToAndroid(final boolean)</i> on page 1433	Setting to control log output to Android log.
public void	<i>p(final String, final String)</i> on page 1433	Sends a PERFORMANCE log message.
public void	<i>p(final String, final String, final String)</i> on page 1433	Sends a PERFORMANCE log message.
public void	<i>read(BufferedReader)</i> on page 1434	
public void	<i>setHeaderData(final String, final String, final String, final String, final String, final String, final String, final String)</i> on page 1434	Sets the log header fields.
public void	<i>setLogLevel(final int)</i> on page 1435	Set the log level.
public void	<i>terminate()</i> on page 1435	Clears collected log data.
public synchronized String	<i>toString()</i> on page 1435	Get log data.

Modifier and Type	Method	Description
public void	<i>v</i> ( <i>final String</i> , <i>final String</i> ) on page 1435	Sends a VERBOSE log message.
public void	<i>v</i> ( <i>final String</i> , <i>final String</i> , <i>final Throwable</i> ) on page 1436	Sends a VERBOSE log message and logs the exception.
public void	<i>v</i> ( <i>final String</i> , <i>final String</i> , <i>final String</i> ) on page 1436	Sends a VERBOSE log message.
public void	<i>v</i> ( <i>final String</i> , <i>final String</i> , <i>final Throwable</i> , <i>final String</i> ) on page 1436	Sends a VERBOSE log message and logs the exception.
public void	<i>w</i> ( <i>final String</i> , <i>final Throwable</i> ) on page 1437	Sends a WARN log message and logs the exception.
public void	<i>w</i> ( <i>final String</i> , <i>final String</i> , <i>final Throwable</i> ) on page 1437	Sends a WARN log message and logs the exception.
public void	<i>w</i> ( <i>final String</i> , <i>final String</i> ) on page 1437	Sends a WARN log message.
public void	<i>w</i> ( <i>final String</i> , <i>final Throwable</i> , <i>final String</i> ) on page 1438	Sends a WARN log message and logs the exception.
public void	<i>w</i> ( <i>final String</i> , <i>final String</i> , <i>final String</i> ) on page 1438	Sends a WARN log message.
public void	<i>w</i> ( <i>final String</i> , <i>final String</i> , <i>final Throwable</i> , <i>final String</i> ) on page 1438	Sends a WARN log message and logs the exception.
public void	<i>write</i> ( <i>BufferedWriter</i> ) on page 1439	
public void	<i>wtf</i> ( <i>final String</i> , <i>final Throwable</i> ) on page 1439	Use com.sap.mobile.lib.supportability.ILogger#w(String, Throwable) What a Terrible Failure: Reports an exception that should never happen.
public void	<i>wtf</i> ( <i>final String</i> , <i>final String</i> ) on page 1440	Use com.sap.mobile.lib.supportability.ILogger#w(String, String) What a Terrible Failure: Reports a condition that should never happen.

Modifier and Type	Method	Description
public void	<i>wtf</i> ( <i>final String</i> , <i>final String</i> , <i>final Throwable</i> ) on page 1440	Use com.sap.mobile.lib.supportability.ILogger#w(String, String, Throwable) What a Terrible Failure: Reports an exception that should never happen.
public void	<i>wtf</i> ( <i>final String</i> , <i>final Throwable</i> , <i>final String</i> ) on page 1440	Use com.sap.mobile.lib.supportability.ILogger#w(String, Throwable, String) What a Terrible Failure: Reports an exception that should never happen.
public void	<i>wtf</i> ( <i>final String</i> , <i>final String</i> , <i>final String</i> ) on page 1441	Use com.sap.mobile.lib.supportability.ILogger#w(String, String, String) What a Terrible Failure: Reports a condition that should never happen.
public void	<i>wtf</i> ( <i>final String</i> , <i>final String</i> , <i>final Throwable</i> , <i>final String</i> ) on page 1441	Use com.sap.mobile.lib.supportability.ILogger#w(String, String, Throwable, String) What a Terrible Failure: Reports an exception that should never happen.

#### Inherited members from ISDMLLogger

Modifier and Type	Member	Description
public static final int	<i>ASSERT</i> on page 1089	Log level ASSERT.
public static final int	<i>DEBUG</i> on page 1089	Log level DEBUG.
public static final int	<i>ERROR</i> on page 1089	Log level ERROR.
public static final int	<i>FATAL</i> on page 1089	Log level FATAL.
public static final int	<i>INFO</i> on page 1089	Log level INFO.
public static final int	<i>PERFORMANCE</i> on page 1089	Log level PERFORMANCE.
public static final int	<i>VERBOSE</i> on page 1090	Log level VERBOSE.
public static final int	<i>WARN</i> on page 1090	Log level WARN.

### *SDMLogger() constructor*

Constructs a new SDMLogger, an ISDMLogger implementation.

#### *Syntax*

```
public SDMLogger ()
```

### *canLog() method*

Implementer should override this method!

#### *Syntax*

```
public boolean canLog ()
```

### *Returns*

State of ability to log.

### *cleanUp(final int) method*

Deletes all entries weaker than the threshold priority.

#### *Syntax*

```
public void cleanUp ( final int threshold )
```

### *d(final String, final String) method*

Sends a DEBUG log message.

#### *Syntax*

```
public void d ( final String tag , final String msg )
```

### *Parameters*

- **tag** – Used to identify the source of a log message. It usually identifies the class or activity where the log call occurs.
- **msg** – The message you would like to be logged.

### *Usage*

Logger implementation is able to identify the source of the log message at the price of performance penalty. See `SDMLogger#d(String,String,String)`

### *d(final String, final String, final Throwable) method*

Sends a DEBUG log message and logs the exception.

#### *Syntax*

```
public void d ( final String tag , final String msg , final  
Throwable tr )
```

### Parameters

- **tag** – Used to identify the source of a log message. It usually identifies the class or activity where the log call occurs.
- **msg** – The message you would like to be logged.
- **tr** – An exception to log

### Usage

Logger implementation is able to identify the source of the log message at the price of performance penalty. See `SDMLogger#d(String,String,Throwable,String)`

### *d(final String, final String, final String) method*

Sends a DEBUG log message.

### Syntax

```
public void d (final String tag , final String msg , final String
location )
```

### Parameters

- **tag** – Used to identify the source of a log message. It usually identifies the class or activity where the log call occurs.
- **msg** – The message you would like to be logged.
- **location** – The line-level location of the log source (full class name of the class).

### *d(final String, final String, final Throwable, final String) method*

Sends a DEBUG log message and logs the exception.

### Syntax

```
public void d (final String tag , final String msg , final
Throwable tr , final String location )
```

### Parameters

- **tag** – Used to identify the source of a log message. It usually identifies the class or activity where the log call occurs.
- **msg** – The message you would like to be logged.
- **tr** – An exception to log
- **location** – The line-level location of the log source (full class name of the class).

### *e(final String, final String) method*

Sends an ERROR log message.

#### *Syntax*

```
public void e ( final String tag , final String msg )
```

#### *Parameters*

- **tag** – Used to identify the source of a log message. It usually identifies the class or activity where the log call occurs.
- **msg** – The message you would like to be logged.

#### *Usage*

Logger implementation is able to identify the source of the log message at the price of performance penalty. See `SDMLogger#e(String,String,String)`

### *e(final String, final String, final Throwable) method*

Sends an ERROR log message and logs the exception.

#### *Syntax*

```
public void e ( final String tag , final String msg , final  
Throwable tr )
```

#### *Parameters*

- **tag** – Used to identify the source of a log message. It usually identifies the class or activity where the log call occurs.
- **msg** – The message you would like to be logged.
- **tr** – An exception to log

#### *Usage*

Logger implementation is able to identify the source of the log message at the price of performance penalty. See `SDMLogger#e(String,String,Throwable,String)`

### *e(final String, final String, final String) method*

Sends an ERROR log message.

#### *Syntax*

```
public void e ( final String tag , final String msg , final String  
location )
```



*Parameters*

- **tag** – Used to identify the source of a log message. It usually identifies the class or activity where the log call occurs.
- **msg** – The message you would like to be logged.
- **location** – The line-level location of the log source (full class name of the class).

*e(final String, final String, final Throwable, final String) method*

Sends an ERROR log message and logs the exception.

*Syntax*

```
public void e ( final String tag , final String msg , final
Throwable tr , final String location )
```

*Parameters*

- **tag** – Used to identify the source of a log message. It usually identifies the class or activity where the log call occurs.
- **msg** – The message you would like to be logged.
- **tr** – An exception to log
- **location** – The line-level location of the log source (full class name of the class).

*getLogElements() method**Syntax*

```
public Enumeration< LogEntry > getLogElements ()
```

*getLogElements(final int) method*

Get the log elements above (and including) the threshold.

*Syntax*

```
public Vector< LogEntry > getLogElements ( final int threshold )
```

*Parameters*

- **threshold** – the desired level (inclusively)

*Returns*

log elements as Vector

*getLogElementsByCorrelationId(final String) method*

*Syntax*

```
public Vector< LogEntry > getLogElementsByCorrelationId  
( final String correlationId )
```

*getLogElementsByPID(final long) method*

*Syntax*

```
public Vector< LogEntry > getLogElementsByPID ( final long  
PID )
```

*getLogElementsByTag(final String) method*

*Syntax*

```
public Vector< LogEntry > getLogElementsByTag ( final String  
aTag )
```

*getLogElementsByTimeStamp(final long, final long) method*

*Syntax*

```
public Vector< LogEntry > getLogElementsByTimeStamp ( final  
long start , final long end )
```

*getLogLevel() method*

Returns the log level.

*Syntax*

```
public final int getLogLevel ()
```

*Returns*

the log level.

*i(final String, final String) method*

Sends an INFO log message.

*Syntax*

```
public void i ( final String tag , final String msg )
```

*Parameters*

- **tag** – Used to identify the source of a log message. It usually identifies the class or activity where the log call occurs.

- **msg** – The message you would like to be logged.

### *Usage*

Logger implementation is able to identify the source of the log message at the price of performance penalty. See `SDMLogger#i(String,String,String)`

### *i(final String, final String, final Throwable) method*

Sends a INFO log message and logs the exception.

### *Syntax*

```
public void i ( final String tag , final String msg , final
Throwable tr )
```

### *Parameters*

- **tag** – Used to identify the source of a log message. It usually identifies the class or activity where the log call occurs.
- **msg** – The message you would like to be logged.
- **tr** – An exception to log

### *Usage*

Logger implementation is able to identify the source of the log message at the price of performance penalty. See `SDMLogger#i(String,String,Throwable,String)`

### *i(final String, final String, final String) method*

Sends an INFO log message.

### *Syntax*

```
public void i ( final String tag , final String msg , final String
location )
```

### *Parameters*

- **tag** – Used to identify the source of a log message. It usually identifies the class or activity where the log call occurs.
- **msg** – The message you would like to be logged.
- **location** – The line-level location of the log source (full class name of the class).

### *i(final String, final String, final Throwable, final String) method*

Sends a INFO log message and logs the exception.

### *Syntax*

```
public void i ( final String tag , final String msg , final
Throwable tr , final String location )
```

### *Parameters*

- **tag** – Used to identify the source of a log message. It usually identifies the class or activity where the log call occurs.
- **msg** – The message you would like to be logged.
- **tr** – An exception to log
- **location** – The line-level location of the log source (full class name of the class).

### *log(final int, final String, final String, final Throwable, String) method*

Logs a log message.

### *Syntax*

```
public void log ( final int level , final String tag , final String msg , final Throwable tr , String location )
```

### *Parameters*

- **level** – the log level
- **tag** – Used to identify the source of a log message. It usually identifies the class or activity where the log call occurs.
- **msg** – The message you would like to be logged.
- **tr** – An exception to log
- **location** – The line-level location of the log source (full class name of the class).

### *logFullLocation(boolean) method*

Setting to control log full location (class-path and method name).

### *Syntax*

```
public void logFullLocation ( boolean logFullLocation )
```

### *Parameters*

- **logFullLocation** – log i or do not log it.

### *logsFullLocation() method*

To get the setting which controls log output should contain full location (class and method name) or not.

### *Syntax*

```
public boolean logsFullLocation ()
```

### *Returns*

logging with full location or not.

*logsToAndroid()* method

To get the setting which controls log output to Android log.

*Syntax*

```
public boolean logsToAndroid ()
```

*Returns*

logging to Android log or not logging.

*logToAndroid(final boolean) method*

Setting to control log output to Android log.

*Syntax*

```
public void logToAndroid ( final boolean doIt )
```

*Parameters*

- **doIt** – log or do not log.

*p(final String, final String) method*

Sends a PERFORMANCE log message.

*Syntax*

```
public void p ( final String tag , final String msg )
```

*Parameters*

- **tag** – Used to identify the source of a log message. It usually identifies the class or activity where the log call occurs.
- **msg** – The message you would like to be logged.

*Usage*

Logger implementation is able to identify the source of the log message at the price of performance penalty. See `SDMLogger#p(String,String,String)`

*p(final String, final String, final String) method*

Sends a PERFORMANCE log message.

*Syntax*

```
public void p ( final String tag , final String msg , final String location )
```

### *Parameters*

- **tag** – Used to identify the source of a log message. It usually identifies the class or activity where the log call occurs.
- **msg** – The message you would like to be logged.
- **location** – The line-level location of the log source (full class name of the class).

### *read(BufferedReader) method*

#### *Syntax*

```
public void read (BufferedReader reader) throws  
SDMPersistenceException
```

### *Parameters*

- **reader** – The buffered reader to read the object from.

### *Exceptions*

- **SDMPersistenceException** – if data can not be loaded from the reader.

### *setHeaderData(final String, final String, final String, final String, final String, final String, final String, final String, final String) method*

Sets the log header fields.

#### *Syntax*

```
public void setHeaderData ( final String osVersion , final String  
appName , final String appVersion , final String thirdParty , final  
String hwVersion , final String user , final String timezone , final  
String language , final String baseUrl )
```

### *Parameters*

- **osVersion** – the Operating System version
- **appName** – the Application name
- **appVersion** – the version of the Application
- **thirdParty** – 3rd-party product versions (e.g. SQLite)
- **hwVersion** – the Hardware version
- **user** – the user name used in Connectivity (SDMConnectivity sets it)
- **timezone** – the time zone
- **language** – the language used in connectivity (SDMConnectivity sets it)
- **baseUrl** – the URL used in Connectivity (SDMconnectivity sets it)

*Usage*

A header field is set only if it is not *null*. Also, it is set only once; subsequent calls will not overwrite the first write.

*setLogLevel(final int) method*

Set the log level.

*Syntax*

```
public void setLogLevel ( final int level )
```

*Parameters*

- **level** – the log level

*terminate() method*

Clears collected log data.

*Syntax*

```
public void terminate ()
```

*toString() method*

Get log data.

*Syntax*

```
public synchronized String toString ()
```

*Returns*

log data as string

*v(final String, final String) method*

Sends a VERBOSE log message.

*Syntax*

```
public void v ( final String tag , final String msg )
```

*Parameters*

- **tag** – Used to identify the source of a log message. It usually identifies the class or activity where the log call occurs.
- **msg** – The message you would like to be logged.

*Usage*

Logger implementation is able to identify the source of the log message at the price of performance penalty. See `SDMLogger#v(String,String,String)`

*v(final String, final String, final Throwable) method*

Sends a VERBOSE log message and logs the exception.

### *Syntax*

```
public void v ( final String tag , final String msg , final
Throwable tr )
```

### *Parameters*

- **tag** – Used to identify the source of a log message. It usually identifies the class or activity where the log call occurs.
- **msg** – The message you would like to be logged.
- **tr** – An exception to log

### *Usage*

Logger implementation is able to identify the source of the log message at the price of performance penalty. See `SDMLogger#v(String,String,Throwable,String)`

*v(final String, final String, final String) method*

Sends a VERBOSE log message.

### *Syntax*

```
public void v ( final String tag , final String msg , final String
location )
```

### *Parameters*

- **tag** – Used to identify the source of a log message. It usually identifies the class or activity where the log call occurs.
- **msg** – The message you would like to be logged.
- **location** – The line-level location of the log source (full class name of the class).

*v(final String, final String, final Throwable, final String) method*

Sends a VERBOSE log message and logs the exception.

### *Syntax*

```
public void v ( final String tag , final String msg , final
Throwable tr , final String location )
```

### *Parameters*

- **tag** – Used to identify the source of a log message. It usually identifies the class or activity where the log call occurs.



- **msg** – The message you would like to be logged.
- **tr** – An exception to log
- **location** – The line-level location of the log source (full class name of the class).

*w(final String, final Throwable) method*

Sends a WARN log message and logs the exception.

*Syntax*

```
public void w ( final String tag , final Throwable tr )
```

*Parameters*

- **tag** – Used to identify the source of a log message. It usually identifies the class or activity where the log call occurs.
- **tr** – An exception to log

*Usage*

Logger implementation is able to identify the source of the log message at the price of performance penalty. See `SDMLogger#w(String,Throwable,String)`

*w(final String, final String, final Throwable) method*

Sends a WARN log message and logs the exception.

*Syntax*

```
public void w ( final String tag , final String msg , final
Throwable tr )
```

*Parameters*

- **tag** – Used to identify the source of a log message. It usually identifies the class or activity where the log call occurs.
- **msg** – The message you would like to be logged.
- **tr** – An exception to log

*Usage*

Logger implementation is able to identify the source of the log message at the price of performance penalty. See `SDMLogger#w(String,String,Throwable,String)`

*w(final String, final String) method*

Sends a WARN log message.

*Syntax*

```
public void w ( final String tag , final String msg )
```

### *Parameters*

- **tag** – Used to identify the source of a log message. It usually identifies the class or activity where the log call occurs.
- **msg** – The message you would like to be logged.

### *Usage*

Logger implementation is able to identify the source of the log message at the price of performance penalty. See `SDMLogger#w(String,String,String)`

### *w(final String, final Throwable, final String) method*

Sends a WARN log message and logs the exception.

### *Syntax*

```
public void w ( final String tag , final Throwable tr , final String location )
```

### *Parameters*

- **tag** – Used to identify the source of a log message. It usually identifies the class or activity where the log call occurs.
- **tr** – An exception to log
- **location** – The line-level location of the log source (full class name of the class).

### *w(final String, final String, final String) method*

Sends a WARN log message.

### *Syntax*

```
public void w ( final String tag , final String msg , final String location )
```

### *Parameters*

- **tag** – Used to identify the source of a log message. It usually identifies the class or activity where the log call occurs.
- **msg** – The message you would like to be logged.
- **location** – The line-level location of the log source (full class name of the class).

### *w(final String, final String, final Throwable, final String) method*

Sends a WARN log message and logs the exception.

### *Syntax*

```
public void w ( final String tag , final String msg , final Throwable tr , final String location )
```

*Parameters*

- **tag** – Used to identify the source of a log message. It usually identifies the class or activity where the log call occurs.
- **msg** – The message you would like to be logged.
- **tr** – An exception to log
- **location** – The line-level location of the log source (full class name of the class).

*write(BufferedWriter) method**Syntax*

```
public void write (BufferedWriter writer) throws
SDMPersistenceException
```

*Parameters*

- **writer** – The buffered writer that object data needs to be written into.

*Exceptions*

- **SDMPersistenceException** – if data can not be written into the writer

*wtf(final String, final Throwable) method*

Use `com.sap.mobile.lib.supportability.ILogger#w(String, Throwable)` What a Terrible Failure: Reports an exception that should never happen.

*Syntax*

```
public void wtf (final String tag , final Throwable tr)
```

*Parameters*

- **tag** – Used to identify the source of a log message. It usually identifies the class or activity where the log call occurs.
- **tr** – An exception to log

*Usage*

Similar to `wtf(String, final String)`, with an exception to log. Logger implementation is able to identify the source of the log message at the price of performance penalty. See `SDMLogger#wtf(String,Throwable,String)`

### *wtf(final String, final String) method*

Use `com.sap.mobile.lib.supportability.ILogger#w(String, String)` What a Terrible Failure: Reports a condition that should never happen.

#### *Syntax*

```
public void wtf ( final String tag , final String msg )
```

#### *Parameters*

- **tag** – Used to identify the source of a log message. It usually identifies the class or activity where the log call occurs.
- **msg** – The message you would like to be logged.

#### *Usage*

Logger implementation is able to identify the source of the log message at the price of performance penalty. See `SDMLogger#wtf(String,String,String)`

### *wtf(final String, final String, final Throwable) method*

Use `com.sap.mobile.lib.supportability.ILogger#w(String, String, Throwable)` What a Terrible Failure: Reports an exception that should never happen.

#### *Syntax*

```
public void wtf ( final String tag , final String msg , final  
Throwable tr )
```

#### *Parameters*

- **tag** – Used to identify the source of a log message. It usually identifies the class or activity where the log call occurs.
- **msg** – The message you would like to be logged.
- **tr** – An exception to log

#### *Usage*

Similar to `wtf(finalString, Throwable)`, also with a message. Logger implementation is able to identify the source of the log message at the price of performance penalty. See `SDMLogger#wtf(String,String,Throwable,String)`

### *wtf(final String, final Throwable, final String) method*

Use `com.sap.mobile.lib.supportability.ILogger#w(String, Throwable, String)` What a Terrible Failure: Reports an exception that should never happen.

#### *Syntax*

```
public void wtf ( final String tag , final Throwable tr , final  
String location )
```

### Parameters

- **tag** – Used to identify the source of a log message. It usually identifies the class or activity where the log call occurs.
- **tr** – An exception to log
- **location** – The line-level location of the log source (full class name of the class).

### Usage

Similar to `wtf(String, final String)`, with an exception to log.

#### *wtf(final String, final String, final String) method*

Use `com.sap.mobile.lib.supportability.ILogger#w(String, String, String)` What a Terrible Failure: Reports a condition that should never happen.

### Syntax

```
public void wtf ( final String tag , final String msg , final String location )
```

### Parameters

- **tag** – Used to identify the source of a log message. It usually identifies the class or activity where the log call occurs.
- **msg** – The message you would like to be logged.
- **location** – The line-level location of the log source (full class name of the class).

#### *wtf(final String, final String, final Throwable, final String) method*

Use `com.sap.mobile.lib.supportability.ILogger#w(String, String, Throwable, String)` What a Terrible Failure: Reports an exception that should never happen.

### Syntax

```
public void wtf ( final String tag , final String msg , final Throwable tr , final String location )
```

### Parameters

- **tag** – Used to identify the source of a log message. It usually identifies the class or activity where the log call occurs.
- **msg** – The message you would like to be logged.
- **tr** – An exception to log
- **location** – The line-level location of the log source (full class name of the class).

### Usage

Similar to `wtf(finalString, Throwable)`, also with a message.

*e2eStep variable*

*Syntax*

```
public static int e2eStep
```

*passportTraceLevel variable*

*Syntax*

```
public static int passportTraceLevel
```

*SDMODataAssociation class*

Deprecated. since 3.0, Use ODataAssociation

*Syntax*

```
public class SDMODataAssociation extends SDMParserDocument,
ISDMODataAssociation
```

*Derived classes*

- *SDMODataAssociationSet* on page 1468

*Members*

All members of SDMODataAssociation, including inherited members. **Constructors**

Modifier and Type	Constructor	Description
public	<i>SDMODataAssociation()</i> on page 1456	
public	<i>SDMODataAssociation(SDMParserDocument)</i> on page 1456	
protected	<i>SDMODataAssociation(int[], String[])</i> on page 1457	
protected	<i>SDMODataAssociation(String)</i> on page 1457	

**Methods**

Modifier and Type	Method	Description
public ISDMODataAssociationEnd	<i>getAssociationEnd(String)</i> on page 1457	Returns the value of the appropriate Association End SDMOData element with the given role.
public List< ISDMODataAssociationEnd >	<i>getAssociationEnds()</i> on page 1457	Returns list of the appropriate SDMOData elements.
public String	<i>getName()</i> on page 1457	Returns the value of the appropriate SDMOData attribute.

### Inherited members from SDMParserDocument

Modifier and Type	Member	Description
static transient final String	<i>ANY_STRING</i> on page 1953	
static transient final int	<i>ATTRIBUTE_ID</i> on page 1953	
static transient final String	<i>ATTRIBUTE_STRING</i> on page 1954	
public SDMParserDocument	<i>clone()</i> on page 1936	Creates a copy of this object.
protected Map< String, String >	<i>extensions</i> on page 1954	
public String	<i>getAttribute(String...)</i> on page 1936	Returns the value of the first attribute with the given route.
public List< String >	<i>getAttributes(String...)</i> on page 1937	Returns all the values of attributes with the given route.
protected int	<i>getAttributesEndPosition(int[], int, int)</i> on page 1937	
public Map< String, String >	<i>getChildAttributeMap(String...)</i> on page 1937	Returns all the name-value pairs of attributes contained by the element with the given route.
public List< String >	<i>getChildAttributes(String...)</i> on page 1938	Returns all the values of attributes contained by the element with the given route.
public List< ISDMParserDocument >	<i>getChildDocuments(String...)</i> on page 1938	Returns the elements contained by the element with the given route.

Modifier and Type	Member	Description
public List< ISDMParserDocument >	<i>getChildDocumentsWithAttribute(String, String, String...)</i> on page 1938	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public List< ISDMParserDocument >	<i>getChildDocumentsWithAttribute(String, String, boolean, String...)</i> on page 1939	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public SDMParserDocument	<i>getDocument(String...)</i> on page 1939	Returns the first element with the given route.
protected List< int[] >	<i>getDocumentPositions(String[], int, boolean, boolean)</i> on page 1940	
public List< ISDMParserDocument >	<i>getDocuments(String...)</i> on page 1940	Returns all the elements with the given route.
public List< ISDMParserDocument >	<i>getDocumentsWithAttribute(String, String, String...)</i> on page 1940	Returns the elements with the given route that contains the given attribute with the given value.
public List< ISDMParserDocument >	<i>getDocumentsWithAttribute(String, String, boolean, String...)</i> on page 1941	Returns the elements with the given route that contains the given attribute with the given value.
public ISDMParserDocument	<i>getDocumentWithAttribute(String, String, String...)</i> on page 1941	Returns the first element with the given route that contains the given attribute with the given value.
public ISDMParserDocument	<i>getDocumentWithAttribute(String, String, boolean, String...)</i> on page 1942	Returns the first element with the given route that contains the given attribute with the given value.
public String	<i>getElementName()</i> on page 1942	Returns The name of the root element of this document.
public String	<i>getExtension(String)</i> on page 1943	



Modifier and Type	Member	Description
public String	<i>getFunctionImportComplexProperty Value(String...)</i> on page 1943	
static int	<i>getNameId(String, boolean, boolean)</i> on page 1943	
public static List< String >	<i>getNameMap()</i> on page 1943	
public static String	<i>getPrefix(String)</i> on page 1943	
public String	<i>getPrefixForUri(String)</i> on page 1943	Returns the appropriate namespace prefix for the given XML name-space URI.
public static Map< String, String >	<i>getPrefixMapping()</i> on page 1944	
protected List< Integer >	<i>getStringPositions(String[], int, boolean, boolean)</i> on page 1944	
public String[]	<i>getStrings()</i> on page 1944	Returns all the string values contained by this document.
public String	<i>getValue(String...)</i> on page 1944	Returns the value of the first element with the given route.
public List< String >	<i>getValues(String...)</i> on page 1944	Returns all the values of elements with the given route.
protected int[]	<i>insertRoutePositions(int[], int, int[])</i> on page 1945	
protected void	<i>insertRoutesPositions(int, int[])</i> on page 1945	
protected void	<i>insertStringsPositions(int, String[])</i> on page 1945	
protected String[]	<i>insertStringsPositions(String[], int, String[])</i> on page 1945	
boolean	<i>isComplexEntity</i> on page 1954	
boolean	<i>isJson</i> on page 1954	

Modifier and Type	Member	Description
protected boolean	<i>isMatched(String, String)</i> on page 1945	
static transient List< String >	<i>nameMap</i> on page 1954	
static transient Map< String, String >	<i>prefixMapping</i> on page 1954	
public void	<i>putAttribute(String, String...)</i> on page 1946	Sets the value of the attribute with the given route If attribute does not exist it will be created as well as all other non existing elements in the route.
public void	<i>putDocument(ISDMParserDocument, String...)</i> on page 1946	Insert the document under the element with the given route inserted document will be placed before already existing documents with the same route name under All missing elements from the route will be created.
public void	<i>putExtension(String, String)</i> on page 1946	
protected void	<i>putString(int, String, int, String...)</i> on page 1947	
public void	<i>putValue(String, String...)</i> on page 1947	Sets the value of the first element with the given route.
public void	<i>read(BufferedReader)</i> on page 1947	
public static void	<i>readNameMap(BufferedReader)</i> on page 1947	
public boolean	<i>removeAttribute(String...)</i> on page 1948	Removes first element with the given route.
public boolean	<i>removeAttributes(String...)</i> on page 1948	Removes all the attribute with the given route.
public boolean	<i>removeDocument(String...)</i> on page 1948	Removes first element with the given route For removing multiple element use setDocuemtns with null arguments.

Modifier and Type	Member	Description
public void	<i>removeExtension(String)</i> on page 1948	
protected void	<i>removeRoutesPositions(int, int)</i> on page 1949	
protected int[]	<i>removeRoutesPositions(int[], int, int)</i> on page 1949	
protected boolean	<i>removeString(String...)</i> on page 1949	
protected boolean	<i>removeStrings(String...)</i> on page 1949	
protected void	<i>removeStringsPositions(int, int)</i> on page 1949	
protected String[]	<i>removeStringsPositions(String[], int, int)</i> on page 1949	
protected int	<i>replaceRoutesPositions(int, int, int[])</i> on page 1949	
protected int[]	<i>replaceRoutesPositions(int[], int, int, int[])</i> on page 1950	
protected int	<i>replaceStringsPositions(int, int, String[])</i> on page 1950	
protected String[]	<i>replaceStringsPositions(String[], int, int, String[])</i> on page 1950	
public static String	<i>resolveUrl(String, String)</i> on page 1950	
protected int[]	<i>routes</i> on page 1954	
	<i>SDMParserDocument()</i> on page 1935	
	<i>SDMParserDocument(boolean)</i> on page 1936	
public	<i>SDMParserDocument(String)</i> on page 1935	

Modifier and Type	Member	Description
public	<i>SDMParserDocument(SDMParserDocument)</i> on page 1935	
protected	<i>SDMParserDocument(int[], String[])</i> on page 1936	
protected	<i>SDMParserDocument(String, boolean)</i> on page 1936	
public void	<i>setAttribute(String, String...)</i> on page 1950	
public void	<i>setAttributes(List&lt;String&gt;, String...)</i> on page 1950	Sets all the values of the attributes with the given route Values will be paired to attributes in order Attributes with greater or equals index than size of new values will be untouched Attributes paired with null values will be removed.
public boolean	<i>setDocument(ISDMParserDocument, String...)</i> on page 1951	
public void	<i>setDocuments(List&lt;ISDMParserDocument&gt;, String...)</i> on page 1951	Replaces all the elements with the given route Documents will be paired to elements in order Elements with greater or equals index than size of new elements will be untouched Element paired with null will be removed.
public void	<i>setElementName(String, String...)</i> on page 1951	Sets the name of the root element with the given route Use empty route for setting root name of this document.
public static void	<i>setNameMap(List&lt;String&gt;)</i> on page 1952	
public static void	<i>setPrefixMapping(Map&lt;String, String&gt;)</i> on page 1952	

Modifier and Type	Member	Description
protected void	<i>setString(String, String...)</i> on page 1952	
protected void	<i>setStrings(List&lt; String &gt;, String...)</i> on page 1952	
public void	<i>setValue(String, String...)</i> on page 1952	
public void	<i>setValues(List&lt; String &gt;, String...)</i> on page 1952	Sets all the values of the elements with the given route values will be paired to elements in order Elements with greater or equals index than size of new values will be untouched Null values will be treated as empty strings.
protected String[]	<i>strings</i> on page 1954	
public String	<i>toXMLString()</i> on page 1953	Returns the XML string representation of this object.
protected static final String	<i>URL_PROTOCOL_PREFIX</i> on page 1955	
static transient final int	<i>VALUE_ID</i> on page 1955	
static transient final String	<i>VALUE_STRING</i> on page 1955	
public void	<i>write(BufferedWriter)</i> on page 1953	
public static void	<i>writeNameMap(BufferedWriter)</i> on page 1953	

#### Inherited members from ISDMParserDocument

Modifier and Type	Member	Description
public static final String	<i>ATTRIBUTE_ETAG</i> on page 1329	Name of the appropriate SDMOData element.
public static final String	<i>ATTRIBUTE_VALUEPREFIX_EDMTYPE</i> on page 1329	Value prefix for EDM Type type values.

Modifier and Type	Member	Description
public static Map< String, String >	<i>DEFAULT_PREFIXMAP-PING</i> on page 1329	The default XML Namespace-to-Prefix mapping used for building XMLS.
public static final String[]	<i>EDMDATETIME_PATTERNS</i> on page 1329	Possible EDM DateTime patterns Note: Some pattern are not supported by OData specification but still widely used.
public static final String[]	<i>EDMDATETIMEOFFSET_PATTERNS</i> on page 1329	Possible EDM TimeOffset patterns Note: Some pattern are not supported by OData specification but still widely used.
public static final String	<i>EDMTIME_PATTERN</i> on page 1329	EDM Time pattern.
public static String	<i>ELEMENT_FEED</i> on page 1329	Name of the appropriate SDMOData element.
public static final String	<i>ELEMENT_ID</i> on page 1330	Name of the appropriate SDMOData element.
public static final String	<i>ROOT_DOCUMENT_NAME</i> on page 1330	The default root element name for a new document.
public static final String	<i>XMLNS_APPLICATION_URI</i> on page 1330	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/08/dataservices">http://schemas.microsoft.com/ado/2007/08/dataservices</a> .
public static final String	<i>XMLNS_ATOM_URI</i> on page 1330	Constant for XMLNS URI: <a href="http://www.w3.org/2005/Atom">http://www.w3.org/2005/Atom</a> .
public static final String	<i>XMLNS_DATASERVICES_URI</i> on page 1330	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/08/dataservices">http://schemas.microsoft.com/ado/2007/08/dataservices</a> .
public static final String	<i>XMLNS_EDM_URI</i> on page 1330	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/05/edm">http://schemas.microsoft.com/ado/2007/05/edm</a> .
public static final String	<i>XMLNS_EDMX_URI</i> on page 1330	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/06/edmx">http://schemas.microsoft.com/ado/2007/06/edmx</a> .

Modifier and Type	Member	Description
public static final String	<i>XMLNS_GENERICPLAYER_URI</i> on page 1331	Constant for XMLNS URI: <a href="http://www.sap.com/Protocols/SAPData/GenericPlayer">http://www.sap.com/Protocols/SAPData/GenericPlayer</a> .
public static final String	<i>XMLNS_METADATA_URI</i> on page 1331	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/08/dataservices/metadata">http://schemas.microsoft.com/ado/2007/08/dataservices/metadata</a> .
public static final String	<i>XMLNS_SAP_URI</i> on page 1331	Constant for XMLNS URI: <a href="http://www.sap.com/Protocols/SAPData">http://www.sap.com/Protocols/SAPData</a> .

#### Inherited members from ISDMPersistable

Modifier and Type	Member	Description
public void	<i>read(BufferedReader)</i> on page 1332	
public void	<i>write(BufferedWriter)</i> on page 1332	

#### Inherited members from ISDMODataAssociation

Modifier and Type	Member	Description
public static final String	<i>ATTRIBUTE_ASSOCIATION</i> on page 1098	Name of the appropriate SDMODData attribute.
public static final String	<i>ATTRIBUTE_NAME</i> on page 1098	Name of the appropriate SDMODData attribute.
public static final String	<i>ELEMENT_ASSOCIATION</i> on page 1098	Name of the appropriate SDMODData element.
public static final String	<i>ELEMENT_ASSOCIATIONEND</i> on page 1099	Name of the appropriate SDMODData element.

#### Inherited members from ISDMParserDocument

Modifier and Type	Member	Description
public static final String	<i>ATTRIBUTE_ETAG</i> on page 1329	Name of the appropriate SDMODData element.

Modifier and Type	Member	Description
public static final String	<i>ATTRIBUTE_VALUEPREFIX_EDMTYPE</i> on page 1329	Value prefix for EDM Type type values.
public abstract ISDMParseDocument	<i>clone()</i> on page 1317	Creates a copy of this object.
public static Map< String, String >	<i>DEFAULT_PREFIXMAPPING</i> on page 1329	The default XML Namespace-to-Prefix mapping used for building XMLS.
public static final String[]	<i>EDMDATETIME_PATTERNS</i> on page 1329	Possible EDM DateTime patterns Note: Some pattern are not supported by OData specification but still widely used.
public static final String[]	<i>EDMDATETIMEOFFSET_PATTERNS</i> on page 1329	Possible EDM TimeOffset patterns Note: Some pattern are not supported by OData specification but still widely used.
public static final String	<i>EDMTIME_PATTERN</i> on page 1329	EDM Time pattern.
public static String	<i>ELEMENT_FEED</i> on page 1329	Name of the appropriate SDMOData element.
public static final String	<i>ELEMENT_ID</i> on page 1330	Name of the appropriate SDMOData element.
public abstract String	<i>getAttribute(String...)</i> on page 1317	Returns the value of the first attribute with the given route.
public abstract List< String >	<i>getAttributes(String...)</i> on page 1317	Returns all the values of attributes with the given route.
public abstract Map< String, String >	<i>getChildAttributeMap(String...)</i> on page 1318	Returns all the name-value pairs of attributes contained by the element with the given route.
public abstract List< String >	<i>getChildAttributes(String...)</i> on page 1318	Returns all the values of attributes contained by the element with the given route.
public abstract List< ISDMParseDocument >	<i>getChildDocuments(String...)</i> on page 1318	Returns the elements contained by the element with the given route.



Modifier and Type	Member	Description
public abstract List< ISDMParseDocument >	<i>getChildDocumentsWithAttribute(String, String, String...)</i> on page 1319	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public abstract List< ISDMParseDocument >	<i>getChildDocumentsWithAttribute(String, String, boolean, String...)</i> on page 1319	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public abstract ISDMParseDocument	<i>getDocument(String...)</i> on page 1320	Returns the first element with the given route.
public abstract List< ISDMParseDocument >	<i>getDocuments(String...)</i> on page 1320	Returns all the elements with the given route.
public abstract List< ISDMParseDocument >	<i>getDocumentsWithAttribute(String, String, String...)</i> on page 1321	Returns the elements with the given route that contains the given attribute with the given value.
public abstract List< ISDMParseDocument >	<i>getDocumentsWithAttribute(String, String, boolean, String...)</i> on page 1321	Returns the elements with the given route that contains the given attribute with the given value.
public abstract ISDMParseDocument	<i>getDocumentWithAttribute(String, String, String...)</i> on page 1322	Returns the first element with the given route that contains the given attribute with the given value.
public abstract ISDMParseDocument	<i>getDocumentWithAttribute(String, String, boolean, String...)</i> on page 1322	Returns the first element with the given route that contains the given attribute with the given value.
public abstract String	<i>getElementName()</i> on page 1323	Returns The name of the root element of this document.
public abstract String	<i>getFunctionImportComplexPropertyValue(String...)</i> on page 1323	
public abstract String	<i>getPrefixForUri(String)</i> on page 1323	Returns the appropriate namespace prefix for the given XML name-space URI.

Modifier and Type	Member	Description
public abstract String[]	<i>getStrings()</i> on page 1324	Returns all the string values contained by this document.
public abstract String	<i>getValue(String...)</i> on page 1324	Returns the value of the first element with the given route.
public abstract List< String >	<i>getValues(String...)</i> on page 1324	Returns all the values of elements with the given route.
public abstract void	<i>putAttribute(String, String...)</i> on page 1325	Sets the value of the attribute with the given route If attribute does not exist it will be created as well as all other non existing elements in the route.
public abstract void	<i>putDocument(ISDMParserDocument, String...)</i> on page 1325	Insert the document under the element with the given route inserted document will be placed before already existing documents with the same route name under All missing elements from the route will be created.
public abstract void	<i>putValue(String, String...)</i> on page 1325	Sets the value of the first element with the given route.
public abstract boolean	<i>removeAttribute(String...)</i> on page 1326	Removes first element with the given route.
public abstract boolean	<i>removeAttributes(String...)</i> on page 1326	Removes all the attribute with the given route.
public abstract boolean	<i>removeDocument(String...)</i> on page 1326	Removes first element with the given route For removing multiple element use setDocuemtns with null arguments.
public static final String	<i>ROOT_DOCUMENT_NAME</i> on page 1330	The default root element name for a new document.

Modifier and Type	Member	Description
public abstract void	<i>setAttributes(List&lt; String &gt;, String...)</i> on page 1327	Sets all the values of the attributes with the given route Values will be paired to attributes in order Attributes with greater or equals index than size of new values will be untouched Attributes paired with null values will be removed.
public abstract void	<i>setDocuments(List&lt; ISDMParserDocument &gt;, String...)</i> on page 1327	Replaces all the elements with the given route Documents will be paired to elements in order Elements with greater or equals index than size of new elements will be untouched Element paired with null will be removed.
public abstract void	<i>setElementName(String, String...)</i> on page 1328	Sets the name of the root element with the given route Use empty route for setting root name of this document.
public abstract void	<i>setValues(List&lt; String &gt;, String...)</i> on page 1328	Sets all the values of the elements with the given rout Values will be paired to elements in order Elements with greater or equals index than size of new values will be untouched Null values will be treated as empty strings.
public abstract String	<i>toXMLString()</i> on page 1328	Returns the XML string representation of this object.
public static final String	<i>XMLNS_APPLICATION_URI</i> on page 1330	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/08/dataservices">http://schemas.microsoft.com/ado/2007/08/dataservices</a> .
public static final String	<i>XMLNS_ATOM_URI</i> on page 1330	Constant for XMLNS URI: <a href="http://www.w3.org/2005/Atom">http://www.w3.org/2005/Atom</a> .

Modifier and Type	Member	Description
public static final String	<i>XMLNS_DATASERVICES_URI</i> on page 1330	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/08/dataservices">http://schemas.microsoft.com/ado/2007/08/dataservices</a> .
public static final String	<i>XMLNS_EDM_URI</i> on page 1330	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/05/edm">http://schemas.microsoft.com/ado/2007/05/edm</a> .
public static final String	<i>XMLNS_EDMX_URI</i> on page 1330	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/06/edmx">http://schemas.microsoft.com/ado/2007/06/edmx</a> .
public static final String	<i>XMLNS_GENERICPLAYER_URI</i> on page 1331	Constant for XMLNS URI: <a href="http://www.sap.com/Protocols/SAPData/GenericPlayer">http://www.sap.com/Protocols/SAPData/GenericPlayer</a> .
public static final String	<i>XMLNS_METADATA_URI</i> on page 1331	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/08/dataservices/metadata">http://schemas.microsoft.com/ado/2007/08/dataservices/metadata</a> .
public static final String	<i>XMLNS_SAP_URI</i> on page 1331	Constant for XMLNS URI: <a href="http://www.sap.com/Protocols/SAPData">http://www.sap.com/Protocols/SAPData</a> .

#### Inherited members from ISDMPersistable

Modifier and Type	Member	Description
public void	<i>read(BufferedReader)</i> on page 1332	
public void	<i>write(BufferedWriter)</i> on page 1332	

#### *SDMODataAssociation()* constructor

##### Syntax

```
public SDMODataAssociation ()
```

#### *SDMODataAssociation(SDMParserDocument)* constructor

##### Syntax

```
public SDMODataAssociation ( SDMParserDocument document )
```

*SDMODataAssociation(int[], String[]) constructor**Syntax*

```
protected   SDMODataAssociation ( int[] routes , String[] values )
```

*SDMODataAssociation(String) constructor**Syntax*

```
protected   SDMODataAssociation ( String elementAssociationset )
```

*getAssociationEnd(String) method*

Returns the value of the appropriate Association End SDMOData element with the given role.

*Syntax*

```
public   ISDMODataAssociationEnd   getAssociationEnd ( String
role )
```

*Parameters*

- **role** – The expected value of the appropriate SDMOData attribute

*Returns*

the value of the appropriate Association End SDMOData element

*getAssociationEnds() method*

Returns list of the appropriate SDMOData elements.

*Syntax*

```
public   List< ISDMODataAssociationEnd >   getAssociationEnds ( )
```

*Returns*

list of the appropriate SDMOData elements

*getName() method*

Returns the value of the appropriate SDMOData attribute.

*Syntax*

```
public   String   getName ( )
```

*Returns*

the value of the appropriate SDMOData attribute

*SDMODataAssociation.SDMODataAssociationEnd* class

Deprecated. since 3.0, Use ODataAssociationEnd

**Syntax**

```
public class SDMODataAssociationEnd extends SDMParserDocument,
ISDMODataAssociationEnd
```

**Members**

All members of SDMODataAssociationEnd, including inherited members. **Constructors**

Modifier and Type	Constructor	Description
public	<i>SDMODataAssociationEnd()</i> on page 1467	
public	<i>SDMODataAssociationEnd(SDMParserDocument)</i> on page 1467	
protected	<i>SDMODataAssociationEnd(int[], String[])</i> on page 1467	

**Methods**

Modifier and Type	Method	Description
public String	<i>getCollectionId()</i> on page 1468	
public String	<i>getEntitySet()</i> on page 1468	
public String	<i>getMultiplicity()</i> on page 1468	
public String	<i>getRole()</i> on page 1468	
public String	<i>getType()</i> on page 1468	

**Inherited members from SDMParserDocument**

Modifier and Type	Member	Description
static transient final String	<i>ANY_STRING</i> on page 1953	
static transient final int	<i>ATTRIBUTE_ID</i> on page 1953	

Modifier and Type	Member	Description
static transient final String	<i>ATTRIBUTE_STRING</i> on page 1954	
public SDMParserDocument	<i>clone()</i> on page 1936	Creates a copy of this object.
protected Map< String, String >	<i>extensions</i> on page 1954	
public String	<i>getAttribute(String...)</i> on page 1936	Returns the value of the first attribute with the given route.
public List< String >	<i>getAttributes(String...)</i> on page 1937	Returns all the values of attributes with the given route.
protected int	<i>getAttributesEndPosition(int[], int, int)</i> on page 1937	
public Map< String, String >	<i>getChildAttributeMap(String...)</i> on page 1937	Returns all the name-value pairs of attributes contained by the element with the given route.
public List< String >	<i>getChildAttributes(String...)</i> on page 1938	Returns all the values of attributes contained by the element with the given route.
public List< ISDMParserDocument >	<i>getChildDocuments(String...)</i> on page 1938	Returns the elements contained by the element with the given route.
public List< ISDMParserDocument >	<i>getChildDocumentsWithAttribute(String, String, String...)</i> on page 1938	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public List< ISDMParserDocument >	<i>getChildDocumentsWithAttribute(String, String, boolean, String...)</i> on page 1939	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public SDMParserDocument	<i>getDocument(String...)</i> on page 1939	Returns the first element with the given route.
protected List< int[] >	<i>getDocumentPositions(String[], int, boolean, boolean)</i> on page 1940	
public List< ISDMParserDocument >	<i>getDocuments(String...)</i> on page 1940	Returns all the elements with the given route.

Modifier and Type	Member	Description
public List< ISDMParserDocument >	<i>getDocumentsWithAttribute(String, String, String...)</i> on page 1940	Returns the elements with the given route that contains the given attribute with the given value.
public List< ISDMParserDocument >	<i>getDocumentsWithAttribute(String, String, boolean, String...)</i> on page 1941	Returns the elements with the given route that contains the given attribute with the given value.
public ISDMParserDocument	<i>getDocumentWithAttribute(String, String, String...)</i> on page 1941	Returns the first element with the given route that contains the given attribute with the given value.
public ISDMParserDocument	<i>getDocumentWithAttribute(String, String, boolean, String...)</i> on page 1942	Returns the first element with the given route that contains the given attribute with the given value.
public String	<i>getElementName()</i> on page 1942	Returns The name of the root element of this document.
public String	<i>getExtension(String)</i> on page 1943	
public String	<i>getFunctionImportComplexProperty Value(String...)</i> on page 1943	
static int	<i>getNameId(String, boolean, boolean)</i> on page 1943	
public static List< String >	<i>getNameMap()</i> on page 1943	
public static String	<i>getPrefix(String)</i> on page 1943	
public String	<i>getPrefixForUri(String)</i> on page 1943	Returns the appropriate namespace prefix for the given XML name-space URI.
public static Map< String, String >	<i>getPrefixMapping()</i> on page 1944	



Modifier and Type	Member	Description
protected List< Integer >	<i>getStringPositions(String[], int, boolean, boolean)</i> on page 1944	
public String[]	<i>getStrings()</i> on page 1944	Returns all the string values contained by this document.
public String	<i>getValue(String...)</i> on page 1944	Returns the value of the first element with the given route.
public List< String >	<i>getValues(String...)</i> on page 1944	Returns all the values of elements with the given route.
protected int[]	<i>insertRoutePositions(int[], int, int[])</i> on page 1945	
protected void	<i>insertRoutesPositions(int, int[])</i> on page 1945	
protected void	<i>insertStringsPositions(int, String[])</i> on page 1945	
protected String[]	<i>insertStringsPositions(String[], int, String[])</i> on page 1945	
boolean	<i>isComplexEntity</i> on page 1954	
boolean	<i>isJson</i> on page 1954	
protected boolean	<i>isMatched(String, String)</i> on page 1945	
static transient List< String >	<i>nameMap</i> on page 1954	
static transient Map< String, String >	<i>prefixMapping</i> on page 1954	
public void	<i>putAttribute(String, String...)</i> on page 1946	Sets the value of the attribute with the given route If attribute does not exist it will be created as well as all other non existing elements in the route.

Modifier and Type	Member	Description
public void	<i>putDocument(ISDMParseDocument, String...)</i> on page 1946	Insert the document under the element with the given route inserted document will be placed before already existing documents with the same route name under All missing elements from the route will be created.
public void	<i>putExtension(String, String)</i> on page 1946	
protected void	<i>putString(int, String, int, String...)</i> on page 1947	
public void	<i>putValue(String, String...)</i> on page 1947	Sets the value of the first element with the given route.
public void	<i>read(BufferedReader)</i> on page 1947	
public static void	<i>readNameMap(BufferedReader)</i> on page 1947	
public boolean	<i>removeAttribute(String...)</i> on page 1948	Removes first element with the given route.
public boolean	<i>removeAttributes(String...)</i> on page 1948	Removes all the attribute with the given route.
public boolean	<i>removeDocument(String...)</i> on page 1948	Removes first element with the given route For removing multiple element use setDocuemtns with null arguments.
public void	<i>removeExtension(String)</i> on page 1948	
protected void	<i>removeRoutesPositions(int, int)</i> on page 1949	
protected int[]	<i>removeRoutesPositions(int[], int, int)</i> on page 1949	
protected boolean	<i>removeString(String...)</i> on page 1949	

Modifier and Type	Member	Description
protected boolean	<i>removeStrings(String...)</i> on page 1949	
protected void	<i>removeStringsPositions(int, int)</i> on page 1949	
protected String[]	<i>removeStringsPositions(String[], int, int)</i> on page 1949	
protected int	<i>replaceRoutesPositions(int, int, int[])</i> on page 1949	
protected int[]	<i>replaceRoutesPositions(int[], int, int, int[])</i> on page 1950	
protected int	<i>replaceStringsPositions(int, int, String[])</i> on page 1950	
protected String[]	<i>replaceStringsPositions(String[], int, int, String[])</i> on page 1950	
public static String	<i>resolveUrl(String, String)</i> on page 1950	
protected int[]	<i>routes</i> on page 1954	
	<i>SDMParserDocument()</i> on page 1935	
	<i>SDMParserDocument(boolean)</i> on page 1936	
public	<i>SDMParserDocument(String)</i> on page 1935	
public	<i>SDMParserDocument(SDMParserDocument)</i> on page 1935	
protected	<i>SDMParserDocument(int[], String[])</i> on page 1936	
protected	<i>SDMParserDocument(String, boolean)</i> on page 1936	

Modifier and Type	Member	Description
public void	<i>setAttribute(String, String...)</i> on page 1950	
public void	<i>setAttributes(List&lt; String &gt;, String...)</i> on page 1950	Sets all the values of the attributes with the given route Values will be paired to attributes in order Attributes with greater or equals index than size of new values will be untouched Attributes paired with null values will be removed.
public boolean	<i>setDocument(ISDMParserDocument, String...)</i> on page 1951	
public void	<i>setDocuments(List&lt; ISDMParserDocument &gt;, String...)</i> on page 1951	Replaces all the elements with the given route Documents will be paired to elements in order Elements with greater or equals index than size of new elements will be untouched Element paired with null will be removed.
public void	<i>setElementName(String, String...)</i> on page 1951	Sets the name of the root element with the given route Use empty route for setting root name of this document.
public static void	<i>setNameMap(List&lt;String &gt;)</i> on page 1952	
public static void	<i>setPrefixMapping(Map&lt;String, String &gt;)</i> on page 1952	
protected void	<i>setString(String, String...)</i> on page 1952	
protected void	<i>setStrings(List&lt; String &gt;, String...)</i> on page 1952	
public void	<i>setValue(String, String...)</i> on page 1952	

Modifier and Type	Member	Description
public void	<i>setValues(List&lt;String&gt;, String...)</i> on page 1952	Sets all the values of the elements with the given route values will be paired to elements in order. Elements with greater or equals index than size of new values will be untouched. Null values will be treated as empty strings.
protected String[]	<i>strings</i> on page 1954	
public String	<i>toXMLString()</i> on page 1953	Returns the XML string representation of this object.
protected static final String	<i>URL_PROTOCOL_PREFIX</i> on page 1955	
static transient final int	<i>VALUE_ID</i> on page 1955	
static transient final String	<i>VALUE_STRING</i> on page 1955	
public void	<i>write(BufferedWriter)</i> on page 1953	
public static void	<i>writeNameMap(BufferedWriter)</i> on page 1953	

#### Inherited members from ISDMParserDocument

Modifier and Type	Member	Description
public static final String	<i>ATTRIBUTE_ETAG</i> on page 1329	Name of the appropriate SDMOData element.
public static final String	<i>ATTRIBUTE_VALUEPREFIX_EDMTYPE</i> on page 1329	Value prefix for EDM Type type values.
public static Map<String, String>	<i>DEFAULT_PREFIXMAPPING</i> on page 1329	The default XML Namespace-to-Prefix mapping used for building XMLS.
public static final String[]	<i>EDMDATETIME_PATTERNS</i> on page 1329	Possible EDM DateTime patterns. Note: Some patterns are not supported by OData specification but still widely used.

Modifier and Type	Member	Description
public static final String[]	<i>EDMDATETIMEOFFSET_PATTERNS</i> on page 1329	Possible EDM TimeOffset patterns Note: Some pattern are not supported by OData specification but still widely used.
public static final String	<i>EDM_TIME_PATTERN</i> on page 1329	EDM Time pattern.
public static String	<i>ELEMENT_FEED</i> on page 1329	Name of the appropriate SDMOData element.
public static final String	<i>ELEMENT_ID</i> on page 1330	Name of the appropriate SDMOData element.
public static final String	<i>ROOT_DOCUMENT_NAME</i> on page 1330	The default root element name for a new document.
public static final String	<i>XMLNS_APPLICATION_URI</i> on page 1330	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/08/dataservices">http://schemas.microsoft.com/ado/2007/08/dataservices</a> .
public static final String	<i>XMLNS_ATOM_URI</i> on page 1330	Constant for XMLNS URI: <a href="http://www.w3.org/2005/Atom">http://www.w3.org/2005/Atom</a> .
public static final String	<i>XMLNS_DATASERVICES_URI</i> on page 1330	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/08/dataservices">http://schemas.microsoft.com/ado/2007/08/dataservices</a> .
public static final String	<i>XMLNS_EDM_URI</i> on page 1330	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/05/edm">http://schemas.microsoft.com/ado/2007/05/edm</a> .
public static final String	<i>XMLNS_EDMX_URI</i> on page 1330	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/06/edmx">http://schemas.microsoft.com/ado/2007/06/edmx</a> .
public static final String	<i>XMLNS_GENERICPLAYER_URI</i> on page 1331	Constant for XMLNS URI: <a href="http://www.sap.com/Protocols/SAPData/GenericPlayer">http://www.sap.com/Protocols/SAPData/GenericPlayer</a> .
public static final String	<i>XMLNS_METADATA_URI</i> on page 1331	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/08/dataservices/metadata">http://schemas.microsoft.com/ado/2007/08/dataservices/metadata</a> .

Modifier and Type	Member	Description
public static final String	<i>XMLNS_SAP_URI</i> on page 1331	Constant for XMLNS URI: <a href="http://www.sap.com/Protocols/SAPData">http://www.sap.com/Protocols/SAPData</a> .

**Inherited members from ISDMPersistable**

Modifier and Type	Member	Description
public void	<i>read(BufferedReader)</i> on page 1332	
public void	<i>write(BufferedWriter)</i> on page 1332	

**Inherited members from ISDMODataAssociationEnd**

Modifier and Type	Member	Description
public static final String	<i>ATTRIBUTE_ENTITYSET</i> on page 1101	Name of the appropriate SDMOData attribute.
public static final String	<i>ATTRIBUTE_MULTIPLICITY</i> on page 1101	Name of the appropriate SDMOData attribute.
public static final String	<i>ATTRIBUTE_ROLE</i> on page 1101	Name of the appropriate SDMOData attribute.
public static final String	<i>ATTRIBUTE_TYPE</i> on page 1101	Name of the appropriate SDMOData attribute.

*SDMODataAssociationEnd()* constructor*Syntax*

```
public SDMODataAssociationEnd ()
```

*SDMODataAssociationEnd(SDMParserDocument)* constructor*Syntax*

```
public SDMODataAssociationEnd ( SDMParserDocument document )
```

*SDMODataAssociationEnd(int[], String[])* constructor*Syntax*

```
protected SDMODataAssociationEnd ( int[] routes , String[] values )
```

*getCollectionId() method*

*Syntax*

```
public String getCollectionId ()
```

*getEntitySet() method*

*Syntax*

```
public String getEntitySet ()
```

*getMultiplicity() method*

*Syntax*

```
public String getMultiplicity ()
```

*getRole() method*

*Syntax*

```
public String getRole ()
```

*getType() method*

*Syntax*

```
public String getType ()
```

*SDMODataAssociationSet class*

Deprecated. since 3.0, Use ODataAssociationSet

*Syntax*

```
public class SDMODataAssociationSet extends  
SDMODataAssociation, ISDMODataAssociationSet
```

*Members*

All members of SDMODataAssociationSet, including inherited members. **Constructors**

Modifier and Type	Constructor	Description
public	<i>SDMODataAssociationSet()</i> on page 1489	
public	<i>SDMODataAssociation-Set(SDMParserDocument)</i> on page 1489	



Modifier and Type	Constructor	Description
protected	<i>SDMODDataAssociation-Set(int[], String[])</i> on page 1489	

### Methods

Modifier and Type	Method	Description
public String	<i>getAssociation()</i> on page 1489	Returns the value of appropriate SDMODData element.

### Inherited members from SDMODDataAssociation

Modifier and Type	Member	Description
public ISDMODDataAssociationEnd	<i>getAssociationEnd(String)</i> on page 1457	Returns the value of the appropriate Association End SDMO-Data element with the given role.
public List< ISDMODDataAssociationEnd >	<i>getAssociationEnds()</i> on page 1457	Returns list of the appropriate SDMODData elements.
public String	<i>getName()</i> on page 1457	Returns the value of the appropriate SDMODData attribute.
public	<i>SDMODDataAssociation()</i> on page 1456	
protected	<i>SDMODDataAssociation(int[], String[])</i> on page 1457	
public	<i>SDMODDataAssociation(SDMParseDocument)</i> on page 1456	
protected	<i>SDMODDataAssociation(String)</i> on page 1457	

### Inherited members from SDMParseDocument

Modifier and Type	Member	Description
static transient final String	<i>ANY_STRING</i> on page 1953	
static transient final int	<i>ATTRIBUTE_ID</i> on page 1953	

Modifier and Type	Member	Description
static transient final String	<i>ATTRIBUTE_STRING</i> on page 1954	
public SDMParserDocument	<i>clone()</i> on page 1936	Creates a copy of this object.
protected Map< String, String >	<i>extensions</i> on page 1954	
public String	<i>getAttribute(String...)</i> on page 1936	Returns the value of the first attribute with the given route.
public List< String >	<i>getAttributes(String...)</i> on page 1937	Returns all the values of attributes with the given route.
protected int	<i>getAttributesEndPosition(int[], int, int)</i> on page 1937	
public Map< String, String >	<i>getChildAttributeMap(String...)</i> on page 1937	Returns all the name-value pairs of attributes contained by the element with the given route.
public List< String >	<i>getChildAttributes(String...)</i> on page 1938	Returns all the values of attributes contained by the element with the given route.
public List< ISDMParserDocument >	<i>getChildDocuments(String...)</i> on page 1938	Returns the elements contained by the element with the given route.
public List< ISDMParserDocument >	<i>getChildDocumentsWithAttribute(String, String, String...)</i> on page 1938	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public List< ISDMParserDocument >	<i>getChildDocumentsWithAttribute(String, String, boolean, String...)</i> on page 1939	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public SDMParserDocument	<i>getDocument(String...)</i> on page 1939	Returns the first element with the given route.
protected List< int[] >	<i>getDocumentPositions(String[], int, boolean, boolean)</i> on page 1940	
public List< ISDMParserDocument >	<i>getDocuments(String...)</i> on page 1940	Returns all the elements with the given route.

Modifier and Type	Member	Description
public List< ISDMParserDocument >	<i>getDocumentsWithAttribute(String, String, String...)</i> on page 1940	Returns the elements with the given route that contains the given attribute with the given value.
public List< ISDMParserDocument >	<i>getDocumentsWithAttribute(String, String, boolean, String...)</i> on page 1941	Returns the elements with the given route that contains the given attribute with the given value.
public ISDMParserDocument	<i>getDocumentWithAttribute(String, String, String...)</i> on page 1941	Returns the first element with the given route that contains the given attribute with the given value.
public ISDMParserDocument	<i>getDocumentWithAttribute(String, String, boolean, String...)</i> on page 1942	Returns the first element with the given route that contains the given attribute with the given value.
public String	<i>getElementName()</i> on page 1942	Returns The name of the root element of this document.
public String	<i>getExtension(String)</i> on page 1943	
public String	<i>getFunctionImportComplexProperty Value(String...)</i> on page 1943	
static int	<i>getNameId(String, boolean, boolean)</i> on page 1943	
public static List< String >	<i>getNameMap()</i> on page 1943	
public static String	<i>getPrefix(String)</i> on page 1943	
public String	<i>getPrefixForUri(String)</i> on page 1943	Returns the appropriate namespace prefix for the given XML name-space URI.
public static Map< String, String >	<i>getPrefixMapping()</i> on page 1944	

Modifier and Type	Member	Description
protected List< Integer >	<i>getStringPositions(String[], int, boolean, boolean)</i> on page 1944	
public String[]	<i>getStrings()</i> on page 1944	Returns all the string values contained by this document.
public String	<i>getValue(String...)</i> on page 1944	Returns the value of the first element with the given route.
public List< String >	<i>getValues(String...)</i> on page 1944	Returns all the values of elements with the given route.
protected int[]	<i>insertRoutePositions(int[], int, int[])</i> on page 1945	
protected void	<i>insertRoutesPositions(int, int[])</i> on page 1945	
protected void	<i>insertStringsPositions(int, String[])</i> on page 1945	
protected String[]	<i>insertStringsPositions(String[], int, String[])</i> on page 1945	
boolean	<i>isComplexEntity</i> on page 1954	
boolean	<i>isJson</i> on page 1954	
protected boolean	<i>isMatched(String, String)</i> on page 1945	
static transient List< String >	<i>nameMap</i> on page 1954	
static transient Map< String, String >	<i>prefixMapping</i> on page 1954	
public void	<i>putAttribute(String, String...)</i> on page 1946	Sets the value of the attribute with the given route If attribute does not exist it will be created as well as all other non existing elements in the route.

Modifier and Type	Member	Description
public void	<i>putDocument(ISDMParseDocument, String...)</i> on page 1946	Insert the document under the element with the given route inserted document will be placed before already existing documents with the same route name under All missing elements from the route will be created.
public void	<i>putExtension(String, String)</i> on page 1946	
protected void	<i>putString(int, String, int, String...)</i> on page 1947	
public void	<i>putValue(String, String...)</i> on page 1947	Sets the value of the first element with the given route.
public void	<i>read(BufferedReader)</i> on page 1947	
public static void	<i>readNameMap(BufferedReader)</i> on page 1947	
public boolean	<i>removeAttribute(String...)</i> on page 1948	Removes first element with the given route.
public boolean	<i>removeAttributes(String...)</i> on page 1948	Removes all the attribute with the given route.
public boolean	<i>removeDocument(String...)</i> on page 1948	Removes first element with the given route For removing multiple element use setDocuemtns with null arguments.
public void	<i>removeExtension(String)</i> on page 1948	
protected void	<i>removeRoutesPositions(int, int)</i> on page 1949	
protected int[]	<i>removeRoutesPositions(int[], int, int)</i> on page 1949	
protected boolean	<i>removeString(String...)</i> on page 1949	

Modifier and Type	Member	Description
protected boolean	<i>removeStrings(String...)</i> on page 1949	
protected void	<i>removeStringsPositions(int, int)</i> on page 1949	
protected String[]	<i>removeStringsPositions(String[], int, int)</i> on page 1949	
protected int	<i>replaceRoutesPositions(int, int, int[])</i> on page 1949	
protected int[]	<i>replaceRoutesPositions(int[], int, int, int[])</i> on page 1950	
protected int	<i>replaceStringsPositions(int, int, String[])</i> on page 1950	
protected String[]	<i>replaceStringsPositions(String[], int, int, String[])</i> on page 1950	
public static String	<i>resolveUrl(String, String)</i> on page 1950	
protected int[]	<i>routes</i> on page 1954	
	<i>SDMParserDocument()</i> on page 1935	
	<i>SDMParserDocument(boolean)</i> on page 1936	
public	<i>SDMParserDocument(String)</i> on page 1935	
public	<i>SDMParserDocument(SDMParserDocument)</i> on page 1935	
protected	<i>SDMParserDocument(int[], String[])</i> on page 1936	
protected	<i>SDMParserDocument(String, boolean)</i> on page 1936	

Modifier and Type	Member	Description
public void	<i>setAttribute(String, String...)</i> on page 1950	
public void	<i>setAttributes(List&lt;String&gt;, String...)</i> on page 1950	Sets all the values of the attributes with the given route Values will be paired to attributes in order Attributes with greater or equals index than size of new values will be untouched Attributes paired with null values will be removed.
public boolean	<i>setDocument(ISDMParseDocument, String...)</i> on page 1951	
public void	<i>setDocuments(List&lt;ISDMParseDocument&gt;, String...)</i> on page 1951	Replaces all the elements with the given route Documents will be paired to elements in order Elements with greater or equals index than size of new elements will be untouched Element paired with null will be removed.
public void	<i>setElementName(String, String...)</i> on page 1951	Sets the name of the root element with the given route Use empty route for setting root name of this document.
public static void	<i>setNameMap(List&lt;String&gt;)</i> on page 1952	
public static void	<i>setPrefixMapping(Map&lt;String, String&gt;)</i> on page 1952	
protected void	<i>setString(String, String...)</i> on page 1952	
protected void	<i>setStrings(List&lt;String&gt;, String...)</i> on page 1952	
public void	<i>setValue(String, String...)</i> on page 1952	

Modifier and Type	Member	Description
public void	<i>setValues(List&lt;String&gt;, String...)</i> on page 1952	Sets all the values of the elements with the given route values will be paired to elements in order. Elements with greater or equals index than size of new values will be untouched. Null values will be treated as empty strings.
protected String[]	<i>strings</i> on page 1954	
public String	<i>toXMLString()</i> on page 1953	Returns the XML string representation of this object.
protected static final String	<i>URL_PROTOCOL_PREFIX</i> on page 1955	
static transient final int	<i>VALUE_ID</i> on page 1955	
static transient final String	<i>VALUE_STRING</i> on page 1955	
public void	<i>write(BufferedWriter)</i> on page 1953	
public static void	<i>writeNameMap(BufferedWriter)</i> on page 1953	

#### Inherited members from ISDMParserDocument

Modifier and Type	Member	Description
public static final String	<i>ATTRIBUTE_ETAG</i> on page 1329	Name of the appropriate SDMOData element.
public static final String	<i>ATTRIBUTE_VALUEPREFIX_EDMTYPE</i> on page 1329	Value prefix for EDM Type type values.
public static Map<String, String>	<i>DEFAULT_PREFIXMAPPING</i> on page 1329	The default XML Namespace-to-Prefix mapping used for building XMLS.
public static final String[]	<i>EDMDATETIME_PATTERNS</i> on page 1329	Possible EDM DateTime patterns. Note: Some patterns are not supported by OData specification but still widely used.



Modifier and Type	Member	Description
public static final String[]	<i>EDMDATETIMEOFFSET_PATTERNS</i> on page 1329	Possible EDM TimeOffset patterns Note: Some pattern are not supported by OData specification but still widely used.
public static final String	<i>EDM_TIME_PATTERN</i> on page 1329	EDM Time pattern.
public static String	<i>ELEMENT_FEED</i> on page 1329	Name of the appropriate SDMOData element.
public static final String	<i>ELEMENT_ID</i> on page 1330	Name of the appropriate SDMOData element.
public static final String	<i>ROOT_DOCUMENT_NAME</i> on page 1330	The default root element name for a new document.
public static final String	<i>XMLNS_APPLICATION_URI</i> on page 1330	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/08/dataservices">http://schemas.microsoft.com/ado/2007/08/dataservices</a> .
public static final String	<i>XMLNS_ATOM_URI</i> on page 1330	Constant for XMLNS URI: <a href="http://www.w3.org/2005/Atom">http://www.w3.org/2005/Atom</a> .
public static final String	<i>XMLNS_DATASERVICES_URI</i> on page 1330	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/08/dataservices">http://schemas.microsoft.com/ado/2007/08/dataservices</a> .
public static final String	<i>XMLNS_EDM_URI</i> on page 1330	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/05/edm">http://schemas.microsoft.com/ado/2007/05/edm</a> .
public static final String	<i>XMLNS_EDMX_URI</i> on page 1330	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/06/edmx">http://schemas.microsoft.com/ado/2007/06/edmx</a> .
public static final String	<i>XMLNS_GENERICPLAYER_URI</i> on page 1331	Constant for XMLNS URI: <a href="http://www.sap.com/Protocols/SAPData/GenericPlayer">http://www.sap.com/Protocols/SAPData/GenericPlayer</a> .
public static final String	<i>XMLNS_METADATA_URI</i> on page 1331	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/08/dataservices/metadata">http://schemas.microsoft.com/ado/2007/08/dataservices/metadata</a> .

Modifier and Type	Member	Description
public static final String	<i>XMLNS_SAP_URI</i> on page 1331	Constant for XMLNS URI: <a href="http://www.sap.com/Protocols/SAPData">http://www.sap.com/Protocols/SAPData</a> .

**Inherited members from ISDMPersistable**

Modifier and Type	Member	Description
public void	<i>read(BufferedReader)</i> on page 1332	
public void	<i>write(BufferedWriter)</i> on page 1332	

**Inherited members from ISDMODataAssociation**

Modifier and Type	Member	Description
public static final String	<i>ATTRIBUTE_ASSOCIATION</i> on page 1098	Name of the appropriate SDMOData attribute.
public static final String	<i>ATTRIBUTE_NAME</i> on page 1098	Name of the appropriate SDMOData attribute.
public static final String	<i>ELEMENT_ASSOCIATION</i> on page 1098	Name of the appropriate SDMOData element.
public static final String	<i>ELEMENT_ASSOCIATIONEND</i> on page 1099	Name of the appropriate SDMOData element.

**Inherited members from ISDMParserDocument**

Modifier and Type	Member	Description
public static final String	<i>ATTRIBUTE_ETAG</i> on page 1329	Name of the appropriate SDMOData element.
public static final String	<i>ATTRIBUTE_VALUEPREFIX_EDMTYPE</i> on page 1329	Value prefix for EDM Type type values.
public abstract ISDMParserDocument	<i>clone()</i> on page 1317	Creates a copy of this object.
public static Map< String, String >	<i>DEFAULT_PREFIXMAPPING</i> on page 1329	The default XML Namespace-to-Prefix mapping used for building XMLS.

Modifier and Type	Member	Description
public static final String[]	<i>EDMDATETIME_PATTERNS</i> on page 1329	Possible EDM DateTime patterns Note: Some pattern are not supported by OData specification but still widely used.
public static final String[]	<i>EDMDATETIMEOFFSET_PATTERNS</i> on page 1329	Possible EDM TimeOffset patterns Note: Some pattern are not supported by OData specification but still widely used.
public static final String	<i>EDMTIME_PATTERN</i> on page 1329	EDM Time pattern.
public static String	<i>ELEMENT_FEED</i> on page 1329	Name of the appropriate SDMOData element.
public static final String	<i>ELEMENT_ID</i> on page 1330	Name of the appropriate SDMOData element.
public abstract String	<i>getAttribute(String...)</i> on page 1317	Returns the value of the first attribute with the given route.
public abstract List< String >	<i>getAttributes(String...)</i> on page 1317	Returns all the values of attributes with the given route.
public abstract Map< String, String >	<i>getChildAttributeMap(String...)</i> on page 1318	Returns all the name-value pairs of attributes contained by the element with the given route.
public abstract List< String >	<i>getChildAttributes(String...)</i> on page 1318	Returns all the values of attributes contained by the element with the given route.
public abstract List< ISDMParserDocument >	<i>getChildDocuments(String...)</i> on page 1318	Returns the elements contained by the element with the given route.
public abstract List< ISDMParserDocument >	<i>getChildDocumentsWithAttribute(String, String, String...)</i> on page 1319	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public abstract List< ISDMParserDocument >	<i>getChildDocumentsWithAttribute(String, String, boolean, String...)</i> on page 1319	Returns the elements contained by the element with the given route and having the given attribute with the given value.

Modifier and Type	Member	Description
public abstract ISDMParseDocument	<i>getDocument(String...)</i> on page 1320	Returns the first element with the given route.
public abstract List< ISDMParseDocument >	<i>getDocuments(String...)</i> on page 1320	Returns all the elements with the given route.
public abstract List< ISDMParseDocument >	<i>getDocumentsWithAttribute(String, String, String...)</i> on page 1321	Returns the elements with the given route that contains the given attribute with the given value.
public abstract List< ISDMParseDocument >	<i>getDocumentsWithAttribute(String, String, boolean, String...)</i> on page 1321	Returns the elements with the given route that contains the given attribute with the given value.
public abstract ISDMParseDocument	<i>getDocumentWithAttribute(String, String, String...)</i> on page 1322	Returns the first element with the given route that contains the given attribute with the given value.
public abstract ISDMParseDocument	<i>getDocumentWithAttribute(String, String, boolean, String...)</i> on page 1322	Returns the first element with the given route that contains the given attribute with the given value.
public abstract String	<i>getElementName()</i> on page 1323	Returns The name of the root element of this document.
public abstract String	<i>getFunctionImportComplexPropertyValue(String...)</i> on page 1323	
public abstract String	<i>getPrefixForUri(String)</i> on page 1323	Returns the appropriate namespace prefix for the given XML name-space URI.
public abstract String[]	<i>getStrings()</i> on page 1324	Returns all the string values contained by this document.
public abstract String	<i>getValue(String...)</i> on page 1324	Returns the value of the first element with the given route.
public abstract List< String >	<i>getValues(String...)</i> on page 1324	Returns all the values of elements with the given route.

Modifier and Type	Member	Description
public abstract void	<i>putAttribute(String, String...)</i> on page 1325	Sets the value of the attribute with the given route. If attribute does not exist it will be created as well as all other non existing elements in the route.
public abstract void	<i>putDocument(ISDMParseDocument, String...)</i> on page 1325	Insert the document under the element with the given route. Inserted document will be placed before already existing documents with the same route name. All missing elements from the route will be created.
public abstract void	<i>putValue(String, String...)</i> on page 1325	Sets the value of the first element with the given route.
public abstract boolean	<i>removeAttribute(String...)</i> on page 1326	Removes first element with the given route.
public abstract boolean	<i>removeAttributes(String...)</i> on page 1326	Removes all the attribute with the given route.
public abstract boolean	<i>removeDocument(String...)</i> on page 1326	Removes first element with the given route. For removing multiple element use <code>setDocuments</code> with null arguments.
public static final String	<i>ROOT_DOCUMENT_NAME</i> on page 1330	The default root element name for a new document.
public abstract void	<i>setAttributes(List&lt;String&gt;, String...)</i> on page 1327	Sets all the values of the attributes with the given route. Values will be paired to attributes in order. Attributes with greater or equals index than size of new values will be untouched. Attributes paired with null values will be removed.

Modifier and Type	Member	Description
public abstract void	<i>setDocuments(List&lt; ISDMParserDocument &gt;, String...)</i> on page 1327	Replaces all the elements with the given route Documents will be paired to elements in order Elements with greater or equals index than size of new elements will be untouched Element paired with null will be removed.
public abstract void	<i>setElementName(String, String...)</i> on page 1328	Sets the name of the root element with the given route Use empty route for setting root name of this document.
public abstract void	<i>setValues(List&lt; String &gt;, String...)</i> on page 1328	Sets all the values of the elements with the given route Values will be paired to elements in order Elements with greater or equals index than size of new values will be untouched Null values will be treated as empty strings.
public abstract String	<i>toXMLString()</i> on page 1328	Returns the XML string representation of this object.
public static final String	<i>XMLNS_APPLICATION_URI</i> on page 1330	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/08/dataservices">http://schemas.microsoft.com/ado/2007/08/dataservices</a> .
public static final String	<i>XMLNS_ATOM_URI</i> on page 1330	Constant for XMLNS URI: <a href="http://www.w3.org/2005/Atom">http://www.w3.org/2005/Atom</a> .
public static final String	<i>XMLNS_DATASERVICES_URI</i> on page 1330	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/08/dataservices">http://schemas.microsoft.com/ado/2007/08/dataservices</a> .
public static final String	<i>XMLNS_EDM_URI</i> on page 1330	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/05/edm">http://schemas.microsoft.com/ado/2007/05/edm</a> .
public static final String	<i>XMLNS_EDMX_URI</i> on page 1330	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/06/edmx">http://schemas.microsoft.com/ado/2007/06/edmx</a> .

Modifier and Type	Member	Description
public static final String	<i>XMLNS_GENERICPLAYER_URI</i> on page 1331	Constant for XMLNS URI: <a href="http://www.sap.com/Protocols/SAPData/GenericPlayer">http://www.sap.com/Protocols/SAPData/GenericPlayer</a> .
public static final String	<i>XMLNS_METADATA_URI</i> on page 1331	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/08/dataservices/metadata">http://schemas.microsoft.com/ado/2007/08/dataservices/metadata</a> .
public static final String	<i>XMLNS_SAP_URI</i> on page 1331	Constant for XMLNS URI: <a href="http://www.sap.com/Protocols/SAPData">http://www.sap.com/Protocols/SAPData</a> .

#### Inherited members from ISDMPersistable

Modifier and Type	Member	Description
public void	<i>read(BufferedReader)</i> on page 1332	
public void	<i>write(BufferedWriter)</i> on page 1332	

#### Inherited members from ISDMODataAssociationSet

Modifier and Type	Member	Description
public static final String	<i>ELEMENT_ASSOCIATIONSET</i> on page 1108	Name of the appropriate SDMODData element.

#### Inherited members from ISDMODataAssociation

Modifier and Type	Member	Description
public static final String	<i>ATTRIBUTE_ASSOCIATION</i> on page 1098	Name of the appropriate SDMODData attribute.
public static final String	<i>ATTRIBUTE_NAME</i> on page 1098	Name of the appropriate SDMODData attribute.
public static final String	<i>ELEMENT_ASSOCIATION</i> on page 1098	Name of the appropriate SDMODData element.
public static final String	<i>ELEMENT_ASSOCIATIONEND</i> on page 1099	Name of the appropriate SDMODData element.

Modifier and Type	Member	Description
public abstract ISDMODataAssociationEnd	<i>getAssociationEnd(String)</i> on page 1097	Returns the value of the appropriate Association End SDMODData element with the given role.
public abstract List< ISDMODataAssociationEnd >	<i>getAssociationEnds()</i> on page 1098	Returns list of the appropriate SDMODData elements.
public abstract String	<i>getName()</i> on page 1098	Returns the value of the appropriate SDMODData attribute.

### Inherited members from ISDMParserDocument

Modifier and Type	Member	Description
public static final String	<i>ATTRIBUTE_ETAG</i> on page 1329	Name of the appropriate SDMODData element.
public static final String	<i>ATTRIBUTE_VALUEPREFIX_EDMTYPE</i> on page 1329	Value prefix for EDM Type type values.
public abstract ISDMParserDocument	<i>clone()</i> on page 1317	Creates a copy of this object.
public static Map< String, String >	<i>DEFAULT_PREFIXMAPPING</i> on page 1329	The default XML Namespace-to-Prefix mapping used for building XMLS.
public static final String[]	<i>EDMDATETIME_PATTERNS</i> on page 1329	Possible EDM DateTime patterns Note: Some pattern are not supported by OData specification but still widely used.
public static final String[]	<i>EDMDATETIMEOFFSET_PATTERNS</i> on page 1329	Possible EDM TimeOffset patterns Note: Some pattern are not supported by OData specification but still widely used.
public static final String	<i>EDMTIME_PATTERN</i> on page 1329	EDM Time pattern.
public static String	<i>ELEMENT_FEED</i> on page 1329	Name of the appropriate SDMODData element.
public static final String	<i>ELEMENT_ID</i> on page 1330	Name of the appropriate SDMODData element.



Modifier and Type	Member	Description
public abstract String	<i>getAttribute(String...)</i> on page 1317	Returns the value of the first attribute with the given route.
public abstract List< String >	<i>getAttributes(String...)</i> on page 1317	Returns all the values of attributes with the given route.
public abstract Map< String, String >	<i>getChildAttributeMap(String...)</i> on page 1318	Returns all the name-value pairs of attributes contained by the element with the given route.
public abstract List< String >	<i>getChildAttributes(String...)</i> on page 1318	Returns all the values of attributes contained by the element with the given route.
public abstract List< ISDMParseDocument >	<i>getChildDocuments(String...)</i> on page 1318	Returns the elements contained by the element with the given route.
public abstract List< ISDMParseDocument >	<i>getChildDocumentsWithAttribute(String, String, String...)</i> on page 1319	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public abstract List< ISDMParseDocument >	<i>getChildDocumentsWithAttribute(String, String, boolean, String...)</i> on page 1319	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public abstract ISDMParseDocument	<i>getDocument(String...)</i> on page 1320	Returns the first element with the given route.
public abstract List< ISDMParseDocument >	<i>getDocuments(String...)</i> on page 1320	Returns all the elements with the given route.
public abstract List< ISDMParseDocument >	<i>getDocumentsWithAttribute(String, String, String...)</i> on page 1321	Returns the elements with the given route that contains the given attribute with the given value.
public abstract List< ISDMParseDocument >	<i>getDocumentsWithAttribute(String, String, boolean, String...)</i> on page 1321	Returns the elements with the given route that contains the given attribute with the given value.

Modifier and Type	Member	Description
public abstract ISDMParserDocument	<i>getDocumentWithAttribute(String, String, String...)</i> on page 1322	Returns the first element with the given route that contains the given attribute with the given value.
public abstract ISDMParserDocument	<i>getDocumentWithAttribute(String, String, boolean, String...)</i> on page 1322	Returns the first element with the given route that contains the given attribute with the given value.
public abstract String	<i>getElementName()</i> on page 1323	Returns The name of the root element of this document.
public abstract String	<i>getFunctionImportComplexProperty Value(String...)</i> on page 1323	
public abstract String	<i>getPrefixForUri(String)</i> on page 1323	Returns the appropriate namespace prefix for the given XML name-space URI.
public abstract String[]	<i>getStrings()</i> on page 1324	Returns all the string values contained by this document.
public abstract String	<i>getValue(String...)</i> on page 1324	Returns the value of the first element with the given route.
public abstract List< String >	<i>getValues(String...)</i> on page 1324	Returns all the values of elements with the given route.
public abstract void	<i>putAttribute(String, String...)</i> on page 1325	Sets the value of the attribute with the given route If attribute does not exist it will be created as well as all other non existing elements in the route.
public abstract void	<i>putDocument(ISDMParserDocument, String...)</i> on page 1325	Insert the document under the element with the given route inserted document will be placed before already existing documents with the same route name under All missing elements from the route will be created.
public abstract void	<i>putValue(String, String...)</i> on page 1325	Sets the value of the first element with the given route.

Modifier and Type	Member	Description
public abstract boolean	<i>removeAttribute(String...)</i> on page 1326	Removes first element with the given route.
public abstract boolean	<i>removeAttributes(String...)</i> on page 1326	Removes all the attribute with the given route.
public abstract boolean	<i>removeDocument(String...)</i> on page 1326	Removes first element with the given route For removing multiple element use setDocuemtns with null arguments.
public static final String	<i>ROOT_DOCUMENT_NAME</i> on page 1330	The default root element name for a new document.
public abstract void	<i>setAttributes(List&lt; String &gt;, String...)</i> on page 1327	Sets all the values of the attributes with the given route Values will be paired to attributes in order Attributes with greater or equals index than size of new values will be untouched Attributes paired with null values will be removed.
public abstract void	<i>setDocuments(List&lt; ISDMParserDocument &gt;, String...)</i> on page 1327	Replaces all the elements with the given route Documents will be paired to elements in order Elements with greater or equals index than size of new elements will be untouched Element paired with null will be removed.
public abstract void	<i>setElementName(String, String...)</i> on page 1328	Sets the name of the root element with the given route Use empty route for setting root name of this document.
public abstract void	<i>setValues(List&lt; String &gt;, String...)</i> on page 1328	Sets all the values of the elements with the given rout Values will be paired to elements in order Elements with greater or equals index than size of new values will be untouched Null values will be treated as empty strings.

Modifier and Type	Member	Description
public abstract String	<i>toXMLString()</i> on page 1328	Returns the XML string representation of this object.
public static final String	<i>XMLNS_APPLICATION_URI</i> on page 1330	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/08/dataservices">http://schemas.microsoft.com/ado/2007/08/dataservices</a> .
public static final String	<i>XMLNS_ATOM_URI</i> on page 1330	Constant for XMLNS URI: <a href="http://www.w3.org/2005/Atom">http://www.w3.org/2005/Atom</a> .
public static final String	<i>XMLNS_DATASERVICES_URI</i> on page 1330	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/08/dataservices">http://schemas.microsoft.com/ado/2007/08/dataservices</a> .
public static final String	<i>XMLNS_EDM_URI</i> on page 1330	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/05/edm">http://schemas.microsoft.com/ado/2007/05/edm</a> .
public static final String	<i>XMLNS_EDMX_URI</i> on page 1330	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/06/edmx">http://schemas.microsoft.com/ado/2007/06/edmx</a> .
public static final String	<i>XMLNS_GENERICPLAYER_URI</i> on page 1331	Constant for XMLNS URI: <a href="http://www.sap.com/Protocols/SAPData/GenericPlayer">http://www.sap.com/Protocols/SAPData/GenericPlayer</a> .
public static final String	<i>XMLNS_METADATA_URI</i> on page 1331	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/08/dataservices/metadata">http://schemas.microsoft.com/ado/2007/08/dataservices/metadata</a> .
public static final String	<i>XMLNS_SAP_URI</i> on page 1331	Constant for XMLNS URI: <a href="http://www.sap.com/Protocols/SAPData">http://www.sap.com/Protocols/SAPData</a> .

#### Inherited members from ISDMPersistable

Modifier and Type	Member	Description
public void	<i>read(BufferedReader)</i> on page 1332	
public void	<i>write(BufferedWriter)</i> on page 1332	

*SDMODataAssociationSet()* constructor**Syntax**

```
public   SDMODataAssociationSet ()
```

*SDMODataAssociationSet(SDMParserDocument)* constructor**Syntax**

```
public   SDMODataAssociationSet ( SDMParserDocument document )
```

*SDMODataAssociationSet(int[], String[])* constructor**Syntax**

```
protected   SDMODataAssociationSet ( int[] routes , String[] values )
```

*getAssociation()* method

Returns the value of appropriate SDMOData element.

**Syntax**

```
public String getAssociation ()
```

**Returns**

the value of appropriate SDMOData element

*SDMODataCollection* class

Deprecated. since 3.0, Use ODataCollection

**Syntax**

```
public class SDMODataCollection extends SDMParserDocument, ISDMODataCollection
```

**Members**

All members of SDMODataCollection, including inherited members. **Variables**

Modifier and Type	Variable	Description
protected String	<i>baseUrl</i> on page 1511	
protected String	<i>collectionName</i> on page 1511	
protected boolean	<i>isJson</i> on page 1511	

**Constructors**

Modifier and Type	Constructor	Description
public	<i>SDMODDataCollection()</i> on page 1506	
public	<i>SDMODDataCollection(SDMParserDocument)</i> on page 1506	
public	<i>SDMODDataCollection(String)</i> on page 1506	
protected	<i>SDMODDataCollection(int[], String[])</i> on page 1506	

### Methods

Modifier and Type	Method	Description
public int	<i>getDisplayOrder()</i> on page 1506	Returns the value of the appropriate SDMODData extension attribute.
public String	<i>getHref()</i> on page 1506	Returns the value of the 'href' SDMODData attribute.
public List< ISDMODDataIcon >	<i>getIcons()</i> on page 1506	Returns list of the appropriate SDMODData elements.
public String	<i>getId()</i> on page 1507	Returns the value of the 'href' SDMODData attribute as a relative href (matchable with appropriate entitySet)
public List< ISDMODDataLink >	<i>getLinks()</i> on page 1507	Returns the value of the appropriate SDMODData elements.
public String	<i>getMemberTitle()</i> on page 1507	Returns the value of the appropriate SDMSDMODData element.
public ISDMODDataLink	<i>getSearchLink()</i> on page 1507	Returns SDMSDMODData Link object that should be used for retrieving Open Search Description XML.
public String	<i>getSemantics()</i> on page 1508	Returns the value of the appropriate SDMODData attribute.

Modifier and Type	Method	Description
public ISDMODataLink	<i>getSubscriptionLink()</i> on page 1508	Returns SDMSDMODData Link object that should be used for subscription or null if there is no subscription link defined.
public String	<i>getTitle()</i> on page 1508	Returns the value of the appropriate SDMODData element.
public String	<i>getUrl()</i> on page 1508	Returns SDMSDMODData Link object that should be used for self related operations.
public boolean	<i>isCreatable()</i> on page 1508	Returns the value of the appropriate SDMODData attribute.
public boolean	<i>isDeletable()</i> on page 1509	Returns the value of the appropriate SDMODData attribute.
public boolean	<i>isFilterable()</i> on page 1509	Returns the value of the appropriate SDMODData attribute.
public boolean	<i>isSearchable()</i> on page 1509	Returns the value of the appropriate SDMODData attribute.
public boolean	<i>isUpdatable()</i> on page 1509	Returns the value of the appropriate SDMODData attribute.
public void	<i>read(BufferedReader)</i> on page 1510	
protected void	<i>setBaseUrl(String)</i> on page 1510	
public void	<i>setEntitySet(ISDMODataEntitySet)</i> on page 1510	Sets the data held by the appropriate element of the SDMODData Schema.
public void	<i>write(BufferedWriter)</i> on page 1510	

#### Inherited members from SDMParserDocument

Modifier and Type	Member	Description
static transient final String	<i>ANY_STRING</i> on page 1953	
static transient final int	<i>ATTRIBUTE_ID</i> on page 1953	

Modifier and Type	Member	Description
static transient final String	<i>ATTRIBUTE_STRING</i> on page 1954	
public SDMParserDocument	<i>clone()</i> on page 1936	Creates a copy of this object.
protected Map< String, String >	<i>extensions</i> on page 1954	
public String	<i>getAttribute(String...)</i> on page 1936	Returns the value of the first attribute with the given route.
public List< String >	<i>getAttributes(String...)</i> on page 1937	Returns all the values of attributes with the given route.
protected int	<i>getAttributesEndPosition(int[], int, int)</i> on page 1937	
public Map< String, String >	<i>getChildAttribute-Map(String...)</i> on page 1937	Returns all the name-value pairs of attributes contained by the element with the given route.
public List< String >	<i>getChildAttributes(String...)</i> on page 1938	Returns all the values of attributes contained by the element with the given route.
public List< ISDMParserDocument >	<i>getChildDocuments(String...)</i> on page 1938	Returns the elements contained by the element with the given route.
public List< ISDMParserDocument >	<i>getChildDocumentsWithAttribute(String, String, String...)</i> on page 1938	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public List< ISDMParserDocument >	<i>getChildDocumentsWithAttribute(String, String, boolean, String...)</i> on page 1939	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public SDMParserDocument	<i>getDocument(String...)</i> on page 1939	Returns the first element with the given route.
protected List< int[] >	<i>getDocumentPositions(String[], int, boolean, boolean)</i> on page 1940	
public List< ISDMParserDocument >	<i>getDocuments(String...)</i> on page 1940	Returns all the elements with the given route.



Modifier and Type	Member	Description
public List< ISDMParserDocument >	<i>getDocumentsWithAttribute(String, String, String...)</i> on page 1940	Returns the elements with the given route that contains the given attribute with the given value.
public List< ISDMParserDocument >	<i>getDocumentsWithAttribute(String, String, boolean, String...)</i> on page 1941	Returns the elements with the given route that contains the given attribute with the given value.
public ISDMParserDocument	<i>getDocumentWithAttribute(String, String, String...)</i> on page 1941	Returns the first element with the given route that contains the given attribute with the given value.
public ISDMParserDocument	<i>getDocumentWithAttribute(String, String, boolean, String...)</i> on page 1942	Returns the first element with the given route that contains the given attribute with the given value.
public String	<i>getElementName()</i> on page 1942	Returns The name of the root element of this document.
public String	<i>getExtension(String)</i> on page 1943	
public String	<i>getFunctionImportComplexProperty Value(String...)</i> on page 1943	
static int	<i>getNameId(String, boolean, boolean)</i> on page 1943	
public static List< String >	<i>getNameMap()</i> on page 1943	
public static String	<i>getPrefix(String)</i> on page 1943	
public String	<i>getPrefixForUri(String)</i> on page 1943	Returns the appropriate namespace prefix for the given XML name-space URI.
public static Map< String, String >	<i>getPrefixMapping()</i> on page 1944	

Modifier and Type	Member	Description
protected List< Integer >	<i>getStringPositions(String[], int, boolean, boolean)</i> on page 1944	
public String[]	<i>getStrings()</i> on page 1944	Returns all the string values contained by this document.
public String	<i>getValue(String...)</i> on page 1944	Returns the value of the first element with the given route.
public List< String >	<i>getValues(String...)</i> on page 1944	Returns all the values of elements with the given route.
protected int[]	<i>insertRoutePositions(int[], int, int[])</i> on page 1945	
protected void	<i>insertRoutesPositions(int, int[])</i> on page 1945	
protected void	<i>insertStringsPositions(int, String[])</i> on page 1945	
protected String[]	<i>insertStringsPositions(String[], int, String[])</i> on page 1945	
boolean	<i>isComplexEntity</i> on page 1954	
protected boolean	<i>isMatched(String, String)</i> on page 1945	
static transient List< String >	<i>nameMap</i> on page 1954	
static transient Map< String, String >	<i>prefixMapping</i> on page 1954	
public void	<i>putAttribute(String, String...)</i> on page 1946	Sets the value of the attribute with the given route If attribute does not exist it will be created as well as all other non existing elements in the route.

Modifier and Type	Member	Description
public void	<i>putDocument(ISDMParseDocument, String...)</i> on page 1946	Insert the document under the element with the given route inserted document will be placed before already existing documents with the same route name under All missing elements from the route will be created.
public void	<i>putExtension(String, String)</i> on page 1946	
protected void	<i>putString(int, String, int, String...)</i> on page 1947	
public void	<i>putValue(String, String...)</i> on page 1947	Sets the value of the first element with the given route.
public static void	<i>readNameMap(BufferedReader)</i> on page 1947	
public boolean	<i>removeAttribute(String...)</i> on page 1948	Removes first element with the given route.
public boolean	<i>removeAttributes(String...)</i> on page 1948	Removes all the attribute with the given route.
public boolean	<i>removeDocument(String...)</i> on page 1948	Removes first element with the given route For removing multiple element use setDocuemtns with null arguments.
public void	<i>removeExtension(String)</i> on page 1948	
protected void	<i>removeRoutesPositions(int, int)</i> on page 1949	
protected int[]	<i>removeRoutesPositions(int[], int, int)</i> on page 1949	
protected boolean	<i>removeString(String...)</i> on page 1949	
protected boolean	<i>removeStrings(String...)</i> on page 1949	

Modifier and Type	Member	Description
protected void	<i>removeStringsPositions(int, int)</i> on page 1949	
protected String[]	<i>removeStringsPositions(String[], int, int)</i> on page 1949	
protected int	<i>replaceRoutesPositions(int, int, int[])</i> on page 1949	
protected int[]	<i>replaceRoutesPositions(int[], int, int, int[])</i> on page 1950	
protected int	<i>replaceStringsPositions(int, int, String[])</i> on page 1950	
protected String[]	<i>replaceStringsPositions(String[], int, int, String[])</i> on page 1950	
public static String	<i>resolveUrl(String, String)</i> on page 1950	
protected int[]	<i>routes</i> on page 1954	
	<i>SDMParserDocument()</i> on page 1935	
	<i>SDMParserDocument(boolean)</i> on page 1936	
public	<i>SDMParserDocument(String)</i> on page 1935	
public	<i>SDMParserDocument(SDMParserDocument)</i> on page 1935	
protected	<i>SDMParserDocument(int[], String[])</i> on page 1936	
protected	<i>SDMParserDocument(String, boolean)</i> on page 1936	
public void	<i>setAttribute(String, String...)</i> on page 1950	

Modifier and Type	Member	Description
public void	<i>setAttributes(List&lt; String &gt;, String...)</i> on page 1950	Sets all the values of the attributes with the given route Values will be paired to attributes in order Attributes with greater or equals index than size of new values will be untouched Attributes paired with null values will be removed.
public boolean	<i>setDocument(ISDMParserDocument, String...)</i> on page 1951	
public void	<i>setDocuments(List&lt; ISDMParserDocument &gt;, String...)</i> on page 1951	Replaces all the elements with the given route Documents will be paired to elements in order Elements with greater or equals index than size of new elements will be untouched Element paired with null will be removed.
public void	<i>setElementName(String, String...)</i> on page 1951	Sets the name of the root element with the given route Use empty route for setting root name of this document.
public static void	<i>setNameMap(List&lt; String &gt;)</i> on page 1952	
public static void	<i>setPrefixMapping(Map&lt; String, String &gt;)</i> on page 1952	
protected void	<i>setString(String, String...)</i> on page 1952	
protected void	<i>setStrings(List&lt; String &gt;, String...)</i> on page 1952	
public void	<i>setValue(String, String...)</i> on page 1952	

Modifier and Type	Member	Description
public void	<i>setValues(List&lt; String &gt;, String...)</i> on page 1952	Sets all the values of the elements with the given route values will be paired to elements in order Elements with greater or equals index than size of new values will be untouched Null values will be treated as empty strings.
protected String[]	<i>strings</i> on page 1954	
public String	<i>toXMLString()</i> on page 1953	Returns the XML string representation of this object.
protected static final String	<i>URL_PROTOCOL_PREFIX</i> on page 1955	
static transient final int	<i>VALUE_ID</i> on page 1955	
static transient final String	<i>VALUE_STRING</i> on page 1955	
public static void	<i>writeNameMap(BufferedWriter)</i> on page 1953	

#### Inherited members from ISDMParserDocument

Modifier and Type	Member	Description
public static final String	<i>ATTRIBUTE_ETAG</i> on page 1329	Name of the appropriate SDMOData element.
public static final String	<i>ATTRIBUTE_VALUEPREFIX_EDMTYPE</i> on page 1329	Value prefix for EDM Type type values.
public static Map< String, String >	<i>DEFAULT_PREFIXMAPPING</i> on page 1329	The default XML Namespace-to-Prefix mapping used for building XMLS.
public static final String[]	<i>EDMDATETIME_PATTERNS</i> on page 1329	Possible EDM DateTime patterns Note: Some pattern are not supported by OData specification but still widely used.

Modifier and Type	Member	Description
public static final String[]	<i>EDMDATETIMEOFFSET_PATTERNS</i> on page 1329	Possible EDM TimeOffset patterns Note: Some pattern are not supported by OData specification but still widely used.
public static final String	<i>EDMTIME_PATTERN</i> on page 1329	EDM Time pattern.
public static String	<i>ELEMENT_FEED</i> on page 1329	Name of the appropriate SDMOData element.
public static final String	<i>ELEMENT_ID</i> on page 1330	Name of the appropriate SDMOData element.
public static final String	<i>ROOT_DOCUMENT_NAME</i> on page 1330	The default root element name for a new document.
public static final String	<i>XMLNS_APPLICATION_URI</i> on page 1330	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/08/dataservices">http://schemas.microsoft.com/ado/2007/08/dataservices</a> .
public static final String	<i>XMLNS_ATOM_URI</i> on page 1330	Constant for XMLNS URI: <a href="http://www.w3.org/2005/Atom">http://www.w3.org/2005/Atom</a> .
public static final String	<i>XMLNS_DATASERVICES_URI</i> on page 1330	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/08/dataservices">http://schemas.microsoft.com/ado/2007/08/dataservices</a> .
public static final String	<i>XMLNS_EDM_URI</i> on page 1330	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/05/edm">http://schemas.microsoft.com/ado/2007/05/edm</a> .
public static final String	<i>XMLNS_EDMX_URI</i> on page 1330	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/06/edmx">http://schemas.microsoft.com/ado/2007/06/edmx</a> .
public static final String	<i>XMLNS_GENERICPLAYER_URI</i> on page 1331	Constant for XMLNS URI: <a href="http://www.sap.com/Protocols/SAPData/GenericPlayer">http://www.sap.com/Protocols/SAPData/GenericPlayer</a> .
public static final String	<i>XMLNS_METADATA_URI</i> on page 1331	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/08/dataservices/metadata">http://schemas.microsoft.com/ado/2007/08/dataservices/metadata</a> .

Modifier and Type	Member	Description
public static final String	<i>XMLNS_SAP_URI</i> on page 1331	Constant for XMLNS URI: <a href="http://www.sap.com/Protocols/SAPData">http://www.sap.com/Protocols/SAPData</a> .

**Inherited members from ISDMPersistable**

Modifier and Type	Member	Description
public void	<i>read(BufferedReader)</i> on page 1332	
public void	<i>write(BufferedWriter)</i> on page 1332	

**Inherited members from ISDMODataCollection**

Modifier and Type	Member	Description
public static final String	<i>ATTRIBUTE_CREATABLE</i> on page 1119	Name of the appropriate SDMODData attribute.
public static final String	<i>ATTRIBUTE_DELETABLE</i> on page 1119	Name of the appropriate SDMODData attribute.
public static final String	<i>ATTRIBUTE_DISPLAYOR- DER</i> on page 1119	Name of the appropriate SDMODData extension attribute.
public static final String	<i>ATTRIBUTE_FILTERABLE</i> on page 1119	Name of the appropriate SDMODData attribute.
public static final String	<i>ATTRIBUTE_HREF</i> on page 1120	Name of the appropriate SDMODData attribute.
public static final String	<i>ATTRIBUTE_SEARCHABLE</i> on page 1120	Name of the appropriate SDMODData attribute.
public static final String	<i>ATTRIBUTE_SEMANTICS</i> on page 1120	Name of the appropriate SDMSMODData attribute.
public static final String	<i>ATTRIBUTE_UPDATABLE</i> on page 1120	Name of the appropriate SDMODData attribute.
public static final String	<i>ATTRIBUTE_VAL- UE_REL_SEARCH</i> on page 1120	Possible value of the appropriate SDMODData attribute.



Modifier and Type	Member	Description
public static final String	<i>ELEMENT_COLLECTION</i> on page 1120	Name of the appropriate SDMOData element.
public static final String	<i>ELEMENT_LINK</i> on page 1120	Name of the appropriate SDMOData element.
public static final String	<i>ELEMENT_MEMBERTITLE</i> on page 1121	Name of the appropriate SDMOData element.
public static final String	<i>ELEMENT_TITLE</i> on page 1121	Name of the appropriate SDMOData element.

### Inherited members from ISDMParserDocument

Modifier and Type	Member	Description
public static final String	<i>ATTRIBUTE_ETAG</i> on page 1329	Name of the appropriate SDMOData element.
public static final String	<i>ATTRIBUTE_VALUEPREFIX_EDMTYPE</i> on page 1329	Value prefix for EDM Type type values.
public abstract ISDMParserDocument	<i>clone()</i> on page 1317	Creates a copy of this object.
public static Map< String, String >	<i>DEFAULT_PREFIXMAPPING</i> on page 1329	The default XML Namespace-to-Prefix mapping used for building XMLS.
public static final String[]	<i>EDMDATETIME_PATTERNS</i> on page 1329	Possible EDM DateTime patterns Note: Some pattern are not supported by OData specification but still widely used.
public static final String[]	<i>EDMDATETIMEOFFSET_PATTERNS</i> on page 1329	Possible EDM TimeOffset patterns Note: Some pattern are not supported by OData specification but still widely used.
public static final String	<i>EDMTIME_PATTERN</i> on page 1329	EDM Time pattern.
public static String	<i>ELEMENT_FEED</i> on page 1329	Name of the appropriate SDMOData element.
public static final String	<i>ELEMENT_ID</i> on page 1330	Name of the appropriate SDMOData element.

Modifier and Type	Member	Description
public abstract String	<i>getAttribute(String...)</i> on page 1317	Returns the value of the first attribute with the given route.
public abstract List< String >	<i>getAttributes(String...)</i> on page 1317	Returns all the values of attributes with the given route.
public abstract Map< String, String >	<i>getChildAttributeMap(String...)</i> on page 1318	Returns all the name-value pairs of attributes contained by the element with the given route.
public abstract List< String >	<i>getChildAttributes(String...)</i> on page 1318	Returns all the values of attributes contained by the element with the given route.
public abstract List< ISDMParseDocument >	<i>getChildDocuments(String...)</i> on page 1318	Returns the elements contained by the element with the given route.
public abstract List< ISDMParseDocument >	<i>getChildDocumentsWithAttribute(String, String, String...)</i> on page 1319	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public abstract List< ISDMParseDocument >	<i>getChildDocumentsWithAttribute(String, String, boolean, String...)</i> on page 1319	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public abstract ISDMParseDocument	<i>getDocument(String...)</i> on page 1320	Returns the first element with the given route.
public abstract List< ISDMParseDocument >	<i>getDocuments(String...)</i> on page 1320	Returns all the elements with the given route.
public abstract List< ISDMParseDocument >	<i>getDocumentsWithAttribute(String, String, String...)</i> on page 1321	Returns the elements with the given route that contains the given attribute with the given value.
public abstract List< ISDMParseDocument >	<i>getDocumentsWithAttribute(String, String, boolean, String...)</i> on page 1321	Returns the elements with the given route that contains the given attribute with the given value.

Modifier and Type	Member	Description
public abstract ISDMParseDocument	<i>getDocumentWithAttribute(String, String, String...)</i> on page 1322	Returns the first element with the given route that contains the given attribute with the given value.
public abstract ISDMParseDocument	<i>getDocumentWithAttribute(String, String, boolean, String...)</i> on page 1322	Returns the first element with the given route that contains the given attribute with the given value.
public abstract String	<i>getElementName()</i> on page 1323	Returns The name of the root element of this document.
public abstract String	<i>getFunctionImportComplexProperty Value(String...)</i> on page 1323	
public abstract String	<i>getPrefixForUri(String)</i> on page 1323	Returns the appropriate namespace prefix for the given XML name-space URI.
public abstract String[]	<i>getStrings()</i> on page 1324	Returns all the string values contained by this document.
public abstract String	<i>getValue(String...)</i> on page 1324	Returns the value of the first element with the given route.
public abstract List< String >	<i>getValues(String...)</i> on page 1324	Returns all the values of elements with the given route.
public abstract void	<i>putAttribute(String, String...)</i> on page 1325	Sets the value of the attribute with the given route If attribute does not exist it will be created as well as all other non existing elements in the route.
public abstract void	<i>putDocument(ISDMParseDocument, String...)</i> on page 1325	Insert the document under the element with the given route inserted document will be placed before already existing documents with the same route name under All missing elements from the route will be created.
public abstract void	<i>putValue(String, String...)</i> on page 1325	Sets the value of the first element with the given route.

Modifier and Type	Member	Description
public abstract boolean	<i>removeAttribute(String...)</i> on page 1326	Removes first element with the given route.
public abstract boolean	<i>removeAttributes(String...)</i> on page 1326	Removes all the attribute with the given route.
public abstract boolean	<i>removeDocument(String...)</i> on page 1326	Removes first element with the given route For removing multiple element use setDocuemtns with null arguments.
public static final String	<i>ROOT_DOCUMENT_NAME</i> on page 1330	The default root element name for a new document.
public abstract void	<i>setAttributes(List&lt; String &gt;, String...)</i> on page 1327	Sets all the values of the attributes with the given route Values will be paired to attributes in order Attributes with greater or equals index than size of new values will be untouched Attributes paired with null values will be removed.
public abstract void	<i>setDocuments(List&lt; ISDMParserDocument &gt;, String...)</i> on page 1327	Replaces all the elements with the given route Documents will be paired to elements in order Elements with greater or equals index than size of new elements will be untouched Element paired with null will be removed.
public abstract void	<i>setElementName(String, String...)</i> on page 1328	Sets the name of the root element with the given route Use empty route for setting root name of this document.
public abstract void	<i>setValues(List&lt; String &gt;, String...)</i> on page 1328	Sets all the values of the elements with the given rout Values will be paired to elements in order Elements with greater or equals index than size of new values will be untouched Null values will be treated as empty strings.

Modifier and Type	Member	Description
public abstract String	<i>toXMLString()</i> on page 1328	Returns the XML string representation of this object.
public static final String	<i>XMLNS_APPLICATION_URI</i> on page 1330	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/08/dataservices">http://schemas.microsoft.com/ado/2007/08/dataservices</a> .
public static final String	<i>XMLNS_ATOM_URI</i> on page 1330	Constant for XMLNS URI: <a href="http://www.w3.org/2005/Atom">http://www.w3.org/2005/Atom</a> .
public static final String	<i>XMLNS_DATASERVICES_URI</i> on page 1330	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/08/dataservices">http://schemas.microsoft.com/ado/2007/08/dataservices</a> .
public static final String	<i>XMLNS_EDM_URI</i> on page 1330	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/05/edm">http://schemas.microsoft.com/ado/2007/05/edm</a> .
public static final String	<i>XMLNS_EDMX_URI</i> on page 1330	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/06/edmx">http://schemas.microsoft.com/ado/2007/06/edmx</a> .
public static final String	<i>XMLNS_GENERICPLAYER_URI</i> on page 1331	Constant for XMLNS URI: <a href="http://www.sap.com/Protocols/SAPData/GenericPlayer">http://www.sap.com/Protocols/SAPData/GenericPlayer</a> .
public static final String	<i>XMLNS_METADATA_URI</i> on page 1331	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/08/dataservices/metadata">http://schemas.microsoft.com/ado/2007/08/dataservices/metadata</a> .
public static final String	<i>XMLNS_SAP_URI</i> on page 1331	Constant for XMLNS URI: <a href="http://www.sap.com/Protocols/SAPData">http://www.sap.com/Protocols/SAPData</a> .

#### Inherited members from ISDMPersistable

Modifier and Type	Member	Description
public void	<i>read(BufferedReader)</i> on page 1332	
public void	<i>write(BufferedWriter)</i> on page 1332	

### *SDMODataCollection() constructor*

#### *Syntax*

```
public   SDMODataCollection ()
```

### *SDMODataCollection(SDMParserDocument) constructor*

#### *Syntax*

```
public   SDMODataCollection ( SDMParserDocument document )
```

### *SDMODataCollection(String) constructor*

#### *Syntax*

```
public   SDMODataCollection ( String string )
```

### *SDMODataCollection(int[], String[]) constructor*

#### *Syntax*

```
protected   SDMODataCollection ( int[] routes , String[] values )
```

### *getDisplayOrder() method*

Returns the value of the appropriate SDMOData extension attribute.

#### *Syntax*

```
public int   getDisplayOrder ()
```

#### *Returns*

The value of the appropriate SDMOData extension attribute

### *getHref() method*

Returns the value of the 'href' SDMOData attribute.

#### *Syntax*

```
public String   getHref ()
```

#### *Returns*

The value of the 'href' SDMOData attribute

### *getIcons() method*

Returns list of the appropriate SDMOData elements.

#### *Syntax*

```
public List< ISDMODataIcon >   getIcons ()
```

**Returns**

list of the appropriate SDMOData elements

**getId() method**

Returns the value of the 'href' SDMOData attribute as a relative href (matchable with appropriate entitySet)

**Syntax**

```
public String getId ()
```

**Returns**

The value of the 'href' SDMOData attribute

**getLinks() method**

Returns the value of the appropriate SDMOData elements.

**Syntax**

```
public List< ISDMODataLink > getLinks ()
```

**Returns**

The value of the appropriate SDMOData elements

**getMemberTitle() method**

Returns the value of the appropriate SDMSDMOData element.

**Syntax**

```
public String getMemberTitle ()
```

**Returns**

The value of the appropriate SDMSDMOData element

**getSearchLink() method**

Returns SDMSDMOData Link object that should be used for retrieving Open Search Description XML.

**Syntax**

```
public ISDMODataLink getSearchLink ()
```

**Returns**

SDMSDMOData Link for search

### *getSemantics() method*

Returns the value of the appropriate SDMOData attribute.

#### *Syntax*

```
public String getSemantics ()
```

#### *Returns*

The value of the appropriate SDMOData attribute

### *getSubscriptionLink() method*

Returns SDMSDMOData Link object that should be used for subscription or null if there is no subscription link defined.

#### *Syntax*

```
public ISDMODataLink getSubscriptionLink ()
```

#### *Returns*

SDMSDMOData Link for subscribe

### *getTitle() method*

Returns the value of the appropriate SDMOData element.

#### *Syntax*

```
public String getTitle ()
```

#### *Returns*

The value of the appropriate SDMOData element

### *getUrl() method*

Returns SDMSDMOData Link object that should be used for self related operations.

#### *Syntax*

```
public String getUrl ()
```

#### *Returns*

SDMSDMOData Link for self Returns the full URL of the collectionThe full URL of the collection

### *isCreatable() method*

Returns the value of the appropriate SDMOData attribute.

#### *Syntax*

```
public boolean isCreatable ()
```



**Returns**

The value of the appropriate SDMOData attribute

***isDeletable() method***

Returns the value of the appropriate SDMOData attribute.

**Syntax**

```
public boolean isDeletable ()
```

**Returns**

The value of the appropriate SDMOData attribute

***isFilterable() method***

Returns the value of the appropriate SDMOData attribute.

**Syntax**

```
public boolean isFilterable ()
```

**Returns**

The value of the appropriate SDMOData attribute

***isSearchable() method***

Returns the value of the appropriate SDMOData attribute.

**Syntax**

```
public boolean isSearchable ()
```

**Returns**

The value of the appropriate SDMOData attribute

***isUpdatable() method***

Returns the value of the appropriate SDMOData attribute.

**Syntax**

```
public boolean isUpdatable ()
```

**Returns**

The value of the appropriate SDMOData attribute

### *read(BufferedReader) method*

#### *Syntax*

```
public void read (BufferedReader reader) throws  
SDMPersistenceException
```

#### *Parameters*

- **reader** – The buffered reader to read the object from.

#### *Exceptions*

- **SDMPersistenceException** – if data can not be loaded from the reader.

### *setBaseUrl(String) method*

#### *Syntax*

```
protected void setBaseUrl (String baseUrl)
```

### *setEntitySet(ISDMODataEntitySet) method*

Sets the data held by the appropriate element of the SDMOData Schema.

#### *Syntax*

```
public void setEntitySet ( ISDMODataEntitySet entitySet)
```

#### *Parameters*

- **entitySet** – The SDMOData EntitySet to use the data from.

#### *Usage*

If EntitySet is set base attributes of collection will be overwritten with the appropriate values of the EntitySet.

### *write(BufferedWriter) method*

#### *Syntax*

```
public void write (BufferedWriter writer) throws  
SDMPersistenceException
```

#### *Parameters*

- **writer** – The buffered writer that object data needs to be written into.

*Exceptions*

- **SDMPersistenceException** – if data can not be written into the writer

*baseUrl variable**Syntax*

```
protected String baseUrl
```

*collectionName variable**Syntax*

```
protected String collectionName
```

*isJson variable**Syntax*

```
protected boolean isJson
```

*SDMODataComplexType class*

Deprecated. since 3.0, Use ODataComplexType

*Syntax*

```
public class SDMODataComplexType extends SDMParserDocument,
ISDMODataComplexType
```

*Members*

All members of SDMODataComplexType, including inherited members. **Constructors**

Modifier and Type	Constructor	Description
public	<i>SDMODataComplexType()</i> on page 1525	
public	<i>SDMODataComplexType(SDMParserDocument)</i> on page 1525	
protected	<i>SDMODataComplexType(int[], String[])</i> on page 1526	

**Methods**

Modifier and Type	Method	Description
public String	<i>getName()</i> on page 1526	Returns the value of the appropriate SDMODData element.
public List< ISDMODDataProperty >	<i>getProperties()</i> on page 1526	Returns the list of the appropriate SDMODData elements.

#### Inherited members from SDMParserDocument

Modifier and Type	Member	Description
static transient final String	<i>ANY_STRING</i> on page 1953	
static transient final int	<i>ATTRIBUTE_ID</i> on page 1953	
static transient final String	<i>ATTRIBUTE_STRING</i> on page 1954	
public SDMParserDocument	<i>clone()</i> on page 1936	Creates a copy of this object.
protected Map< String, String >	<i>extensions</i> on page 1954	
public String	<i>getAttribute(String...)</i> on page 1936	Returns the value of the first attribute with the given route.
public List< String >	<i>getAttributes(String...)</i> on page 1937	Returns all the values of attributes with the given route.
protected int	<i>getAttributesEndPosition(int[], int, int)</i> on page 1937	
public Map< String, String >	<i>getChildAttributeMap(String...)</i> on page 1937	Returns all the name-value pairs of attributes contained by the element with the given route.
public List< String >	<i>getChildAttributes(String...)</i> on page 1938	Returns all the values of attributes contained by the element with the given route.
public List< ISDMParserDocument >	<i>getChildDocuments(String...)</i> on page 1938	Returns the elements contained by the element with the given route.
public List< ISDMParserDocument >	<i>getChildDocumentsWithAttribute(String, String, String...)</i> on page 1938	Returns the elements contained by the element with the given route and having the given attribute with the given value.

Modifier and Type	Member	Description
public List< ISDMParserDocument >	<i>getChildDocumentsWithAttribute(String, String, boolean, String...)</i> on page 1939	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public SDMParserDocument	<i>getDocument(String...)</i> on page 1939	Returns the first element with the given route.
protected List< int[] >	<i>getDocumentPositions(String[], int, boolean, boolean)</i> on page 1940	
public List< ISDMParserDocument >	<i>getDocuments(String...)</i> on page 1940	Returns all the elements with the given route.
public List< ISDMParserDocument >	<i>getDocumentsWithAttribute(String, String, String...)</i> on page 1940	Returns the elements with the given route that contains the given attribute with the given value.
public List< ISDMParserDocument >	<i>getDocumentsWithAttribute(String, String, boolean, String...)</i> on page 1941	Returns the elements with the given route that contains the given attribute with the given value.
public ISDMParserDocument	<i>getDocumentWithAttribute(String, String, String...)</i> on page 1941	Returns the first element with the given route that contains the given attribute with the given value.
public ISDMParserDocument	<i>getDocumentWithAttribute(String, String, boolean, String...)</i> on page 1942	Returns the first element with the given route that contains the given attribute with the given value.
public String	<i>getElementName()</i> on page 1942	Returns The name of the root element of this document.
public String	<i>getExtension(String)</i> on page 1943	
public String	<i>getFunctionImportComplexProperty Value(String...)</i> on page 1943	

Modifier and Type	Member	Description
static int	<i>getNameId(String, boolean, boolean)</i> on page 1943	
public static List< String >	<i>getNameMap()</i> on page 1943	
public static String	<i>getPrefix(String)</i> on page 1943	
public String	<i>getPrefixForUri(String)</i> on page 1943	Returns the appropriate name-space prefix for the given XML name-space URI.
public static Map< String, String >	<i>getPrefixMapping()</i> on page 1944	
protected List< Integer >	<i>getStringPositions(String[], int, boolean, boolean)</i> on page 1944	
public String[]	<i>getStrings()</i> on page 1944	Returns all the string values contained by this document.
public String	<i>getValue(String...)</i> on page 1944	Returns the value of the first element with the given route.
public List< String >	<i>getValues(String...)</i> on page 1944	Returns all the values of elements with the given route.
protected int[]	<i>insertRoutePositions(int[], int, int[])</i> on page 1945	
protected void	<i>insertRoutesPositions(int, int[])</i> on page 1945	
protected void	<i>insertStringsPositions(int, String[])</i> on page 1945	
protected String[]	<i>insertStringsPositions(String[], int, String[])</i> on page 1945	
boolean	<i>isComplexEntity</i> on page 1954	
boolean	<i>isJson</i> on page 1954	
protected boolean	<i>isMatched(String, String)</i> on page 1945	

Modifier and Type	Member	Description
static transient List< String >	<i>nameMap</i> on page 1954	
static transient Map< String, String >	<i>prefixMapping</i> on page 1954	
public void	<i>putAttribute(String, String...)</i> on page 1946	Sets the value of the attribute with the given route If attribute does not exist it will be created as well as all other non existing elements in the route.
public void	<i>putDocument(ISDMParseDocument, String...)</i> on page 1946	Insert the document under the element with the given route inserted document will be placed before already existing documents with the same route name under All missing elements from the route will be created.
public void	<i>putExtension(String, String)</i> on page 1946	
protected void	<i>putString(int, String, int, String...)</i> on page 1947	
public void	<i>putValue(String, String...)</i> on page 1947	Sets the value of the first element with the given route.
public void	<i>read(BufferedReader)</i> on page 1947	
public static void	<i>readNameMap(BufferedReader)</i> on page 1947	
public boolean	<i>removeAttribute(String...)</i> on page 1948	Removes first element with the given route.
public boolean	<i>removeAttributes(String...)</i> on page 1948	Removes all the attribute with the given route.
public boolean	<i>removeDocument(String...)</i> on page 1948	Removes first element with the given route For removing multiple element use setDocuemtns with null arguments.
public void	<i>removeExtension(String)</i> on page 1948	

Modifier and Type	Member	Description
protected void	<i>removeRoutesPositions(int, int)</i> on page 1949	
protected int[]	<i>removeRoutesPositions(int[], int, int)</i> on page 1949	
protected boolean	<i>removeString(String...)</i> on page 1949	
protected boolean	<i>removeStrings(String...)</i> on page 1949	
protected void	<i>removeStringsPositions(int, int)</i> on page 1949	
protected String[]	<i>removeStringsPositions(String[], int, int)</i> on page 1949	
protected int	<i>replaceRoutesPositions(int, int, int[])</i> on page 1949	
protected int[]	<i>replaceRoutesPositions(int[], int, int, int[])</i> on page 1950	
protected int	<i>replaceStringsPositions(int, int, String[])</i> on page 1950	
protected String[]	<i>replaceStringsPositions(String[], int, int, String[])</i> on page 1950	
public static String	<i>resolveUrl(String, String)</i> on page 1950	
protected int[]	<i>routes</i> on page 1954	
	<i>SDMParserDocument()</i> on page 1935	
	<i>SDMParserDocument(boolean)</i> on page 1936	
public	<i>SDMParserDocument(String)</i> on page 1935	



Modifier and Type	Member	Description
public	<i>SDMParserDocument(SDMParserDocument)</i> on page 1935	
protected	<i>SDMParserDocument(int[], String[])</i> on page 1936	
protected	<i>SDMParserDocument(String, boolean)</i> on page 1936	
public void	<i>setAttribute(String, String...)</i> on page 1950	
public void	<i>setAttributes(List&lt;String&gt;, String...)</i> on page 1950	Sets all the values of the attributes with the given route Values will be paired to attributes in order Attributes with greater or equals index than size of new values will be untouched Attributes paired with null values will be removed.
public boolean	<i>setDocument(ISDMParserDocument, String...)</i> on page 1951	
public void	<i>setDocuments(List&lt;ISDMParserDocument&gt;, String...)</i> on page 1951	Replaces all the elements with the given route Documents will be paired to elements in order Elements with greater or equals index than size of new elements will be untouched Element paired with null will be removed.
public void	<i>setElementName(String, String...)</i> on page 1951	Sets the name of the root element with the given route Use empty route for setting root name of this document.
public static void	<i>setNameMap(List&lt;String&gt;)</i> on page 1952	
public static void	<i>setPrefixMapping(Map&lt;String, String&gt;)</i> on page 1952	

Modifier and Type	Member	Description
protected void	<i>setString(String, String...)</i> on page 1952	
protected void	<i>setStrings(List&lt; String &gt;, String...)</i> on page 1952	
public void	<i>setValue(String, String...)</i> on page 1952	
public void	<i>setValues(List&lt; String &gt;, String...)</i> on page 1952	Sets all the values of the elements with the given route values will be paired to elements in order Elements with greater or equals index than size of new values will be untouched Null values will be treated as empty strings.
protected String[]	<i>strings</i> on page 1954	
public String	<i>toXMLString()</i> on page 1953	Returns the XML string representation of this object.
protected static final String	<i>URL_PROTOCOL_PREFIX</i> on page 1955	
static transient final int	<i>VALUE_ID</i> on page 1955	
static transient final String	<i>VALUE_STRING</i> on page 1955	
public void	<i>write(BufferedWriter)</i> on page 1953	
public static void	<i>writeNameMap(BufferedWriter)</i> on page 1953	

#### Inherited members from ISDMParserDocument

Modifier and Type	Member	Description
public static final String	<i>ATTRIBUTE_ETAG</i> on page 1329	Name of the appropriate SDMOData element.
public static final String	<i>ATTRIBUTE_VALUEPREFIX_EDMTYPE</i> on page 1329	Value prefix for EDM Type type values.

Modifier and Type	Member	Description
public static Map< String, String >	<i>DEFAULT_PREFIXMAP-PING</i> on page 1329	The default XML Namespace-to-Prefix mapping used for building XMLS.
public static final String[]	<i>EDMDATETIME_PATTERNS</i> on page 1329	Possible EDM DateTime patterns Note: Some pattern are not supported by OData specification but still widely used.
public static final String[]	<i>EDMDATETIMEOFFSET_PATTERNS</i> on page 1329	Possible EDM TimeOffset patterns Note: Some pattern are not supported by OData specification but still widely used.
public static final String	<i>EDMTIME_PATTERN</i> on page 1329	EDM Time pattern.
public static String	<i>ELEMENT_FEED</i> on page 1329	Name of the appropriate SDMOData element.
public static final String	<i>ELEMENT_ID</i> on page 1330	Name of the appropriate SDMOData element.
public static final String	<i>ROOT_DOCUMENT_NAME</i> on page 1330	The default root element name for a new document.
public static final String	<i>XMLNS_APPLICATION_URI</i> on page 1330	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/08/dataservices">http://schemas.microsoft.com/ado/2007/08/dataservices</a> .
public static final String	<i>XMLNS_ATOM_URI</i> on page 1330	Constant for XMLNS URI: <a href="http://www.w3.org/2005/Atom">http://www.w3.org/2005/Atom</a> .
public static final String	<i>XMLNS_DATASERVICES_URI</i> on page 1330	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/08/dataservices">http://schemas.microsoft.com/ado/2007/08/dataservices</a> .
public static final String	<i>XMLNS_EDM_URI</i> on page 1330	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/05/edm">http://schemas.microsoft.com/ado/2007/05/edm</a> .
public static final String	<i>XMLNS_EDMX_URI</i> on page 1330	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/06/edmx">http://schemas.microsoft.com/ado/2007/06/edmx</a> .

Modifier and Type	Member	Description
public static final String	<i>XMLNS_GENERICPLAYER_URI</i> on page 1331	Constant for XMLNS URI: <a href="http://www.sap.com/Protocols/SAPData/GenericPlayer">http://www.sap.com/Protocols/SAPData/GenericPlayer</a> .
public static final String	<i>XMLNS_METADATA_URI</i> on page 1331	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/08/dataservices/metadata">http://schemas.microsoft.com/ado/2007/08/dataservices/metadata</a> .
public static final String	<i>XMLNS_SAP_URI</i> on page 1331	Constant for XMLNS URI: <a href="http://www.sap.com/Protocols/SAPData">http://www.sap.com/Protocols/SAPData</a> .

#### Inherited members from ISDMPersistable

Modifier and Type	Member	Description
public void	<i>read(BufferedReader)</i> on page 1332	
public void	<i>write(BufferedWriter)</i> on page 1332	

#### Inherited members from ISDMODataComplexType

Modifier and Type	Member	Description
public static final String	<i>ATTRIBUTE_NAME</i> on page 1127	Name of the appropriate SDMODData attribute.
public static final String	<i>ELEMENT_COMPLEXTYPE</i> on page 1127	Name of the appropriate SDMODData element.
public static final String	<i>ELEMENT_PROPERTY</i> on page 1127	Name of the appropriate SDMODData element.

#### Inherited members from ISDMParserDocument

Modifier and Type	Member	Description
public static final String	<i>ATTRIBUTE_ETAG</i> on page 1329	Name of the appropriate SDMODData element.
public static final String	<i>ATTRIBUTE_VALUEPREFIX_EDMTYPE</i> on page 1329	Value prefix for EDM Type type values.

Modifier and Type	Member	Description
public abstract ISDMParseDocument	<i>clone()</i> on page 1317	Creates a copy of this object.
public static Map< String, String >	<i>DEFAULT_PREFIXMAP-PING</i> on page 1329	The default XML Namespace-to-Prefix mapping used for building XMLS.
public static final String[]	<i>EDMDATETIME_PATTERNS</i> on page 1329	Possible EDM DateTime patterns Note: Some pattern are not supported by OData specification but still widely used.
public static final String[]	<i>EDMDATETIMEOFFSET_PATTERNS</i> on page 1329	Possible EDM TimeOffset patterns Note: Some pattern are not supported by OData specification but still widely used.
public static final String	<i>EDMTIME_PATTERN</i> on page 1329	EDM Time pattern.
public static String	<i>ELEMENT_FEED</i> on page 1329	Name of the appropriate SDMOData element.
public static final String	<i>ELEMENT_ID</i> on page 1330	Name of the appropriate SDMOData element.
public abstract String	<i>getAttribute(String...)</i> on page 1317	Returns the value of the first attribute with the given route.
public abstract List< String >	<i>getAttributes(String...)</i> on page 1317	Returns all the values of attributes with the given route.
public abstract Map< String, String >	<i>getChildAttribute-Map(String...)</i> on page 1318	Returns all the name-value pairs of attributes contained by the element with the given route.
public abstract List< String >	<i>getChildAttributes(String...)</i> on page 1318	Returns all the values of attributes contained by the element with the given route.
public abstract List< ISDMParseDocument >	<i>getChildDocuments(String...)</i> on page 1318	Returns the elements contained by the element with the given route.

Modifier and Type	Member	Description
public abstract List< ISDMParseDocument >	<i>getChildDocumentsWithAttribute(String, String, String...)</i> on page 1319	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public abstract List< ISDMParseDocument >	<i>getChildDocumentsWithAttribute(String, String, boolean, String...)</i> on page 1319	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public abstract ISDMParseDocument	<i>getDocument(String...)</i> on page 1320	Returns the first element with the given route.
public abstract List< ISDMParseDocument >	<i>getDocuments(String...)</i> on page 1320	Returns all the elements with the given route.
public abstract List< ISDMParseDocument >	<i>getDocumentsWithAttribute(String, String, String...)</i> on page 1321	Returns the elements with the given route that contains the given attribute with the given value.
public abstract List< ISDMParseDocument >	<i>getDocumentsWithAttribute(String, String, boolean, String...)</i> on page 1321	Returns the elements with the given route that contains the given attribute with the given value.
public abstract ISDMParseDocument	<i>getDocumentWithAttribute(String, String, String...)</i> on page 1322	Returns the first element with the given route that contains the given attribute with the given value.
public abstract ISDMParseDocument	<i>getDocumentWithAttribute(String, String, boolean, String...)</i> on page 1322	Returns the first element with the given route that contains the given attribute with the given value.
public abstract String	<i>getElementName()</i> on page 1323	Returns The name of the root element of this document.
public abstract String	<i>getFunctionImportComplexPropertyValue(String...)</i> on page 1323	
public abstract String	<i>getPrefixForUri(String)</i> on page 1323	Returns the appropriate namespace prefix for the given XML name-space URI.

Modifier and Type	Member	Description
public abstract String[]	<i>getStrings()</i> on page 1324	Returns all the string values contained by this document.
public abstract String	<i>getValue(String...)</i> on page 1324	Returns the value of the first element with the given route.
public abstract List< String >	<i>getValues(String...)</i> on page 1324	Returns all the values of elements with the given route.
public abstract void	<i>putAttribute(String, String...)</i> on page 1325	Sets the value of the attribute with the given route If attribute does not exist it will be created as well as all other non existing elements in the route.
public abstract void	<i>putDocument(ISDMParserDocument, String...)</i> on page 1325	Insert the document under the element with the given route inserted document will be placed before already existing documents with the same route name under All missing elements from the route will be created.
public abstract void	<i>putValue(String, String...)</i> on page 1325	Sets the value of the first element with the given route.
public abstract boolean	<i>removeAttribute(String...)</i> on page 1326	Removes first element with the given route.
public abstract boolean	<i>removeAttributes(String...)</i> on page 1326	Removes all the attribute with the given route.
public abstract boolean	<i>removeDocument(String...)</i> on page 1326	Removes first element with the given route For removing multiple element use setDocuemtns with null arguments.
public static final String	<i>ROOT_DOCUMENT_NAME</i> on page 1330	The default root element name for a new document.

Modifier and Type	Member	Description
public abstract void	<i>setAttributes(List&lt; String &gt;, String...)</i> on page 1327	Sets all the values of the attributes with the given route Values will be paired to attributes in order Attributes with greater or equals index than size of new values will be untouched Attributes paired with null values will be removed.
public abstract void	<i>setDocuments(List&lt; ISDMParserDocument &gt;, String...)</i> on page 1327	Replaces all the elements with the given route Documents will be paired to elements in order Elements with greater or equals index than size of new elements will be untouched Element paired with null will be removed.
public abstract void	<i>setElementName(String, String...)</i> on page 1328	Sets the name of the root element with the given route Use empty route for setting root name of this document.
public abstract void	<i>setValues(List&lt; String &gt;, String...)</i> on page 1328	Sets all the values of the elements with the given route Values will be paired to elements in order Elements with greater or equals index than size of new values will be untouched Null values will be treated as empty strings.
public abstract String	<i>toXMLString()</i> on page 1328	Returns the XML string representation of this object.
public static final String	<i>XMLNS_APPLICATION_URI</i> on page 1330	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/08/dataservices">http://schemas.microsoft.com/ado/2007/08/dataservices</a> .
public static final String	<i>XMLNS_ATOM_URI</i> on page 1330	Constant for XMLNS URI: <a href="http://www.w3.org/2005/Atom">http://www.w3.org/2005/Atom</a> .



Modifier and Type	Member	Description
public static final String	<i>XMLNS_DATASERVICES_URI</i> on page 1330	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/08/dataservices">http://schemas.microsoft.com/ado/2007/08/dataservices</a> .
public static final String	<i>XMLNS_EDM_URI</i> on page 1330	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/05/edm">http://schemas.microsoft.com/ado/2007/05/edm</a> .
public static final String	<i>XMLNS_EDMX_URI</i> on page 1330	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/06/edmx">http://schemas.microsoft.com/ado/2007/06/edmx</a> .
public static final String	<i>XMLNS_GENERICPLAYER_URI</i> on page 1331	Constant for XMLNS URI: <a href="http://www.sap.com/Protocols/SAPData/GenericPlayer">http://www.sap.com/Protocols/SAPData/GenericPlayer</a> .
public static final String	<i>XMLNS_METADATA_URI</i> on page 1331	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/08/dataservices/metadata">http://schemas.microsoft.com/ado/2007/08/dataservices/metadata</a> .
public static final String	<i>XMLNS_SAP_URI</i> on page 1331	Constant for XMLNS URI: <a href="http://www.sap.com/Protocols/SAPData">http://www.sap.com/Protocols/SAPData</a> .

#### Inherited members from ISDMPersistable

Modifier and Type	Member	Description
public void	<i>read(BufferedReader)</i> on page 1332	
public void	<i>write(BufferedWriter)</i> on page 1332	

#### *SDMODataComplexType()* constructor

##### Syntax

```
public SDMODataComplexType ()
```

#### *SDMODataComplexType(SDMParserDocument)* constructor

##### Syntax

```
public SDMODataComplexType ( SDMParserDocument document )
```

*SDMODataComplexType(int[], String[]) constructor*

*Syntax*

```
protected   SDMODataComplexType ( int[] routes , String[] values )
```

*getName() method*

Returns the value of the appropriate SDMOData element.

*Syntax*

```
public String getName ()
```

*Returns*

The value of the appropriate SDMOData element

*getProperties() method*

Returns the list of the appropriate SDMOData elements.

*Syntax*

```
public List< ISDMODataProperty > getProperties ()
```

*Returns*

The list of the appropriate SDMOData elements

*SDMODataEntitySet class*

Deprecated. since 3.0, Use ODataEntitySet

*Syntax*

```
public class SDMODataEntitySet extends SDMParserDocument,
ISDMODataEntitySet
```

*Members*

All members of SDMODataEntitySet, including inherited members. **Constructors**

Modifier and Type	Constructor	Description
public	<i>SDMODataEntitySet()</i> on page 1540	
public	<i>SDMODataEntitySet(SDMParserDocument)</i> on page 1541	
protected	<i>SDMODataEntitySet(int[], String[])</i> on page 1541	

**Methods**

Modifier and Type	Method	Description
public String	<i>getName()</i> on page 1541	
public boolean	<i>isCreatable()</i> on page 1541	
public boolean	<i>isDeletable()</i> on page 1541	
public boolean	<i>isSearchable()</i> on page 1541	
public boolean	<i>isSearchable(String)</i> on page 1542	Returns the value of the given SDMOData attribute.
public boolean	<i>isUpdatable()</i> on page 1542	

**Inherited members from SDMParserDocument**

Modifier and Type	Member	Description
static transient final String	<i>ANY_STRING</i> on page 1953	
static transient final int	<i>ATTRIBUTE_ID</i> on page 1953	
static transient final String	<i>ATTRIBUTE_STRING</i> on page 1954	
public SDMParserDocument	<i>clone()</i> on page 1936	Creates a copy of this object.
protected Map< String, String >	<i>extensions</i> on page 1954	
public String	<i>getAttribute(String...)</i> on page 1936	Returns the value of the first attribute with the given route.
public List< String >	<i>getAttributes(String...)</i> on page 1937	Returns all the values of attributes with the given route.
protected int	<i>getAttributesEndPosition(int[], int, int)</i> on page 1937	
public Map< String, String >	<i>getChildAttributeMap(String...)</i> on page 1937	Returns all the name-value pairs of attributes contained by the element with the given route.
public List< String >	<i>getChildAttributes(String...)</i> on page 1938	Returns all the values of attributes contained by the element with the given route.

Modifier and Type	Member	Description
public List< ISDMParserDocument >	<i>getChildDocuments(String...)</i> on page 1938	Returns the elements contained by the element with the given route.
public List< ISDMParserDocument >	<i>getChildDocumentsWithAttribute(String, String, String...)</i> on page 1938	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public List< ISDMParserDocument >	<i>getChildDocumentsWithAttribute(String, String, boolean, String...)</i> on page 1939	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public SDMParserDocument	<i>getDocument(String...)</i> on page 1939	Returns the first element with the given route.
protected List< int[] >	<i>getDocumentPositions(String[], int, boolean, boolean)</i> on page 1940	
public List< ISDMParserDocument >	<i>getDocuments(String...)</i> on page 1940	Returns all the elements with the given route.
public List< ISDMParserDocument >	<i>getDocumentsWithAttribute(String, String, String...)</i> on page 1940	Returns the elements with the given route that contains the given attribute with the given value.
public List< ISDMParserDocument >	<i>getDocumentsWithAttribute(String, String, boolean, String...)</i> on page 1941	Returns the elements with the given route that contains the given attribute with the given value.
public ISDMParserDocument	<i>getDocumentWithAttribute(String, String, String...)</i> on page 1941	Returns the first element with the given route that contains the given attribute with the given value.
public ISDMParserDocument	<i>getDocumentWithAttribute(String, String, boolean, String...)</i> on page 1942	Returns the first element with the given route that contains the given attribute with the given value.
public String	<i>getElementName()</i> on page 1942	Returns The name of the root element of this document.

Modifier and Type	Member	Description
public String	<i>getExtension(String)</i> on page 1943	
public String	<i>getFunctionImportComplexProperty Value(String...)</i> on page 1943	
static int	<i>getNameId(String, boolean, boolean)</i> on page 1943	
public static List< String >	<i>getNameMap()</i> on page 1943	
public static String	<i>getPrefix(String)</i> on page 1943	
public String	<i>getPrefixForUri(String)</i> on page 1943	Returns the appropriate namespace prefix for the given XML name-space URI.
public static Map< String, String >	<i>getPrefixMapping()</i> on page 1944	
protected List< Integer >	<i>getStringPositions(String[], int, boolean, boolean)</i> on page 1944	
public String[]	<i>getStrings()</i> on page 1944	Returns all the string values contained by this document.
public String	<i>getValue(String...)</i> on page 1944	Returns the value of the first element with the given route.
public List< String >	<i>getValues(String...)</i> on page 1944	Returns all the values of elements with the given route.
protected int[]	<i>insertRoutePositions(int[], int, int[])</i> on page 1945	
protected void	<i>insertRoutesPositions(int, int[])</i> on page 1945	
protected void	<i>insertStringsPositions(int, String[])</i> on page 1945	
protected String[]	<i>insertStringsPositions(String[], int, String[])</i> on page 1945	

Modifier and Type	Member	Description
boolean	<i>isComplexEntity</i> on page 1954	
boolean	<i>isJson</i> on page 1954	
protected boolean	<i>isMatched(String, String)</i> on page 1945	
static transient List< String >	<i>nameMap</i> on page 1954	
static transient Map< String, String >	<i>prefixMapping</i> on page 1954	
public void	<i>putAttribute(String, String...)</i> on page 1946	Sets the value of the attribute with the given route If attribute does not exist it will be created as well as all other non existing elements in the route.
public void	<i>putDocument(ISDMParseDocument, String...)</i> on page 1946	Insert the document under the element with the given route inserted document will be placed before already existing documents with the same route name under All missing elements from the route will be created.
public void	<i>putExtension(String, String)</i> on page 1946	
protected void	<i>putString(int, String, int, String...)</i> on page 1947	
public void	<i>putValue(String, String...)</i> on page 1947	Sets the value of the first element with the given route.
public void	<i>read(BufferedReader)</i> on page 1947	
public static void	<i>readNameMap(BufferedReader)</i> on page 1947	
public boolean	<i>removeAttribute(String...)</i> on page 1948	Removes first element with the given route.
public boolean	<i>removeAttributes(String...)</i> on page 1948	Removes all the attribute with the given route.

Modifier and Type	Member	Description
public boolean	<i>removeDocument(String...)</i> on page 1948	Removes first element with the given route For removing multiple element use setDocuemtns with null arguments.
public void	<i>removeExtension(String)</i> on page 1948	
protected void	<i>removeRoutesPositions(int, int)</i> on page 1949	
protected int[]	<i>removeRoutesPositions(int[], int, int)</i> on page 1949	
protected boolean	<i>removeString(String...)</i> on page 1949	
protected boolean	<i>removeStrings(String...)</i> on page 1949	
protected void	<i>removeStringsPositions(int, int)</i> on page 1949	
protected String[]	<i>removeStringsPositions(String[], int, int)</i> on page 1949	
protected int	<i>replaceRoutesPositions(int, int, int[])</i> on page 1949	
protected int[]	<i>replaceRoutesPositions(int[], int, int, int[])</i> on page 1950	
protected int	<i>replaceStringsPositions(int, int, String[])</i> on page 1950	
protected String[]	<i>replaceStringsPositions(String[], int, int, String[])</i> on page 1950	
public static String	<i>resolveUrl(String, String)</i> on page 1950	
protected int[]	<i>routes</i> on page 1954	
	<i>SDMParserDocument()</i> on page 1935	

Modifier and Type	Member	Description
	<i>SDMParserDocument(boo- lean)</i> on page 1936	
public	<i>SDMParserDocument(String)</i> on page 1935	
public	<i>SDMParserDocu- ment(SDMParserDocument)</i> on page 1935	
protected	<i>SDMParserDocument(int[], String[])</i> on page 1936	
protected	<i>SDMParserDocument(String, boolean)</i> on page 1936	
public void	<i>setAttribute(String, String...)</i> on page 1950	
public void	<i>setAttributes(List&lt; String &gt;, String...)</i> on page 1950	Sets all the values of the attrib- utes with the given route Values will be paired to attributes in or- der Attributes with greater or equals index than size of new values will be untouched Attrib- utes paired with null values will be removed.
public boolean	<i>setDocument(ISDMParserDo- cument, String...)</i> on page 1951	
public void	<i>setDocuments(List&lt; ISDMPar- serDocument &gt; , String...)</i> on page 1951	Replaces all the elements with the given route Documents will be paired to elements in order Elements with greater or equals index than size of new elements will be untouched Element paired with null will be re- moved.
public void	<i>setElementName(String, String...)</i> on page 1951	Sets the name of the root ele- ment with the given route Use empty route for setting root name of this document.



Modifier and Type	Member	Description
public static void	<i>setNameMap(List&lt;String &gt;)</i> on page 1952	
public static void	<i>setPrefixMapping(Map&lt;String, String &gt;)</i> on page 1952	
protected void	<i>setString(String, String...)</i> on page 1952	
protected void	<i>setStrings(List&lt;String &gt;, String...)</i> on page 1952	
public void	<i>setValue(String, String...)</i> on page 1952	
public void	<i>setValues(List&lt;String &gt;, String...)</i> on page 1952	Sets all the values of the elements with the given route values will be paired to elements in order Elements with greater or equals index than size of new values will be untouched Null values will be treated as empty strings.
protected String[]	<i>strings</i> on page 1954	
public String	<i>toXMLString()</i> on page 1953	Returns the XML string representation of this object.
protected static final String	<i>URL_PROTOCOL_PREFIX</i> on page 1955	
static transient final int	<i>VALUE_ID</i> on page 1955	
static transient final String	<i>VALUE_STRING</i> on page 1955	
public void	<i>write(BufferedWriter)</i> on page 1953	
public static void	<i>writeNameMap(BufferedWriter)</i> on page 1953	

### Inherited members from ISDMParserDocument

Modifier and Type	Member	Description
public static final String	<i>ATTRIBUTE_ETAG</i> on page 1329	Name of the appropriate SDMOData element.
public static final String	<i>ATTRIBUTE_VALUEPREFIX_EDMTYPE</i> on page 1329	Value prefix for EDM Type type values.
public static Map< String, String >	<i>DEFAULT_PREFIXMAPPING</i> on page 1329	The default XML Namespace-to-Prefix mapping used for building XMLS.
public static final String[]	<i>EDMDATETIME_PATTERNS</i> on page 1329	Possible EDM DateTime patterns Note: Some pattern are not supported by OData specification but still widely used.
public static final String[]	<i>EDMDATETIMEOFFSET_PATTERNS</i> on page 1329	Possible EDM TimeOffset patterns Note: Some pattern are not supported by OData specification but still widely used.
public static final String	<i>EDMTIME_PATTERN</i> on page 1329	EDM Time pattern.
public static String	<i>ELEMENT_FEED</i> on page 1329	Name of the appropriate SDMOData element.
public static final String	<i>ELEMENT_ID</i> on page 1330	Name of the appropriate SDMOData element.
public static final String	<i>ROOT_DOCUMENT_NAME</i> on page 1330	The default root element name for a new document.
public static final String	<i>XMLNS_APPLICATION_URI</i> on page 1330	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/08/dataservices">http://schemas.microsoft.com/ado/2007/08/dataservices</a> .
public static final String	<i>XMLNS_ATOM_URI</i> on page 1330	Constant for XMLNS URI: <a href="http://www.w3.org/2005/Atom">http://www.w3.org/2005/Atom</a> .
public static final String	<i>XMLNS_DATASERVICES_URI</i> on page 1330	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/08/dataservices">http://schemas.microsoft.com/ado/2007/08/dataservices</a> .
public static final String	<i>XMLNS_EDM_URI</i> on page 1330	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/05/edm">http://schemas.microsoft.com/ado/2007/05/edm</a> .

Modifier and Type	Member	Description
public static final String	<i>XMLNS_EDMX_URI</i> on page 1330	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/06/edmx">http://schemas.microsoft.com/ado/2007/06/edmx</a> .
public static final String	<i>XMLNS_GENERICPLAYER_URI</i> on page 1331	Constant for XMLNS URI: <a href="http://www.sap.com/Protocols/SAPData/GenericPlayer">http://www.sap.com/Protocols/SAPData/GenericPlayer</a> .
public static final String	<i>XMLNS_METADATA_URI</i> on page 1331	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/08/dataservices/metadata">http://schemas.microsoft.com/ado/2007/08/dataservices/metadata</a> .
public static final String	<i>XMLNS_SAP_URI</i> on page 1331	Constant for XMLNS URI: <a href="http://www.sap.com/Protocols/SAPData">http://www.sap.com/Protocols/SAPData</a> .

#### Inherited members from ISDMPersistable

Modifier and Type	Member	Description
public void	<i>read(BufferedReader)</i> on page 1332	
public void	<i>write(BufferedWriter)</i> on page 1332	

#### Inherited members from ISDMODataEntitySet

Modifier and Type	Member	Description
public static final String	<i>ATTRIBUTE_CREATABLE</i> on page 1135	Name of the appropriate SDMODData attribute.
public static final String	<i>ATTRIBUTE_DELETABLE</i> on page 1135	Name of the appropriate SDMODData attribute.
public static final String	<i>ATTRIBUTE_NAME</i> on page 1135	Name of the appropriate SDMODData attribute.
public static final String	<i>ATTRIBUTE_SEARCHABLE</i> on page 1135	Name of the appropriate SDMODData attribute.
public static final String	<i>ATTRIBUTE_UPDATABLE</i> on page 1135	Name of the appropriate SDMODData attribute.

Modifier and Type	Member	Description
public static final String	<i>ELEMENT_ENTITYSET</i> on page 1135	Name of the appropriate SDMOData element.

#### Inherited members from ISDMParserDocument

Modifier and Type	Member	Description
public static final String	<i>ATTRIBUTE_ETAG</i> on page 1329	Name of the appropriate SDMOData element.
public static final String	<i>ATTRIBUTE_VALUEPREFIX_EDMTYPE</i> on page 1329	Value prefix for EDM Type type values.
public abstract ISDMParserDocument	<i>clone()</i> on page 1317	Creates a copy of this object.
public static Map< String, String >	<i>DEFAULT_PREFIXMAPPING</i> on page 1329	The default XML Namespace-to-Prefix mapping used for building XMLS.
public static final String[]	<i>EDMDATETIME_PATTERNS</i> on page 1329	Possible EDM DateTime patterns Note: Some pattern are not supported by OData specification but still widely used.
public static final String[]	<i>EDMDATETIMEOFFSET_PATTERNS</i> on page 1329	Possible EDM TimeOffset patterns Note: Some pattern are not supported by OData specification but still widely used.
public static final String	<i>EDMTIME_PATTERN</i> on page 1329	EDM Time pattern.
public static String	<i>ELEMENT_FEED</i> on page 1329	Name of the appropriate SDMOData element.
public static final String	<i>ELEMENT_ID</i> on page 1330	Name of the appropriate SDMOData element.
public abstract String	<i>getAttribute(String...)</i> on page 1317	Returns the value of the first attribute with the given route.
public abstract List< String >	<i>getAttributes(String...)</i> on page 1317	Returns all the values of attributes with the given route.

Modifier and Type	Member	Description
public abstract Map< String, String >	<i>getChildAttribute-Map(String...)</i> on page 1318	Returns all the name-value pairs of attributes contained by the element with the given route.
public abstract List< String >	<i>getChildAttributes(String...)</i> on page 1318	Returns all the values of attributes contained by the element with the given route.
public abstract List< ISDMParserDocument >	<i>getChildDocuments(String...)</i> on page 1318	Returns the elements contained by the element with the given route.
public abstract List< ISDMParserDocument >	<i>getChildDocumentsWithAttribute(String, String, String...)</i> on page 1319	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public abstract List< ISDMParserDocument >	<i>getChildDocumentsWithAttribute(String, String, boolean, String...)</i> on page 1319	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public abstract ISDMParserDocument	<i>getDocument(String...)</i> on page 1320	Returns the first element with the given route.
public abstract List< ISDMParserDocument >	<i>getDocuments(String...)</i> on page 1320	Returns all the elements with the given route.
public abstract List< ISDMParserDocument >	<i>getDocumentsWithAttribute(String, String, String...)</i> on page 1321	Returns the elements with the given route that contains the given attribute with the given value.
public abstract List< ISDMParserDocument >	<i>getDocumentsWithAttribute(String, String, boolean, String...)</i> on page 1321	Returns the elements with the given route that contains the given attribute with the given value.
public abstract ISDMParserDocument	<i>getDocumentWithAttribute(String, String, String...)</i> on page 1322	Returns the first element with the given route that contains the given attribute with the given value.

Modifier and Type	Member	Description
public abstract ISDMParserDocument	<i>getDocumentWithAttribute(String, String, boolean, String...)</i> on page 1322	Returns the first element with the given route that contains the given attribute with the given value.
public abstract String	<i>getElementName()</i> on page 1323	Returns The name of the root element of this document.
public abstract String	<i>getFunctionImportComplexPropertyValue(String...)</i> on page 1323	
public abstract String	<i>getPrefixForUri(String)</i> on page 1323	Returns the appropriate name-space prefix for the given XML name-space URI.
public abstract String[]	<i>getStrings()</i> on page 1324	Returns all the string values contained by this document.
public abstract String	<i>getValue(String...)</i> on page 1324	Returns the value of the first element with the given route.
public abstract List< String >	<i>getValues(String...)</i> on page 1324	Returns all the values of elements with the given route.
public abstract void	<i>putAttribute(String, String...)</i> on page 1325	Sets the value of the attribute with the given route If attribute does not exist it will be created as well as all other non existing elements in the route.
public abstract void	<i>putDocument(ISDMParserDocument, String...)</i> on page 1325	Insert the document under the element with the given route inserted document will be placed before already existing documents with the same route name under All missing elements from the route will be created.
public abstract void	<i>putValue(String, String...)</i> on page 1325	Sets the value of the first element with the given route.
public abstract boolean	<i>removeAttribute(String...)</i> on page 1326	Removes first element with the given route.

Modifier and Type	Member	Description
public abstract boolean	<i>removeAttributes(String...)</i> on page 1326	Removes all the attribute with the given route.
public abstract boolean	<i>removeDocument(String...)</i> on page 1326	Removes first element with the given route For removing multiple element use setDocuemtns with null arguments.
public static final String	<i>ROOT_DOCUMENT_NAME</i> on page 1330	The default root element name for a new document.
public abstract void	<i>setAttributes(List&lt; String &gt;, String...)</i> on page 1327	Sets all the values of the attributes with the given route Values will be paired to attributes in order Attributes with greater or equals index than size of new values will be untouched Attributes paired with null values will be removed.
public abstract void	<i>setDocuments(List&lt; ISDMParserDocument &gt;, String...)</i> on page 1327	Replaces all the elements with the given route Documents will be paired to elements in order Elements with greater or equals index than size of new elements will be untouched Element paired with null will be removed.
public abstract void	<i>setElementName(String, String...)</i> on page 1328	Sets the name of the root element with the given route Use empty route for setting root name of this document.
public abstract void	<i>setValues(List&lt; String &gt;, String...)</i> on page 1328	Sets all the values of the elements with the given rout Values will be paired to elements in order Elements with greater or equals index than size of new values will be untouched Null values will be treated as empty strings.
public abstract String	<i>toXMLString()</i> on page 1328	Returns the XML string representation of this object.

Modifier and Type	Member	Description
public static final String	<i>XMLNS_APPLICATION_URI</i> on page 1330	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/08/dataservices">http://schemas.microsoft.com/ado/2007/08/dataservices</a> .
public static final String	<i>XMLNS_ATOM_URI</i> on page 1330	Constant for XMLNS URI: <a href="http://www.w3.org/2005/Atom">http://www.w3.org/2005/Atom</a> .
public static final String	<i>XMLNS_DATASERVICES_URI</i> on page 1330	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/08/dataservices">http://schemas.microsoft.com/ado/2007/08/dataservices</a> .
public static final String	<i>XMLNS_EDM_URI</i> on page 1330	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/05/edm">http://schemas.microsoft.com/ado/2007/05/edm</a> .
public static final String	<i>XMLNS_EDMX_URI</i> on page 1330	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/06/edmx">http://schemas.microsoft.com/ado/2007/06/edmx</a> .
public static final String	<i>XMLNS_GENERICPLAYER_URI</i> on page 1331	Constant for XMLNS URI: <a href="http://www.sap.com/Protocols/SAPData/GenericPlayer">http://www.sap.com/Protocols/SAPData/GenericPlayer</a> .
public static final String	<i>XMLNS_METADATA_URI</i> on page 1331	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/08/dataservices/metadata">http://schemas.microsoft.com/ado/2007/08/dataservices/metadata</a> .
public static final String	<i>XMLNS_SAP_URI</i> on page 1331	Constant for XMLNS URI: <a href="http://www.sap.com/Protocols/SAPData">http://www.sap.com/Protocols/SAPData</a> .

**Inherited members from ISDMPersistable**

Modifier and Type	Member	Description
public void	<i>read(BufferedReader)</i> on page 1332	
public void	<i>write(BufferedWriter)</i> on page 1332	

*SDMODataEntitySet()* constructor**Syntax**

```
public    SDMODataEntitySet ()
```



*SDMODataEntitySet(SDMParserDocument) constructor**Syntax*

```
public   SDMODataEntitySet ( SDMParserDocument document )
```

*SDMODataEntitySet(int[], String[]) constructor**Syntax*

```
protected   SDMODataEntitySet ( int[] routes , String[] values )
```

*getName() method**Syntax*

```
public String getName ()
```

*Returns*

The value of the appropriate SDMOData attribute

*isCreatable() method**Syntax*

```
public boolean isCreatable ()
```

*Returns*

The value of the appropriate SDMOData attribute

*isDeletable() method**Syntax*

```
public boolean isDeletable ()
```

*Returns*

The value of the appropriate SDMOData attribute

*isSearchable() method**Syntax*

```
public boolean isSearchable ()
```

*Returns*

The value of the appropriate SDMOData attribute

*isSearchable(String) method*

Returns the value of the given SDMODData attribute.

*Syntax*

```
public boolean isSearchable ( String searchAttributeName )
```

*Parameters*

- **searchAttributeName** – The name of the SDMODData attribute

*Returns*

The value of the given SDMODData attribute

*isUpdatable() method*

*Syntax*

```
public boolean isUpdatable ()
```

*Returns*

The value of the appropriate SDMODData attribute

*SDMODDataEntityType class*

Deprecated. since 3.0, Use ODataEntityType

*Syntax*

```
public class SDMODDataEntityType extends SDMParserDocument,  
ISDMODDataEntityType
```

*Derived classes*

- *SDMODDataReturnEntityType* on page 1787

*Members*

All members of SDMODDataEntityType, including inherited members. **Constructors**

Modifier and Type	Constructor	Description
public	<i>SDMODDataEntityType()</i> on page 1558	
public	<i>SDMODDataEntityType(SDMParserDocument)</i> on page 1558	

Modifier and Type	Constructor	Description
protected	<i>SDMODDataEntityType(int[], String[])</i> on page 1558	

## Methods

Modifier and Type	Method	Description
public List< ISDMODDataProperty >	<i>getGPUUseInSearchPropertiesData()</i> on page 1558	Returns The list of appropriate SDMODData elements with 'true' use-in-search (Generic Player names-pace) attribute value.
public List< ISDMODDataProperty >	<i>getGPVisibleInDetailPropertiesData()</i> on page 1559	Returns The list of appropriate SDMODData elements with 'true' visible-in-detail (Generic Player names-pace) attribute value.
public List< ISDMODDataProperty >	<i>getGPVisibleInListPropertiesData()</i> on page 1559	Returns The list of appropriate SDMODData elements with 'true' visible-in-list (Generic Player names-pace) attribute value.
public List< String >	<i>getKeyPropertyNames()</i> on page 1559	Returns the list of the values of the 'PropertyRef' SDMODData element contained by the 'Key' SDMODData element.
public String	<i>getName()</i> on page 1559	Returns The value of the appropriate SDMODData attribute.
public List< ISDMODDataNavigationProperty >	<i>getNavigationProperties()</i> on page 1560	Returns The list of appropriate SDMODData elements.
public ISDMODDataNavigationProperty	<i>getNavigationProperty(String)</i> on page 1560	Returns The appropriate SDMODData element with the given name.
public List< ISDMODDataProperty >	<i>getProperties()</i> on page 1560	Returns The list of appropriate SDMODData elements.
public List< ISDMODDataProperty >	<i>getPropertiesWithAttribute(String, String)</i> on page 1560	Returns The list of appropriate SDMODData elements with given attribute value.

Modifier and Type	Method	Description
public List< ISDMODDataProperty >	<i>getPropertiesWithAttribute(String, String, boolean)</i> on page 1561	Returns The list of appropriate SDMODData elements with given attribute value.
public ISDMODDataProperty	<i>getProperty(String)</i> on page 1561	Returns The appropriate SDMODData element with the given name.
public List< ISDMODDataProperty >	<i>getSAPSearchablePropertiesData()</i> on page 1561	Returns The list of appropriate SDMODData elements with 'true' searchable (SAP names-pace) attribute value.
protected ISDMODDataSchema	<i>getSchema()</i> on page 1561	
public List< ISDMODDataProperty >	<i>getSearchablePropertiesData(String)</i> on page 1562	Returns The list of appropriate SDMODData elements with 'true' attribute value of the given attribute.
public boolean	<i>hasStream()</i> on page 1562	Returns The value of the appropriate SDMODData attribute.
protected void	<i>setSchema(ISDMODDataSchema)</i> on page 1562	

#### Inherited members from SDMParserDocument

Modifier and Type	Member	Description
static transient final String	<i>ANY_STRING</i> on page 1953	
static transient final int	<i>ATTRIBUTE_ID</i> on page 1953	
static transient final String	<i>ATTRIBUTE_STRING</i> on page 1954	
public SDMParserDocument	<i>clone()</i> on page 1936	Creates a copy of this object.
protected Map< String, String >	<i>extensions</i> on page 1954	
public String	<i>getAttribute(String...)</i> on page 1936	Returns the value of the first attribute with the given route.
public List< String >	<i>getAttributes(String...)</i> on page 1937	Returns all the values of attributes with the given route.

Modifier and Type	Member	Description
protected int	<i>getAttributesEndPosition(int[], int, int)</i> on page 1937	
public Map< String, String >	<i>getChildAttribute-Map(String...)</i> on page 1937	Returns all the name-value pairs of attributes contained by the element with the given route.
public List< String >	<i>getChildAttributes(String...)</i> on page 1938	Returns all the values of attributes contained by the element with the given route.
public List< ISDMParserDocument >	<i>getChildDocuments(String...)</i> on page 1938	Returns the elements contained by the element with the given route.
public List< ISDMParserDocument >	<i>getChildDocumentsWithAttribute(String, String, String...)</i> on page 1938	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public List< ISDMParserDocument >	<i>getChildDocumentsWithAttribute(String, String, boolean, String...)</i> on page 1939	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public SDMParserDocument	<i>getDocument(String...)</i> on page 1939	Returns the first element with the given route.
protected List< int[] >	<i>getDocumentPositions(String[], int, boolean, boolean)</i> on page 1940	
public List< ISDMParserDocument >	<i>getDocuments(String...)</i> on page 1940	Returns all the elements with the given route.
public List< ISDMParserDocument >	<i>getDocumentsWithAttribute(String, String, String...)</i> on page 1940	Returns the elements with the given route that contains the given attribute with the given value.
public List< ISDMParserDocument >	<i>getDocumentsWithAttribute(String, String, boolean, String...)</i> on page 1941	Returns the elements with the given route that contains the given attribute with the given value.

Modifier and Type	Member	Description
public ISDMParserDocument	<i>getDocumentWithAttribute(String, String, String...)</i> on page 1941	Returns the first element with the given route that contains the given attribute with the given value.
public ISDMParserDocument	<i>getDocumentWithAttribute(String, String, boolean, String...)</i> on page 1942	Returns the first element with the given route that contains the given attribute with the given value.
public String	<i>getElementName()</i> on page 1942	Returns The name of the root element of this document.
public String	<i>getExtension(String)</i> on page 1943	
public String	<i>getFunctionImportComplexPropertyValue(String...)</i> on page 1943	
static int	<i>getNameId(String, boolean, boolean)</i> on page 1943	
public static List< String >	<i>getNameMap()</i> on page 1943	
public static String	<i>getPrefix(String)</i> on page 1943	
public String	<i>getPrefixForUri(String)</i> on page 1943	Returns the appropriate namespace prefix for the given XML name-space URI.
public static Map< String, String >	<i>getPrefixMapping()</i> on page 1944	
protected List< Integer >	<i>getStringPositions(String[], int, boolean, boolean)</i> on page 1944	
public String[]	<i>getStrings()</i> on page 1944	Returns all the string values contained by this document.
public String	<i>getValue(String...)</i> on page 1944	Returns the value of the first element with the given route.
public List< String >	<i>getValues(String...)</i> on page 1944	Returns all the values of elements with the given route.

Modifier and Type	Member	Description
protected int[]	<i>insertRoutePositions(int[], int, int[])</i> on page 1945	
protected void	<i>insertRoutesPositions(int, int[])</i> on page 1945	
protected void	<i>insertStringsPositions(int, String[])</i> on page 1945	
protected String[]	<i>insertStringsPositions(String[], int, String[])</i> on page 1945	
boolean	<i>isComplexEntity</i> on page 1954	
boolean	<i>isJson</i> on page 1954	
protected boolean	<i>isMatched(String, String)</i> on page 1945	
static transient List< String >	<i>nameMap</i> on page 1954	
static transient Map< String, String >	<i>prefixMapping</i> on page 1954	
public void	<i>putAttribute(String, String...)</i> on page 1946	Sets the value of the attribute with the given route If attribute does not exist it will be created as well as all other non existing elements in the route.
public void	<i>putDocument(ISDMParserDocument, String...)</i> on page 1946	Insert the document under the element with the given route inserted document will be placed before already existing documents with the same route name under All missing elements from the route will be created.
public void	<i>putExtension(String, String)</i> on page 1946	
protected void	<i>putString(int, String, int, String...)</i> on page 1947	
public void	<i>putValue(String, String...)</i> on page 1947	Sets the value of the first element with the given route.

Modifier and Type	Member	Description
public void	<i>read(BufferedReader)</i> on page 1947	
public static void	<i>readNameMap(BufferedReader)</i> on page 1947	
public boolean	<i>removeAttribute(String...)</i> on page 1948	Removes first element with the given route.
public boolean	<i>removeAttributes(String...)</i> on page 1948	Removes all the attribute with the given route.
public boolean	<i>removeDocument(String...)</i> on page 1948	Removes first element with the given route For removing multiple element use setDocuemtns with null arguments.
public void	<i>removeExtension(String)</i> on page 1948	
protected void	<i>removeRoutesPositions(int, int)</i> on page 1949	
protected int[]	<i>removeRoutesPositions(int[], int, int)</i> on page 1949	
protected boolean	<i>removeString(String...)</i> on page 1949	
protected boolean	<i>removeStrings(String...)</i> on page 1949	
protected void	<i>removeStringsPositions(int, int)</i> on page 1949	
protected String[]	<i>removeStringsPositions(String[], int, int)</i> on page 1949	
protected int	<i>replaceRoutesPositions(int, int, int[])</i> on page 1949	
protected int[]	<i>replaceRoutesPositions(int[], int, int, int[])</i> on page 1950	
protected int	<i>replaceStringsPositions(int, int, String[])</i> on page 1950	



Modifier and Type	Member	Description
protected String[]	<i>replaceStringsPositions(String[], int, int, String[])</i> on page 1950	
public static String	<i>resolveUrl(String, String)</i> on page 1950	
protected int[]	<i>routes</i> on page 1954	
	<i>SDMParserDocument()</i> on page 1935	
	<i>SDMParserDocument(boolean)</i> on page 1936	
public	<i>SDMParserDocument(String)</i> on page 1935	
public	<i>SDMParserDocument(SDMParserDocument)</i> on page 1935	
protected	<i>SDMParserDocument(int[], String[])</i> on page 1936	
protected	<i>SDMParserDocument(String, boolean)</i> on page 1936	
public void	<i>setAttribute(String, String...)</i> on page 1950	
public void	<i>setAttributes(List&lt;String&gt;, String...)</i> on page 1950	Sets all the values of the attributes with the given route Values will be paired to attributes in order Attributes with greater or equals index than size of new values will be untouched Attributes paired with null values will be removed.
public boolean	<i>setDocument(ISDMParserDocument, String...)</i> on page 1951	

Modifier and Type	Member	Description
public void	<i>setDocuments(List&lt; ISDMParserDocument &gt;, String...)</i> on page 1951	Replaces all the elements with the given route Documents will be paired to elements in order Elements with greater or equals index than size of new elements will be untouched Element paired with null will be removed.
public void	<i>setElementName(String, String...)</i> on page 1951	Sets the name of the root element with the given route Use empty route for setting root name of this document.
public static void	<i>setNameMap(List&lt;String &gt;)</i> on page 1952	
public static void	<i>setPrefixMapping(Map&lt;String, String &gt;)</i> on page 1952	
protected void	<i>setString(String, String...)</i> on page 1952	
protected void	<i>setStrings(List&lt;String &gt;, String...)</i> on page 1952	
public void	<i>setValue(String, String...)</i> on page 1952	
public void	<i>setValues(List&lt;String &gt;, String...)</i> on page 1952	Sets all the values of the elements with the given route Values will be paired to elements in order Elements with greater or equals index than size of new values will be untouched Null values will be treated as empty strings.
protected String[]	<i>strings</i> on page 1954	
public String	<i>toXMLString()</i> on page 1953	Returns the XML string representation of this object.
protected static final String	<i>URL_PROTOCOL_PREFIX</i> on page 1955	

Modifier and Type	Member	Description
static transient final int	<i>VALUE_ID</i> on page 1955	
static transient final String	<i>VALUE_STRING</i> on page 1955	
public void	<i>write(BufferedWriter)</i> on page 1953	
public static void	<i>writeNameMap(BufferedWriter)</i> on page 1953	

### Inherited members from ISDMParserDocument

Modifier and Type	Member	Description
public static final String	<i>ATTRIBUTE_ETAG</i> on page 1329	Name of the appropriate SDMOData element.
public static final String	<i>ATTRIBUTE_VALUEPREFIX_EDMTYPE</i> on page 1329	Value prefix for EDM Type type values.
public static Map< String, String >	<i>DEFAULT_PREFIXMAPPING</i> on page 1329	The default XML Namespace-to-Prefix mapping used for building XMLS.
public static final String[]	<i>EDMDATETIME_PATTERNS</i> on page 1329	Possible EDM DateTime patterns Note: Some pattern are not supported by OData specification but still widely used.
public static final String[]	<i>EDMDATETIMEOFFSET_PATTERNS</i> on page 1329	Possible EDM DateTimeOffset patterns Note: Some pattern are not supported by OData specification but still widely used.
public static final String	<i>EDMTIME_PATTERN</i> on page 1329	EDM Time pattern.
public static String	<i>ELEMENT_FEED</i> on page 1329	Name of the appropriate SDMOData element.
public static final String	<i>ELEMENT_ID</i> on page 1330	Name of the appropriate SDMOData element.
public static final String	<i>ROOT_DOCUMENT_NAME</i> on page 1330	The default root element name for a new document.

Modifier and Type	Member	Description
public static final String	<i>XMLNS_APPLICATION_URI</i> on page 1330	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/08/dataservices">http://schemas.microsoft.com/ado/2007/08/dataservices</a> .
public static final String	<i>XMLNS_ATOM_URI</i> on page 1330	Constant for XMLNS URI: <a href="http://www.w3.org/2005/Atom">http://www.w3.org/2005/Atom</a> .
public static final String	<i>XMLNS_DATASERVICES_URI</i> on page 1330	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/08/dataservices">http://schemas.microsoft.com/ado/2007/08/dataservices</a> .
public static final String	<i>XMLNS_EDM_URI</i> on page 1330	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/05/edm">http://schemas.microsoft.com/ado/2007/05/edm</a> .
public static final String	<i>XMLNS_EDMX_URI</i> on page 1330	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/06/edmx">http://schemas.microsoft.com/ado/2007/06/edmx</a> .
public static final String	<i>XMLNS_GENERICPLAYER_URI</i> on page 1331	Constant for XMLNS URI: <a href="http://www.sap.com/Protocols/SAPData/GenericPlayer">http://www.sap.com/Protocols/SAPData/GenericPlayer</a> .
public static final String	<i>XMLNS_METADATA_URI</i> on page 1331	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/08/dataservices/metadata">http://schemas.microsoft.com/ado/2007/08/dataservices/metadata</a> .
public static final String	<i>XMLNS_SAP_URI</i> on page 1331	Constant for XMLNS URI: <a href="http://www.sap.com/Protocols/SAPData">http://www.sap.com/Protocols/SAPData</a> .

#### Inherited members from ISDMPersistable

Modifier and Type	Member	Description
public void	<i>read(BufferedReader)</i> on page 1332	
public void	<i>write(BufferedWriter)</i> on page 1332	

#### Inherited members from ISDMODataEntityType

Modifier and Type	Member	Description
public static final String	<i>ATTRIBUTE_HASSTREAM</i> on page 1146	Name of the appropriate SDMODData attribute.
public static final String	<i>ATTRIBUTE_NAME</i> on page 1146	Name of the appropriate SDMODData attribute.
public static final String	<i>ELEMENT_ENTITYTYPE</i> on page 1146	Name of the appropriate SDMODData element.
public static final String	<i>ELEMENT_KEY</i> on page 1146	Name of the appropriate SDMODData element.
public static final String	<i>ELEMENT_PROPERTY</i> on page 1146	Name of the appropriate SDMODData element.
public static final String	<i>ELEMENT_PROPERTYREF</i> on page 1147	Name of the appropriate SDMODData element.

#### Inherited members from ISDMParserDocument

Modifier and Type	Member	Description
public static final String	<i>ATTRIBUTE_ETAG</i> on page 1329	Name of the appropriate SDMODData element.
public static final String	<i>ATTRIBUTE_VALUEPREFIX_EDMTYPE</i> on page 1329	Value prefix for EDM Type type values.
public abstract ISDMParserDocument	<i>clone()</i> on page 1317	Creates a copy of this object.
public static Map< String, String >	<i>DEFAULT_PREFIXMAPPING</i> on page 1329	The default XML Namespace-to-Prefix mapping used for building XMLS.
public static final String[]	<i>EDMDATETIME_PATTERNS</i> on page 1329	Possible EDM DateTime patterns Note: Some pattern are not supported by OData specification but still widely used.
public static final String[]	<i>EDMDATETIMEOFFSET_PATTERNS</i> on page 1329	Possible EDM DateTimeOffset patterns Note: Some pattern are not supported by OData specification but still widely used.
public static final String	<i>EDMTIME_PATTERN</i> on page 1329	EDM Time pattern.

Modifier and Type	Member	Description
public static String	<i>ELEMENT_FEED</i> on page 1329	Name of the appropriate SDMOData element.
public static final String	<i>ELEMENT_ID</i> on page 1330	Name of the appropriate SDMOData element.
public abstract String	<i>getAttribute(String...)</i> on page 1317	Returns the value of the first attribute with the given route.
public abstract List< String >	<i>getAttributes(String...)</i> on page 1317	Returns all the values of attributes with the given route.
public abstract Map< String, String >	<i>getChildAttributeMap(String...)</i> on page 1318	Returns all the name-value pairs of attributes contained by the element with the given route.
public abstract List< String >	<i>getChildAttributes(String...)</i> on page 1318	Returns all the values of attributes contained by the element with the given route.
public abstract List< ISDMParseDocument >	<i>getChildDocuments(String...)</i> on page 1318	Returns the elements contained by the element with the given route.
public abstract List< ISDMParseDocument >	<i>getChildDocumentsWithAttribute(String, String, String...)</i> on page 1319	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public abstract List< ISDMParseDocument >	<i>getChildDocumentsWithAttribute(String, String, boolean, String...)</i> on page 1319	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public abstract ISDMParseDocument	<i>getDocument(String...)</i> on page 1320	Returns the first element with the given route.
public abstract List< ISDMParseDocument >	<i>getDocuments(String...)</i> on page 1320	Returns all the elements with the given route.
public abstract List< ISDMParseDocument >	<i>getDocumentsWithAttribute(String, String, String...)</i> on page 1321	Returns the elements with the given route that contains the given attribute with the given value.

Modifier and Type	Member	Description
public abstract List< ISDMParseDocument >	<i>getDocumentsWithAttribute(String, String, boolean, String...)</i> on page 1321	Returns the elements with the given route that contains the given attribute with the given value.
public abstract ISDMParseDocument	<i>getDocumentWithAttribute(String, String, String...)</i> on page 1322	Returns the first element with the given route that contains the given attribute with the given value.
public abstract ISDMParseDocument	<i>getDocumentWithAttribute(String, String, boolean, String...)</i> on page 1322	Returns the first element with the given route that contains the given attribute with the given value.
public abstract String	<i>getElementName()</i> on page 1323	Returns The name of the root element of this document.
public abstract String	<i>getFunctionImportComplexPropertyValue(String...)</i> on page 1323	
public abstract String	<i>getPrefixForUri(String)</i> on page 1323	Returns the appropriate namespace prefix for the given XML name-space URI.
public abstract String[]	<i>getStrings()</i> on page 1324	Returns all the string values contained by this document.
public abstract String	<i>getValue(String...)</i> on page 1324	Returns the value of the first element with the given route.
public abstract List< String >	<i>getValues(String...)</i> on page 1324	Returns all the values of elements with the given route.
public abstract void	<i>putAttribute(String, String...)</i> on page 1325	Sets the value of the attribute with the given route If attribute does not exist it will be created as well as all other non existing elements in the route.

Modifier and Type	Member	Description
public abstract void	<i>putDocument(ISDMParseDocument, String...)</i> on page 1325	Insert the document under the element with the given route inserted document will be placed before already existing documents with the same route name under All missing elements from the route will be created.
public abstract void	<i>putValue(String, String...)</i> on page 1325	Sets the value of the first element with the given route.
public abstract boolean	<i>removeAttribute(String...)</i> on page 1326	Removes first element with the given route.
public abstract boolean	<i>removeAttributes(String...)</i> on page 1326	Removes all the attribute with the given route.
public abstract boolean	<i>removeDocument(String...)</i> on page 1326	Removes first element with the given route For removing multiple element use setDocuemtns with null arguments.
public static final String	<i>ROOT_DOCUMENT_NAME</i> on page 1330	The default root element name for a new document.
public abstract void	<i>setAttributes(List&lt;String&gt;, String...)</i> on page 1327	Sets all the values of the attributes with the given route Values will be paired to attributes in order Attributes with greater or equals index than size of new values will be untouched Attributes paired with null values will be removed.
public abstract void	<i>setDocuments(List&lt;ISDMParseDocument&gt;, String...)</i> on page 1327	Replaces all the elements with the given route Documents will be paired to elements in order Elements with greater or equals index than size of new elements will be untouched Element paired with null will be removed.



Modifier and Type	Member	Description
public abstract void	<i>setElementName(String, String...)</i> on page 1328	Sets the name of the root element with the given route Use empty route for setting root name of this document.
public abstract void	<i>setValues(List&lt; String &gt;, String...)</i> on page 1328	Sets all the values of the elements with the given rout Values will be paired to elements in order Elements with greater or equals index than size of new values will be untouched Null values will be treated as empty strings.
public abstract String	<i>toXMLString()</i> on page 1328	Returns the XML string representation of this object.
public static final String	<i>XMLNS_APPLICATION_URI</i> on page 1330	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/08/dataservices">http://schemas.microsoft.com/ado/2007/08/dataservices</a> .
public static final String	<i>XMLNS_ATOM_URI</i> on page 1330	Constant for XMLNS URI: <a href="http://www.w3.org/2005/Atom">http://www.w3.org/2005/Atom</a> .
public static final String	<i>XMLNS_DATASERVICES_URI</i> on page 1330	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/08/dataservices">http://schemas.microsoft.com/ado/2007/08/dataservices</a> .
public static final String	<i>XMLNS_EDM_URI</i> on page 1330	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/05/edm">http://schemas.microsoft.com/ado/2007/05/edm</a> .
public static final String	<i>XMLNS_EDMX_URI</i> on page 1330	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/06/edmx">http://schemas.microsoft.com/ado/2007/06/edmx</a> .
public static final String	<i>XMLNS_GENERICPLAYER_URI</i> on page 1331	Constant for XMLNS URI: <a href="http://www.sap.com/Protocols/SAPData/GenericPlayer">http://www.sap.com/Protocols/SAPData/GenericPlayer</a> .
public static final String	<i>XMLNS_METADATA_URI</i> on page 1331	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/08/dataservices/metadata">http://schemas.microsoft.com/ado/2007/08/dataservices/metadata</a> .

Modifier and Type	Member	Description
public static final String	<i>XMLNS_SAP_URI</i> on page 1331	Constant for XMLNS URI: <a href="http://www.sap.com/Protocols/SAPData">http://www.sap.com/Protocols/SAPData</a> .

**Inherited members from ISDMPersistable**

Modifier and Type	Member	Description
public void	<i>read(BufferedReader)</i> on page 1332	
public void	<i>write(BufferedWriter)</i> on page 1332	

*SDMODataEntityType()* constructor*Syntax*

```
public    SDMODataEntityType ()
```

*SDMODataEntityType(SDMParserDocument)* constructor*Syntax*

```
public    SDMODataEntityType ( SDMParserDocument document )
```

*SDMODataEntityType(int[], String[])* constructor*Syntax*

```
protected    SDMODataEntityType ( int[] routes , String[] values )
```

*getGPUseInSearchPropertiesData()* method

Returns The list of appropriate SDMOData elements with 'true' use-in-search (Generic Player names-pace) attribute value.

*Syntax*

```
public List< ISDMODataProperty >
getGPUseInSearchPropertiesData ()
```

*Returns*

The list of appropriate SDMOData elements with 'true' use-in-search (Generic Player names-pace) attribute value

*getGPVisibleInDetailPropertiesData() method*

Returns The list of appropriate SDMODData elements with 'true' visible-in-detail (Generic Player names-pace) attribute value.

*Syntax*

```
public List< ISDMODDataProperty >
getGPVisibleInDetailPropertiesData ()
```

*Returns*

The list of appropriate SDMODData elements with 'true' visible-in-detail (Generic Player names-pace) attribute value

*getGPVisibleInListPropertiesData() method*

Returns The list of appropriate SDMODData elements with 'true' visible-in-list (Generic Player names-pace) attribute value.

*Syntax*

```
public List< ISDMODDataProperty >
getGPVisibleInListPropertiesData ()
```

*Returns*

The list of appropriate SDMODData elements with 'true' visible-in-list (Generic Player names-pace) attribute value

*getKeyPropertyNames() method*

Returns the list of the values of the 'PropertyRef' SDMODData element contained by the 'Key' SDMODData element.

*Syntax*

```
public List< String > getKeyPropertyNames ()
```

*Returns*

The list of the values of the 'PropertyRef' SDMODData element

*getName() method*

Returns The value of the appropriate SDMODData attribute.

*Syntax*

```
public String getName ()
```

*Returns*

The value of the appropriate SDMODData attribute

### *getNavigationProperties() method*

Returns The list of appropriate SDMODData elements.

#### *Syntax*

```
public List< ISDMODataNavigationProperty >  
getNavigationProperties ()
```

#### *Returns*

The list of appropriate SDMODData elements

### *getNavigationProperty(String) method*

Returns The appropriate SDMODData element with the given name.

#### *Syntax*

```
public ISDMODataNavigationProperty getNavigationProperty  
( String name )
```

#### *Returns*

The appropriate SDMODData element with the given name

### *getProperties() method*

Returns The list of appropriate SDMODData elements.

#### *Syntax*

```
public List< ISDMODataProperty > getProperties ()
```

#### *Returns*

The list of appropriate SDMODData elements

### *getPropertiesWithAttribute(String, String) method*

Returns The list of appropriate SDMODData elements with given attribute value.

#### *Syntax*

```
public List< ISDMODataProperty > getPropertiesWithAttribute (  
String attributeName , String attributeValue )
```

#### *Returns*

The list of appropriate SDMODData elements with given attribute value

***getPropertiesWithAttribute(String, String, boolean) method***

Returns The list of appropriate SDMODData elements with given attribute value.

***Syntax***

```
public List< ISDMODDataProperty > getPropertiesWithAttribute (
String attributeName , String attributeValue , boolean addByDefault )
```

***Returns***

The list of appropriate SDMODData elements with given attribute value

***getProperty(String) method***

Returns The appropriate SDMODData element with the given name.

***Syntax***

```
public ISDMODDataProperty getProperty ( String propertyName )
```

***Returns***

The appropriate SDMODData element with the given name

***getSAPSearchablePropertiesData() method***

Returns The list of appropriate SDMODData elements with 'true' searchable (SAP names-pace) attribute value.

***Syntax***

```
public List< ISDMODDataProperty >
getSAPSearchablePropertiesData ()
```

***Returns***

The list of appropriate SDMODData elements with 'true' searchable (SAP names-pace) attribute value

***getSchema() method******Syntax***

```
protected ISDMODDataSchema getSchema ()
```

***Returns***

the schema

### *getSearchablePropertiesData(String) method*

Returns The list of appropriate SDMODData elements with 'true' attribute value of the given attribute.

#### *Syntax*

```
public List< ISDMODDataProperty > getSearchablePropertiesData  
( String searchAttributeName )
```

#### *Returns*

The list of appropriate SDMODData elements with 'true' attribute value of the given attribute

### *hasStream() method*

Returns The value of the appropriate SDMODData attribute.

#### *Syntax*

```
public boolean hasStream ()
```

#### *Returns*

The value of the appropriate SDMODData attribute

### *setSchema(ISDMODDataSchema) method*

#### *Syntax*

```
protected void setSchema ( ISDMODDataSchema schema )
```

#### *Parameters*

- **schema** – the schema to set

### *SDMODDataEntry class*

Deprecated. since 3.0, Use ODataEntry

#### *Syntax*

```
public class SDMODDataEntry extends SDMParserDocument,  
ISDMODDataEntry
```

#### *Derived classes*

- *SDMODDataReturnTypeInfoEntry* on page 1741
- *SDMODDataSubscriptionEntry* on page 1843

#### *Members*

All members of SDMODDataEntry, including inherited members. **Variables**

Modifier and Type	Variable	Description
protected static Long	<i>cache_timestamp</i> on page 1597	
protected static cacheState	<i>Cachestate</i> on page 1597	
protected String	<i>collectionId</i> on page 1597	
protected static final int	<i>FALSE</i> on page 1597	
protected static final String	<i>FILTER</i> on page 1597	
protected static final String	<i>FILTER_AND</i> on page 1597	
protected static final String	<i>FILTER_EQ</i> on page 1598	
protected static boolean	<i>isLocalEntry</i> on page 1598	
protected JsonObject	<i>jsonObject</i> on page 1598	JSON related variables
protected static final int	<i>NOT_TESTED</i> on page 1598	
protected ISDMODataSchema	<i>schema</i> on page 1598	
protected static final int	<i>TRUE</i> on page 1598	

### Constructors

Modifier and Type	Constructor	Description
public	<i>SDMODataEntry()</i> on page 1583	
public	<i>SDMODataEntry(boolean)</i> on page 1583	
public	<i>SDMODataEntry(ISDMODataSchema)</i> on page 1583	
public	<i>SDMODataEntry(SDMParserDocument)</i> on page 1583	
public	<i>SDMODataEntry(SDMParserDocument, ISDMODataSchema)</i> on page 1583	
public	<i>SDMODataEntry(JsonObject)</i> on page 1584	Json Related
protected	<i>SDMODataEntry(int[], String[])</i> on page 1584	

### Methods

Modifier and Type	Method	Description
protected void	<i>addPropertyValues(ISDMODataProperty, Map&lt; String, String &gt;, String)</i> on page 1584	
protected void	<i>fillPropertyData(ISDMODataProperty, String...)</i> on page 1584	
protected void	<i>fillPropertyDataWithAttribute(ISDMODataProperty, String, String, boolean, String...)</i> on page 1584	
public List< ISDMODataLink >	<i>getActionLinks()</i> on page 1584	Returns SDMODData Link objects that are set as action links (Has semantics (SAP namespace) attribute with value 'action')
public String	<i>getAuthorName()</i> on page 1585	Returns The value of the 'name' SDMODData element of the 'author' SDMODData element.
public cacheState	<i>getCachestate()</i> on page 1585	
public Long	<i>getCacheTimestamp()</i> on page 1585	
public String	<i>getCollectionId()</i> on page 1585	Returns the Id of the SDMOCata Collection that this Entry belongs to.
public String	<i>getEtag()</i> on page 1585	Returns the Id of the SDMOData Collection that this Entry belongs to.
public String	<i>getFilterUrl()</i> on page 1585	Returns the full execution URL hat can be used for filtering collection search for this single entry.



Modifier and Type	Method	Description
public List< ISDMODataProperty >	<i>getGPUseInSearchPropertiesData()</i> on page 1586	Returns the value and meta information (retrieved from SDMOData Schema document) of the properties of this SDMOData Entry document with 'true' use-in-search (Generic Player name-space) attribute value.
public List< ISDMODataProperty >	<i>getGPVisibleInDetailPropertiesData()</i> on page 1586	Returns the value and meta information (retrieved from SDMOData Schema document) of the properties of this SDMOData Entry document with 'true' visible-in-detail (Generic Player name-space) attribute value.
public List< ISDMODataProperty >	<i>getGPVisibleInListPropertiesData()</i> on page 1586	Returns the value and meta information (retrieved from SDMOData Schema document) of the properties of this SDMOData Entry document with 'true' visible-in-list (Generic Player name-space) attribute value.
public List< ISDMODataIcon >	<i>getIcons()</i> on page 1587	Returns the list of the appropriate SDMOData elements.
public String	<i>getId()</i> on page 1587	Returns The Id of this SDMOData Entry (value of appropriate SDMOData Id element)
public boolean	<i>getIsLocal()</i> on page 1587	
public Map< String, String >	<i>getKeyPropertyValues()</i> on page 1587	Returns the values of the properties that are marked as key properties in the SDMOData Schema document.
public Date	<i>getLastUpdated()</i> on page 1587	Returns The parsed value of the 'updated' SDMOData Element.
public List< ISDMODataLink >	<i>getLinks()</i> on page 1588	Returns the list of the appropriate SDMOData elements.

Modifier and Type	Method	Description
public List< ISDMODataProperty >	<i>getPropertiesData()</i> on page 1588	Returns the value and meta information (retrieved from SDMOData Schema document) of the properties of this SDMO-data Entry document.
public List< ISDMODataProperty >	<i>getPropertiesDataWithAttribute(String, String)</i> on page 1588	Returns the value and meta information (retrieved from SDMOData Schema document) of the properties of this SDMO-Data Entry document with the given attribute value.
public List< ISDMODataProperty >	<i>getPropertiesDataWithAttribute(String, String, boolean)</i> on page 1588	Returns the value and meta information (retrieved from SDMOData Schema document) of the properties of this SDMO-Data Entry document with the given attribute value.
public ISDMParserDocument	<i>getPropertiesDocument()</i> on page 1589	Returns the representer document of SDMOData 'properties' (Metadata name-space) document This method is created for performance reasons mostly to use in search methods.
public String	<i>getPropertyValue(String...)</i> on page 1589	Returns the value of the appropriate property.
public< T > T	<i>getPropertyValueParsed(String...)</i> on page 1590	Returns the value of the appropriate property parsed to it's real type.
public List< String >	<i>getPropertyValues(List&lt; String[]&gt;)</i> on page 1590	Return list of property values for the given property paths.
public Map< String, String >	<i>getPropertyValues()</i> on page 1591	Returns the all the values of properties contained by this SDMOData Entry document Key for the properties will be their name of their full path in case they are enclosed by Complex Types.

Modifier and Type	Method	Description
public List< ISDMODataLink >	<i>getRelatedDataLinks()</i> on page 1591	Returns SDMODData Link objects that represents links to Related Data.
public List< ISDMODataProperty >	<i>getSAPSearchablePropertiesData()</i> on page 1591	Returns the value and meta information (retrieved from SDMODData Schema document) of the properties of this SDMO-Data Entry document with 'true' searchable (SAP name-space) attribute value.
public ISDMODataSchema	<i>getSchema()</i> on page 1591	Returns the appropriate SDMO-Data Schema object.
public ISDMODataLink	<i>getSelfLink()</i> on page 1592	Returns SDMSDMODData Link object that should be used for self related operations (with 'rel' attribute value 'self' or 'edit')
public ISDMODataLink	<i>getSubscriptionLink()</i> on page 1592	Returns SDMODData Link object that should be used for subscription or null if there is no subscription link defined.
public String	<i>getSummary()</i> on page 1592	Returns The value of the appropriate SDMODData element.
public String	<i>getTitle()</i> on page 1592	Returns The value of the appropriate SDMODData element.
protected void	<i>materialize()</i> on page 1592	
protected void	<i>parseCollectionId()</i> on page 1593	
protected long	<i>parseEdmTime(String)</i> on page 1593	
public void	<i>putComplexPropertyValue(String, String...)</i> on page 1593	Puts the new property element as a sub-element of the 'complex properties' SDMODData element.

Modifier and Type	Method	Description
public void	<i>putDocument(ISDMParseDocument, String...)</i> on page 1593	Insert the document under the element with the given route inserted document will be placed before already existing documents with the same route name under All missing elements from the route will be created.
public void	<i>putId(String)</i> on page 1594	Sets id of this SDMODData Entry document (value of appropriate SDMODData Id element)
public void	<i>putPropertyValue(String, String)</i> on page 1594	Puts the new property element as a sub-element of the 'properties' SDMODData element.
public void	<i>putPropertyValue(String, String, boolean)</i> on page 1594	Puts the new property element as a sub-element of the 'properties' SDMODData element.
public void	<i>read(BufferedReader)</i> on page 1595	
protected String	<i>resolveTargetCollection(ISDMODDataLink)</i> on page 1595	
public void	<i>setAuthorName(String)</i> on page 1595	Sets the value of the 'name' SDMODData element of the 'author' SDMODData element.
public void	<i>setCachestate(cacheState)</i> on page 1595	
public void	<i>setCacheTimestamp(Long)</i> on page 1595	
public void	<i>setCollectionId(String)</i> on page 1596	Maintains the Id of the SDMO-Cata Collection that this Entry belongs to.
public void	<i>setIsLocal(boolean)</i> on page 1596	
public void	<i>setSchema(ISDMODDataSchema)</i> on page 1596	Maintains the reference to the appropriate SDMODData Schema object.

Modifier and Type	Method	Description
public void	<i>setSummary(String)</i> on page 1596	Sets the value of the appropriate SDMOData element.
public void	<i>setTitle(String)</i> on page 1596	Sets the value of the appropriate SDMOData element.
public void	<i>write(BufferedWriter)</i> on page 1597	

#### Inherited members from SDMParserDocument

Modifier and Type	Member	Description
static transient final String	<i>ANY_STRING</i> on page 1953	
static transient final int	<i>ATTRIBUTE_ID</i> on page 1953	
static transient final String	<i>ATTRIBUTE_STRING</i> on page 1954	
public SDMParserDocument	<i>clone()</i> on page 1936	Creates a copy of this object.
protected Map< String, String >	<i>extensions</i> on page 1954	
public String	<i>getAttribute(String...)</i> on page 1936	Returns the value of the first attribute with the given route.
public List< String >	<i>getAttributes(String...)</i> on page 1937	Returns all the values of attributes with the given route.
protected int	<i>getAttributesEndPosition(int[], int, int)</i> on page 1937	
public Map< String, String >	<i>getChildAttribute-Map(String...)</i> on page 1937	Returns all the name-value pairs of attributes contained by the element with the given route.
public List< String >	<i>getChildAttributes(String...)</i> on page 1938	Returns all the values of attributes contained by the element with the given route.
public List< ISDMParserDocument >	<i>getChildDocuments(String...)</i> on page 1938	Returns the elements contained by the element with the given route.

Modifier and Type	Member	Description
public List< ISDMParserDocument >	<i>getChildDocumentsWithAttribute(String, String, String...)</i> on page 1938	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public List< ISDMParserDocument >	<i>getChildDocumentsWithAttribute(String, String, boolean, String...)</i> on page 1939	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public SDMParserDocument	<i>getDocument(String...)</i> on page 1939	Returns the first element with the given route.
protected List< int[] >	<i>getDocumentPositions(String[], int, boolean, boolean)</i> on page 1940	
public List< ISDMParserDocument >	<i>getDocuments(String...)</i> on page 1940	Returns all the elements with the given route.
public List< ISDMParserDocument >	<i>getDocumentsWithAttribute(String, String, String...)</i> on page 1940	Returns the elements with the given route that contains the given attribute with the given value.
public List< ISDMParserDocument >	<i>getDocumentsWithAttribute(String, String, boolean, String...)</i> on page 1941	Returns the elements with the given route that contains the given attribute with the given value.
public ISDMParserDocument	<i>getDocumentWithAttribute(String, String, String...)</i> on page 1941	Returns the first element with the given route that contains the given attribute with the given value.
public ISDMParserDocument	<i>getDocumentWithAttribute(String, String, boolean, String...)</i> on page 1942	Returns the first element with the given route that contains the given attribute with the given value.
public String	<i>getElementName()</i> on page 1942	Returns The name of the root element of this document.
public String	<i>getExtension(String)</i> on page 1943	

Modifier and Type	Member	Description
public String	<i>getFunctionImportComplexProperty Value(String...)</i> on page 1943	
static int	<i>getNameId(String, boolean, boolean)</i> on page 1943	
public static List< String >	<i>getNameMap()</i> on page 1943	
public static String	<i>getPrefix(String)</i> on page 1943	
public String	<i>getPrefixForUri(String)</i> on page 1943	Returns the appropriate namespace prefix for the given XML name-space URI.
public static Map< String, String >	<i>getPrefixMapping()</i> on page 1944	
protected List< Integer >	<i>getStringPositions(String[], int, boolean, boolean)</i> on page 1944	
public String[]	<i>getStrings()</i> on page 1944	Returns all the string values contained by this document.
public String	<i>getValue(String...)</i> on page 1944	Returns the value of the first element with the given route.
public List< String >	<i>getValues(String...)</i> on page 1944	Returns all the values of elements with the given route.
protected int[]	<i>insertRoutePositions(int[], int, int[])</i> on page 1945	
protected void	<i>insertRoutesPositions(int, int[])</i> on page 1945	
protected void	<i>insertStringsPositions(int, String[])</i> on page 1945	
protected String[]	<i>insertStringsPositions(String[], int, String[])</i> on page 1945	
boolean	<i>isComplexEntity</i> on page 1954	
boolean	<i>isJson</i> on page 1954	

Modifier and Type	Member	Description
protected boolean	<i>isMatched(String, String)</i> on page 1945	
static transient List< String >	<i>nameMap</i> on page 1954	
static transient Map< String, String >	<i>prefixMapping</i> on page 1954	
public void	<i>putAttribute(String, String...)</i> on page 1946	Sets the value of the attribute with the given route If attribute does not exist it will be created as well as all other non existing elements in the route.
public void	<i>putExtension(String, String)</i> on page 1946	
protected void	<i>putString(int, String, int, String...)</i> on page 1947	
public void	<i>putValue(String, String...)</i> on page 1947	Sets the value of the first element with the given route.
public static void	<i>readNameMap(BufferedReader)</i> on page 1947	
public boolean	<i>removeAttribute(String...)</i> on page 1948	Removes first element with the given route.
public boolean	<i>removeAttributes(String...)</i> on page 1948	Removes all the attribute with the given route.
public boolean	<i>removeDocument(String...)</i> on page 1948	Removes first element with the given route For removing multiple element use setDocuemtns with null arguments.
public void	<i>removeExtension(String)</i> on page 1948	
protected void	<i>removeRoutesPositions(int, int)</i> on page 1949	
protected int[]	<i>removeRoutesPositions(int[], int, int)</i> on page 1949	
protected boolean	<i>removeString(String...)</i> on page 1949	



Modifier and Type	Member	Description
protected boolean	<i>removeStrings(String...)</i> on page 1949	
protected void	<i>removeStringsPositions(int, int)</i> on page 1949	
protected String[]	<i>removeStringsPositions(String[], int, int)</i> on page 1949	
protected int	<i>replaceRoutesPositions(int, int, int[])</i> on page 1949	
protected int[]	<i>replaceRoutesPositions(int[], int, int, int[])</i> on page 1950	
protected int	<i>replaceStringsPositions(int, int, String[])</i> on page 1950	
protected String[]	<i>replaceStringsPositions(String[], int, int, String[])</i> on page 1950	
public static String	<i>resolveUrl(String, String)</i> on page 1950	
protected int[]	<i>routes</i> on page 1954	
	<i>SDMParserDocument()</i> on page 1935	
	<i>SDMParserDocument(boolean)</i> on page 1936	
public	<i>SDMParserDocument(String)</i> on page 1935	
public	<i>SDMParserDocument(SDMParserDocument)</i> on page 1935	
protected	<i>SDMParserDocument(int[], String[])</i> on page 1936	
protected	<i>SDMParserDocument(String, boolean)</i> on page 1936	

Modifier and Type	Member	Description
public void	<i>setAttribute(String, String...)</i> on page 1950	
public void	<i>setAttributes(List&lt;String&gt;, String...)</i> on page 1950	Sets all the values of the attributes with the given route Values will be paired to attributes in order Attributes with greater or equals index than size of new values will be untouched Attributes paired with null values will be removed.
public boolean	<i>setDocument(ISDMParseDocument, String...)</i> on page 1951	
public void	<i>setDocuments(List&lt;ISDMParseDocument&gt;, String...)</i> on page 1951	Replaces all the elements with the given route Documents will be paired to elements in order Elements with greater or equals index than size of new elements will be untouched Element paired with null will be removed.
public void	<i>setElementName(String, String...)</i> on page 1951	Sets the name of the root element with the given route Use empty route for setting root name of this document.
public static void	<i>setNameMap(List&lt;String&gt;)</i> on page 1952	
public static void	<i>setPrefixMapping(Map&lt;String, String&gt;)</i> on page 1952	
protected void	<i>setString(String, String...)</i> on page 1952	
protected void	<i>setStrings(List&lt;String&gt;, String...)</i> on page 1952	
public void	<i>setValue(String, String...)</i> on page 1952	

Modifier and Type	Member	Description
public void	<i>setValues(List&lt;String&gt;, String...)</i> on page 1952	Sets all the values of the elements with the given route. Values will be paired to elements in order. Elements with greater or equals index than size of new values will be untouched. Null values will be treated as empty strings.
protected String[]	<i>strings</i> on page 1954	
public String	<i>toXMLString()</i> on page 1953	Returns the XML string representation of this object.
protected static final String	<i>URL_PROTOCOL_PREFIX</i> on page 1955	
static transient final int	<i>VALUE_ID</i> on page 1955	
static transient final String	<i>VALUE_STRING</i> on page 1955	
public static void	<i>writeNameMap(BufferedWriter)</i> on page 1953	

#### Inherited members from ISDMParserDocument

Modifier and Type	Member	Description
public static final String	<i>ATTRIBUTE_ETAG</i> on page 1329	Name of the appropriate SDMOData element.
public static final String	<i>ATTRIBUTE_VALUEPREFIX_EDMTYPE</i> on page 1329	Value prefix for EDM Type type values.
public static Map<String, String>	<i>DEFAULT_PREFIX_MAPPING</i> on page 1329	The default XML Namespace-to-Prefix mapping used for building XMLS.
public static final String[]	<i>EDMDATETIME_PATTERNS</i> on page 1329	Possible EDM DateTime patterns. Note: Some patterns are not supported by OData specification but still widely used.

Modifier and Type	Member	Description
public static final String[]	<i>EDMDATETIMEOFFSET_PATTERNS</i> on page 1329	Possible EDM TimeOffset patterns Note: Some pattern are not supported by OData specification but still widely used.
public static final String	<i>EDMTIME_PATTERN</i> on page 1329	EDM Time pattern.
public static String	<i>ELEMENT_FEED</i> on page 1329	Name of the appropriate SDMOData element.
public static final String	<i>ELEMENT_ID</i> on page 1330	Name of the appropriate SDMOData element.
public static final String	<i>ROOT_DOCUMENT_NAME</i> on page 1330	The default root element name for a new document.
public static final String	<i>XMLNS_APPLICATION_URI</i> on page 1330	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/08/dataservices">http://schemas.microsoft.com/ado/2007/08/dataservices</a> .
public static final String	<i>XMLNS_ATOM_URI</i> on page 1330	Constant for XMLNS URI: <a href="http://www.w3.org/2005/Atom">http://www.w3.org/2005/Atom</a> .
public static final String	<i>XMLNS_DATASERVICES_URI</i> on page 1330	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/08/dataservices">http://schemas.microsoft.com/ado/2007/08/dataservices</a> .
public static final String	<i>XMLNS_EDM_URI</i> on page 1330	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/05/edm">http://schemas.microsoft.com/ado/2007/05/edm</a> .
public static final String	<i>XMLNS_EDMX_URI</i> on page 1330	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/06/edmx">http://schemas.microsoft.com/ado/2007/06/edmx</a> .
public static final String	<i>XMLNS_GENERICPLAYER_URI</i> on page 1331	Constant for XMLNS URI: <a href="http://www.sap.com/Protocols/SAPData/GenericPlayer">http://www.sap.com/Protocols/SAPData/GenericPlayer</a> .
public static final String	<i>XMLNS_METADATA_URI</i> on page 1331	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/08/dataservices/metadata">http://schemas.microsoft.com/ado/2007/08/dataservices/metadata</a> .

Modifier and Type	Member	Description
public static final String	<i>XMLNS_SAP_URI</i> on page 1331	Constant for XMLNS URI: <a href="http://www.sap.com/Protocols/SAPData">http://www.sap.com/Protocols/SAPData</a> .

**Inherited members from ISDMPersistable**

Modifier and Type	Member	Description
public void	<i>read(BufferedReader)</i> on page 1332	
public void	<i>write(BufferedWriter)</i> on page 1332	

**Inherited members from ISDMODataEntry**

Modifier and Type	Member	Description
public static final String	<i>ATTRIBUTE_SEMANTICS</i> on page 1168	Name of the appropriate SDMOData attribute.
public static final String	<i>ATTRIBUTE_TERM</i> on page 1169	Name of the appropriate SDMOData attribute.
public static final String	<i>ATTRIBUTE_VALUE_SEMANTICS_ACTION</i> on page 1169	Value option for appropriate SDMOData attribute.
public static final String	<i>ELEMENT_AUTHOR</i> on page 1169	Name of the appropriate SDMOData element.
public static final String	<i>ELEMENT_CATEGORY</i> on page 1169	Name of the appropriate SDMOData element.
public static final String	<i>ELEMENT_CONTENT</i> on page 1169	Name of the appropriate SDMOData element.
public static final String	<i>ELEMENT_ENTRY</i> on page 1169	Name of the appropriate SDMOData element.
public static final String	<i>ELEMENT_LINK</i> on page 1169	Name of the appropriate SDMOData element.
public static final String	<i>ELEMENT_NAME</i> on page 1170	Name of the appropriate SDMOData element.

Modifier and Type	Member	Description
public static final String	<i>ELEMENT_PROPERTIES</i> on page 1170	Name of the appropriate SDMODData element.
public static final String	<i>ELEMENT_SUMMARY</i> on page 1170	Name of the appropriate SDMODData element.
public static final String	<i>ELEMENT_TITLE</i> on page 1170	Name of the appropriate SDMODData element.
public static final String	<i>ELEMENT_UPDATED</i> on page 1170	Name of the appropriate SDMODData element.
public static final String	<i>PROPERTY_LEVEL_SEPARATOR</i> on page 1170	
public void	<i>setCacheState(cacheState)</i> on page 1167	

#### Inherited members from ISDMParserDocument

Modifier and Type	Member	Description
public static final String	<i>ATTRIBUTE_ETAG</i> on page 1329	Name of the appropriate SDMODData element.
public static final String	<i>ATTRIBUTE_VALUEPREFIX_EDMTYPE</i> on page 1329	Value prefix for EDM Type type values.
public abstract ISDMParserDocument	<i>clone()</i> on page 1317	Creates a copy of this object.
public static Map< String, String >	<i>DEFAULT_PREFIXMAPPING</i> on page 1329	The default XML Namespace-to-Prefix mapping used for building XMLS.
public static final String[]	<i>EDMDATETIME_PATTERNS</i> on page 1329	Possible EDM DateTime patterns Note: Some pattern are not supported by OData specification but still widely used.
public static final String[]	<i>EDMDATETIMEOFFSET_PATTERNS</i> on page 1329	Possible EDM DateTimeOffset patterns Note: Some pattern are not supported by OData specification but still widely used.
public static final String	<i>EDMTIME_PATTERN</i> on page 1329	EDM Time pattern.

Modifier and Type	Member	Description
public static String	<i>ELEMENT_FEED</i> on page 1329	Name of the appropriate SDMOData element.
public static final String	<i>ELEMENT_ID</i> on page 1330	Name of the appropriate SDMOData element.
public abstract String	<i>getAttribute(String...)</i> on page 1317	Returns the value of the first attribute with the given route.
public abstract List< String >	<i>getAttributes(String...)</i> on page 1317	Returns all the values of attributes with the given route.
public abstract Map< String, String >	<i>getChildAttributeMap(String...)</i> on page 1318	Returns all the name-value pairs of attributes contained by the element with the given route.
public abstract List< String >	<i>getChildAttributes(String...)</i> on page 1318	Returns all the values of attributes contained by the element with the given route.
public abstract List< ISDMParseDocument >	<i>getChildDocuments(String...)</i> on page 1318	Returns the elements contained by the element with the given route.
public abstract List< ISDMParseDocument >	<i>getChildDocumentsWithAttribute(String, String, String...)</i> on page 1319	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public abstract List< ISDMParseDocument >	<i>getChildDocumentsWithAttribute(String, String, boolean, String...)</i> on page 1319	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public abstract ISDMParseDocument	<i>getDocument(String...)</i> on page 1320	Returns the first element with the given route.
public abstract List< ISDMParseDocument >	<i>getDocuments(String...)</i> on page 1320	Returns all the elements with the given route.
public abstract List< ISDMParseDocument >	<i>getDocumentsWithAttribute(String, String, String...)</i> on page 1321	Returns the elements with the given route that contains the given attribute with the given value.

Modifier and Type	Member	Description
public abstract List< ISDMParseDocument >	<i>getDocumentsWithAttribute(String, String, boolean, String...)</i> on page 1321	Returns the elements with the given route that contains the given attribute with the given value.
public abstract ISDMParseDocument	<i>getDocumentWithAttribute(String, String, String...)</i> on page 1322	Returns the first element with the given route that contains the given attribute with the given value.
public abstract ISDMParseDocument	<i>getDocumentWithAttribute(String, String, boolean, String...)</i> on page 1322	Returns the first element with the given route that contains the given attribute with the given value.
public abstract String	<i>getElementName()</i> on page 1323	Returns The name of the root element of this document.
public abstract String	<i>getFunctionImportComplexPropertyValue(String...)</i> on page 1323	
public abstract String	<i>getPrefixForUri(String)</i> on page 1323	Returns the appropriate namespace prefix for the given XML name-space URI.
public abstract String[]	<i>getStrings()</i> on page 1324	Returns all the string values contained by this document.
public abstract String	<i>getValue(String...)</i> on page 1324	Returns the value of the first element with the given route.
public abstract List< String >	<i>getValues(String...)</i> on page 1324	Returns all the values of elements with the given route.
public abstract void	<i>putAttribute(String, String...)</i> on page 1325	Sets the value of the attribute with the given route If attribute does not exist it will be created as well as all other non existing elements in the route.



Modifier and Type	Member	Description
public abstract void	<i>putDocument(ISDMParseDocument, String...)</i> on page 1325	Insert the document under the element with the given route inserted document will be placed before already existing documents with the same route name under All missing elements from the route will be created.
public abstract void	<i>putValue(String, String...)</i> on page 1325	Sets the value of the first element with the given route.
public abstract boolean	<i>removeAttribute(String...)</i> on page 1326	Removes first element with the given route.
public abstract boolean	<i>removeAttributes(String...)</i> on page 1326	Removes all the attribute with the given route.
public abstract boolean	<i>removeDocument(String...)</i> on page 1326	Removes first element with the given route For removing multiple element use setDocuemtns with null arguments.
public static final String	<i>ROOT_DOCUMENT_NAME</i> on page 1330	The default root element name for a new document.
public abstract void	<i>setAttributes(List&lt;String&gt;, String...)</i> on page 1327	Sets all the values of the attributes with the given route Values will be paired to attributes in order Attributes with greater or equals index than size of new values will be untouched Attributes paired with null values will be removed.
public abstract void	<i>setDocuments(List&lt;ISDMParseDocument&gt;, String...)</i> on page 1327	Replaces all the elements with the given route Documents will be paired to elements in order Elements with greater or equals index than size of new elements will be untouched Element paired with null will be removed.

Modifier and Type	Member	Description
public abstract void	<i>setElementName(String, String...)</i> on page 1328	Sets the name of the root element with the given route Use empty route for setting root name of this document.
public abstract void	<i>setValues(List&lt; String &gt;, String...)</i> on page 1328	Sets all the values of the elements with the given rout Values will be paired to elements in order Elements with greater or equals index than size of new values will be untouched Null values will be treated as empty strings.
public abstract String	<i>toXMLString()</i> on page 1328	Returns the XML string representation of this object.
public static final String	<i>XMLNS_APPLICATION_URI</i> on page 1330	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/08/dataservices">http://schemas.microsoft.com/ado/2007/08/dataservices</a> .
public static final String	<i>XMLNS_ATOM_URI</i> on page 1330	Constant for XMLNS URI: <a href="http://www.w3.org/2005/Atom">http://www.w3.org/2005/Atom</a> .
public static final String	<i>XMLNS_DATASERVICES_URI</i> on page 1330	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/08/dataservices">http://schemas.microsoft.com/ado/2007/08/dataservices</a> .
public static final String	<i>XMLNS_EDM_URI</i> on page 1330	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/05/edm">http://schemas.microsoft.com/ado/2007/05/edm</a> .
public static final String	<i>XMLNS_EDMX_URI</i> on page 1330	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/06/edmx">http://schemas.microsoft.com/ado/2007/06/edmx</a> .
public static final String	<i>XMLNS_GENERICPLAYER_URI</i> on page 1331	Constant for XMLNS URI: <a href="http://www.sap.com/Protocols/SAPData/GenericPlayer">http://www.sap.com/Protocols/SAPData/GenericPlayer</a> .
public static final String	<i>XMLNS_METADATA_URI</i> on page 1331	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/08/dataservices/metadata">http://schemas.microsoft.com/ado/2007/08/dataservices/metadata</a> .

Modifier and Type	Member	Description
public static final String	<i>XMLNS_SAP_URI</i> on page 1331	Constant for XMLNS URI: <a href="http://www.sap.com/Protocols/SAPData">http://www.sap.com/Protocols/SAPData</a> .

**Inherited members from ISDMPersistable**

Modifier and Type	Member	Description
public void	<i>read(BufferedReader)</i> on page 1332	
public void	<i>write(BufferedWriter)</i> on page 1332	

*SDMODataEntry()* constructor*Syntax*

```
public    SDMODataEntry ()
```

*SDMODataEntry(boolean)* constructor*Syntax*

```
public    SDMODataEntry ( boolean isComplex )
```

*SDMODataEntry(ISDMODataSchema)* constructor*Syntax*

```
public    SDMODataEntry ( ISDMODataSchema schema )
```

*SDMODataEntry(SDMParserDocument)* constructor*Syntax*

```
public    SDMODataEntry ( SDMParserDocument document )
```

*SDMODataEntry(SDMParserDocument, ISDMODataSchema)* constructor*Syntax*

```
public    SDMODataEntry ( SDMParserDocument document ,
ISDMODataSchema schema )
```

*SDMODataEntry(JsonObject) constructor*

Json Related

*Syntax*

```
public   SDMODataEntry ( JsonObject entry )
```

*SDMODataEntry(int[], String[]) constructor*

*Syntax*

```
protected   SDMODataEntry ( int[] routes , String[] values )
```

*addPropertyValues(ISDMODataProperty, Map< String, String >, String) method*

*Syntax*

```
protected void addPropertyValues ( ISDMODataProperty property ,  
Map< String, String > values , String pathString )
```

*fillPropertyData(ISDMODataProperty, String...) method*

*Syntax*

```
protected void fillPropertyData ( ISDMODataProperty property ,  
String... path )
```

*fillPropertyDataWithAttribute(ISDMODataProperty, String, String, boolean, String...) method*

*Syntax*

```
protected void fillPropertyDataWithAttribute  
( ISDMODataProperty property , String attributeName , String  
attributeValue , boolean addByefault , String... path )
```

*getActionLinks() method*

Returns SDMOData Link objects that are set as action links (Has semantics (SAP namespace) attribute with value 'action')

*Syntax*

```
public List< ISDMODataLink > getActionLinks ()
```

*Returns*

List of SDMOData Action Link documents

*getAuthorName() method*

Returns The value of the 'name' SDMODData element of the 'author' SDMODData element.

*Syntax*

```
public String getAuthorName ()
```

*Returns*

The value of the 'name' SDMODData element of the 'author' SDMODData element

*getCachestate() method**Syntax*

```
public cacheState getCachestate ()
```

*getCacheTimestamp() method**Syntax*

```
public Long getCacheTimestamp ()
```

*getCollectionId() method*

Returns the Id of the SDMOCata Collection that this Entry belongs to.

*Syntax*

```
public String getCollectionId ()
```

*Returns*

The Id of the SDMOCata Collection that this Entry belongs to

*getEtag() method*

Returns the Id of the SDMODData Collection that this Entry belongs to.

*Syntax*

```
public String getEtag ()
```

*Returns*

The Id of the SDMODData Collection that this Entry belongs to

*getFilterUrl() method*

Returns the full execution URL hat can be used for filtering collection search for this single entry.

*Syntax*

```
public String getFilterUrl ()
```

### *Returns*

The full filter URL

### *getGPUseInSearchPropertiesData() method*

Returns the value and meta information (retrieved from SDMOData Schema document) of the properties of this SDMOData Entry document with 'true' use-in-search (Generic Player name-space) attribute value.

### *Syntax*

```
public List< ISDMODataProperty >  
getGPUseInSearchPropertiesData ()
```

### *Returns*

The meta-informations and values of the appropriate properties

### *getGPVisibleInDetailPropertiesData() method*

Returns the value and meta information (retrieved from SDMOData Schema document) of the properties of this SDMOData Entry document with 'true' visible-in-detail (Generic Player name-space) attribute value.

### *Syntax*

```
public List< ISDMODataProperty >  
getGPVisibleInDetailPropertiesData ()
```

### *Returns*

The meta-informations and values of the appropriate properties

### *getGPVisibleInListPropertiesData() method*

Returns the value and meta information (retrieved from SDMOData Schema document) of the properties of this SDMOData Entry document with 'true' visible-in-list (Generic Player name-space) attribute value.

### *Syntax*

```
public List< ISDMODataProperty >  
getGPVisibleInListPropertiesData ()
```

### *Returns*

The meta-informations and values of the appropriate properties

***getIcons() method***

Returns the list of the appropriate SDMODData elements.

***Syntax***

```
public List< ISDMODDataIcon > getIcons ()
```

***Returns***

The list of the appropriate SDMODData elements

***getId() method***

Returns The Id of this SDMODData Entry (value of appropriate SDMODData Id element)

***Syntax***

```
public String getId ()
```

***Returns***

The Id of this SDMODData Entry

***getIsLocal() method******Syntax***

```
public boolean getIsLocal ()
```

***getKeyPropertyValues() method***

Returns the values of the properties that are marked as key properties in the SDMODData Schema document.

***Syntax***

```
public Map< String, String > getKeyPropertyValues ()
```

***Returns***

The name-value pairs of the key properties

***getLastUpdated() method***

Returns The parsed value of the 'updated' SDMODData Element.

***Syntax***

```
public Date getLastUpdated ()
```

***Returns***

The parsed value of the value of the 'updated' SDMODData element or null is parsing failed

### *getLinks() method*

Returns the list of the appropriate SDMODData elements.

#### *Syntax*

```
public List< ISDMODDataLink > getLinks ()
```

#### *Returns*

The list of the appropriate SDMODData elements

### *getPropertiesData() method*

Returns the value and meta information (retrieved from SDMODData Schema document) of the properties of this SDMODData Entry document.

#### *Syntax*

```
public List< ISDMODDataProperty > getPropertiesData ()
```

#### *Returns*

The meta-informations and values of the contained properties

### *getPropertiesDataWithAttribute(String, String) method*

Returns the value and meta information (retrieved from SDMODData Schema document) of the properties of this SDMODData Entry document with the given attribute value.

#### *Syntax*

```
public List< ISDMODDataProperty >  
getPropertiesDataWithAttribute ( String attributeName , String  
attributeValue )
```

#### *Parameters*

- **attributeName** – The name of the attribute
- **attributeValue** – The expected value of the attribute

#### *Returns*

The meta-informations and values of the appropriate properties

### *getPropertiesDataWithAttribute(String, String, boolean) method*

Returns the value and meta information (retrieved from SDMODData Schema document) of the properties of this SDMODData Entry document with the given attribute value.

#### *Syntax*

```
public List< ISDMODDataProperty >  
getPropertiesDataWithAttribute ( String attributeName , String  
attributeValue , boolean addByDefault )
```



*Parameters*

- **attributeName** – The name of the attribute
- **attributeValue** – The expected value of the attribute
- **addByDefault** – true if the Property should be add in case if there is no attribute with the given name

*Returns*

The meta-informations and values of the appropriate properties

*getPropertiesDocument() method*

Returns the representer document of SDMOData 'properties' (Metadata name-space) document This method is created for performance reasons mostly to use in search methods.

*Syntax*

```
public ISDMParseDocument getPropertiesDocument ()
```

*Returns*

The SDMParseDocument representation of SDMOData 'properties' (Metadata name-space) document

*getPropertyValue(String...) method*

Returns the value of the appropriate property.

*Syntax*

```
public String getPropertyValue (String... propertyPath )
```

*Parameters*

- **propertyPath** – The path to the property with or without the name-space prefix including names of the enclosing complex types if any (Without enclosing complex type this argument should be simple the name of the property)

*Returns*

The value of the property

*Exceptions*

- **IllegalArgumentException** – if the property name is null or ambiguous.

*Usage*

Name of property may or may not contain name-space prefix as long as the property name is not ambiguous

### *getPropertyValueParsed(String...) method*

Returns the value of the appropriate property parsed to its real type.

#### *Syntax*

```
public< T > T getPropertyValueParsed (String... propertyPath) throws  
ClassCastException
```

#### *Parameters*

- **propertyPath** – The path to the property with or without the name-space prefix including names of the enclosing complex types if any (Without enclosing complex type this argument should be simple the name of the property)

#### *Returns*

The value of the property

#### *Exceptions*

- **IllegalArgumentException** – if the property name is null or ambiguous
- **ClassCastException** – if the property value can not be parsed to the expected type

#### *Usage*

Name of property may or may not contain name-space prefix as long as the property name is not ambiguous

### *getPropertyValues(List< String[]>) method*

Return list of property values for the given property paths.

#### *Syntax*

```
public List< String > getPropertyValues (List< String[]>  
propertyPathes )
```

#### *Parameters*

- **propertyPathes** – Name of the property or path including the name of the enclosing Complex Types

#### *Returns*

The list of the values of the properties

***getPropertyValues() method***

Returns the all the values of properties contained by this SDMODData Entry document Key for the properties will be their name of their full path in case they are enclosed by Complex Types.

***Syntax***

```
public Map< String, String > getPropertyValues ()
```

***Returns***

The name/path and value pairs of the contained properties

***Usage***

The name of the properties will contain their current name-space prefixes.

***getRelatedDataLinks() method***

Returns SDMODData Link objects that represents links to Related Data.

***Syntax***

```
public List< ISDMODDataLink > getRelatedDataLinks ()
```

***Returns***

List of SDMODData Related Link documents

***getSAPSearchablePropertiesData() method***

Returns the value and meta information (retrieved from SDMODData Schema document) of the properties of this SDMODData Entry document with 'true' searchable (SAP name-space) attribute value.

***Syntax***

```
public List< ISDMODDataProperty >
getSAPSearchablePropertiesData ()
```

***Returns***

The meta-informations and values of the appropriate properties

***getSchema() method***

Returns the appropriate SDMODData Schema object.

***Syntax***

```
public ISDMODDataSchema getSchema ()
```

***Returns***

The appropriate SDMODData Schema object.

### *getSelfLink() method*

Returns SDMSDMOData Link object that should be used for self related operations (with 'rel' attribute value 'self' or 'edit')

#### *Syntax*

```
public ISDMODataLink getSelfLink ()
```

#### *Returns*

SDMSDMOData self Link

### *getSubscriptionLink() method*

Returns SDMOData Link object that should be used for subscription or null if there is no subscription link defined.

#### *Syntax*

```
public ISDMODataLink getSubscriptionLink ()
```

#### *Returns*

SDMOData Link for subscribe

### *getSummary() method*

Returns The value of the appropriate SDMOData element.

#### *Syntax*

```
public String getSummary ()
```

#### *Returns*

The value of the appropriate SDMOData element

### *getTitle() method*

Returns The value of the appropriate SDMOData element.

#### *Syntax*

```
public String getTitle ()
```

#### *Returns*

The value of the appropriate SDMOData element

### *materialize() method*

#### *Syntax*

```
protected void materialize ()
```

*parseCollectionId() method**Syntax*

```
protected void parseCollectionId ()
```

*parseEdmTime(String) method**Syntax*

```
protected long parseEdmTime ( String value )
```

*putComplexPropertyValue(String, String...) method*

Puts the new property element as a sub-element of the 'complex properties' SDMOData element.

*Syntax*

```
public void putComplexPropertyValue ( String propertyValue ,  
String... propertyName )
```

*Parameters*

- **propertyName** – The route of the property with or without name-space until the complex type.
- **propertyValue** – The value of the property

*Usage*

An element with the same name will be overwritten by the new element. Not-prefixed property name will be automatically prefixed with the current prefix of DataServices XML name-space.

*putDocument(ISDMParseDocument, String...) method*

Insert the document under the element with the given route inserted document will be placed before already existing documents with the same route name under All missing elements from the route will be created.

*Syntax*

```
public void putDocument ( ISDMParseDocument document , String...  
route ) throws IllegalArgumentException
```

*Parameters*

- **document** – The new document
- **route** – The route to the parent element of the new document

### *Exceptions*

- **IllegalArgumentException** – if either of the arguments is null.

### *putId(String) method*

Sets id of this SDMODData Entry document (value of appropriate SDMODData Id element)

### *Syntax*

```
public void putId ( String id )
```

### *Parameters*

- **id** – The new id.

### *putPropertyValue(String, String) method*

Puts the new property element as a sub-element of the 'properties' SDMODData element.

### *Syntax*

```
public void putPropertyValue ( String propertyName , String  
propertyValue )
```

### *Parameters*

- **propertyName** – The name of the property with or without name-space.
- **propertyValue** – The value of the property

### *Usage*

An element with the same name will be overwritten by the new element. Not-prefixed property name will be automatically prefixed with the current prefix of DataServices XML name-space.

### *putPropertyValue(String, String, boolean) method*

Puts the new property element as a sub-element of the 'properties' SDMODData element.

### *Syntax*

```
public void putPropertyValue ( String propertyName , String  
propertyValue , boolean useDefaultPrefix )
```

### *Parameters*

- **useDefaultPrefix** – If true not-prefixed property name will be automatically prefixed with the current prefix of DataServices XML names-pace.
- **propertyName** – The name of the property with or without name-space.
- **propertyValue** – The value of the property

### *Usage*

An element with the same name will be overwritten by the new element.

If name of the property is not prefixed and useDefaultPreix is false, name of the property should be prefixed by the caller. (Use getPrefix for get the valid prefix for a name-space URI)

### *read(BufferedReader) method*

#### *Syntax*

```
public void read (BufferedReader reader) throws
SDMPersistenceException
```

#### *Parameters*

- **reader** – The buffered reader to read the object from.

#### *Exceptions*

- **SDMPersistenceException** – if data can not be loaded from the reader.

### *resolveTargetCollection(ISDMODataLink) method*

#### *Syntax*

```
protected String resolveTargetCollection ( ISDMODataLink link )
```

### *setAuthorName(String) method*

Sets the value of the 'name' SDMODData element of the 'author' SDMODData element.

#### *Syntax*

```
public void setAuthorName (String authorName )
```

#### *Parameters*

- **authorName** – The new value of the element

### *setCachestate(cacheState) method*

#### *Syntax*

```
public void setCachestate ( cacheState cachestate )
```

### *setCacheTimestamp(Long) method*

#### *Syntax*

```
public void setCacheTimestamp ( Long timestamp )
```

### *setCollectionId(String) method*

Maintains the Id of the SDMOCata Collection that this Entry belongs to.

#### *Syntax*

```
public void setCollectionId ( String collectionId )
```

#### *Parameters*

- **collectionId** – The Id of the SDMOCata Collection that this Entry belongs to

### *setIsLocal(boolean) method*

#### *Syntax*

```
public void setIsLocal ( boolean isLocal )
```

### *setSchema(ISDMODataSchema) method*

Maintains the reference to the appropriate SDMOData Schema object.

#### *Syntax*

```
public void setSchema ( ISDMODataSchema schema )
```

#### *Parameters*

- **schema** – The appropriate SDMOData Schema object.

### *setSummary(String) method*

Sets the value of the appropriate SDMOData element.

#### *Syntax*

```
public void setSummary ( String summary )
```

#### *Parameters*

- **summary** – The new value of the element

### *setTitle(String) method*

Sets the value of the appropriate SDMOData element.

#### *Syntax*

```
public void setTitle ( String title )
```

#### *Parameters*

- **title** – The new value of the element



*write(BufferedWriter) method**Syntax*

```
public void write (BufferedWriter writer) throws
SDMPersistenceException
```

*Parameters*

- **writer** – The buffered writer that object data needs to be written into.

*Exceptions*

- **SDMPersistenceException** – if data can not be written into the writer

*cache\_timestamp variable**Syntax*

```
protected static Long cache_timestamp
```

*Cachestate variable**Syntax*

```
protected static cacheState Cachestate
```

*collectionId variable**Syntax*

```
protected String collectionId
```

*FALSE variable**Syntax*

```
protected static final int FALSE
```

*FILTER variable**Syntax*

```
protected static final String FILTER
```

*FILTER\_AND variable**Syntax*

```
protected static final String FILTER_AND
```

### *FILTER\_EQ variable*

#### *Syntax*

```
protected static final String FILTER_EQ
```

### *isLocalEntry variable*

#### *Syntax*

```
protected static boolean isLocalEntry
```

### *JsonObject variable*

JSON related variables

#### *Syntax*

```
protected JsonObject jsonObject
```

### *NOT\_TESTED variable*

#### *Syntax*

```
protected static final int NOT_TESTED
```

### *schema variable*

#### *Syntax*

```
protected ISDMODataSchema schema
```

### *TRUE variable*

#### *Syntax*

```
protected static final int TRUE
```

### *SDMODataError class*

Deprecated. since 3.0, Use ODataError

#### *Syntax*

```
public class SDMODataError extends SDMParserDocument,  
ISDMODataError
```

#### *Members*

All members of SDMODataError, including inherited members. **Constructors**

Modifier and Type	Constructor	Description
public	<i>SDMODataError()</i> on page 1612	
public	<i>SDMODataError(SDMParseDocument)</i> on page 1612	
protected	<i>SDMODataError(int[], String[])</i> on page 1613	

### Methods

Modifier and Type	Method	Description
public String	<i>getErrorCode()</i> on page 1613	Returns The value of the 'code' SDMOData element.
public String	<i>getLang()</i> on page 1613	Returns The value of the appropriate SDMOData attribute of the 'message' element.
public String	<i>getMessage()</i> on page 1613	Return the localized error message.

### Inherited members from SDMParseDocument

Modifier and Type	Member	Description
static transient final String	<i>ANY_STRING</i> on page 1953	
static transient final int	<i>ATTRIBUTE_ID</i> on page 1953	
static transient final String	<i>ATTRIBUTE_STRING</i> on page 1954	
public SDMParseDocument	<i>clone()</i> on page 1936	Creates a copy of this object.
protected Map< String, String >	<i>extensions</i> on page 1954	
public String	<i>getAttribute(String...)</i> on page 1936	Returns the value of the first attribute with the given route.
public List< String >	<i>getAttributes(String...)</i> on page 1937	Returns all the values of attributes with the given route.
protected int	<i>getAttributesEndPosition(int[], int, int)</i> on page 1937	

Modifier and Type	Member	Description
public Map< String, String >	<i>getChildAttribute-Map(String...)</i> on page 1937	Returns all the name-value pairs of attributes contained by the element with the given route.
public List< String >	<i>getChildAttributes(String...)</i> on page 1938	Returns all the values of attributes contained by the element with the given route.
public List< ISDMParserDocument >	<i>getChildDocuments(String...)</i> on page 1938	Returns the elements contained by the element with the given route.
public List< ISDMParserDocument >	<i>getChildDocumentsWithAttribute(String, String, String...)</i> on page 1938	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public List< ISDMParserDocument >	<i>getChildDocumentsWithAttribute(String, String, boolean, String...)</i> on page 1939	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public SDMParserDocument	<i>getDocument(String...)</i> on page 1939	Returns the first element with the given route.
protected List< int[] >	<i>getDocumentPositions(String[], int, boolean, boolean)</i> on page 1940	
public List< ISDMParserDocument >	<i>getDocuments(String...)</i> on page 1940	Returns all the elements with the given route.
public List< ISDMParserDocument >	<i>getDocumentsWithAttribute(String, String, String...)</i> on page 1940	Returns the elements with the given route that contains the given attribute with the given value.
public List< ISDMParserDocument >	<i>getDocumentsWithAttribute(String, String, boolean, String...)</i> on page 1941	Returns the elements with the given route that contains the given attribute with the given value.
public ISDMParserDocument	<i>getDocumentWithAttribute(String, String, String...)</i> on page 1941	Returns the first element with the given route that contains the given attribute with the given value.

Modifier and Type	Member	Description
public ISDMParserDocument	<i>getDocumentWithAttribute(String, String, boolean, String...)</i> on page 1942	Returns the first element with the given route that contains the given attribute with the given value.
public String	<i>getElementName()</i> on page 1942	Returns The name of the root element of this document.
public String	<i>getExtension(String)</i> on page 1943	
public String	<i>getFunctionImportComplexProperty Value(String...)</i> on page 1943	
static int	<i>getNameId(String, boolean, boolean)</i> on page 1943	
public static List< String >	<i>getNameMap()</i> on page 1943	
public static String	<i>getPrefix(String)</i> on page 1943	
public String	<i>getPrefixForUri(String)</i> on page 1943	Returns the appropriate namespace prefix for the given XML name-space URI.
public static Map< String, String >	<i>getPrefixMapping()</i> on page 1944	
protected List< Integer >	<i>getStringPositions(String[], int, boolean, boolean)</i> on page 1944	
public String[]	<i>getStrings()</i> on page 1944	Returns all the string values contained by this document.
public String	<i>getValue(String...)</i> on page 1944	Returns the value of the first element with the given route.
public List< String >	<i>getValues(String...)</i> on page 1944	Returns all the values of elements with the given route.
protected int[]	<i>insertRoutePositions(int[], int, int[])</i> on page 1945	
protected void	<i>insertRoutesPositions(int, int[])</i> on page 1945	

Modifier and Type	Member	Description
protected void	<i>insertStringsPositions(int, String[])</i> on page 1945	
protected String[]	<i>insertStringsPositions(String[], int, String[])</i> on page 1945	
boolean	<i>isComplexEntity</i> on page 1954	
boolean	<i>isJson</i> on page 1954	
protected boolean	<i>isMatched(String, String)</i> on page 1945	
static transient List< String >	<i>nameMap</i> on page 1954	
static transient Map< String, String >	<i>prefixMapping</i> on page 1954	
public void	<i>putAttribute(String, String...)</i> on page 1946	Sets the value of the attribute with the given route If attribute does not exist it will be created as well as all other non existing elements in the route.
public void	<i>putDocument(ISDMParserDocument, String...)</i> on page 1946	Insert the document under the element with the given route inserted document will be placed before already existing documents with the same route name under All missing elements from the route will be created.
public void	<i>putExtension(String, String)</i> on page 1946	
protected void	<i>putString(int, String, int, String...)</i> on page 1947	
public void	<i>putValue(String, String...)</i> on page 1947	Sets the value of the first element with the given route.
public void	<i>read(BufferedReader)</i> on page 1947	
public static void	<i>readNameMap(BufferedReader)</i> on page 1947	

Modifier and Type	Member	Description
public boolean	<i>removeAttribute(String...)</i> on page 1948	Removes first element with the given route.
public boolean	<i>removeAttributes(String...)</i> on page 1948	Removes all the attribute with the given route.
public boolean	<i>removeDocument(String...)</i> on page 1948	Removes first element with the given route For removing multiple element use setDocuemtns with null arguments.
public void	<i>removeExtension(String)</i> on page 1948	
protected void	<i>removeRoutesPositions(int, int)</i> on page 1949	
protected int[]	<i>removeRoutesPositions(int[], int, int)</i> on page 1949	
protected boolean	<i>removeString(String...)</i> on page 1949	
protected boolean	<i>removeStrings(String...)</i> on page 1949	
protected void	<i>removeStringsPositions(int, int)</i> on page 1949	
protected String[]	<i>removeStringsPositions(String[], int, int)</i> on page 1949	
protected int	<i>replaceRoutesPositions(int, int, int[])</i> on page 1949	
protected int[]	<i>replaceRoutesPositions(int[], int, int, int[])</i> on page 1950	
protected int	<i>replaceStringsPositions(int, int, String[])</i> on page 1950	
protected String[]	<i>replaceStringsPositions(String[], int, int, String[])</i> on page 1950	
public static String	<i>resolveUrl(String, String)</i> on page 1950	

Modifier and Type	Member	Description
protected int[]	<i>routes</i> on page 1954	
	<i>SDMParserDocument()</i> on page 1935	
	<i>SDMParserDocument(boolean)</i> on page 1936	
public	<i>SDMParserDocument(String)</i> on page 1935	
public	<i>SDMParserDocument(SDMParserDocument)</i> on page 1935	
protected	<i>SDMParserDocument(int[], String[])</i> on page 1936	
protected	<i>SDMParserDocument(String, boolean)</i> on page 1936	
public void	<i>setAttribute(String, String...)</i> on page 1950	
public void	<i>setAttributes(List&lt;String&gt;, String...)</i> on page 1950	Sets all the values of the attributes with the given route Values will be paired to attributes in order Attributes with greater or equals index than size of new values will be untouched Attributes paired with null values will be removed.
public boolean	<i>setDocument(ISDMParserDocument, String...)</i> on page 1951	
public void	<i>setDocuments(List&lt;ISDMParserDocument&gt;, String...)</i> on page 1951	Replaces all the elements with the given route Documents will be paired to elements in order Elements with greater or equals index than size of new elements will be untouched Element paired with null will be removed.



Modifier and Type	Member	Description
public void	<i>setElementName(String, String...)</i> on page 1951	Sets the name of the root element with the given route Use empty route for setting root name of this document.
public static void	<i>setNameMap(List&lt;String &gt;)</i> on page 1952	
public static void	<i>setPrefixMapping(Map&lt;String, String &gt;)</i> on page 1952	
protected void	<i>setString(String, String...)</i> on page 1952	
protected void	<i>setStrings(List&lt;String &gt;, String...)</i> on page 1952	
public void	<i>setValue(String, String...)</i> on page 1952	
public void	<i>setValues(List&lt;String &gt;, String...)</i> on page 1952	Sets all the values of the elements with the given rout Values will be paired to elements in order Elements with greater or equals index than size of new values will be untouched Null values will be treated as empty strings.
protected String[]	<i>strings</i> on page 1954	
public String	<i>toXMLString()</i> on page 1953	Returns the XML string representation of this object.
protected static final String	<i>URL_PROTOCOL_PREFIX</i> on page 1955	
static transient final int	<i>VALUE_ID</i> on page 1955	
static transient final String	<i>VALUE_STRING</i> on page 1955	
public void	<i>write(BufferedWriter)</i> on page 1953	
public static void	<i>writeNameMap(BufferedWriter)</i> on page 1953	

**Inherited members from ISDMParserDocument**

<b>Modifier and Type</b>	<b>Member</b>	<b>Description</b>
public static final String	<i>ATTRIBUTE_ETAG</i> on page 1329	Name of the appropriate SDMOData element.
public static final String	<i>ATTRIBUTE_VALUEPREFIX_EDMTYPE</i> on page 1329	Value prefix for EDM Type type values.
public static Map< String, String >	<i>DEFAULT_PREFIXMAPPING</i> on page 1329	The default XML Namespace-to-Prefix mapping used for building XMLS.
public static final String[]	<i>EDMDATETIME_PATTERNS</i> on page 1329	Possible EDM DateTime patterns Note: Some pattern are not supported by OData specification but still widely used.
public static final String[]	<i>EDMDATETIMEOFFSET_PATTERNS</i> on page 1329	Possible EDM TimeOffset patterns Note: Some pattern are not supported by OData specification but still widely used.
public static final String	<i>EDMTIME_PATTERN</i> on page 1329	EDM Time pattern.
public static String	<i>ELEMENT_FEED</i> on page 1329	Name of the appropriate SDMOData element.
public static final String	<i>ELEMENT_ID</i> on page 1330	Name of the appropriate SDMOData element.
public static final String	<i>ROOT_DOCUMENT_NAME</i> on page 1330	The default root element name for a new document.
public static final String	<i>XMLNS_APPLICATION_URI</i> on page 1330	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/08/dataservices">http://schemas.microsoft.com/ado/2007/08/dataservices</a> .
public static final String	<i>XMLNS_ATOM_URI</i> on page 1330	Constant for XMLNS URI: <a href="http://www.w3.org/2005/Atom">http://www.w3.org/2005/Atom</a> .
public static final String	<i>XMLNS_DATASERVICES_URI</i> on page 1330	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/08/dataservices">http://schemas.microsoft.com/ado/2007/08/dataservices</a> .

Modifier and Type	Member	Description
public static final String	<i>XMLNS_EDM_URI</i> on page 1330	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/05/edm">http://schemas.microsoft.com/ado/2007/05/edm</a> .
public static final String	<i>XMLNS_EDMX_URI</i> on page 1330	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/06/edmx">http://schemas.microsoft.com/ado/2007/06/edmx</a> .
public static final String	<i>XMLNS_GENERICPLAYER_URI</i> on page 1331	Constant for XMLNS URI: <a href="http://www.sap.com/Protocols/SAPData/GenericPlayer">http://www.sap.com/Protocols/SAPData/GenericPlayer</a> .
public static final String	<i>XMLNS_METADATA_URI</i> on page 1331	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/08/dataservices/metadata">http://schemas.microsoft.com/ado/2007/08/dataservices/metadata</a> .
public static final String	<i>XMLNS_SAP_URI</i> on page 1331	Constant for XMLNS URI: <a href="http://www.sap.com/Protocols/SAPData">http://www.sap.com/Protocols/SAPData</a> .

#### Inherited members from ISDMPersistable

Modifier and Type	Member	Description
public void	<i>read(BufferedReader)</i> on page 1332	
public void	<i>write(BufferedWriter)</i> on page 1332	

#### Inherited members from ISDMODataError

Modifier and Type	Member	Description
public static final String	<i>ATTRIBUTE_LANGUAGE</i> on page 1177	Name of the appropriate SDMODData attribute.
public static final String	<i>ELEMENT_ERROR</i> on page 1177	Name of the appropriate SDMODData element.
public static final String	<i>ELEMENT_ERRORCODE</i> on page 1177	Name of the appropriate SDMODData element.
public static final String	<i>ELEMENT_MESSAGE</i> on page 1177	Name of the appropriate SDMODData element.

#### Inherited members from ISDMParserDocument

Modifier and Type	Member	Description
public static final String	<i>ATTRIBUTE_ETAG</i> on page 1329	Name of the appropriate SDMOData element.
public static final String	<i>ATTRIBUTE_VALUEPREFIX_EDMTYPE</i> on page 1329	Value prefix for EDM Type type values.
public abstract ISDMParseDocument	<i>clone()</i> on page 1317	Creates a copy of this object.
public static Map< String, String >	<i>DEFAULT_PREFIXMAPPING</i> on page 1329	The default XML Namespace-to-Prefix mapping used for building XMLS.
public static final String[]	<i>EDMDATETIME_PATTERNS</i> on page 1329	Possible EDM DateTime patterns Note: Some pattern are not supported by OData specification but still widely used.
public static final String[]	<i>EDMDATETIMEOFFSET_PATTERNS</i> on page 1329	Possible EDM TimeOffset patterns Note: Some pattern are not supported by OData specification but still widely used.
public static final String	<i>EDMTIME_PATTERN</i> on page 1329	EDM Time pattern.
public static String	<i>ELEMENT_FEED</i> on page 1329	Name of the appropriate SDMOData element.
public static final String	<i>ELEMENT_ID</i> on page 1330	Name of the appropriate SDMOData element.
public abstract String	<i>getAttribute(String...)</i> on page 1317	Returns the value of the first attribute with the given route.
public abstract List< String >	<i>getAttributes(String...)</i> on page 1317	Returns all the values of attributes with the given route.
public abstract Map< String, String >	<i>getChildAttributeMap(String...)</i> on page 1318	Returns all the name-value pairs of attributes contained by the element with the given route.
public abstract List< String >	<i>getChildAttributes(String...)</i> on page 1318	Returns all the values of attributes contained by the element with the given route.

Modifier and Type	Member	Description
public abstract List< ISDMParserDocument >	<i>getChildDocuments(String...)</i> on page 1318	Returns the elements contained by the element with the given route.
public abstract List< ISDMParserDocument >	<i>getChildDocumentsWithAttribute(String, String, String...)</i> on page 1319	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public abstract List< ISDMParserDocument >	<i>getChildDocumentsWithAttribute(String, String, boolean, String...)</i> on page 1319	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public abstract ISDMParserDocument	<i>getDocument(String...)</i> on page 1320	Returns the first element with the given route.
public abstract List< ISDMParserDocument >	<i>getDocuments(String...)</i> on page 1320	Returns all the elements with the given route.
public abstract List< ISDMParserDocument >	<i>getDocumentsWithAttribute(String, String, String...)</i> on page 1321	Returns the elements with the given route that contains the given attribute with the given value.
public abstract List< ISDMParserDocument >	<i>getDocumentsWithAttribute(String, String, boolean, String...)</i> on page 1321	Returns the elements with the given route that contains the given attribute with the given value.
public abstract ISDMParserDocument	<i>getDocumentWithAttribute(String, String, String...)</i> on page 1322	Returns the first element with the given route that contains the given attribute with the given value.
public abstract ISDMParserDocument	<i>getDocumentWithAttribute(String, String, boolean, String...)</i> on page 1322	Returns the first element with the given route that contains the given attribute with the given value.
public abstract String	<i>getElementName()</i> on page 1323	Returns The name of the root element of this document.
public abstract String	<i>getFunctionImportComplexPropertyValue(String...)</i> on page 1323	

Modifier and Type	Member	Description
public abstract String	<i>getPrefixForUri(String)</i> on page 1323	Returns the appropriate name-space prefix for the given XML name-space URI.
public abstract String[]	<i>getStrings()</i> on page 1324	Returns all the string values contained by this document.
public abstract String	<i>getValue(String...)</i> on page 1324	Returns the value of the first element with the given route.
public abstract List< String >	<i>getValues(String...)</i> on page 1324	Returns all the values of elements with the given route.
public abstract void	<i>putAttribute(String, String...)</i> on page 1325	Sets the value of the attribute with the given route. If attribute does not exist it will be created as well as all other non existing elements in the route.
public abstract void	<i>putDocument(ISDMParseDocument, String...)</i> on page 1325	Insert the document under the element with the given route. Inserted document will be placed before already existing documents with the same route name. All missing elements from the route will be created.
public abstract void	<i>putValue(String, String...)</i> on page 1325	Sets the value of the first element with the given route.
public abstract boolean	<i>removeAttribute(String...)</i> on page 1326	Removes first element with the given route.
public abstract boolean	<i>removeAttributes(String...)</i> on page 1326	Removes all the attribute with the given route.
public abstract boolean	<i>removeDocument(String...)</i> on page 1326	Removes first element with the given route. For removing multiple element use setDocuments with null arguments.
public static final String	<i>ROOT_DOCUMENT_NAME</i> on page 1330	The default root element name for a new document.

Modifier and Type	Member	Description
public abstract void	<i>setAttributes(List&lt; String &gt;, String...)</i> on page 1327	Sets all the values of the attributes with the given route Values will be paired to attributes in order Attributes with greater or equals index than size of new values will be untouched Attributes paired with null values will be removed.
public abstract void	<i>setDocuments(List&lt; ISDMParserDocument &gt;, String...)</i> on page 1327	Replaces all the elements with the given route Documents will be paired to elements in order Elements with greater or equals index than size of new elements will be untouched Element paired with null will be removed.
public abstract void	<i>setElementName(String, String...)</i> on page 1328	Sets the name of the root element with the given route Use empty route for setting root name of this document.
public abstract void	<i>setValues(List&lt; String &gt;, String...)</i> on page 1328	Sets all the values of the elements with the given route Values will be paired to elements in order Elements with greater or equals index than size of new values will be untouched Null values will be treated as empty strings.
public abstract String	<i>toXMLString()</i> on page 1328	Returns the XML string representation of this object.
public static final String	<i>XMLNS_APPLICATION_URI</i> on page 1330	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/08/dataservices">http://schemas.microsoft.com/ado/2007/08/dataservices</a> .
public static final String	<i>XMLNS_ATOM_URI</i> on page 1330	Constant for XMLNS URI: <a href="http://www.w3.org/2005/Atom">http://www.w3.org/2005/Atom</a> .

Modifier and Type	Member	Description
public static final String	<i>XMLNS_DATA_SERVICES_URI</i> on page 1330	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/08/dataservices">http://schemas.microsoft.com/ado/2007/08/dataservices</a> .
public static final String	<i>XMLNS_EDM_URI</i> on page 1330	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/05/edm">http://schemas.microsoft.com/ado/2007/05/edm</a> .
public static final String	<i>XMLNS_EDMX_URI</i> on page 1330	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/06/edmx">http://schemas.microsoft.com/ado/2007/06/edmx</a> .
public static final String	<i>XMLNS_GENERICPLAYER_URI</i> on page 1331	Constant for XMLNS URI: <a href="http://www.sap.com/Protocols/SAPData/GenericPlayer">http://www.sap.com/Protocols/SAPData/GenericPlayer</a> .
public static final String	<i>XMLNS_METADATA_URI</i> on page 1331	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/08/dataservices/metadata">http://schemas.microsoft.com/ado/2007/08/dataservices/metadata</a> .
public static final String	<i>XMLNS_SAP_URI</i> on page 1331	Constant for XMLNS URI: <a href="http://www.sap.com/Protocols/SAPData">http://www.sap.com/Protocols/SAPData</a> .

#### Inherited members from ISDMPersistable

Modifier and Type	Member	Description
public void	<i>read(BufferedReader)</i> on page 1332	
public void	<i>write(BufferedWriter)</i> on page 1332	

#### *SDMODataError()* constructor

##### Syntax

```
public SDMODataError ()
```

#### *SDMODataError(SDMParserDocument)* constructor

##### Syntax

```
public SDMODataError ( SDMParserDocument document )
```



*SDMODataError(int[], String[]) constructor**Syntax*

```
protected   SDMODataError ( int[] routes , String[] values )
```

*getErrorCode() method*

Returns The value of the 'code' SDMOData element.

*Syntax*

```
public String getErrorCode ()
```

*Returns*

The value of the 'code' SDMOData element

*getLang() method*

Returns The value of the appropriate SDMOData attribute of the 'message' element.

*Syntax*

```
public String getLang ()
```

*Returns*

The value of the appropriate SDMOData attribute of the 'message' element

*getMessage() method*

Return the localized error message.

*Syntax*

```
public String getMessage ()
```

*Returns*

The value of the 'message' SDMOData element

*SDMODataFunctionImport class*

Deprecated. since 3.0, Use ODataFunctionImport

*Syntax*

```
public class SDMODataFunctionImport extends SDMParserDocument,
ISDMODataFunctionImport
```

*Members*

All members of SDMODataFunctionImport, including inherited members. **Variables**

Modifier and Type	Variable	Description
protected String	<i>baseUrl</i> on page 1632	

### Constructors

Modifier and Type	Constructor	Description
public	<i>SDMODataFunctionImport()</i> on page 1628	
public	<i>SDMODataFunctionImport(SDMParserDocument)</i> on page 1629	
protected	<i>SDMODataFunctionImport(int[], String[])</i> on page 1629	

### Methods

Modifier and Type	Method	Description
public String	<i>getActionFor()</i> on page 1629	Returns The value of the appropriate SDMOData attribute.
public String	<i>getCollectionId()</i> on page 1629	Returns The value of the 'EntitySet' SDMOData attribute.
public String	<i>getEntitySet()</i> on page 1629	Returns The value of the 'EntitySet' SDMOData attribute.
public String	<i>getExecutionUrl(Map&lt; String, String &gt;)</i> on page 1630	Calculate the full execution URL for executing this Function Import according to the passed paramteres.
public String	<i>getHTTPMethod()</i> on page 1630	Returns The value of the appropriate SDMOData attribute.
public List< String >	<i>getInputParameterNames()</i> on page 1630	Returns The list of the appropriate SDMOData element with 'In' or 'InOut' attribute value.
public String	<i>getName()</i> on page 1630	Returns The value of the appropriate SDMOData attribute.

Modifier and Type	Method	Description
public List< String >	<i>getOutputParameterNames()</i> on page 1630	Returns The list of the appropriate SDMODData element with 'Out' or 'InOut' attribute value.
public List< ISDMODDataParameter >	<i>getParameters()</i> on page 1631	Returns The list of the appropriate SDMODData element.
public String	<i>getReturnType()</i> on page 1631	Returns The value of the appropriate SDMODData attribute.
public RETURNTYPE_ENUM	<i>getReturnTypeEnum()</i> on page 1631	Returns The return type of this Function Import SDMODData document.
public void	<i>read(BufferedReader)</i> on page 1631	
public void	<i>setBaseUrl(String)</i> on page 1632	
public void	<i>write(BufferedWriter)</i> on page 1632	

#### Inherited members from SDMParserDocument

Modifier and Type	Member	Description
static transient final String	<i>ANY_STRING</i> on page 1953	
static transient final int	<i>ATTRIBUTE_ID</i> on page 1953	
static transient final String	<i>ATTRIBUTE_STRING</i> on page 1954	
public SDMParserDocument	<i>clone()</i> on page 1936	Creates a copy of this object.
protected Map< String, String >	<i>extensions</i> on page 1954	
public String	<i>getAttribute(String...)</i> on page 1936	Returns the value of the first attribute with the given route.
public List< String >	<i>getAttributes(String...)</i> on page 1937	Returns all the values of attributes with the given route.
protected int	<i>getAttributesEndPosition(int[], int, int)</i> on page 1937	

Modifier and Type	Member	Description
public Map< String, String >	<i>getChildAttribute-Map(String...)</i> on page 1937	Returns all the name-value pairs of attributes contained by the element with the given route.
public List< String >	<i>getChildAttributes(String...)</i> on page 1938	Returns all the values of attributes contained by the element with the given route.
public List< ISDMParserDocument >	<i>getChildDocuments(String...)</i> on page 1938	Returns the elements contained by the element with the given route.
public List< ISDMParserDocument >	<i>getChildDocumentsWithAttribute(String, String, String...)</i> on page 1938	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public List< ISDMParserDocument >	<i>getChildDocumentsWithAttribute(String, String, boolean, String...)</i> on page 1939	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public SDMParserDocument	<i>getDocument(String...)</i> on page 1939	Returns the first element with the given route.
protected List< int[] >	<i>getDocumentPositions(String[], int, boolean, boolean)</i> on page 1940	
public List< ISDMParserDocument >	<i>getDocuments(String...)</i> on page 1940	Returns all the elements with the given route.
public List< ISDMParserDocument >	<i>getDocumentsWithAttribute(String, String, String...)</i> on page 1940	Returns the elements with the given route that contains the given attribute with the given value.
public List< ISDMParserDocument >	<i>getDocumentsWithAttribute(String, String, boolean, String...)</i> on page 1941	Returns the elements with the given route that contains the given attribute with the given value.
public ISDMParserDocument	<i>getDocumentWithAttribute(String, String, String...)</i> on page 1941	Returns the first element with the given route that contains the given attribute with the given value.

Modifier and Type	Member	Description
public ISDMParserDocument	<i>getDocumentWithAttribute(String, String, boolean, String...)</i> on page 1942	Returns the first element with the given route that contains the given attribute with the given value.
public String	<i>getElementName()</i> on page 1942	Returns The name of the root element of this document.
public String	<i>getExtension(String)</i> on page 1943	
public String	<i>getFunctionImportComplexProperty Value(String...)</i> on page 1943	
static int	<i>getNameId(String, boolean, boolean)</i> on page 1943	
public static List< String >	<i>getNameMap()</i> on page 1943	
public static String	<i>getPrefix(String)</i> on page 1943	
public String	<i>getPrefixForUri(String)</i> on page 1943	Returns the appropriate namespace prefix for the given XML name-space URI.
public static Map< String, String >	<i>getPrefixMapping()</i> on page 1944	
protected List< Integer >	<i>getStringPositions(String[], int, boolean, boolean)</i> on page 1944	
public String[]	<i>getStrings()</i> on page 1944	Returns all the string values contained by this document.
public String	<i>getValue(String...)</i> on page 1944	Returns the value of the first element with the given route.
public List< String >	<i>getValues(String...)</i> on page 1944	Returns all the values of elements with the given route.
protected int[]	<i>insertRoutePositions(int[], int, int[])</i> on page 1945	
protected void	<i>insertRoutesPositions(int, int[])</i> on page 1945	

Modifier and Type	Member	Description
protected void	<i>insertStringsPositions(int, String[])</i> on page 1945	
protected String[]	<i>insertStringsPositions(String[], int, String[])</i> on page 1945	
boolean	<i>isComplexEntity</i> on page 1954	
boolean	<i>isJson</i> on page 1954	
protected boolean	<i>isMatched(String, String)</i> on page 1945	
static transient List< String >	<i>nameMap</i> on page 1954	
static transient Map< String, String >	<i>prefixMapping</i> on page 1954	
public void	<i>putAttribute(String, String...)</i> on page 1946	Sets the value of the attribute with the given route If attribute does not exist it will be created as well as all other non existing elements in the route.
public void	<i>putDocument(ISDMParserDocument, String...)</i> on page 1946	Insert the document under the element with the given route inserted document will be placed before already existing documents with the same route name under All missing elements from the route will be created.
public void	<i>putExtension(String, String)</i> on page 1946	
protected void	<i>putString(int, String, int, String...)</i> on page 1947	
public void	<i>putValue(String, String...)</i> on page 1947	Sets the value of the first element with the given route.
public static void	<i>readNameMap(BufferedReader)</i> on page 1947	
public boolean	<i>removeAttribute(String...)</i> on page 1948	Removes first element with the given route.

Modifier and Type	Member	Description
public boolean	<i>removeAttributes(String...)</i> on page 1948	Removes all the attribute with the given route.
public boolean	<i>removeDocument(String...)</i> on page 1948	Removes first element with the given route For removing multiple element use setDocuemtns with null arguments.
public void	<i>removeExtension(String)</i> on page 1948	
protected void	<i>removeRoutesPositions(int, int)</i> on page 1949	
protected int[]	<i>removeRoutesPositions(int[], int, int)</i> on page 1949	
protected boolean	<i>removeString(String...)</i> on page 1949	
protected boolean	<i>removeStrings(String...)</i> on page 1949	
protected void	<i>removeStringsPositions(int, int)</i> on page 1949	
protected String[]	<i>removeStringsPositions(String[], int, int)</i> on page 1949	
protected int	<i>replaceRoutesPositions(int, int, int[])</i> on page 1949	
protected int[]	<i>replaceRoutesPositions(int[], int, int, int[])</i> on page 1950	
protected int	<i>replaceStringsPositions(int, int, String[])</i> on page 1950	
protected String[]	<i>replaceStringsPositions(String[], int, int, String[])</i> on page 1950	
public static String	<i>resolveUrl(String, String)</i> on page 1950	
protected int[]	<i>routes</i> on page 1954	

Modifier and Type	Member	Description
	<i>SDMParserDocument()</i> on page 1935	
	<i>SDMParserDocument(boolean)</i> on page 1936	
public	<i>SDMParserDocument(String)</i> on page 1935	
public	<i>SDMParserDocument(SDMParserDocument)</i> on page 1935	
protected	<i>SDMParserDocument(int[], String[])</i> on page 1936	
protected	<i>SDMParserDocument(String, boolean)</i> on page 1936	
public void	<i>setAttribute(String, String...)</i> on page 1950	
public void	<i>setAttributes(List&lt;String&gt;, String...)</i> on page 1950	Sets all the values of the attributes with the given route Values will be paired to attributes in order Attributes with greater or equals index than size of new values will be untouched Attributes paired with null values will be removed.
public boolean	<i>setDocument(ISDMParserDocument, String...)</i> on page 1951	
public void	<i>setDocuments(List&lt;ISDMParserDocument&gt;, String...)</i> on page 1951	Replaces all the elements with the given route Documents will be paired to elements in order Elements with greater or equals index than size of new elements will be untouched Element paired with null will be removed.



Modifier and Type	Member	Description
public void	<i>setElementName(String, String...)</i> on page 1951	Sets the name of the root element with the given route Use empty route for setting root name of this document.
public static void	<i>setNameMap(List&lt;String &gt;)</i> on page 1952	
public static void	<i>setPrefixMapping(Map&lt;String, String &gt;)</i> on page 1952	
protected void	<i>setString(String, String...)</i> on page 1952	
protected void	<i>setStrings(List&lt;String &gt;, String...)</i> on page 1952	
public void	<i>setValue(String, String...)</i> on page 1952	
public void	<i>setValues(List&lt;String &gt;, String...)</i> on page 1952	Sets all the values of the elements with the given rout Values will be paired to elements in order Elements with greater or equals index than size of new values will be untouched Null values will be treated as empty strings.
protected String[]	<i>strings</i> on page 1954	
public String	<i>toXMLString()</i> on page 1953	Returns the XML string representation of this object.
protected static final String	<i>URL_PROTOCOL_PREFIX</i> on page 1955	
static transient final int	<i>VALUE_ID</i> on page 1955	
static transient final String	<i>VALUE_STRING</i> on page 1955	
public static void	<i>writeNameMap(BufferedWriter)</i> on page 1953	

### Inherited members from ISDMParserDocument

Modifier and Type	Member	Description
public static final String	<i>ATTRIBUTE_ETAG</i> on page 1329	Name of the appropriate SDMOData element.
public static final String	<i>ATTRIBUTE_VALUEPREFIX_EDMTYPE</i> on page 1329	Value prefix for EDM Type type values.
public static Map< String, String >	<i>DEFAULT_PREFIXMAPPING</i> on page 1329	The default XML Namespace-to-Prefix mapping used for building XMLS.
public static final String[]	<i>EDMDATETIME_PATTERNS</i> on page 1329	Possible EDM DateTime patterns Note: Some pattern are not supported by OData specification but still widely used.
public static final String[]	<i>EDMDATETIMEOFFSET_PATTERNS</i> on page 1329	Possible EDM TimeOffset patterns Note: Some pattern are not supported by OData specification but still widely used.
public static final String	<i>EDMTIME_PATTERN</i> on page 1329	EDM Time pattern.
public static String	<i>ELEMENT_FEED</i> on page 1329	Name of the appropriate SDMOData element.
public static final String	<i>ELEMENT_ID</i> on page 1330	Name of the appropriate SDMOData element.
public static final String	<i>ROOT_DOCUMENT_NAME</i> on page 1330	The default root element name for a new document.
public static final String	<i>XMLNS_APPLICATION_URI</i> on page 1330	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/08/dataservices">http://schemas.microsoft.com/ado/2007/08/dataservices</a> .
public static final String	<i>XMLNS_ATOM_URI</i> on page 1330	Constant for XMLNS URI: <a href="http://www.w3.org/2005/Atom">http://www.w3.org/2005/Atom</a> .
public static final String	<i>XMLNS_DATASERVICES_URI</i> on page 1330	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/08/dataservices">http://schemas.microsoft.com/ado/2007/08/dataservices</a> .
public static final String	<i>XMLNS_EDM_URI</i> on page 1330	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/05/edm">http://schemas.microsoft.com/ado/2007/05/edm</a> .

Modifier and Type	Member	Description
public static final String	<i>XMLNS_EDMX_URI</i> on page 1330	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/06/edmx">http://schemas.microsoft.com/ado/2007/06/edmx</a> .
public static final String	<i>XMLNS_GENERICPLAYER_URI</i> on page 1331	Constant for XMLNS URI: <a href="http://www.sap.com/Protocols/SAPData/GenericPlayer">http://www.sap.com/Protocols/SAPData/GenericPlayer</a> .
public static final String	<i>XMLNS_METADATA_URI</i> on page 1331	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/08/dataservices/metadata">http://schemas.microsoft.com/ado/2007/08/dataservices/metadata</a> .
public static final String	<i>XMLNS_SAP_URI</i> on page 1331	Constant for XMLNS URI: <a href="http://www.sap.com/Protocols/SAPData">http://www.sap.com/Protocols/SAPData</a> .

#### Inherited members from ISDMPersistable

Modifier and Type	Member	Description
public void	<i>read(BufferedReader)</i> on page 1332	
public void	<i>write(BufferedWriter)</i> on page 1332	

#### Inherited members from ISDMODataFunctionImport

Modifier and Type	Member	Description
public static final String	<i>ATTRIBUTE_ACTION_FOR</i> on page 1186	Name of the appropriate SDMSDModata attribute.
public static final String	<i>ATTRIBUTE_ENTITYSET</i> on page 1186	Name of the appropriate SDMOData attribute.
public static final String	<i>ATTRIBUTE_HTTPMETHOD</i> on page 1187	Name of the appropriate SDMOData attribute.
public static final String	<i>ATTRIBUTE_NAME</i> on page 1187	Name of the appropriate SDMOData attribute.
public static final String	<i>ATTRIBUTE_RETURNTYPE</i> on page 1187	Name of the appropriate SDMOData attribute.

Modifier and Type	Member	Description
public static final String	<i>ELEMENT_FUNCTIONAL_IMPORT</i> on page 1187	Name of the appropriate SDMODData element.
public static final String	<i>ELEMENT_PARAMETER</i> on page 1187	Name of the appropriate SDMODData element.

#### Inherited members from ISDMParserDocument

Modifier and Type	Member	Description
public static final String	<i>ATTRIBUTE_ETAG</i> on page 1329	Name of the appropriate SDMODData element.
public static final String	<i>ATTRIBUTE_VALUEPREFIX_EDMTYPE</i> on page 1329	Value prefix for EDM Type type values.
public abstract ISDMParserDocument	<i>clone()</i> on page 1317	Creates a copy of this object.
public static Map< String, String >	<i>DEFAULT_PREFIXMAPPING</i> on page 1329	The default XML Namespace-to-Prefix mapping used for building XMLS.
public static final String[]	<i>EDMDATETIME_PATTERNS</i> on page 1329	Possible EDM DateTime patterns Note: Some pattern are not supported by OData specification but still widely used.
public static final String[]	<i>EDMDATETIMEOFFSET_PATTERNS</i> on page 1329	Possible EDM TimeOffset patterns Note: Some pattern are not supported by OData specification but still widely used.
public static final String	<i>EDMTIME_PATTERN</i> on page 1329	EDM Time pattern.
public static String	<i>ELEMENT_FEED</i> on page 1329	Name of the appropriate SDMODData element.
public static final String	<i>ELEMENT_ID</i> on page 1330	Name of the appropriate SDMODData element.
public abstract String	<i>getAttribute(String...)</i> on page 1317	Returns the value of the first attribute with the given route.
public abstract List< String >	<i>getAttributes(String...)</i> on page 1317	Returns all the values of attributes with the given route.

Modifier and Type	Member	Description
public abstract Map< String, String >	<i>getChildAttribute-Map(String...)</i> on page 1318	Returns all the name-value pairs of attributes contained by the element with the given route.
public abstract List< String >	<i>getChildAttributes(String...)</i> on page 1318	Returns all the values of attributes contained by the element with the given route.
public abstract List< ISDMParseDocument >	<i>getChildDocuments(String...)</i> on page 1318	Returns the elements contained by the element with the given route.
public abstract List< ISDMParseDocument >	<i>getChildDocumentsWithAttribute(String, String, String...)</i> on page 1319	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public abstract List< ISDMParseDocument >	<i>getChildDocumentsWithAttribute(String, String, boolean, String...)</i> on page 1319	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public abstract ISDMParseDocument	<i>getDocument(String...)</i> on page 1320	Returns the first element with the given route.
public abstract List< ISDMParseDocument >	<i>getDocuments(String...)</i> on page 1320	Returns all the elements with the given route.
public abstract List< ISDMParseDocument >	<i>getDocumentsWithAttribute(String, String, String...)</i> on page 1321	Returns the elements with the given route that contains the given attribute with the given value.
public abstract List< ISDMParseDocument >	<i>getDocumentsWithAttribute(String, String, boolean, String...)</i> on page 1321	Returns the elements with the given route that contains the given attribute with the given value.
public abstract ISDMParseDocument	<i>getDocumentWithAttribute(String, String, String...)</i> on page 1322	Returns the first element with the given route that contains the given attribute with the given value.

Modifier and Type	Member	Description
public abstract ISDMParserDocument	<i>getDocumentWithAttribute(String, String, boolean, String...)</i> on page 1322	Returns the first element with the given route that contains the given attribute with the given value.
public abstract String	<i>getElementName()</i> on page 1323	Returns The name of the root element of this document.
public abstract String	<i>getFunctionImportComplexPropertyValue(String...)</i> on page 1323	
public abstract String	<i>getPrefixForUri(String)</i> on page 1323	Returns the appropriate namespace prefix for the given XML name-space URI.
public abstract String[]	<i>getStrings()</i> on page 1324	Returns all the string values contained by this document.
public abstract String	<i>getValue(String...)</i> on page 1324	Returns the value of the first element with the given route.
public abstract List< String >	<i>getValues(String...)</i> on page 1324	Returns all the values of elements with the given route.
public abstract void	<i>putAttribute(String, String...)</i> on page 1325	Sets the value of the attribute with the given route If attribute does not exist it will be created as well as all other non existing elements in the route.
public abstract void	<i>putDocument(ISDMParserDocument, String...)</i> on page 1325	Insert the document under the element with the given route inserted document will be placed before already existing documents with the same route name under All missing elements from the route will be created.
public abstract void	<i>putValue(String, String...)</i> on page 1325	Sets the value of the first element with the given route.
public abstract boolean	<i>removeAttribute(String...)</i> on page 1326	Removes first element with the given route.

Modifier and Type	Member	Description
public abstract boolean	<i>removeAttributes(String...)</i> on page 1326	Removes all the attribute with the given route.
public abstract boolean	<i>removeDocument(String...)</i> on page 1326	Removes first element with the given route For removing multiple element use setDocuemtns with null arguments.
public static final String	<i>ROOT_DOCUMENT_NAME</i> on page 1330	The default root element name for a new document.
public abstract void	<i>setAttributes(List&lt; String &gt;, String...)</i> on page 1327	Sets all the values of the attributes with the given route Values will be paired to attributes in order Attributes with greater or equals index than size of new values will be untouched Attributes paired with null values will be removed.
public abstract void	<i>setDocuments(List&lt; ISDMParserDocument &gt;, String...)</i> on page 1327	Replaces all the elements with the given route Documents will be paired to elements in order Elements with greater or equals index than size of new elements will be untouched Element paired with null will be removed.
public abstract void	<i>setElementName(String, String...)</i> on page 1328	Sets the name of the root element with the given route Use empty route for setting root name of this document.
public abstract void	<i>setValues(List&lt; String &gt;, String...)</i> on page 1328	Sets all the values of the elements with the given rout Values will be paired to elements in order Elements with greater or equals index than size of new values will be untouched Null values will be treated as empty strings.
public abstract String	<i>toXMLString()</i> on page 1328	Returns the XML string representation of this object.

Modifier and Type	Member	Description
public static final String	<i>XMLNS_APPLICATION_URI</i> on page 1330	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/08/dataservices">http://schemas.microsoft.com/ado/2007/08/dataservices</a> .
public static final String	<i>XMLNS_ATOM_URI</i> on page 1330	Constant for XMLNS URI: <a href="http://www.w3.org/2005/Atom">http://www.w3.org/2005/Atom</a> .
public static final String	<i>XMLNS_DATASERVICES_URI</i> on page 1330	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/08/dataservices">http://schemas.microsoft.com/ado/2007/08/dataservices</a> .
public static final String	<i>XMLNS_EDM_URI</i> on page 1330	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/05/edm">http://schemas.microsoft.com/ado/2007/05/edm</a> .
public static final String	<i>XMLNS_EDMX_URI</i> on page 1330	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/06/edmx">http://schemas.microsoft.com/ado/2007/06/edmx</a> .
public static final String	<i>XMLNS_GENERICPLAYER_URI</i> on page 1331	Constant for XMLNS URI: <a href="http://www.sap.com/Protocols/SAPData/GenericPlayer">http://www.sap.com/Protocols/SAPData/GenericPlayer</a> .
public static final String	<i>XMLNS_METADATA_URI</i> on page 1331	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/08/dataservices/metadata">http://schemas.microsoft.com/ado/2007/08/dataservices/metadata</a> .
public static final String	<i>XMLNS_SAP_URI</i> on page 1331	Constant for XMLNS URI: <a href="http://www.sap.com/Protocols/SAPData">http://www.sap.com/Protocols/SAPData</a> .

**Inherited members from ISDMPersistable**

Modifier and Type	Member	Description
public void	<i>read(BufferedReader)</i> on page 1332	
public void	<i>write(BufferedWriter)</i> on page 1332	

*SDMODataFunctionImport()* constructor**Syntax**

```
public SDMODataFunctionImport ()
```



*SDMODataFunctionImport(SDMParserDocument) constructor***Syntax**

```
public    SDMODataFunctionImport ( SDMParserDocument document )
```

*SDMODataFunctionImport(int[], String[]) constructor***Syntax**

```
protected    SDMODataFunctionImport ( int[] routes , String[]  
values )
```

*getActionFor() method*

Returns The value of the appropriate SDMOData attribute.

**Syntax**

```
public String getActionFor ()
```

**Returns**

The value of the appropriate SDMOData attribute

*getCollectionId() method*

Returns The value of the 'EntitySet' SDMOData attribute.

**Syntax**

```
public String getCollectionId ()
```

**Returns**

The value of the 'EntitySet' SDMOData attribute

*getEntitySet() method*

Returns The value of the 'EntitySet' SDMOData attribute.

**Syntax**

```
public String getEntitySet ()
```

**Returns**

The value of the 'EntitySet' SDMOData attribute

### *getExecutionUrl(Map< String, String >) method*

Calculate the full execution URL for executing this Function Import according to the passed parameters.

#### *Syntax*

```
public String getExecutionUrl (Map< String, String >  
parameters )
```

#### *Returns*

The full execution URL

### *getHTTPMethod() method*

Returns The value of the appropriate SDMODData attribute.

#### *Syntax*

```
public String getHTTPMethod ()
```

#### *Returns*

The value of the appropriate SDMODData attribute

### *getInputParameterNames() method*

Returns The list of the appropriate SDMODData element with 'In' or 'InOut' attribute value.

#### *Syntax*

```
public List< String > getInputParameterNames ()
```

#### *Returns*

The list of the appropriate SDMODData element with 'In' or 'InOut' attribute value

### *getName() method*

Returns The value of the appropriate SDMODData attribute.

#### *Syntax*

```
public String getName ()
```

#### *Returns*

The value of the appropriate SDMODData attribute

### *getOutputParameterNames() method*

Returns The list of the appropriate SDMODData element with 'Out' or 'InOut' attribute value.

#### *Syntax*

```
public List< String > getOutputParameterNames ()
```

*Returns*

The list of the appropriate SDMOData element with 'Out' or 'InOut' attribute value

*getParameters() method*

Returns The list of the appropriate SDMOData element.

*Syntax*

```
public List< ISDMODataParameter > getParameters ()
```

*Returns*

The list of the appropriate SDMOData element

*getReturnType() method*

Returns The value of the appropriate SDMOData attribute.

*Syntax*

```
public String getReturnType ()
```

*Returns*

The value of the appropriate SDMOData attribute

*getReturnTypeEnum() method*

Returns The return type of this Function Import SDMOData document.

*Syntax*

```
public RETURNNTYPE_ENUM getReturnTypeEnum ()
```

*Returns*

The return type of this Function Import SDMOData document

*read(BufferedReader) method**Syntax*

```
public void read (BufferedReader reader) throws  
SDMPersistenceException
```

*Parameters*

- **reader** – The buffered reader to read the object from.

*Exceptions*

- **SDMPersistenceException** – if data can not be loaded from the reader.

*setBaseUrl(String) method*

*Syntax*

```
public void setBaseUrl (String baseUrl)
```

*write(BufferedWriter) method*

*Syntax*

```
public void write (BufferedWriter writer) throws  
SDMPersistenceException
```

*Parameters*

- **writer** – The buffered writer that object data needs to be written into.

*Exceptions*

- **SDMPersistenceException** – if data can not be written into the writer

*baseUrl variable*

*Syntax*

```
protected String baseUrl
```

*SDMODataIcon class*

Deprecated. since 3.0, Use ODataIcon

*Syntax*

```
public class SDMODataIcon extends SDMParserDocument,  
ISDMODataIcon
```

*Members*

All members of SDMODataIcon, including inherited members. **Variables**

Modifier and Type	Variable	Description
protected String	<i>baseUrl</i> on page 1648	

**Constructors**

Modifier and Type	Constructor	Description
public	<i>SDMODataIcon()</i> on page 1646	

Modifier and Type	Constructor	Description
public	<i>SDMODDataIcon(SDMParseDocument)</i> on page 1647	
protected	<i>SDMODDataIcon(int[], String[])</i> on page 1647	

### Methods

Modifier and Type	Method	Description
public int	<i>getHeight()</i> on page 1647	Returns The value of the appropriate SDMODData attribute.
public String	<i>getUrl()</i> on page 1647	Returns The value of the appropriate SDMODData attribute.
public int	<i>getWidth()</i> on page 1647	Returns The value of the appropriate SDMODData attribute.
public void	<i>read(BufferedReader)</i> on page 1647	
protected void	<i>setBaseUrl(String)</i> on page 1648	
public void	<i>write(BufferedWriter)</i> on page 1648	

### Inherited members from SDMParseDocument

Modifier and Type	Member	Description
static transient final String	<i>ANY_STRING</i> on page 1953	
static transient final int	<i>ATTRIBUTE_ID</i> on page 1953	
static transient final String	<i>ATTRIBUTE_STRING</i> on page 1954	
public SDMParseDocument	<i>clone()</i> on page 1936	Creates a copy of this object.
protected Map< String, String >	<i>extensions</i> on page 1954	
public String	<i>getAttribute(String...)</i> on page 1936	Returns the value of the first attribute with the given route.

Modifier and Type	Member	Description
public List< String >	<i>getAttributes(String...)</i> on page 1937	Returns all the values of attributes with the given route.
protected int	<i>getAttributesEndPosition(int[], int, int)</i> on page 1937	
public Map< String, String >	<i>getChildAttribute-Map(String...)</i> on page 1937	Returns all the name-value pairs of attributes contained by the element with the given route.
public List< String >	<i>getChildAttributes(String...)</i> on page 1938	Returns all the values of attributes contained by the element with the given route.
public List< ISDMParserDocument >	<i>getChildDocuments(String...)</i> on page 1938	Returns the elements contained by the element with the given route.
public List< ISDMParserDocument >	<i>getChildDocumentsWithAttribute(String, String, String...)</i> on page 1938	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public List< ISDMParserDocument >	<i>getChildDocumentsWithAttribute(String, String, boolean, String...)</i> on page 1939	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public SDMParserDocument	<i>getDocument(String...)</i> on page 1939	Returns the first element with the given route.
protected List< int[] >	<i>getDocumentPositions(String[], int, boolean, boolean)</i> on page 1940	
public List< ISDMParserDocument >	<i>getDocuments(String...)</i> on page 1940	Returns all the elements with the given route.
public List< ISDMParserDocument >	<i>getDocumentsWithAttribute(String, String, String...)</i> on page 1940	Returns the elements with the given route that contains the given attribute with the given value.

Modifier and Type	Member	Description
public List< ISDMParserDocument >	<i>getDocumentsWithAttribute(String, String, boolean, String...)</i> on page 1941	Returns the elements with the given route that contains the given attribute with the given value.
public ISDMParserDocument	<i>getDocumentWithAttribute(String, String, String...)</i> on page 1941	Returns the first element with the given route that contains the given attribute with the given value.
public ISDMParserDocument	<i>getDocumentWithAttribute(String, String, boolean, String...)</i> on page 1942	Returns the first element with the given route that contains the given attribute with the given value.
public String	<i>getElementName()</i> on page 1942	Returns The name of the root element of this document.
public String	<i>getExtension(String)</i> on page 1943	
public String	<i>getFunctionImportComplexPropertyValue(String...)</i> on page 1943	
static int	<i>getNameId(String, boolean, boolean)</i> on page 1943	
public static List< String >	<i>getNameMap()</i> on page 1943	
public static String	<i>getPrefix(String)</i> on page 1943	
public String	<i>getPrefixForUri(String)</i> on page 1943	Returns the appropriate namespace prefix for the given XML name-space URI.
public static Map< String, String >	<i>getPrefixMapping()</i> on page 1944	
protected List< Integer >	<i>getStringPositions(String[], int, boolean, boolean)</i> on page 1944	
public String[]	<i>getStrings()</i> on page 1944	Returns all the string values contained by this document.

Modifier and Type	Member	Description
public String	<i>getValue(String...)</i> on page 1944	Returns the value of the first element with the given route.
public List< String >	<i>getValues(String...)</i> on page 1944	Returns all the values of elements with the given route.
protected int[]	<i>insertRoutePositions(int[], int, int[])</i> on page 1945	
protected void	<i>insertRoutesPositions(int, int[])</i> on page 1945	
protected void	<i>insertStringsPositions(int, String[])</i> on page 1945	
protected String[]	<i>insertStringsPositions(String[], int, String[])</i> on page 1945	
boolean	<i>isComplexEntity</i> on page 1954	
boolean	<i>isJson</i> on page 1954	
protected boolean	<i>isMatched(String, String)</i> on page 1945	
static transient List< String >	<i>nameMap</i> on page 1954	
static transient Map< String, String >	<i>prefixMapping</i> on page 1954	
public void	<i>putAttribute(String, String...)</i> on page 1946	Sets the value of the attribute with the given route. If attribute does not exist it will be created as well as all other non existing elements in the route.
public void	<i>putDocument(ISDMParseDocument, String...)</i> on page 1946	Insert the document under the element with the given route. Inserted document will be placed before already existing documents with the same route name. All missing elements from the route will be created.
public void	<i>putExtension(String, String)</i> on page 1946	



Modifier and Type	Member	Description
protected void	<i>putString(int, String, int, String...)</i> on page 1947	
public void	<i>putValue(String, String...)</i> on page 1947	Sets the value of the first element with the given route.
public static void	<i>readNameMap(BufferedReader)</i> on page 1947	
public boolean	<i>removeAttribute(String...)</i> on page 1948	Removes first element with the given route.
public boolean	<i>removeAttributes(String...)</i> on page 1948	Removes all the attribute with the given route.
public boolean	<i>removeDocument(String...)</i> on page 1948	Removes first element with the given route For removing multiple element use setDocuemtns with null arguments.
public void	<i>removeExtension(String)</i> on page 1948	
protected void	<i>removeRoutesPositions(int, int)</i> on page 1949	
protected int[]	<i>removeRoutesPositions(int[], int, int)</i> on page 1949	
protected boolean	<i>removeString(String...)</i> on page 1949	
protected boolean	<i>removeStrings(String...)</i> on page 1949	
protected void	<i>removeStringsPositions(int, int)</i> on page 1949	
protected String[]	<i>removeStringsPositions(String[], int, int)</i> on page 1949	
protected int	<i>replaceRoutesPositions(int, int, int[])</i> on page 1949	
protected int[]	<i>replaceRoutesPositions(int[], int, int, int[])</i> on page 1950	

Modifier and Type	Member	Description
protected int	<i>replaceStringsPositions(int, int, String[])</i> on page 1950	
protected String[]	<i>replaceStringsPositions(String[], int, int, String[])</i> on page 1950	
public static String	<i>resolveUrl(String, String)</i> on page 1950	
protected int[]	<i>routes</i> on page 1954	
	<i>SDMParserDocument()</i> on page 1935	
	<i>SDMParserDocument(boolean)</i> on page 1936	
public	<i>SDMParserDocument(String)</i> on page 1935	
public	<i>SDMParserDocument(SDMParserDocument)</i> on page 1935	
protected	<i>SDMParserDocument(int[], String[])</i> on page 1936	
protected	<i>SDMParserDocument(String, boolean)</i> on page 1936	
public void	<i>setAttribute(String, String...)</i> on page 1950	
public void	<i>setAttributes(List&lt;String&gt;, String...)</i> on page 1950	Sets all the values of the attributes with the given route Values will be paired to attributes in order Attributes with greater or equals index than size of new values will be untouched Attributes paired with null values will be removed.
public boolean	<i>setDocument(ISDMParserDocument, String...)</i> on page 1951	

Modifier and Type	Member	Description
public void	<i>setDocuments(List&lt; ISDMParserDocument &gt;, String...)</i> on page 1951	Replaces all the elements with the given route Documents will be paired to elements in order Elements with greater or equals index than size of new elements will be untouched Element paired with null will be removed.
public void	<i>setElementName(String, String...)</i> on page 1951	Sets the name of the root element with the given route Use empty route for setting root name of this document.
public static void	<i>setNameMap(List&lt;String &gt;)</i> on page 1952	
public static void	<i>setPrefixMapping(Map&lt;String, String &gt;)</i> on page 1952	
protected void	<i>setString(String, String...)</i> on page 1952	
protected void	<i>setStrings(List&lt;String &gt;, String...)</i> on page 1952	
public void	<i>setValue(String, String...)</i> on page 1952	
public void	<i>setValues(List&lt;String &gt;, String...)</i> on page 1952	Sets all the values of the elements with the given route Values will be paired to elements in order Elements with greater or equals index than size of new values will be untouched Null values will be treated as empty strings.
protected String[]	<i>strings</i> on page 1954	
public String	<i>toXMLString()</i> on page 1953	Returns the XML string representation of this object.
protected static final String	<i>URL_PROTOCOL_PREFIX</i> on page 1955	

Modifier and Type	Member	Description
static transient final int	<i>VALUE_ID</i> on page 1955	
static transient final String	<i>VALUE_STRING</i> on page 1955	
public static void	<i>writeNameMap(BufferedWriter)</i> on page 1953	

### Inherited members from ISDMParserDocument

Modifier and Type	Member	Description
public static final String	<i>ATTRIBUTE_ETAG</i> on page 1329	Name of the appropriate SDMOData element.
public static final String	<i>ATTRIBUTE_VALUEPREFIX_EDMTYPE</i> on page 1329	Value prefix for EDM Type type values.
public static Map< String, String >	<i>DEFAULT_PREFIXMAPPING</i> on page 1329	The default XML Namespace-to-Prefix mapping used for building XMLS.
public static final String[]	<i>EDMDATETIME_PATTERNS</i> on page 1329	Possible EDM DateTime patterns Note: Some pattern are not supported by OData specification but still widely used.
public static final String[]	<i>EDMDATETIMEOFFSET_PATTERNS</i> on page 1329	Possible EDM TimeOffset patterns Note: Some pattern are not supported by OData specification but still widely used.
public static final String	<i>EDMTIME_PATTERN</i> on page 1329	EDM Time pattern.
public static String	<i>ELEMENT_FEED</i> on page 1329	Name of the appropriate SDMOData element.
public static final String	<i>ELEMENT_ID</i> on page 1330	Name of the appropriate SDMOData element.
public static final String	<i>ROOT_DOCUMENT_NAME</i> on page 1330	The default root element name for a new document.
public static final String	<i>XMLNS_APPLICATION_URI</i> on page 1330	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/08/dataservices">http://schemas.microsoft.com/ado/2007/08/dataservices</a> .

Modifier and Type	Member	Description
public static final String	<i>XMLNS_ATOM_URI</i> on page 1330	Constant for XMLNS URI: <a href="http://www.w3.org/2005/Atom">http://www.w3.org/2005/Atom</a> .
public static final String	<i>XMLNS_DATASERVICES_URI</i> on page 1330	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/08/dataservices">http://schemas.microsoft.com/ado/2007/08/dataservices</a> .
public static final String	<i>XMLNS_EDM_URI</i> on page 1330	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/05/edm">http://schemas.microsoft.com/ado/2007/05/edm</a> .
public static final String	<i>XMLNS_EDMX_URI</i> on page 1330	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/06/edmx">http://schemas.microsoft.com/ado/2007/06/edmx</a> .
public static final String	<i>XMLNS_GENERICPLAYER_URI</i> on page 1331	Constant for XMLNS URI: <a href="http://www.sap.com/Protocols/SAPData/GenericPlayer">http://www.sap.com/Protocols/SAPData/GenericPlayer</a> .
public static final String	<i>XMLNS_METADATA_URI</i> on page 1331	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/08/dataservices/metadata">http://schemas.microsoft.com/ado/2007/08/dataservices/metadata</a> .
public static final String	<i>XMLNS_SAP_URI</i> on page 1331	Constant for XMLNS URI: <a href="http://www.sap.com/Protocols/SAPData">http://www.sap.com/Protocols/SAPData</a> .

**Inherited members from ISDMPersistable**

Modifier and Type	Member	Description
public void	<i>read(BufferedReader)</i> on page 1332	
public void	<i>write(BufferedWriter)</i> on page 1332	

**Inherited members from ISDMSDataIcon**

Modifier and Type	Member	Description
public static final String	<i>ATTRIBUTE_HEIGHT</i> on page 1194	Name of the appropriate SDMSData attribute.

Modifier and Type	Member	Description
public static final String	<i>ATTRIBUTE_WIDTH</i> on page 1194	Name of the appropriate SDMSMODData attribute.
public static final String	<i>ELEMENT_ICON</i> on page 1194	Name of the appropriate SDMSMODData element.

#### Inherited members from ISDMParserDocument

Modifier and Type	Member	Description
public static final String	<i>ATTRIBUTE_ETAG</i> on page 1329	Name of the appropriate SDMODData element.
public static final String	<i>ATTRIBUTE_VALUEPREFIX_EDMTYPE</i> on page 1329	Value prefix for EDM Type type values.
public abstract ISDMParserDocument	<i>clone()</i> on page 1317	Creates a copy of this object.
public static Map< String, String >	<i>DEFAULT_PREFIXMAPPING</i> on page 1329	The default XML Namespace-to-Prefix mapping used for building XMLS.
public static final String[]	<i>EDMDATETIME_PATTERNS</i> on page 1329	Possible EDM DateTime patterns Note: Some pattern are not supported by OData specification but still widely used.
public static final String[]	<i>EDMDATETIMEOFFSET_PATTERNS</i> on page 1329	Possible EDM TimeOffset patterns Note: Some pattern are not supported by OData specification but still widely used.
public static final String	<i>EDMTIME_PATTERN</i> on page 1329	EDM Time pattern.
public static String	<i>ELEMENT_FEED</i> on page 1329	Name of the appropriate SDMODData element.
public static final String	<i>ELEMENT_ID</i> on page 1330	Name of the appropriate SDMODData element.
public abstract String	<i>getAttribute(String...)</i> on page 1317	Returns the value of the first attribute with the given route.
public abstract List< String >	<i>getAttributes(String...)</i> on page 1317	Returns all the values of attributes with the given route.

Modifier and Type	Member	Description
public abstract Map< String, String >	<i>getChildAttribute-Map(String...)</i> on page 1318	Returns all the name-value pairs of attributes contained by the element with the given route.
public abstract List< String >	<i>getChildAttributes(String...)</i> on page 1318	Returns all the values of attributes contained by the element with the given route.
public abstract List< ISDMParseDocument >	<i>getChildDocuments(String...)</i> on page 1318	Returns the elements contained by the element with the given route.
public abstract List< ISDMParseDocument >	<i>getChildDocumentsWithAttribute(String, String, String...)</i> on page 1319	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public abstract List< ISDMParseDocument >	<i>getChildDocumentsWithAttribute(String, String, boolean, String...)</i> on page 1319	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public abstract ISDMParseDocument	<i>getDocument(String...)</i> on page 1320	Returns the first element with the given route.
public abstract List< ISDMParseDocument >	<i>getDocuments(String...)</i> on page 1320	Returns all the elements with the given route.
public abstract List< ISDMParseDocument >	<i>getDocumentsWithAttribute(String, String, String...)</i> on page 1321	Returns the elements with the given route that contains the given attribute with the given value.
public abstract List< ISDMParseDocument >	<i>getDocumentsWithAttribute(String, String, boolean, String...)</i> on page 1321	Returns the elements with the given route that contains the given attribute with the given value.
public abstract ISDMParseDocument	<i>getDocumentWithAttribute(String, String, String...)</i> on page 1322	Returns the first element with the given route that contains the given attribute with the given value.

Modifier and Type	Member	Description
public abstract ISDMParserDocument	<i>getDocumentWithAttribute(String, String, boolean, String...)</i> on page 1322	Returns the first element with the given route that contains the given attribute with the given value.
public abstract String	<i>getElementName()</i> on page 1323	Returns The name of the root element of this document.
public abstract String	<i>getFunctionImportComplexPropertyValue(String...)</i> on page 1323	
public abstract String	<i>getPrefixForUri(String)</i> on page 1323	Returns the appropriate name-space prefix for the given XML name-space URI.
public abstract String[]	<i>getStrings()</i> on page 1324	Returns all the string values contained by this document.
public abstract String	<i>getValue(String...)</i> on page 1324	Returns the value of the first element with the given route.
public abstract List< String >	<i>getValues(String...)</i> on page 1324	Returns all the values of elements with the given route.
public abstract void	<i>putAttribute(String, String...)</i> on page 1325	Sets the value of the attribute with the given route If attribute does not exist it will be created as well as all other non existing elements in the route.
public abstract void	<i>putDocument(ISDMParserDocument, String...)</i> on page 1325	Insert the document under the element with the given route inserted document will be placed before already existing documents with the same route name under All missing elements from the route will be created.
public abstract void	<i>putValue(String, String...)</i> on page 1325	Sets the value of the first element with the given route.
public abstract boolean	<i>removeAttribute(String...)</i> on page 1326	Removes first element with the given route.



Modifier and Type	Member	Description
public abstract boolean	<i>removeAttributes(String...)</i> on page 1326	Removes all the attribute with the given route.
public abstract boolean	<i>removeDocument(String...)</i> on page 1326	Removes first element with the given route For removing multiple element use setDocuemtns with null arguments.
public static final String	<i>ROOT_DOCUMENT_NAME</i> on page 1330	The default root element name for a new document.
public abstract void	<i>setAttributes(List&lt; String &gt;, String...)</i> on page 1327	Sets all the values of the attributes with the given route Values will be paired to attributes in order Attributes with greater or equals index than size of new values will be untouched Attributes paired with null values will be removed.
public abstract void	<i>setDocuments(List&lt; ISDMParserDocument &gt;, String...)</i> on page 1327	Replaces all the elements with the given route Documents will be paired to elements in order Elements with greater or equals index than size of new elements will be untouched Element paired with null will be removed.
public abstract void	<i>setElementName(String, String...)</i> on page 1328	Sets the name of the root element with the given route Use empty route for setting root name of this document.
public abstract void	<i>setValues(List&lt; String &gt;, String...)</i> on page 1328	Sets all the values of the elements with the given rout Values will be paired to elements in order Elements with greater or equals index than size of new values will be untouched Null values will be treated as empty strings.
public abstract String	<i>toXMLString()</i> on page 1328	Returns the XML string representation of this object.

Modifier and Type	Member	Description
public static final String	<i>XMLNS_APPLICATION_URI</i> on page 1330	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/08/dataservices">http://schemas.microsoft.com/ado/2007/08/dataservices</a> .
public static final String	<i>XMLNS_ATOM_URI</i> on page 1330	Constant for XMLNS URI: <a href="http://www.w3.org/2005/Atom">http://www.w3.org/2005/Atom</a> .
public static final String	<i>XMLNS_DATASERVICES_URI</i> on page 1330	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/08/dataservices">http://schemas.microsoft.com/ado/2007/08/dataservices</a> .
public static final String	<i>XMLNS_EDM_URI</i> on page 1330	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/05/edm">http://schemas.microsoft.com/ado/2007/05/edm</a> .
public static final String	<i>XMLNS_EDMX_URI</i> on page 1330	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/06/edmx">http://schemas.microsoft.com/ado/2007/06/edmx</a> .
public static final String	<i>XMLNS_GENERICPLAYER_URI</i> on page 1331	Constant for XMLNS URI: <a href="http://www.sap.com/Protocols/SAPData/GenericPlayer">http://www.sap.com/Protocols/SAPData/GenericPlayer</a> .
public static final String	<i>XMLNS_METADATA_URI</i> on page 1331	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/08/dataservices/metadata">http://schemas.microsoft.com/ado/2007/08/dataservices/metadata</a> .
public static final String	<i>XMLNS_SAP_URI</i> on page 1331	Constant for XMLNS URI: <a href="http://www.sap.com/Protocols/SAPData">http://www.sap.com/Protocols/SAPData</a> .

**Inherited members from ISDMPersistable**

Modifier and Type	Member	Description
public void	<i>read(BufferedReader)</i> on page 1332	
public void	<i>write(BufferedWriter)</i> on page 1332	

*SDMODataIcon()* constructor

**Syntax**

```
public SDMODataIcon ()
```

*SDMODataIcon(SDMParserDocument) constructor**Syntax*

```
public    SDMODataIcon ( SDMParserDocument document )
```

*SDMODataIcon(int[], String[]) constructor**Syntax*

```
protected    SDMODataIcon ( int[] routes , String[] values )
```

*getHeight() method*

Returns The value of the appropriate SDMOData attribute.

*Syntax*

```
public int    getHeight ()
```

*Returns*

The value of the appropriate SDMOData attribute

*getUrl() method*

Returns The value of the appropriate SDMOData attribute.

*Syntax*

```
public String getUrl ()
```

*Returns*

The value of the appropriate SDMOData attribute

*getWidth() method*

Returns The value of the appropriate SDMOData attribute.

*Syntax*

```
public int    getWidth ()
```

*Returns*

The value of the appropriate SDMOData attribute

*read(BufferedReader) method**Syntax*

```
public void    read (BufferedReader reader) throws
SDMPersistenceException
```

*Parameters*

- **reader** – The buffered reader to read the object from.

*Exceptions*

- **SDMPersistenceException** – if data can not be loaded from the reader.

*setBaseUrl(String) method*

*Syntax*

```
protected void setBaseUrl (String baseUrl)
```

*write(BufferedWriter) method*

*Syntax*

```
public void write (BufferedWriter writer) throws  
SDMPersistenceException
```

*Parameters*

- **writer** – The buffered writer that object data needs to be written into.

*Exceptions*

- **SDMPersistenceException** – if data can not be written into the writer

*baseUrl variable*

*Syntax*

```
protected String baseUrl
```

*SDMODataLink class*

Deprecated. since 3.0, Use ODataLink

*Syntax*

```
public class SDMODataLink extends SDMParserDocument,  
ISDMODataLink
```

*Members*

All members of SDMODataLink, including inherited members. **Variables**

Modifier and Type	Variable	Description
protected String	<i>baseUrl</i> on page 1669	

Modifier and Type	Variable	Description
protected ISDMODataSchema	<i>schema</i> on page 1669	
protected String	<i>targetCollectionId</i> on page 1669	

### Constructors

Modifier and Type	Constructor	Description
public	<i>SDMODataLink()</i> on page 1664	
public	<i>SDMODataLink(SDMParser-Document)</i> on page 1665	
protected	<i>SDMODataLink(int[], String[])</i> on page 1665	

### Methods

Modifier and Type	Method	Description
public String	<i>getHref()</i> on page 1665	Returns the value of the appropriate SDMOData attribute.
public List< ISDMODataEntry >	<i>getInlineEntries()</i> on page 1665	Returns the list of SDMOData Entries contained by the appropriate SDMOData 'inline' element.
public List< String >	<i>getInputParameterNames()</i> on page 1665	Returns the list of the appropriate SDMOData Parameter elements that should be used as input parameter.
public List< String >	<i>getOutputParameterNames()</i> on page 1666	Returns the list of the appropriate SDMOData Parameter elements that should be used as output parameter.
public List< ISDMODataParameter >	<i>getParameters()</i> on page 1666	Returns the list of the appropriate SDMOData Parameter elements.
public String	<i>getRel()</i> on page 1666	Returns the value of the appropriate SDMOData attribute.

Modifier and Type	Method	Description
public ISDMODataSchema	<i>getSchema()</i> on page 1666	Returns the Schema that is to be used for 'Inline entries'.
public String	<i>getSemantics()</i> on page 1666	Returns The value of the appropriate SDMODData extension (vCard) attribute.
public String	<i>getTargetCollectionId()</i> on page 1667	Returns the Id of the collection that this link points to (if any)
public String	<i>getTitle()</i> on page 1667	Returns the value of the appropriate SDMODData attribute.
public String	<i>getUrl()</i> on page 1667	Returns the full URL for this SDMODData Link object without parameters.
public String	<i>getUrlWithParameters(Map&lt;String, String &gt;)</i> on page 1667	Returns the full URL for this SDMODData Link object extended with the given parameter names and values.
public void	<i>read(BufferedReader)</i> on page 1668	
protected void	<i>setBaseUrl(String)</i> on page 1668	
public void	<i>setSchema(ISDMODataSchema)</i> on page 1668	Sets the Schema that is to be used for 'Inline entries'.
public void	<i>setTargetCollectionId(String)</i> on page 1668	Maintains the Id of the collection that this link points to (if any)
public void	<i>write(BufferedWriter)</i> on page 1668	

#### Inherited members from SDMParserDocument

Modifier and Type	Member	Description
static transient final String	<i>ANY_STRING</i> on page 1953	
static transient final int	<i>ATTRIBUTE_ID</i> on page 1953	

Modifier and Type	Member	Description
static transient final String	<i>ATTRIBUTE_STRING</i> on page 1954	
public SDMParserDocument	<i>clone()</i> on page 1936	Creates a copy of this object.
protected Map< String, String >	<i>extensions</i> on page 1954	
public String	<i>getAttribute(String...)</i> on page 1936	Returns the value of the first attribute with the given route.
public List< String >	<i>getAttributes(String...)</i> on page 1937	Returns all the values of attributes with the given route.
protected int	<i>getAttributesEndPosition(int[], int, int)</i> on page 1937	
public Map< String, String >	<i>getChildAttributeMap(String...)</i> on page 1937	Returns all the name-value pairs of attributes contained by the element with the given route.
public List< String >	<i>getChildAttributes(String...)</i> on page 1938	Returns all the values of attributes contained by the element with the given route.
public List< ISDMParserDocument >	<i>getChildDocuments(String...)</i> on page 1938	Returns the elements contained by the element with the given route.
public List< ISDMParserDocument >	<i>getChildDocumentsWithAttribute(String, String, String...)</i> on page 1938	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public List< ISDMParserDocument >	<i>getChildDocumentsWithAttribute(String, String, boolean, String...)</i> on page 1939	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public SDMParserDocument	<i>getDocument(String...)</i> on page 1939	Returns the first element with the given route.
protected List< int[] >	<i>getDocumentPositions(String[], int, boolean, boolean)</i> on page 1940	
public List< ISDMParserDocument >	<i>getDocuments(String...)</i> on page 1940	Returns all the elements with the given route.

Modifier and Type	Member	Description
public List< ISDMParserDocument >	<i>getDocumentsWithAttribute(String, String, String...)</i> on page 1940	Returns the elements with the given route that contains the given attribute with the given value.
public List< ISDMParserDocument >	<i>getDocumentsWithAttribute(String, String, boolean, String...)</i> on page 1941	Returns the elements with the given route that contains the given attribute with the given value.
public ISDMParserDocument	<i>getDocumentWithAttribute(String, String, String...)</i> on page 1941	Returns the first element with the given route that contains the given attribute with the given value.
public ISDMParserDocument	<i>getDocumentWithAttribute(String, String, boolean, String...)</i> on page 1942	Returns the first element with the given route that contains the given attribute with the given value.
public String	<i>getElementName()</i> on page 1942	Returns The name of the root element of this document.
public String	<i>getExtension(String)</i> on page 1943	
public String	<i>getFunctionImportComplexProperty Value(String...)</i> on page 1943	
static int	<i>getNameId(String, boolean, boolean)</i> on page 1943	
public static List< String >	<i>getNameMap()</i> on page 1943	
public static String	<i>getPrefix(String)</i> on page 1943	
public String	<i>getPrefixForUri(String)</i> on page 1943	Returns the appropriate namespace prefix for the given XML name-space URI.
public static Map< String, String >	<i>getPrefixMapping()</i> on page 1944	



Modifier and Type	Member	Description
protected List< Integer >	<i>getStringPositions(String[], int, boolean, boolean)</i> on page 1944	
public String[]	<i>getStrings()</i> on page 1944	Returns all the string values contained by this document.
public String	<i>getValue(String...)</i> on page 1944	Returns the value of the first element with the given route.
public List< String >	<i>getValues(String...)</i> on page 1944	Returns all the values of elements with the given route.
protected int[]	<i>insertRoutePositions(int[], int, int[])</i> on page 1945	
protected void	<i>insertRoutesPositions(int, int[])</i> on page 1945	
protected void	<i>insertStringsPositions(int, String[])</i> on page 1945	
protected String[]	<i>insertStringsPositions(String[], int, String[])</i> on page 1945	
boolean	<i>isComplexEntity</i> on page 1954	
boolean	<i>isJson</i> on page 1954	
protected boolean	<i>isMatched(String, String)</i> on page 1945	
static transient List< String >	<i>nameMap</i> on page 1954	
static transient Map< String, String >	<i>prefixMapping</i> on page 1954	
public void	<i>putAttribute(String, String...)</i> on page 1946	Sets the value of the attribute with the given route If attribute does not exist it will be created as well as all other non existing elements in the route.

Modifier and Type	Member	Description
public void	<i>putDocument(ISDMParseDocument, String...)</i> on page 1946	Insert the document under the element with the given route inserted document will be placed before already existing documents with the same route name under All missing elements from the route will be created.
public void	<i>putExtension(String, String)</i> on page 1946	
protected void	<i>putString(int, String, int, String...)</i> on page 1947	
public void	<i>putValue(String, String...)</i> on page 1947	Sets the value of the first element with the given route.
public static void	<i>readNameMap(BufferedReader)</i> on page 1947	
public boolean	<i>removeAttribute(String...)</i> on page 1948	Removes first element with the given route.
public boolean	<i>removeAttributes(String...)</i> on page 1948	Removes all the attribute with the given route.
public boolean	<i>removeDocument(String...)</i> on page 1948	Removes first element with the given route For removing multiple element use setDocuemtns with null arguments.
public void	<i>removeExtension(String)</i> on page 1948	
protected void	<i>removeRoutesPositions(int, int)</i> on page 1949	
protected int[]	<i>removeRoutesPositions(int[], int, int)</i> on page 1949	
protected boolean	<i>removeString(String...)</i> on page 1949	
protected boolean	<i>removeStrings(String...)</i> on page 1949	

Modifier and Type	Member	Description
protected void	<i>removeStringsPositions(int, int)</i> on page 1949	
protected String[]	<i>removeStringsPositions(String[], int, int)</i> on page 1949	
protected int	<i>replaceRoutesPositions(int, int, int[])</i> on page 1949	
protected int[]	<i>replaceRoutesPositions(int[], int, int, int[])</i> on page 1950	
protected int	<i>replaceStringsPositions(int, int, String[])</i> on page 1950	
protected String[]	<i>replaceStringsPositions(String[], int, int, String[])</i> on page 1950	
public static String	<i>resolveUrl(String, String)</i> on page 1950	
protected int[]	<i>routes</i> on page 1954	
	<i>SDMParserDocument()</i> on page 1935	
	<i>SDMParserDocument(boolean)</i> on page 1936	
public	<i>SDMParserDocument(String)</i> on page 1935	
public	<i>SDMParserDocument(SDMParserDocument)</i> on page 1935	
protected	<i>SDMParserDocument(int[], String[])</i> on page 1936	
protected	<i>SDMParserDocument(String, boolean)</i> on page 1936	
public void	<i>setAttribute(String, String...)</i> on page 1950	

Modifier and Type	Member	Description
public void	<i>setAttributes(List&lt; String &gt;, String...)</i> on page 1950	Sets all the values of the attributes with the given route Values will be paired to attributes in order Attributes with greater or equals index than size of new values will be untouched Attributes paired with null values will be removed.
public boolean	<i>setDocument(ISDMParseDocument, String...)</i> on page 1951	
public void	<i>setDocuments(List&lt; ISDMParseDocument &gt;, String...)</i> on page 1951	Replaces all the elements with the given route Documents will be paired to elements in order Elements with greater or equals index than size of new elements will be untouched Element paired with null will be removed.
public void	<i>setElementName(String, String...)</i> on page 1951	Sets the name of the root element with the given route Use empty route for setting root name of this document.
public static void	<i>setNameMap(List&lt; String &gt;)</i> on page 1952	
public static void	<i>setPrefixMapping(Map&lt; String, String &gt;)</i> on page 1952	
protected void	<i>setString(String, String...)</i> on page 1952	
protected void	<i>setStrings(List&lt; String &gt;, String...)</i> on page 1952	
public void	<i>setValue(String, String...)</i> on page 1952	

Modifier and Type	Member	Description
public void	<i>setValues(List&lt;String&gt;, String...)</i> on page 1952	Sets all the values of the elements with the given route values will be paired to elements in order. Elements with greater or equals index than size of new values will be untouched. Null values will be treated as empty strings.
protected String[]	<i>strings</i> on page 1954	
public String	<i>toXMLString()</i> on page 1953	Returns the XML string representation of this object.
protected static final String	<i>URL_PROTOCOL_PREFIX</i> on page 1955	
static transient final int	<i>VALUE_ID</i> on page 1955	
static transient final String	<i>VALUE_STRING</i> on page 1955	
public static void	<i>writeNameMap(BufferedWriter)</i> on page 1953	

#### Inherited members from ISDMParserDocument

Modifier and Type	Member	Description
public static final String	<i>ATTRIBUTE_ETAG</i> on page 1329	Name of the appropriate SDMOData element.
public static final String	<i>ATTRIBUTE_VALUEPREFIX_EDMTYPE</i> on page 1329	Value prefix for EDM Type type values.
public static Map<String, String>	<i>DEFAULT_PREFIX_MAPPING</i> on page 1329	The default XML Namespace-to-Prefix mapping used for building XMLS.
public static final String[]	<i>EDMDATETIME_PATTERNS</i> on page 1329	Possible EDM DateTime patterns. Note: Some patterns are not supported by OData specification but still widely used.

Modifier and Type	Member	Description
public static final String[]	<i>EDMDATETIMEOFFSET_PATTERNS</i> on page 1329	Possible EDM TimeOffset patterns Note: Some pattern are not supported by OData specification but still widely used.
public static final String	<i>EDMTIME_PATTERN</i> on page 1329	EDM Time pattern.
public static String	<i>ELEMENT_FEED</i> on page 1329	Name of the appropriate SDMOData element.
public static final String	<i>ELEMENT_ID</i> on page 1330	Name of the appropriate SDMOData element.
public static final String	<i>ROOT_DOCUMENT_NAME</i> on page 1330	The default root element name for a new document.
public static final String	<i>XMLNS_APPLICATION_URI</i> on page 1330	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/08/dataservices">http://schemas.microsoft.com/ado/2007/08/dataservices</a> .
public static final String	<i>XMLNS_ATOM_URI</i> on page 1330	Constant for XMLNS URI: <a href="http://www.w3.org/2005/Atom">http://www.w3.org/2005/Atom</a> .
public static final String	<i>XMLNS_DATASERVICES_URI</i> on page 1330	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/08/dataservices">http://schemas.microsoft.com/ado/2007/08/dataservices</a> .
public static final String	<i>XMLNS_EDM_URI</i> on page 1330	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/05/edm">http://schemas.microsoft.com/ado/2007/05/edm</a> .
public static final String	<i>XMLNS_EDMX_URI</i> on page 1330	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/06/edmx">http://schemas.microsoft.com/ado/2007/06/edmx</a> .
public static final String	<i>XMLNS_GENERICPLAYER_URI</i> on page 1331	Constant for XMLNS URI: <a href="http://www.sap.com/Protocols/SAPData/GenericPlayer">http://www.sap.com/Protocols/SAPData/GenericPlayer</a> .
public static final String	<i>XMLNS_METADATA_URI</i> on page 1331	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/08/dataservices/metadata">http://schemas.microsoft.com/ado/2007/08/dataservices/metadata</a> .

Modifier and Type	Member	Description
public static final String	<i>XMLNS_SAP_URI</i> on page 1331	Constant for XMLNS URI: <a href="http://www.sap.com/Protocols/SAPData">http://www.sap.com/Protocols/SAPData</a> .

**Inherited members from ISDMPersistable**

Modifier and Type	Member	Description
public void	<i>read(BufferedReader)</i> on page 1332	
public void	<i>write(BufferedWriter)</i> on page 1332	

**Inherited members from ISDMODataLink**

Modifier and Type	Member	Description
public static final String	<i>ATTRIBUTE_HREF</i> on page 1205	Name of the appropriate SDMOData attribute.
public static final String	<i>ATTRIBUTE_REL</i> on page 1205	Name of the appropriate SDMOData attribute.
public static final String	<i>ATTRIBUTE_REL_VAL-UE_EDIT</i> on page 1205	Value option for the appropriate SDMOData parameter.
public static final String	<i>ATTRIBUTE_REL_VAL-UE_SELF</i> on page 1205	Value option for the appropriate SDMOData parameter.
public static final String	<i>ATTRIBUTE_SEMANTICS</i> on page 1205	Name of the appropriate SDMOData attribute.
public static final String	<i>ATTRIBUTE_TITLE</i> on page 1205	Name of the appropriate SDMOData attribute.
public static final String	<i>ATTRIBUTE_VALUE-PART_RELATED</i> on page 1205	String that should be part of every rel attribute of a Related Data Link.
public static final String	<i>ATTRIBUTE_VALUESUFFIX_SUBSCRIPTION</i> on page 1206	String that should be end of every rel attribute of a Subscription Link.
public static final String	<i>ELEMENT_INLINE</i> on page 1206	Name of the appropriate SDMOData element.

Modifier and Type	Member	Description
public static final String	<i>ELEMENT_LINK</i> on page 1206	Name of the appropriate SDMOData element.
public static final String	<i>ELEMENT_PARAMETER</i> on page 1206	Name of the appropriate SDMOData element.
public static final String	<i>ELEMENT_PARAMETER-SET</i> on page 1206	Name of the appropriate SDMOData element.

#### Inherited members from ISDMParserDocument

Modifier and Type	Member	Description
public static final String	<i>ATTRIBUTE_ETAG</i> on page 1329	Name of the appropriate SDMOData element.
public static final String	<i>ATTRIBUTE_VALUEPREFIX_EDMTYPE</i> on page 1329	Value prefix for EDM Type type values.
public abstract ISDMParserDocument	<i>clone()</i> on page 1317	Creates a copy of this object.
public static Map< String, String >	<i>DEFAULT_PREFIXMAPPING</i> on page 1329	The default XML Namespace-to-Prefix mapping used for building XMLS.
public static final String[]	<i>EDMDATETIME_PATTERNS</i> on page 1329	Possible EDM DateTime patterns Note: Some pattern are not supported by OData specification but still widely used.
public static final String[]	<i>EDMDATETIMEOFFSET_PATTERNS</i> on page 1329	Possible EDM TimeOffset patterns Note: Some pattern are not supported by OData specification but still widely used.
public static final String	<i>EDMTIME_PATTERN</i> on page 1329	EDM Time pattern.
public static String	<i>ELEMENT_FEED</i> on page 1329	Name of the appropriate SDMOData element.
public static final String	<i>ELEMENT_ID</i> on page 1330	Name of the appropriate SDMOData element.
public abstract String	<i>getAttribute(String...)</i> on page 1317	Returns the value of the first attribute with the given route.



Modifier and Type	Member	Description
public abstract List< String >	<i>getAttributes(String...)</i> on page 1317	Returns all the values of attributes with the given route.
public abstract Map< String, String >	<i>getChildAttribute-Map(String...)</i> on page 1318	Returns all the name-value pairs of attributes contained by the element with the given route.
public abstract List< String >	<i>getChildAttributes(String...)</i> on page 1318	Returns all the values of attributes contained by the element with the given route.
public abstract List< ISDMParseDocument >	<i>getChildDocuments(String...)</i> on page 1318	Returns the elements contained by the element with the given route.
public abstract List< ISDMParseDocument >	<i>getChildDocumentsWithAttribute(String, String, String...)</i> on page 1319	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public abstract List< ISDMParseDocument >	<i>getChildDocumentsWithAttribute(String, String, boolean, String...)</i> on page 1319	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public abstract ISDMParseDocument	<i>getDocument(String...)</i> on page 1320	Returns the first element with the given route.
public abstract List< ISDMParseDocument >	<i>getDocuments(String...)</i> on page 1320	Returns all the elements with the given route.
public abstract List< ISDMParseDocument >	<i>getDocumentsWithAttribute(String, String, String...)</i> on page 1321	Returns the elements with the given route that contains the given attribute with the given value.
public abstract List< ISDMParseDocument >	<i>getDocumentsWithAttribute(String, String, boolean, String...)</i> on page 1321	Returns the elements with the given route that contains the given attribute with the given value.
public abstract ISDMParseDocument	<i>getDocumentWithAttribute(String, String, String...)</i> on page 1322	Returns the first element with the given route that contains the given attribute with the given value.

Modifier and Type	Member	Description
public abstract ISDMParserDocument	<i>getDocumentWithAttribute(String, String, boolean, String...)</i> on page 1322	Returns the first element with the given route that contains the given attribute with the given value.
public abstract String	<i>getElementName()</i> on page 1323	Returns The name of the root element of this document.
public abstract String	<i>getFunctionImportComplexPropertyValue(String...)</i> on page 1323	
public abstract String	<i>getPrefixForUri(String)</i> on page 1323	Returns the appropriate name-space prefix for the given XML name-space URI.
public abstract String[]	<i>getStrings()</i> on page 1324	Returns all the string values contained by this document.
public abstract String	<i>getValue(String...)</i> on page 1324	Returns the value of the first element with the given route.
public abstract List< String >	<i>getValues(String...)</i> on page 1324	Returns all the values of elements with the given route.
public abstract void	<i>putAttribute(String, String...)</i> on page 1325	Sets the value of the attribute with the given route If attribute does not exist it will be created as well as all other non existing elements in the route.
public abstract void	<i>putDocument(ISDMParserDocument, String...)</i> on page 1325	Insert the document under the element with the given route inserted document will be placed before already existing documents with the same route name under All missing elements from the route will be created.
public abstract void	<i>putValue(String, String...)</i> on page 1325	Sets the value of the first element with the given route.
public abstract boolean	<i>removeAttribute(String...)</i> on page 1326	Removes first element with the given route.

Modifier and Type	Member	Description
public abstract boolean	<i>removeAttributes(String...)</i> on page 1326	Removes all the attribute with the given route.
public abstract boolean	<i>removeDocument(String...)</i> on page 1326	Removes first element with the given route For removing multiple element use setDocuemtns with null arguments.
public static final String	<i>ROOT_DOCUMENT_NAME</i> on page 1330	The default root element name for a new document.
public abstract void	<i>setAttributes(List&lt; String &gt;, String...)</i> on page 1327	Sets all the values of the attributes with the given route Values will be paired to attributes in order Attributes with greater or equals index than size of new values will be untouched Attributes paired with null values will be removed.
public abstract void	<i>setDocuments(List&lt; ISDMParserDocument &gt;, String...)</i> on page 1327	Replaces all the elements with the given route Documents will be paired to elements in order Elements with greater or equals index than size of new elements will be untouched Element paired with null will be removed.
public abstract void	<i>setElementName(String, String...)</i> on page 1328	Sets the name of the root element with the given route Use empty route for setting root name of this document.
public abstract void	<i>setValues(List&lt; String &gt;, String...)</i> on page 1328	Sets all the values of the elements with the given rout Values will be paired to elements in order Elements with greater or equals index than size of new values will be untouched Null values will be treated as empty strings.
public abstract String	<i>toXMLString()</i> on page 1328	Returns the XML string representation of this object.

Modifier and Type	Member	Description
public static final String	<i>XMLNS_APPLICATION_URI</i> on page 1330	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/08/dataservices">http://schemas.microsoft.com/ado/2007/08/dataservices</a> .
public static final String	<i>XMLNS_ATOM_URI</i> on page 1330	Constant for XMLNS URI: <a href="http://www.w3.org/2005/Atom">http://www.w3.org/2005/Atom</a> .
public static final String	<i>XMLNS_DATASERVICES_URI</i> on page 1330	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/08/dataservices">http://schemas.microsoft.com/ado/2007/08/dataservices</a> .
public static final String	<i>XMLNS_EDM_URI</i> on page 1330	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/05/edm">http://schemas.microsoft.com/ado/2007/05/edm</a> .
public static final String	<i>XMLNS_EDMX_URI</i> on page 1330	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/06/edmx">http://schemas.microsoft.com/ado/2007/06/edmx</a> .
public static final String	<i>XMLNS_GENERICPLAYER_URI</i> on page 1331	Constant for XMLNS URI: <a href="http://www.sap.com/Protocols/SAPData/GenericPlayer">http://www.sap.com/Protocols/SAPData/GenericPlayer</a> .
public static final String	<i>XMLNS_METADATA_URI</i> on page 1331	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/08/dataservices/metadata">http://schemas.microsoft.com/ado/2007/08/dataservices/metadata</a> .
public static final String	<i>XMLNS_SAP_URI</i> on page 1331	Constant for XMLNS URI: <a href="http://www.sap.com/Protocols/SAPData">http://www.sap.com/Protocols/SAPData</a> .

**Inherited members from ISDMPersistable**

Modifier and Type	Member	Description
public void	<i>read(BufferedReader)</i> on page 1332	
public void	<i>write(BufferedWriter)</i> on page 1332	

*SDMODataLink()* constructor

**Syntax**

```
public SDMODataLink ()
```

*SDMODataLink(SDMParserDocument) constructor**Syntax*

```
public   SDMODataLink ( SDMParserDocument document )
```

*SDMODataLink(int[], String[]) constructor**Syntax*

```
protected   SDMODataLink ( int[] routes , String[] values )
```

*getHref() method*

Returns the value of the appropriate SDMOData attribute.

*Syntax*

```
public String getHref ()
```

*Returns*

The value of the appropriate SDMOData attribute

*getInlineEntries() method*

Returns the list of SDMOData Entries contained by the appropriate SDMOData 'inline' element.

*Syntax*

```
public List< ISDMODataEntry > getInlineEntries ()
```

*Returns*

The List of 'inline' SDMOData Entries

*getInputParameterNames() method*

Returns the list of the appropriate SDMOData Parameter elements that should be used as input parameter.

*Syntax*

```
public List< String > getInputParameterNames ()
```

*Returns*

The list of the appropriate SDMOData Parameter elements that should be used as input parameter

### *getOutputParameterNames() method*

Returns the list of the appropriate SDMODData Parameter elements that should be used as output parameter.

#### *Syntax*

```
public List< String > getOutputParameterNames ()
```

#### *Returns*

The list of the appropriate SDMODData Parameter elements that should be used as output parameter

### *getParameters() method*

Returns the list of the appropriate SDMODData Parameter elements.

#### *Syntax*

```
public List< ISDMODDataParameter > getParameters ()
```

#### *Returns*

The list of the appropriate SDMODData Parameter elements

### *getRel() method*

Returns the value of the appropriate SDMODData attribute.

#### *Syntax*

```
public String getRel ()
```

#### *Returns*

The value of the appropriate SDMODData attribute

### *getSchema() method*

Returns the Schema that is to be used for 'Inline entries'.

#### *Syntax*

```
public ISDMODDataSchema getSchema ()
```

#### *Returns*

The relevant schema

### *getSemantics() method*

Returns The value of the appropriate SDMODData extension (vCard) attribute.

#### *Syntax*

```
public String getSemantics ()
```

**Returns**

The value of the appropriate SDMODData extension (vCard) attribute

***getTargetCollectionId() method***

Returns the Id of the collection that this link points to (if any)

**Syntax**

```
public String getTargetCollectionId ()
```

**Returns**

The Id of the collection that this link points to

***getTitle() method***

Returns the value of the appropriate SDMODData attribute.

**Syntax**

```
public String getTitle ()
```

**Returns**

The value of the appropriate SDMODData attribute

***getUrl() method***

Returns the full URL for this SDMODData Link object without parameters.

**Syntax**

```
public String getUrl ()
```

**Returns**

The full URL of this link without parameters

***getUrlWithParameters(Map< String, String >) method***

Returns the full URL for this SDMODData Link object extended with the given parameter names and values.

**Syntax**

```
public String getUrlWithParameters (Map< String, String >  
parameters )
```

**Returns**

The full URL of this link with parameters

### *read(BufferedReader) method*

#### *Syntax*

```
public void read (BufferedReader reader) throws  
SDMPersistenceException
```

#### *Parameters*

- **reader** – The buffered reader to read the object from.

#### *Exceptions*

- **SDMPersistenceException** – if data can not be loaded from the reader.

### *setBaseUrl(String) method*

#### *Syntax*

```
protected void setBaseUrl (String baseUrl)
```

### *setSchema(ISDMODataSchema) method*

Sets the Schema that is to be used for 'Inline entries'.

#### *Syntax*

```
public void setSchema ( ISDMODataSchema schema)
```

#### *Parameters*

- **schema** – The relevant schema

### *setTargetCollectionId(String) method*

Maintains the Id of the collection that this link points to (if any)

#### *Syntax*

```
public void setTargetCollectionId (String targetCollectionId)
```

#### *Parameters*

- **targetCollectionId** – The Id of the collection that this link points to

### *write(BufferedWriter) method*

#### *Syntax*

```
public void write (BufferedWriter writer) throws  
SDMPersistenceException
```



*Parameters*

- **writer** – The buffered writer that object data needs to be written into.

*Exceptions*

- **SDMPersistenceException** – if data can not be written into the writer

*baseUrl variable**Syntax*

```
protected String baseUrl
```

*schema variable**Syntax*

```
protected ISDMODataSchema schema
```

*targetCollectionId variable**Syntax*

```
protected String targetCollectionId
```

*SDMODataNavigationProperty class*

Deprecated. since 3.0, Use ODataNavigationProperty

*Syntax*

```
public class SDMODataNavigationProperty extends  
SDMParserDocument, ISDMODataNavigationProperty
```

*Members*

All members of SDMODataNavigationProperty, including inherited members. **Constructors**

Modifier and Type	Constructor	Description
public	<i>SDMODataNavigationProperty()</i> on page 1683	
public	<i>SDMODataNavigationProperty(SDMParserDocument)</i> on page 1683	
protected	<i>SDMODataNavigationProperty(int[], String[])</i> on page 1684	

**Methods**

Modifier and Type	Method	Description
public String	<i>getFromRole()</i> on page 1684	Returns The value of the appropriate SDMODData attribute.
public String	<i>getName()</i> on page 1684	Returns The value of the appropriate SDMODData attribute.
public String	<i>getRelationship()</i> on page 1684	Returns The value of the appropriate SDMODData attribute.
public String	<i>getToRole()</i> on page 1684	Returns The value of the appropriate SDMODData attribute.

### Inherited members from SDMParserDocument

Modifier and Type	Member	Description
static transient final String	<i>ANY_STRING</i> on page 1953	
static transient final int	<i>ATTRIBUTE_ID</i> on page 1953	
static transient final String	<i>ATTRIBUTE_STRING</i> on page 1954	
public SDMParserDocument	<i>clone()</i> on page 1936	Creates a copy of this object.
protected Map< String, String >	<i>extensions</i> on page 1954	
public String	<i>getAttribute(String...)</i> on page 1936	Returns the value of the first attribute with the given route.
public List< String >	<i>getAttributes(String...)</i> on page 1937	Returns all the values of attributes with the given route.
protected int	<i>getAttributesEndPosition(int[], int, int)</i> on page 1937	
public Map< String, String >	<i>getChildAttribute-Map(String...)</i> on page 1937	Returns all the name-value pairs of attributes contained by the element with the given route.
public List< String >	<i>getChildAttributes(String...)</i> on page 1938	Returns all the values of attributes contained by the element with the given route.
public List< ISDMParserDocument >	<i>getChildDocuments(String...)</i> on page 1938	Returns the elements contained by the element with the given route.

Modifier and Type	Member	Description
public List< ISDMParserDocument >	<i>getChildDocumentsWithAttribute(String, String, String...)</i> on page 1938	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public List< ISDMParserDocument >	<i>getChildDocumentsWithAttribute(String, String, boolean, String...)</i> on page 1939	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public SDMParserDocument	<i>getDocument(String...)</i> on page 1939	Returns the first element with the given route.
protected List< int[] >	<i>getDocumentPositions(String[], int, boolean, boolean)</i> on page 1940	
public List< ISDMParserDocument >	<i>getDocuments(String...)</i> on page 1940	Returns all the elements with the given route.
public List< ISDMParserDocument >	<i>getDocumentsWithAttribute(String, String, String...)</i> on page 1940	Returns the elements with the given route that contains the given attribute with the given value.
public List< ISDMParserDocument >	<i>getDocumentsWithAttribute(String, String, boolean, String...)</i> on page 1941	Returns the elements with the given route that contains the given attribute with the given value.
public ISDMParserDocument	<i>getDocumentWithAttribute(String, String, String...)</i> on page 1941	Returns the first element with the given route that contains the given attribute with the given value.
public ISDMParserDocument	<i>getDocumentWithAttribute(String, String, boolean, String...)</i> on page 1942	Returns the first element with the given route that contains the given attribute with the given value.
public String	<i>getElementName()</i> on page 1942	Returns The name of the root element of this document.
public String	<i>getExtension(String)</i> on page 1943	

Modifier and Type	Member	Description
public String	<i>getFunctionImportComplexProperty Value(String...)</i> on page 1943	
static int	<i>getNameId(String, boolean, boolean)</i> on page 1943	
public static List< String >	<i>getNameMap()</i> on page 1943	
public static String	<i>getPrefix(String)</i> on page 1943	
public String	<i>getPrefixForUri(String)</i> on page 1943	Returns the appropriate namespace prefix for the given XML name-space URI.
public static Map< String, String >	<i>getPrefixMapping()</i> on page 1944	
protected List< Integer >	<i>getStringPositions(String[], int, boolean, boolean)</i> on page 1944	
public String[]	<i>getStrings()</i> on page 1944	Returns all the string values contained by this document.
public String	<i>getValue(String...)</i> on page 1944	Returns the value of the first element with the given route.
public List< String >	<i>getValues(String...)</i> on page 1944	Returns all the values of elements with the given route.
protected int[]	<i>insertRoutePositions(int[], int, int[])</i> on page 1945	
protected void	<i>insertRoutesPositions(int, int[])</i> on page 1945	
protected void	<i>insertStringsPositions(int, String[])</i> on page 1945	
protected String[]	<i>insertStringsPositions(String[], int, String[])</i> on page 1945	
boolean	<i>isComplexEntity</i> on page 1954	
boolean	<i>isJson</i> on page 1954	

Modifier and Type	Member	Description
protected boolean	<i>isMatched(String, String)</i> on page 1945	
static transient List< String >	<i>nameMap</i> on page 1954	
static transient Map< String, String >	<i>prefixMapping</i> on page 1954	
public void	<i>putAttribute(String, String...)</i> on page 1946	Sets the value of the attribute with the given route If attribute does not exist it will be created as well as all other non existing elements in the route.
public void	<i>putDocument(ISDMParserDocument, String...)</i> on page 1946	Insert the document under the element with the given route inserted document will be placed before already existing documents with the same route name under All missing elements from the route will be created.
public void	<i>putExtension(String, String)</i> on page 1946	
protected void	<i>putString(int, String, int, String...)</i> on page 1947	
public void	<i>putValue(String, String...)</i> on page 1947	Sets the value of the first element with the given route.
public void	<i>read(BufferedReader)</i> on page 1947	
public static void	<i>readNameMap(BufferedReader)</i> on page 1947	
public boolean	<i>removeAttribute(String...)</i> on page 1948	Removes first element with the given route.
public boolean	<i>removeAttributes(String...)</i> on page 1948	Removes all the attribute with the given route.
public boolean	<i>removeDocument(String...)</i> on page 1948	Removes first element with the given route For removing multiple element use setDocuemtns with null arguments.

Modifier and Type	Member	Description
public void	<i>removeExtension(String)</i> on page 1948	
protected void	<i>removeRoutesPositions(int, int)</i> on page 1949	
protected int[]	<i>removeRoutesPositions(int[], int, int)</i> on page 1949	
protected boolean	<i>removeString(String...)</i> on page 1949	
protected boolean	<i>removeStrings(String...)</i> on page 1949	
protected void	<i>removeStringsPositions(int, int)</i> on page 1949	
protected String[]	<i>removeStringsPositions(String[], int, int)</i> on page 1949	
protected int	<i>replaceRoutesPositions(int, int, int[])</i> on page 1949	
protected int[]	<i>replaceRoutesPositions(int[], int, int, int[])</i> on page 1950	
protected int	<i>replaceStringsPositions(int, int, String[])</i> on page 1950	
protected String[]	<i>replaceStringsPositions(String[], int, int, String[])</i> on page 1950	
public static String	<i>resolveUrl(String, String)</i> on page 1950	
protected int[]	<i>routes</i> on page 1954	
	<i>SDMParserDocument()</i> on page 1935	
	<i>SDMParserDocument(boolean)</i> on page 1936	
public	<i>SDMParserDocument(String)</i> on page 1935	

Modifier and Type	Member	Description
public	<i>SDMParserDocument</i> ( <i>SDMParserDocument</i> ) on page 1935	
protected	<i>SDMParserDocument</i> ( <i>int</i> [], <i>String</i> []) on page 1936	
protected	<i>SDMParserDocument</i> ( <i>String</i> , <i>boolean</i> ) on page 1936	
public void	<i>setAttribute</i> ( <i>String</i> , <i>String</i> ...) on page 1950	
public void	<i>setAttributes</i> ( <i>List</i> < <i>String</i> >, <i>String</i> ...) on page 1950	Sets all the values of the attributes with the given route Values will be paired to attributes in order Attributes with greater or equals index than size of new values will be untouched Attributes paired with null values will be removed.
public boolean	<i>setDocument</i> ( <i>ISDMParserDocument</i> , <i>String</i> ...) on page 1951	
public void	<i>setDocuments</i> ( <i>List</i> < <i>ISDMParserDocument</i> >, <i>String</i> ...) on page 1951	Replaces all the elements with the given route Documents will be paired to elements in order Elements with greater or equals index than size of new elements will be untouched Element paired with null will be removed.
public void	<i>setElementName</i> ( <i>String</i> , <i>String</i> ...) on page 1951	Sets the name of the root element with the given route Use empty route for setting root name of this document.
public static void	<i>setNameMap</i> ( <i>List</i> < <i>String</i> >) on page 1952	
public static void	<i>setPrefixMapping</i> ( <i>Map</i> < <i>String</i> , <i>String</i> >) on page 1952	

Modifier and Type	Member	Description
protected void	<i>setString(String, String...)</i> on page 1952	
protected void	<i>setStrings(List&lt; String &gt;, String...)</i> on page 1952	
public void	<i>setValue(String, String...)</i> on page 1952	
public void	<i>setValues(List&lt; String &gt;, String...)</i> on page 1952	Sets all the values of the elements with the given route values will be paired to elements in order Elements with greater or equals index than size of new values will be untouched Null values will be treated as empty strings.
protected String[]	<i>strings</i> on page 1954	
public String	<i>toXMLString()</i> on page 1953	Returns the XML string representation of this object.
protected static final String	<i>URL_PROTOCOL_PREFIX</i> on page 1955	
static transient final int	<i>VALUE_ID</i> on page 1955	
static transient final String	<i>VALUE_STRING</i> on page 1955	
public void	<i>write(BufferedWriter)</i> on page 1953	
public static void	<i>writeNameMap(BufferedWriter)</i> on page 1953	

#### Inherited members from ISDMParserDocument

Modifier and Type	Member	Description
public static final String	<i>ATTRIBUTE_ETAG</i> on page 1329	Name of the appropriate SDMOData element.
public static final String	<i>ATTRIBUTE_VALUEPREFIX_EDMTYPE</i> on page 1329	Value prefix for EDM Type type values.



Modifier and Type	Member	Description
public static Map< String, String >	<i>DEFAULT_PREFIXMAP-PING</i> on page 1329	The default XML Namespace-to-Prefix mapping used for building XMLS.
public static final String[]	<i>EDMDATETIME_PATTERNS</i> on page 1329	Possible EDM DateTime patterns Note: Some pattern are not supported by OData specification but still widely used.
public static final String[]	<i>EDMDATETIMEOFFSET_PATTERNS</i> on page 1329	Possible EDM TimeOffset patterns Note: Some pattern are not supported by OData specification but still widely used.
public static final String	<i>EDMTIME_PATTERN</i> on page 1329	EDM Time pattern.
public static String	<i>ELEMENT_FEED</i> on page 1329	Name of the appropriate SDMOData element.
public static final String	<i>ELEMENT_ID</i> on page 1330	Name of the appropriate SDMOData element.
public static final String	<i>ROOT_DOCUMENT_NAME</i> on page 1330	The default root element name for a new document.
public static final String	<i>XMLNS_APPLICATION_URI</i> on page 1330	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/08/dataservices">http://schemas.microsoft.com/ado/2007/08/dataservices</a> .
public static final String	<i>XMLNS_ATOM_URI</i> on page 1330	Constant for XMLNS URI: <a href="http://www.w3.org/2005/Atom">http://www.w3.org/2005/Atom</a> .
public static final String	<i>XMLNS_DATASERVICES_URI</i> on page 1330	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/08/dataservices">http://schemas.microsoft.com/ado/2007/08/dataservices</a> .
public static final String	<i>XMLNS_EDM_URI</i> on page 1330	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/05/edm">http://schemas.microsoft.com/ado/2007/05/edm</a> .
public static final String	<i>XMLNS_EDMX_URI</i> on page 1330	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/06/edmx">http://schemas.microsoft.com/ado/2007/06/edmx</a> .

Modifier and Type	Member	Description
public static final String	<i>XMLNS_GENERICPLAYER_URI</i> on page 1331	Constant for XMLNS URI: <a href="http://www.sap.com/Protocols/SAPData/GenericPlayer">http://www.sap.com/Protocols/SAPData/GenericPlayer</a> .
public static final String	<i>XMLNS_METADATA_URI</i> on page 1331	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/08/dataservices/metadata">http://schemas.microsoft.com/ado/2007/08/dataservices/metadata</a> .
public static final String	<i>XMLNS_SAP_URI</i> on page 1331	Constant for XMLNS URI: <a href="http://www.sap.com/Protocols/SAPData">http://www.sap.com/Protocols/SAPData</a> .

#### Inherited members from ISDMPersistable

Modifier and Type	Member	Description
public void	<i>read(BufferedReader)</i> on page 1332	
public void	<i>write(BufferedWriter)</i> on page 1332	

#### Inherited members from ISDMODataNavigationProperty

Modifier and Type	Member	Description
public static final String	<i>ATTRIBUTE_FROMROLE</i> on page 1213	Name of the appropriate SDMODData attribute.
public static final String	<i>ATTRIBUTE_NAME</i> on page 1213	Name of the appropriate SDMODData attribute.
public static final String	<i>ATTRIBUTE_RELATIONSHIP</i> on page 1213	Name of the appropriate SDMODData attribute.
public static final String	<i>ATTRIBUTE_TOROLE</i> on page 1213	Name of the appropriate SDMODData attribute.
public static final String	<i>ELEMENT_NAVIGATIONPROPERTY</i> on page 1214	Name of the appropriate SDMODData element.

#### Inherited members from ISDMParserDocument

Modifier and Type	Member	Description
public static final String	<i>ATTRIBUTE_ETAG</i> on page 1329	Name of the appropriate SDMOData element.
public static final String	<i>ATTRIBUTE_VALUEPREFIX_EDMTYPE</i> on page 1329	Value prefix for EDM Type type values.
public abstract ISDMParseDocument	<i>clone()</i> on page 1317	Creates a copy of this object.
public static Map< String, String >	<i>DEFAULT_PREFIXMAPPING</i> on page 1329	The default XML Namespace-to-Prefix mapping used for building XMLS.
public static final String[]	<i>EDMDATETIME_PATTERNS</i> on page 1329	Possible EDM DateTime patterns Note: Some pattern are not supported by OData specification but still widely used.
public static final String[]	<i>EDMDATETIMEOFFSET_PATTERNS</i> on page 1329	Possible EDM DateTimeOffset patterns Note: Some pattern are not supported by OData specification but still widely used.
public static final String	<i>EDMTIME_PATTERN</i> on page 1329	EDM Time pattern.
public static String	<i>ELEMENT_FEED</i> on page 1329	Name of the appropriate SDMOData element.
public static final String	<i>ELEMENT_ID</i> on page 1330	Name of the appropriate SDMOData element.
public abstract String	<i>getAttribute(String...)</i> on page 1317	Returns the value of the first attribute with the given route.
public abstract List< String >	<i>getAttributes(String...)</i> on page 1317	Returns all the values of attributes with the given route.
public abstract Map< String, String >	<i>getChildAttributeMap(String...)</i> on page 1318	Returns all the name-value pairs of attributes contained by the element with the given route.
public abstract List< String >	<i>getChildAttributes(String...)</i> on page 1318	Returns all the values of attributes contained by the element with the given route.

Modifier and Type	Member	Description
public abstract List< ISDMParseDocument >	<i>getChildDocuments(String...)</i> on page 1318	Returns the elements contained by the element with the given route.
public abstract List< ISDMParseDocument >	<i>getChildDocumentsWithAttribute(String, String, String...)</i> on page 1319	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public abstract List< ISDMParseDocument >	<i>getChildDocumentsWithAttribute(String, String, boolean, String...)</i> on page 1319	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public abstract ISDMParseDocument	<i>getDocument(String...)</i> on page 1320	Returns the first element with the given route.
public abstract List< ISDMParseDocument >	<i>getDocuments(String...)</i> on page 1320	Returns all the elements with the given route.
public abstract List< ISDMParseDocument >	<i>getDocumentsWithAttribute(String, String, String...)</i> on page 1321	Returns the elements with the given route that contains the given attribute with the given value.
public abstract List< ISDMParseDocument >	<i>getDocumentsWithAttribute(String, String, boolean, String...)</i> on page 1321	Returns the elements with the given route that contains the given attribute with the given value.
public abstract ISDMParseDocument	<i>getDocumentWithAttribute(String, String, String...)</i> on page 1322	Returns the first element with the given route that contains the given attribute with the given value.
public abstract ISDMParseDocument	<i>getDocumentWithAttribute(String, String, boolean, String...)</i> on page 1322	Returns the first element with the given route that contains the given attribute with the given value.
public abstract String	<i>getElementName()</i> on page 1323	Returns The name of the root element of this document.
public abstract String	<i>getFunctionImportComplexPropertyValue(String...)</i> on page 1323	

Modifier and Type	Member	Description
public abstract String	<i>getPrefixForUri(String)</i> on page 1323	Returns the appropriate name-space prefix for the given XML name-space URI.
public abstract String[]	<i>getStrings()</i> on page 1324	Returns all the string values contained by this document.
public abstract String	<i>getValue(String...)</i> on page 1324	Returns the value of the first element with the given route.
public abstract List< String >	<i>getValues(String...)</i> on page 1324	Returns all the values of elements with the given route.
public abstract void	<i>putAttribute(String, String...)</i> on page 1325	Sets the value of the attribute with the given route. If attribute does not exist it will be created as well as all other non existing elements in the route.
public abstract void	<i>putDocument(ISDMParseDocument, String...)</i> on page 1325	Insert the document under the element with the given route. Inserted document will be placed before already existing documents with the same route name. All missing elements from the route will be created.
public abstract void	<i>putValue(String, String...)</i> on page 1325	Sets the value of the first element with the given route.
public abstract boolean	<i>removeAttribute(String...)</i> on page 1326	Removes first element with the given route.
public abstract boolean	<i>removeAttributes(String...)</i> on page 1326	Removes all the attribute with the given route.
public abstract boolean	<i>removeDocument(String...)</i> on page 1326	Removes first element with the given route. For removing multiple element use setDocuments with null arguments.
public static final String	<i>ROOT_DOCUMENT_NAME</i> on page 1330	The default root element name for a new document.

Modifier and Type	Member	Description
public abstract void	<i>setAttributes(List&lt; String &gt;, String...)</i> on page 1327	Sets all the values of the attributes with the given route Values will be paired to attributes in order Attributes with greater or equals index than size of new values will be untouched Attributes paired with null values will be removed.
public abstract void	<i>setDocuments(List&lt; ISDMParserDocument &gt;, String...)</i> on page 1327	Replaces all the elements with the given route Documents will be paired to elements in order Elements with greater or equals index than size of new elements will be untouched Element paired with null will be removed.
public abstract void	<i>setElementName(String, String...)</i> on page 1328	Sets the name of the root element with the given route Use empty route for setting root name of this document.
public abstract void	<i>setValues(List&lt; String &gt;, String...)</i> on page 1328	Sets all the values of the elements with the given rout Values will be paired to elements in order Elements with greater or equals index than size of new values will be untouched Null values will be treated as empty strings.
public abstract String	<i>toXMLString()</i> on page 1328	Returns the XML string representation of this object.
public static final String	<i>XMLNS_APPLICATION_URI</i> on page 1330	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/08/dataservices">http://schemas.microsoft.com/ado/2007/08/dataservices</a> .
public static final String	<i>XMLNS_ATOM_URI</i> on page 1330	Constant for XMLNS URI: <a href="http://www.w3.org/2005/Atom">http://www.w3.org/2005/Atom</a> .

Modifier and Type	Member	Description
public static final String	<i>XMLNS_DATASERVICES_URI</i> on page 1330	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/08/dataservices">http://schemas.microsoft.com/ado/2007/08/dataservices</a> .
public static final String	<i>XMLNS_EDM_URI</i> on page 1330	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/05/edm">http://schemas.microsoft.com/ado/2007/05/edm</a> .
public static final String	<i>XMLNS_EDMX_URI</i> on page 1330	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/06/edmx">http://schemas.microsoft.com/ado/2007/06/edmx</a> .
public static final String	<i>XMLNS_GENERICPLAYER_URI</i> on page 1331	Constant for XMLNS URI: <a href="http://www.sap.com/Protocols/SAPData/GenericPlayer">http://www.sap.com/Protocols/SAPData/GenericPlayer</a> .
public static final String	<i>XMLNS_METADATA_URI</i> on page 1331	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/08/dataservices/metadata">http://schemas.microsoft.com/ado/2007/08/dataservices/metadata</a> .
public static final String	<i>XMLNS_SAP_URI</i> on page 1331	Constant for XMLNS URI: <a href="http://www.sap.com/Protocols/SAPData">http://www.sap.com/Protocols/SAPData</a> .

#### Inherited members from ISDMPersistable

Modifier and Type	Member	Description
public void	<i>read(BufferedReader)</i> on page 1332	
public void	<i>write(BufferedWriter)</i> on page 1332	

#### *SDMODataNavigationProperty()* constructor

##### Syntax

```
public    SDMODataNavigationProperty ()
```

#### *SDMODataNavigationProperty(SDMParserDocument)* constructor

##### Syntax

```
public    SDMODataNavigationProperty ( SDMParserDocument
document )
```

*SDMODataNavigationProperty(int[], String[]) constructor*

*Syntax*

```
protected   SDMODataNavigationProperty ( int[] routes , String[]  
values )
```

*getFromRole() method*

Returns The value of the appropriate SDMOData attribute.

*Syntax*

```
public String getFromRole ()
```

*Returns*

The value of the appropriate SDMOData attribute

*getName() method*

Returns The value of the appropriate SDMOData attribute.

*Syntax*

```
public String getName ()
```

*Returns*

The value of the appropriate SDMOData attribute

*getRelationship() method*

Returns The value of the appropriate SDMOData attribute.

*Syntax*

```
public String getRelationship ()
```

*Returns*

The value of the appropriate SDMOData attribute

*getToRole() method*

Returns The value of the appropriate SDMOData attribute.

*Syntax*

```
public String getToRole ()
```

*Returns*

The value of the appropriate SDMOData attribute



***SDMODDataOpenSearchDescription class***

Deprecated. since 3.0, Use ODataOpenSearchDescription

***Syntax***

```
public class SDMODDataOpenSearchDescription extends
SDMParserDocument, ISDMODDataOpenSearchDescription
```

***Members***

All members of SDMODDataOpenSearchDescription, including inherited members.

**Variables**

Modifier and Type	Variable	Description
protected String	<i>baseUrl</i> on page 1701	

**Constructors**

Modifier and Type	Constructor	Description
public	<i>SDMODDataOpenSearchDescription()</i> on page 1699	
public	<i>SDMODDataOpenSearchDescription(SDMParserDocument)</i> on page 1699	
protected	<i>SDMODDataOpenSearchDescription(int[], String[])</i> on page 1699	

**Methods**

Modifier and Type	Method	Description
public String	<i>getDescription()</i> on page 1700	Returns The value of the appropriate SDMODData element.
public String	<i>getShortName()</i> on page 1700	Returns The value of the appropriate SDMODData element.
public List< ISDMODDataURL >	<i>getUrls()</i> on page 1700	Returns The list of the appropriate SDMODData element.
public void	<i>read(BufferedReader)</i> on page 1700	
protected void	<i>setBaseUrl(String)</i> on page 1700	

Modifier and Type	Method	Description
public void	<i>write(BufferedWriter)</i> on page 1701	

**Inherited members from SDMParserDocument**

Modifier and Type	Member	Description
static transient final String	<i>ANY_STRING</i> on page 1953	
static transient final int	<i>ATTRIBUTE_ID</i> on page 1953	
static transient final String	<i>ATTRIBUTE_STRING</i> on page 1954	
public SDMParserDocument	<i>clone()</i> on page 1936	Creates a copy of this object.
protected Map< String, String >	<i>extensions</i> on page 1954	
public String	<i>getAttribute(String...)</i> on page 1936	Returns the value of the first attribute with the given route.
public List< String >	<i>getAttributes(String...)</i> on page 1937	Returns all the values of attributes with the given route.
protected int	<i>getAttributesEndPosition(int[], int, int)</i> on page 1937	
public Map< String, String >	<i>getChildAttributeMap(String...)</i> on page 1937	Returns all the name-value pairs of attributes contained by the element with the given route.
public List< String >	<i>getChildAttributes(String...)</i> on page 1938	Returns all the values of attributes contained by the element with the given route.
public List< ISDMParserDocument >	<i>getChildDocuments(String...)</i> on page 1938	Returns the elements contained by the element with the given route.
public List< ISDMParserDocument >	<i>getChildDocumentsWithAttribute(String, String, String...)</i> on page 1938	Returns the elements contained by the element with the given route and having the given attribute with the given value.

Modifier and Type	Member	Description
public List< ISDMParserDocument >	<i>getChildDocumentsWithAttribute(String, String, boolean, String...)</i> on page 1939	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public SDMParserDocument	<i>getDocument(String...)</i> on page 1939	Returns the first element with the given route.
protected List< int[] >	<i>getDocumentPositions(String[], int, boolean, boolean)</i> on page 1940	
public List< ISDMParserDocument >	<i>getDocuments(String...)</i> on page 1940	Returns all the elements with the given route.
public List< ISDMParserDocument >	<i>getDocumentsWithAttribute(String, String, String...)</i> on page 1940	Returns the elements with the given route that contains the given attribute with the given value.
public List< ISDMParserDocument >	<i>getDocumentsWithAttribute(String, String, boolean, String...)</i> on page 1941	Returns the elements with the given route that contains the given attribute with the given value.
public ISDMParserDocument	<i>getDocumentWithAttribute(String, String, String...)</i> on page 1941	Returns the first element with the given route that contains the given attribute with the given value.
public ISDMParserDocument	<i>getDocumentWithAttribute(String, String, boolean, String...)</i> on page 1942	Returns the first element with the given route that contains the given attribute with the given value.
public String	<i>getElementName()</i> on page 1942	Returns The name of the root element of this document.
public String	<i>getExtension(String)</i> on page 1943	
public String	<i>getFunctionImportComplexProperty Value(String...)</i> on page 1943	

Modifier and Type	Member	Description
static int	<i>getNameId(String, boolean, boolean)</i> on page 1943	
public static List< String >	<i>getNameMap()</i> on page 1943	
public static String	<i>getPrefix(String)</i> on page 1943	
public String	<i>getPrefixForUri(String)</i> on page 1943	Returns the appropriate name-space prefix for the given XML name-space URI.
public static Map< String, String >	<i>getPrefixMapping()</i> on page 1944	
protected List< Integer >	<i>getStringPositions(String[], int, boolean, boolean)</i> on page 1944	
public String[]	<i>getStrings()</i> on page 1944	Returns all the string values contained by this document.
public String	<i>getValue(String...)</i> on page 1944	Returns the value of the first element with the given route.
public List< String >	<i>getValues(String...)</i> on page 1944	Returns all the values of elements with the given route.
protected int[]	<i>insertRoutePositions(int[], int, int[])</i> on page 1945	
protected void	<i>insertRoutesPositions(int, int[])</i> on page 1945	
protected void	<i>insertStringsPositions(int, String[])</i> on page 1945	
protected String[]	<i>insertStringsPositions(String[], int, String[])</i> on page 1945	
boolean	<i>isComplexEntity</i> on page 1954	
boolean	<i>isJson</i> on page 1954	
protected boolean	<i>isMatched(String, String)</i> on page 1945	

Modifier and Type	Member	Description
static transient List< String >	<i>nameMap</i> on page 1954	
static transient Map< String, String >	<i>prefixMapping</i> on page 1954	
public void	<i>putAttribute(String, String...)</i> on page 1946	Sets the value of the attribute with the given route If attribute does not exist it will be created as well as all other non existing elements in the route.
public void	<i>putDocument(ISDMParseDocument, String...)</i> on page 1946	Insert the document under the element with the given route inserted document will be placed before already existing documents with the same route name under All missing elements from the route will be created.
public void	<i>putExtension(String, String)</i> on page 1946	
protected void	<i>putString(int, String, int, String...)</i> on page 1947	
public void	<i>putValue(String, String...)</i> on page 1947	Sets the value of the first element with the given route.
public static void	<i>readNameMap(BufferedReader)</i> on page 1947	
public boolean	<i>removeAttribute(String...)</i> on page 1948	Removes first element with the given route.
public boolean	<i>removeAttributes(String...)</i> on page 1948	Removes all the attribute with the given route.
public boolean	<i>removeDocument(String...)</i> on page 1948	Removes first element with the given route For removing multiple element use setDocuemtns with null arguments.
public void	<i>removeExtension(String)</i> on page 1948	
protected void	<i>removeRoutesPositions(int, int)</i> on page 1949	

Modifier and Type	Member	Description
protected int[]	<i>removeRoutesPositions(int[], int, int)</i> on page 1949	
protected boolean	<i>removeString(String...)</i> on page 1949	
protected boolean	<i>removeStrings(String...)</i> on page 1949	
protected void	<i>removeStringsPositions(int, int)</i> on page 1949	
protected String[]	<i>removeStringsPositions(String[], int, int)</i> on page 1949	
protected int	<i>replaceRoutesPositions(int, int, int[])</i> on page 1949	
protected int[]	<i>replaceRoutesPositions(int[], int, int, int[])</i> on page 1950	
protected int	<i>replaceStringsPositions(int, int, String[])</i> on page 1950	
protected String[]	<i>replaceStringsPositions(String[], int, int, String[])</i> on page 1950	
public static String	<i>resolveUrl(String, String)</i> on page 1950	
protected int[]	<i>routes</i> on page 1954	
	<i>SDMParserDocument()</i> on page 1935	
	<i>SDMParserDocument(boolean)</i> on page 1936	
public	<i>SDMParserDocument(String)</i> on page 1935	
public	<i>SDMParserDocument(SDMParserDocument)</i> on page 1935	

Modifier and Type	Member	Description
protected	<i>SDMParserDocument(int[], String[])</i> on page 1936	
protected	<i>SDMParserDocument(String, boolean)</i> on page 1936	
public void	<i>setAttribute(String, String...)</i> on page 1950	
public void	<i>setAttributes(List&lt;String&gt;, String...)</i> on page 1950	Sets all the values of the attributes with the given route Values will be paired to attributes in order Attributes with greater or equals index than size of new values will be untouched Attributes paired with null values will be removed.
public boolean	<i>setDocument(ISDMParserDocument, String...)</i> on page 1951	
public void	<i>setDocuments(List&lt;ISDMParserDocument&gt;, String...)</i> on page 1951	Replaces all the elements with the given route Documents will be paired to elements in order Elements with greater or equals index than size of new elements will be untouched Element paired with null will be removed.
public void	<i>setElementName(String, String...)</i> on page 1951	Sets the name of the root element with the given route Use empty route for setting root name of this document.
public static void	<i>setNameMap(List&lt;String&gt;)</i> on page 1952	
public static void	<i>setPrefixMapping(Map&lt;String, String&gt;)</i> on page 1952	
protected void	<i>setString(String, String...)</i> on page 1952	

Modifier and Type	Member	Description
protected void	<i>setStrings(List&lt; String &gt;, String...)</i> on page 1952	
public void	<i>setValue(String, String...)</i> on page 1952	
public void	<i>setValues(List&lt; String &gt;, String...)</i> on page 1952	Sets all the values of the elements with the given route Values will be paired to elements in order Elements with greater or equals index than size of new values will be untouched Null values will be treated as empty strings.
protected String[]	<i>strings</i> on page 1954	
public String	<i>toXMLString()</i> on page 1953	Returns the XML string representation of this object.
protected static final String	<i>URL_PROTOCOL_PREFIX</i> on page 1955	
static transient final int	<i>VALUE_ID</i> on page 1955	
static transient final String	<i>VALUE_STRING</i> on page 1955	
public static void	<i>writeNameMap(BufferedWriter)</i> on page 1953	

#### Inherited members from ISDMParserDocument

Modifier and Type	Member	Description
public static final String	<i>ATTRIBUTE_ETAG</i> on page 1329	Name of the appropriate SDMOData element.
public static final String	<i>ATTRIBUTE_VALUEPREFIX_EDMTYPE</i> on page 1329	Value prefix for EDM Type type values.
public static Map< String, String >	<i>DEFAULT_PREFIXMAPPING</i> on page 1329	The default XML Namespace-to-Prefix mapping used for building XMLS.



Modifier and Type	Member	Description
public static final String[]	<i>EDMDATETIME_PATTERNS</i> on page 1329	Possible EDM DateTime patterns Note: Some pattern are not supported by OData specification but still widely used.
public static final String[]	<i>EDMDATETIMEOFFSET_PATTERNS</i> on page 1329	Possible EDM TimeOffset patterns Note: Some pattern are not supported by OData specification but still widely used.
public static final String	<i>EDMTIME_PATTERN</i> on page 1329	EDM Time pattern.
public static String	<i>ELEMENT_FEED</i> on page 1329	Name of the appropriate SDMOData element.
public static final String	<i>ELEMENT_ID</i> on page 1330	Name of the appropriate SDMOData element.
public static final String	<i>ROOT_DOCUMENT_NAME</i> on page 1330	The default root element name for a new document.
public static final String	<i>XMLNS_APPLICATION_URI</i> on page 1330	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/08/dataservices">http://schemas.microsoft.com/ado/2007/08/dataservices</a> .
public static final String	<i>XMLNS_ATOM_URI</i> on page 1330	Constant for XMLNS URI: <a href="http://www.w3.org/2005/Atom">http://www.w3.org/2005/Atom</a> .
public static final String	<i>XMLNS_DATASERVICES_URI</i> on page 1330	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/08/dataservices">http://schemas.microsoft.com/ado/2007/08/dataservices</a> .
public static final String	<i>XMLNS_EDM_URI</i> on page 1330	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/05/edm">http://schemas.microsoft.com/ado/2007/05/edm</a> .
public static final String	<i>XMLNS_EDMX_URI</i> on page 1330	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/06/edmx">http://schemas.microsoft.com/ado/2007/06/edmx</a> .
public static final String	<i>XMLNS_GENERICPLAYER_URI</i> on page 1331	Constant for XMLNS URI: <a href="http://www.sap.com/Protocols/SAPData/GenericPlayer">http://www.sap.com/Protocols/SAPData/GenericPlayer</a> .

Modifier and Type	Member	Description
public static final String	<i>XMLNS_METADATA_URI</i> on page 1331	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/08/dataservices/metadata">http://schemas.microsoft.com/ado/2007/08/dataservices/metadata</a> .
public static final String	<i>XMLNS_SAP_URI</i> on page 1331	Constant for XMLNS URI: <a href="http://www.sap.com/Protocols/SAPData">http://www.sap.com/Protocols/SAPData</a> .

**Inherited members from ISDMPersistable**

Modifier and Type	Member	Description
public void	<i>read(BufferedReader)</i> on page 1332	
public void	<i>write(BufferedWriter)</i> on page 1332	

**Inherited members from ISDMODataOpenSearchDescription**

Modifier and Type	Member	Description
public static final String	<i>ELEMENT_DESCRIPTION</i> on page 1220	Name of the appropriate SDMOData element.
public static final String	<i>ELEMENT_OPENSEARCH-DESCRIPTION</i> on page 1220	Name of the appropriate SDMOData element.
public static final String	<i>ELEMENT_SHORTNAME</i> on page 1221	Name of the appropriate SDMOData element.
public static final String	<i>ELEMENT_URL</i> on page 1221	Name of the appropriate SDMOData element.

**Inherited members from ISDMParserDocument**

Modifier and Type	Member	Description
public static final String	<i>ATTRIBUTE_ETAG</i> on page 1329	Name of the appropriate SDMOData element.
public static final String	<i>ATTRIBUTE_VALUEPREFIX_EDMTYPE</i> on page 1329	Value prefix for EDM Type type values.
public abstract ISDMParserDocument	<i>clone()</i> on page 1317	Creates a copy of this object.

Modifier and Type	Member	Description
public static Map< String, String >	<i>DEFAULT_PREFIXMAP-PING</i> on page 1329	The default XML Namespace-to-Prefix mapping used for building XMLS.
public static final String[]	<i>EDMDATETIME_PATTERNS</i> on page 1329	Possible EDM DateTime patterns Note: Some pattern are not supported by OData specification but still widely used.
public static final String[]	<i>EDMDATETIMEOFFSET_PATTERNS</i> on page 1329	Possible EDM TimeOffset patterns Note: Some pattern are not supported by OData specification but still widely used.
public static final String	<i>EDMTIME_PATTERN</i> on page 1329	EDM Time pattern.
public static String	<i>ELEMENT_FEED</i> on page 1329	Name of the appropriate SDMOData element.
public static final String	<i>ELEMENT_ID</i> on page 1330	Name of the appropriate SDMOData element.
public abstract String	<i>getAttribute(String...)</i> on page 1317	Returns the value of the first attribute with the given route.
public abstract List< String >	<i>getAttributes(String...)</i> on page 1317	Returns all the values of attributes with the given route.
public abstract Map< String, String >	<i>getChildAttribute-Map(String...)</i> on page 1318	Returns all the name-value pairs of attributes contained by the element with the given route.
public abstract List< String >	<i>getChildAttributes(String...)</i> on page 1318	Returns all the values of attributes contained by the element with the given route.
public abstract List< ISDMParseDocument >	<i>getChildDocuments(String...)</i> on page 1318	Returns the elements contained by the element with the given route.
public abstract List< ISDMParseDocument >	<i>getChildDocumentsWithAttribute(String, String, String...)</i> on page 1319	Returns the elements contained by the element with the given route and having the given attribute with the given value.

Modifier and Type	Member	Description
public abstract List< ISDMParserDocument >	<i>getChildDocumentsWithAttribute(String, String, boolean, String...)</i> on page 1319	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public abstract ISDMParserDocument	<i>getDocument(String...)</i> on page 1320	Returns the first element with the given route.
public abstract List< ISDMParserDocument >	<i>getDocuments(String...)</i> on page 1320	Returns all the elements with the given route.
public abstract List< ISDMParserDocument >	<i>getDocumentsWithAttribute(String, String, String...)</i> on page 1321	Returns the elements with the given route that contains the given attribute with the given value.
public abstract List< ISDMParserDocument >	<i>getDocumentsWithAttribute(String, String, boolean, String...)</i> on page 1321	Returns the elements with the given route that contains the given attribute with the given value.
public abstract ISDMParserDocument	<i>getDocumentWithAttribute(String, String, String...)</i> on page 1322	Returns the first element with the given route that contains the given attribute with the given value.
public abstract ISDMParserDocument	<i>getDocumentWithAttribute(String, String, boolean, String...)</i> on page 1322	Returns the first element with the given route that contains the given attribute with the given value.
public abstract String	<i>getElementName()</i> on page 1323	Returns The name of the root element of this document.
public abstract String	<i>getFunctionImportComplexProperty Value(String...)</i> on page 1323	
public abstract String	<i>getPrefixForUri(String)</i> on page 1323	Returns the appropriate namespace prefix for the given XML name-space URI.
public abstract String[]	<i>getStrings()</i> on page 1324	Returns all the string values contained by this document.

Modifier and Type	Member	Description
public abstract String	<i>getValue(String...)</i> on page 1324	Returns the value of the first element with the given route.
public abstract List< String >	<i>getValues(String...)</i> on page 1324	Returns all the values of elements with the given route.
public abstract void	<i>putAttribute(String, String...)</i> on page 1325	Sets the value of the attribute with the given route If attribute does not exist it will be created as well as all other non existing elements in the route.
public abstract void	<i>putDocument(ISDMParserDocument, String...)</i> on page 1325	Insert the document under the element with the given route inserted document will be placed before already existing documents with the same route name under All missing elements from the route will be created.
public abstract void	<i>putValue(String, String...)</i> on page 1325	Sets the value of the first element with the given route.
public abstract boolean	<i>removeAttribute(String...)</i> on page 1326	Removes first element with the given route.
public abstract boolean	<i>removeAttributes(String...)</i> on page 1326	Removes all the attribute with the given route.
public abstract boolean	<i>removeDocument(String...)</i> on page 1326	Removes first element with the given route For removing multiple element use setDocuemtns with null arguments.
public static final String	<i>ROOT_DOCUMENT_NAME</i> on page 1330	The default root element name for a new document.
public abstract void	<i>setAttributes(List&lt; String &gt;, String...)</i> on page 1327	Sets all the values of the attributes with the given route Values will be paired to attributes in order Attributes with greater or equals index than size of new values will be untouched Attributes paired with null values will be removed.

Modifier and Type	Member	Description
public abstract void	<i>setDocuments(List&lt; ISDMParserDocument &gt;, String...)</i> on page 1327	Replaces all the elements with the given route Documents will be paired to elements in order Elements with greater or equals index than size of new elements will be untouched Element paired with null will be removed.
public abstract void	<i>setElementName(String, String...)</i> on page 1328	Sets the name of the root element with the given route Use empty route for setting root name of this document.
public abstract void	<i>setValues(List&lt; String &gt;, String...)</i> on page 1328	Sets all the values of the elements with the given route Values will be paired to elements in order Elements with greater or equals index than size of new values will be untouched Null values will be treated as empty strings.
public abstract String	<i>toXMLString()</i> on page 1328	Returns the XML string representation of this object.
public static final String	<i>XMLNS_APPLICATION_URI</i> on page 1330	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/08/dataservices">http://schemas.microsoft.com/ado/2007/08/dataservices</a> .
public static final String	<i>XMLNS_ATOM_URI</i> on page 1330	Constant for XMLNS URI: <a href="http://www.w3.org/2005/Atom">http://www.w3.org/2005/Atom</a> .
public static final String	<i>XMLNS_DATASERVICES_URI</i> on page 1330	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/08/dataservices">http://schemas.microsoft.com/ado/2007/08/dataservices</a> .
public static final String	<i>XMLNS_EDM_URI</i> on page 1330	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/05/edm">http://schemas.microsoft.com/ado/2007/05/edm</a> .
public static final String	<i>XMLNS_EDMX_URI</i> on page 1330	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/06/edmx">http://schemas.microsoft.com/ado/2007/06/edmx</a> .

Modifier and Type	Member	Description
public static final String	<i>XMLNS_GENERICPLAYER_URI</i> on page 1331	Constant for XMLNS URI: <a href="http://www.sap.com/Protocols/SAPData/GenericPlayer">http://www.sap.com/Protocols/SAPData/GenericPlayer</a> .
public static final String	<i>XMLNS_METADATA_URI</i> on page 1331	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/08/dataservices/metadata">http://schemas.microsoft.com/ado/2007/08/dataservices/metadata</a> .
public static final String	<i>XMLNS_SAP_URI</i> on page 1331	Constant for XMLNS URI: <a href="http://www.sap.com/Protocols/SAPData">http://www.sap.com/Protocols/SAPData</a> .

#### Inherited members from ISDMPersistable

Modifier and Type	Member	Description
public void	<i>read(BufferedReader)</i> on page 1332	
public void	<i>write(BufferedWriter)</i> on page 1332	

#### *SDMODataOpenSearchDescription()* constructor

##### Syntax

```
public SDMODataOpenSearchDescription ()
```

#### *SDMODataOpenSearchDescription(SDMParserDocument)* constructor

##### Syntax

```
public SDMODataOpenSearchDescription ( SDMParserDocument document )
```

#### *SDMODataOpenSearchDescription(int[], String[])* constructor

##### Syntax

```
protected SDMODataOpenSearchDescription ( int[] routes , String[] values )
```

### *getDescription() method*

Returns The value of the appropriate SDMODData element.

#### *Syntax*

```
public String getDescription ()
```

#### *Returns*

The value of the appropriate SDMODData element

### *getShortName() method*

Returns The value of the appropriate SDMODData element.

#### *Syntax*

```
public String getShortName ()
```

#### *Returns*

The value of the appropriate SDMODData element

### *getUrls() method*

Returns The list of the appropriate SDMODData element.

#### *Syntax*

```
public List< ISDMODDataURL > getUrls ()
```

#### *Returns*

The list of the appropriate SDMODData element

### *read(BufferedReader) method*

#### *Syntax*

```
public void read (BufferedReader reader) throws  
SDMPersistenceException
```

#### *Parameters*

- **reader** – The buffered reader to read the object from.

#### *Exceptions*

- **SDMPersistenceException** – if data can not be loaded from the reader.

### *setBaseUrl(String) method*

#### *Syntax*

```
protected void setBaseUrl (String baseUrl)
```



*write(BufferedWriter) method**Syntax*

```
public void write (BufferedWriter writer) throws
SDMPersistenceException
```

*Parameters*

- **writer** – The buffered writer that object data needs to be written into.

*Exceptions*

- **SDMPersistenceException** – if data can not be written into the writer

*baseUrl variable**Syntax*

```
protected String baseUrl
```

*SDMODataParameter class*

Deprecated. since 3.0, Use ODataParameter

*Syntax*

```
public class SDMODataParameter extends SDMParserDocument,
ISDMODataParameter
```

*Members*

All members of SDMODataParameter, including inherited members. **Constructors**

Modifier and Type	Constructor	Description
public	<i>SDMODataParameter()</i> on page 1715	
public	<i>SDMODataParameter(SDMParserDocument)</i> on page 1715	
protected	<i>SDMODataParameter(int[], String[])</i> on page 1716	

**Methods**

Modifier and Type	Method	Description
public String	<i>getMode()</i> on page 1716	Returns The value of the appropriate SDMODData attribute.
public String	<i>getName()</i> on page 1716	Returns The value of the appropriate SDMODData attribute.
public String	<i>getType()</i> on page 1716	Returns The value of the appropriate SDMODData attribute.

#### Inherited members from SDMParserDocument

Modifier and Type	Member	Description
static transient final String	<i>ANY_STRING</i> on page 1953	
static transient final int	<i>ATTRIBUTE_ID</i> on page 1953	
static transient final String	<i>ATTRIBUTE_STRING</i> on page 1954	
public SDMParserDocument	<i>clone()</i> on page 1936	Creates a copy of this object.
protected Map< String, String >	<i>extensions</i> on page 1954	
public String	<i>getAttribute(String...)</i> on page 1936	Returns the value of the first attribute with the given route.
public List< String >	<i>getAttributes(String...)</i> on page 1937	Returns all the values of attributes with the given route.
protected int	<i>getAttributesEndPosition(int[], int, int)</i> on page 1937	
public Map< String, String >	<i>getChildAttribute-Map(String...)</i> on page 1937	Returns all the name-value pairs of attributes contained by the element with the given route.
public List< String >	<i>getChildAttributes(String...)</i> on page 1938	Returns all the values of attributes contained by the element with the given route.
public List< ISDMParserDocument >	<i>getChildDocuments(String...)</i> on page 1938	Returns the elements contained by the element with the given route.

Modifier and Type	Member	Description
public List< ISDMParserDocument >	<i>getChildDocumentsWithAttribute(String, String, String...)</i> on page 1938	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public List< ISDMParserDocument >	<i>getChildDocumentsWithAttribute(String, String, boolean, String...)</i> on page 1939	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public SDMParserDocument	<i>getDocument(String...)</i> on page 1939	Returns the first element with the given route.
protected List< int[] >	<i>getDocumentPositions(String[], int, boolean, boolean)</i> on page 1940	
public List< ISDMParserDocument >	<i>getDocuments(String...)</i> on page 1940	Returns all the elements with the given route.
public List< ISDMParserDocument >	<i>getDocumentsWithAttribute(String, String, String...)</i> on page 1940	Returns the elements with the given route that contains the given attribute with the given value.
public List< ISDMParserDocument >	<i>getDocumentsWithAttribute(String, String, boolean, String...)</i> on page 1941	Returns the elements with the given route that contains the given attribute with the given value.
public ISDMParserDocument	<i>getDocumentWithAttribute(String, String, String...)</i> on page 1941	Returns the first element with the given route that contains the given attribute with the given value.
public ISDMParserDocument	<i>getDocumentWithAttribute(String, String, boolean, String...)</i> on page 1942	Returns the first element with the given route that contains the given attribute with the given value.
public String	<i>getElementName()</i> on page 1942	Returns The name of the root element of this document.
public String	<i>getExtension(String)</i> on page 1943	

Modifier and Type	Member	Description
public String	<i>getFunctionImportComplexProperty Value(String...)</i> on page 1943	
static int	<i>getNameId(String, boolean, boolean)</i> on page 1943	
public static List< String >	<i>getNameMap()</i> on page 1943	
public static String	<i>getPrefix(String)</i> on page 1943	
public String	<i>getPrefixForUri(String)</i> on page 1943	Returns the appropriate namespace prefix for the given XML name-space URI.
public static Map< String, String >	<i>getPrefixMapping()</i> on page 1944	
protected List< Integer >	<i>getStringPositions(String[], int, boolean, boolean)</i> on page 1944	
public String[]	<i>getStrings()</i> on page 1944	Returns all the string values contained by this document.
public String	<i>getValue(String...)</i> on page 1944	Returns the value of the first element with the given route.
public List< String >	<i>getValues(String...)</i> on page 1944	Returns all the values of elements with the given route.
protected int[]	<i>insertRoutePositions(int[], int, int[])</i> on page 1945	
protected void	<i>insertRoutesPositions(int, int[])</i> on page 1945	
protected void	<i>insertStringsPositions(int, String[])</i> on page 1945	
protected String[]	<i>insertStringsPositions(String[], int, String[])</i> on page 1945	
boolean	<i>isComplexEntity</i> on page 1954	
boolean	<i>isJson</i> on page 1954	

Modifier and Type	Member	Description
protected boolean	<i>isMatched(String, String)</i> on page 1945	
static transient List< String >	<i>nameMap</i> on page 1954	
static transient Map< String, String >	<i>prefixMapping</i> on page 1954	
public void	<i>putAttribute(String, String...)</i> on page 1946	Sets the value of the attribute with the given route If attribute does not exist it will be created as well as all other non existing elements in the route.
public void	<i>putDocument(ISDMParserDocument, String...)</i> on page 1946	Insert the document under the element with the given route inserted document will be placed before already existing documents with the same route name under All missing elements from the route will be created.
public void	<i>putExtension(String, String)</i> on page 1946	
protected void	<i>putString(int, String, int, String...)</i> on page 1947	
public void	<i>putValue(String, String...)</i> on page 1947	Sets the value of the first element with the given route.
public void	<i>read(BufferedReader)</i> on page 1947	
public static void	<i>readNameMap(BufferedReader)</i> on page 1947	
public boolean	<i>removeAttribute(String...)</i> on page 1948	Removes first element with the given route.
public boolean	<i>removeAttributes(String...)</i> on page 1948	Removes all the attribute with the given route.
public boolean	<i>removeDocument(String...)</i> on page 1948	Removes first element with the given route For removing multiple element use setDocuemtns with null arguments.

Modifier and Type	Member	Description
public void	<i>removeExtension(String)</i> on page 1948	
protected void	<i>removeRoutesPositions(int, int)</i> on page 1949	
protected int[]	<i>removeRoutesPositions(int[], int, int)</i> on page 1949	
protected boolean	<i>removeString(String...)</i> on page 1949	
protected boolean	<i>removeStrings(String...)</i> on page 1949	
protected void	<i>removeStringsPositions(int, int)</i> on page 1949	
protected String[]	<i>removeStringsPositions(String[], int, int)</i> on page 1949	
protected int	<i>replaceRoutesPositions(int, int, int[])</i> on page 1949	
protected int[]	<i>replaceRoutesPositions(int[], int, int, int[])</i> on page 1950	
protected int	<i>replaceStringsPositions(int, int, String[])</i> on page 1950	
protected String[]	<i>replaceStringsPositions(String[], int, int, String[])</i> on page 1950	
public static String	<i>resolveUrl(String, String)</i> on page 1950	
protected int[]	<i>routes</i> on page 1954	
	<i>SDMParserDocument()</i> on page 1935	
	<i>SDMParserDocument(boolean)</i> on page 1936	
public	<i>SDMParserDocument(String)</i> on page 1935	

Modifier and Type	Member	Description
public	<i>SDMParserDocument(SDMParserDocument)</i> on page 1935	
protected	<i>SDMParserDocument(int[], String[])</i> on page 1936	
protected	<i>SDMParserDocument(String, boolean)</i> on page 1936	
public void	<i>setAttribute(String, String...)</i> on page 1950	
public void	<i>setAttributes(List&lt;String&gt;, String...)</i> on page 1950	Sets all the values of the attributes with the given route Values will be paired to attributes in order Attributes with greater or equals index than size of new values will be untouched Attributes paired with null values will be removed.
public boolean	<i>setDocument(ISDMParserDocument, String...)</i> on page 1951	
public void	<i>setDocuments(List&lt;ISDMParserDocument&gt;, String...)</i> on page 1951	Replaces all the elements with the given route Documents will be paired to elements in order Elements with greater or equals index than size of new elements will be untouched Element paired with null will be removed.
public void	<i>setElementName(String, String...)</i> on page 1951	Sets the name of the root element with the given route Use empty route for setting root name of this document.
public static void	<i>setNameMap(List&lt;String&gt;)</i> on page 1952	
public static void	<i>setPrefixMapping(Map&lt;String, String&gt;)</i> on page 1952	

Modifier and Type	Member	Description
protected void	<i>setString(String, String...)</i> on page 1952	
protected void	<i>setStrings(List&lt; String &gt;, String...)</i> on page 1952	
public void	<i>setValue(String, String...)</i> on page 1952	
public void	<i>setValues(List&lt; String &gt;, String...)</i> on page 1952	Sets all the values of the elements with the given route values will be paired to elements in order Elements with greater or equals index than size of new values will be untouched Null values will be treated as empty strings.
protected String[]	<i>strings</i> on page 1954	
public String	<i>toXMLString()</i> on page 1953	Returns the XML string representation of this object.
protected static final String	<i>URL_PROTOCOL_PREFIX</i> on page 1955	
static transient final int	<i>VALUE_ID</i> on page 1955	
static transient final String	<i>VALUE_STRING</i> on page 1955	
public void	<i>write(BufferedWriter)</i> on page 1953	
public static void	<i>writeNameMap(BufferedWriter)</i> on page 1953	

#### Inherited members from ISDMParserDocument

Modifier and Type	Member	Description
public static final String	<i>ATTRIBUTE_ETAG</i> on page 1329	Name of the appropriate SDMOData element.
public static final String	<i>ATTRIBUTE_VALUEPREFIX_EDMTYPE</i> on page 1329	Value prefix for EDM Type type values.



Modifier and Type	Member	Description
public static Map< String, String >	<i>DEFAULT_PREFIXMAP-PING</i> on page 1329	The default XML Namespace-to-Prefix mapping used for building XMLS.
public static final String[]	<i>EDMDATETIME_PATTERNS</i> on page 1329	Possible EDM DateTime patterns Note: Some pattern are not supported by OData specification but still widely used.
public static final String[]	<i>EDMDATETIMEOFFSET_PATTERNS</i> on page 1329	Possible EDM TimeOffset patterns Note: Some pattern are not supported by OData specification but still widely used.
public static final String	<i>EDMTIME_PATTERN</i> on page 1329	EDM Time pattern.
public static String	<i>ELEMENT_FEED</i> on page 1329	Name of the appropriate SDMOData element.
public static final String	<i>ELEMENT_ID</i> on page 1330	Name of the appropriate SDMOData element.
public static final String	<i>ROOT_DOCUMENT_NAME</i> on page 1330	The default root element name for a new document.
public static final String	<i>XMLNS_APPLICATION_URI</i> on page 1330	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/08/dataservices">http://schemas.microsoft.com/ado/2007/08/dataservices</a> .
public static final String	<i>XMLNS_ATOM_URI</i> on page 1330	Constant for XMLNS URI: <a href="http://www.w3.org/2005/Atom">http://www.w3.org/2005/Atom</a> .
public static final String	<i>XMLNS_DATASERVICES_URI</i> on page 1330	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/08/dataservices">http://schemas.microsoft.com/ado/2007/08/dataservices</a> .
public static final String	<i>XMLNS_EDM_URI</i> on page 1330	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/05/edm">http://schemas.microsoft.com/ado/2007/05/edm</a> .
public static final String	<i>XMLNS_EDMX_URI</i> on page 1330	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/06/edmx">http://schemas.microsoft.com/ado/2007/06/edmx</a> .

Modifier and Type	Member	Description
public static final String	<i>XMLNS_GENERICPLAYER_URI</i> on page 1331	Constant for XMLNS URI: <a href="http://www.sap.com/Protocols/SAPData/GenericPlayer">http://www.sap.com/Protocols/SAPData/GenericPlayer</a> .
public static final String	<i>XMLNS_METADATA_URI</i> on page 1331	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/08/dataservices/metadata">http://schemas.microsoft.com/ado/2007/08/dataservices/metadata</a> .
public static final String	<i>XMLNS_SAP_URI</i> on page 1331	Constant for XMLNS URI: <a href="http://www.sap.com/Protocols/SAPData">http://www.sap.com/Protocols/SAPData</a> .

#### Inherited members from ISDMPersistable

Modifier and Type	Member	Description
public void	<i>read(BufferedReader)</i> on page 1332	
public void	<i>write(BufferedWriter)</i> on page 1332	

#### Inherited members from ISDMODataParameter

Modifier and Type	Member	Description
public static final String	<i>ATTRIBUTE_MODE</i> on page 1227	Name of the appropriate SDMODData attribute.
public static final String	<i>ATTRIBUTE_NAME</i> on page 1227	Name of the appropriate SDMODData attribute.
public static final String	<i>ATTRIBUTE_TYPE</i> on page 1228	Name of the appropriate SDMODData attribute.
public static final String	<i>ELEMENT_PARAMETER</i> on page 1228	Name of the appropriate SDMODData element.
public static final String	<i>VALUE_MODE_IN</i> on page 1228	Value option for the 'Mode' SDMODData attribute.
public static final String	<i>VALUE_MODE_OUT</i> on page 1228	Value option for the 'Mode' SDMODData attribute.

#### Inherited members from ISDMParserDocument

Modifier and Type	Member	Description
public static final String	<i>ATTRIBUTE_ETAG</i> on page 1329	Name of the appropriate SDMOData element.
public static final String	<i>ATTRIBUTE_VALUEPREFIX_EDMTYPE</i> on page 1329	Value prefix for EDM Type type values.
public abstract ISDMParserDocument	<i>clone()</i> on page 1317	Creates a copy of this object.
public static Map< String, String >	<i>DEFAULT_PREFIXMAPPING</i> on page 1329	The default XML Namespace-to-Prefix mapping used for building XMLS.
public static final String[]	<i>EDMDATETIME_PATTERNS</i> on page 1329	Possible EDM DateTime patterns Note: Some pattern are not supported by OData specification but still widely used.
public static final String[]	<i>EDMDATETIMEOFFSET_PATTERNS</i> on page 1329	Possible EDM DateTimeOffset patterns Note: Some pattern are not supported by OData specification but still widely used.
public static final String	<i>EDMTIME_PATTERN</i> on page 1329	EDM Time pattern.
public static String	<i>ELEMENT_FEED</i> on page 1329	Name of the appropriate SDMOData element.
public static final String	<i>ELEMENT_ID</i> on page 1330	Name of the appropriate SDMOData element.
public abstract String	<i>getAttribute(String...)</i> on page 1317	Returns the value of the first attribute with the given route.
public abstract List< String >	<i>getAttributes(String...)</i> on page 1317	Returns all the values of attributes with the given route.
public abstract Map< String, String >	<i>getChildAttributeMap(String...)</i> on page 1318	Returns all the name-value pairs of attributes contained by the element with the given route.
public abstract List< String >	<i>getChildAttributes(String...)</i> on page 1318	Returns all the values of attributes contained by the element with the given route.

Modifier and Type	Member	Description
public abstract List< ISDMParseDocument >	<i>getChildDocuments(String...)</i> on page 1318	Returns the elements contained by the element with the given route.
public abstract List< ISDMParseDocument >	<i>getChildDocumentsWithAttribute(String, String, String...)</i> on page 1319	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public abstract List< ISDMParseDocument >	<i>getChildDocumentsWithAttribute(String, String, boolean, String...)</i> on page 1319	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public abstract ISDMParseDocument	<i>getDocument(String...)</i> on page 1320	Returns the first element with the given route.
public abstract List< ISDMParseDocument >	<i>getDocuments(String...)</i> on page 1320	Returns all the elements with the given route.
public abstract List< ISDMParseDocument >	<i>getDocumentsWithAttribute(String, String, String...)</i> on page 1321	Returns the elements with the given route that contains the given attribute with the given value.
public abstract List< ISDMParseDocument >	<i>getDocumentsWithAttribute(String, String, boolean, String...)</i> on page 1321	Returns the elements with the given route that contains the given attribute with the given value.
public abstract ISDMParseDocument	<i>getDocumentWithAttribute(String, String, String...)</i> on page 1322	Returns the first element with the given route that contains the given attribute with the given value.
public abstract ISDMParseDocument	<i>getDocumentWithAttribute(String, String, boolean, String...)</i> on page 1322	Returns the first element with the given route that contains the given attribute with the given value.
public abstract String	<i>getElementName()</i> on page 1323	Returns The name of the root element of this document.
public abstract String	<i>getFunctionImportComplexPropertyValue(String...)</i> on page 1323	

Modifier and Type	Member	Description
public abstract String	<i>getPrefixForUri(String)</i> on page 1323	Returns the appropriate name-space prefix for the given XML name-space URI.
public abstract String[]	<i>getStrings()</i> on page 1324	Returns all the string values contained by this document.
public abstract String	<i>getValue(String...)</i> on page 1324	Returns the value of the first element with the given route.
public abstract List< String >	<i>getValues(String...)</i> on page 1324	Returns all the values of elements with the given route.
public abstract void	<i>putAttribute(String, String...)</i> on page 1325	Sets the value of the attribute with the given route If attribute does not exist it will be created as well as all other non existing elements in the route.
public abstract void	<i>putDocument(ISDMParseDocument, String...)</i> on page 1325	Insert the document under the element with the given route inserted document will be placed before already existing documents with the same route name under All missing elements from the route will be created.
public abstract void	<i>putValue(String, String...)</i> on page 1325	Sets the value of the first element with the given route.
public abstract boolean	<i>removeAttribute(String...)</i> on page 1326	Removes first element with the given route.
public abstract boolean	<i>removeAttributes(String...)</i> on page 1326	Removes all the attribute with the given route.
public abstract boolean	<i>removeDocument(String...)</i> on page 1326	Removes first element with the given route For removing multiple element use setDocuemtns with null arguments.
public static final String	<i>ROOT_DOCUMENT_NAME</i> on page 1330	The default root element name for a new document.

Modifier and Type	Member	Description
public abstract void	<i>setAttributes(List&lt; String &gt;, String...)</i> on page 1327	Sets all the values of the attributes with the given route Values will be paired to attributes in order Attributes with greater or equals index than size of new values will be untouched Attributes paired with null values will be removed.
public abstract void	<i>setDocuments(List&lt; ISDMParserDocument &gt;, String...)</i> on page 1327	Replaces all the elements with the given route Documents will be paired to elements in order Elements with greater or equals index than size of new elements will be untouched Element paired with null will be removed.
public abstract void	<i>setElementName(String, String...)</i> on page 1328	Sets the name of the root element with the given route Use empty route for setting root name of this document.
public abstract void	<i>setValues(List&lt; String &gt;, String...)</i> on page 1328	Sets all the values of the elements with the given rout Values will be paired to elements in order Elements with greater or equals index than size of new values will be untouched Null values will be treated as empty strings.
public abstract String	<i>toXMLString()</i> on page 1328	Returns the XML string representation of this object.
public static final String	<i>XMLNS_APPLICATION_URI</i> on page 1330	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/08/dataservices">http://schemas.microsoft.com/ado/2007/08/dataservices</a> .
public static final String	<i>XMLNS_ATOM_URI</i> on page 1330	Constant for XMLNS URI: <a href="http://www.w3.org/2005/Atom">http://www.w3.org/2005/Atom</a> .

Modifier and Type	Member	Description
public static final String	<i>XMLNS_DATASERVICES_URI</i> on page 1330	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/08/dataservices">http://schemas.microsoft.com/ado/2007/08/dataservices</a> .
public static final String	<i>XMLNS_EDM_URI</i> on page 1330	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/05/edm">http://schemas.microsoft.com/ado/2007/05/edm</a> .
public static final String	<i>XMLNS_EDMX_URI</i> on page 1330	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/06/edmx">http://schemas.microsoft.com/ado/2007/06/edmx</a> .
public static final String	<i>XMLNS_GENERICPLAYER_URI</i> on page 1331	Constant for XMLNS URI: <a href="http://www.sap.com/Protocols/SAPData/GenericPlayer">http://www.sap.com/Protocols/SAPData/GenericPlayer</a> .
public static final String	<i>XMLNS_METADATA_URI</i> on page 1331	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/08/dataservices/metadata">http://schemas.microsoft.com/ado/2007/08/dataservices/metadata</a> .
public static final String	<i>XMLNS_SAP_URI</i> on page 1331	Constant for XMLNS URI: <a href="http://www.sap.com/Protocols/SAPData">http://www.sap.com/Protocols/SAPData</a> .

#### Inherited members from ISDMPersistable

Modifier and Type	Member	Description
public void	<i>read(BufferedReader)</i> on page 1332	
public void	<i>write(BufferedWriter)</i> on page 1332	

#### *SDMODDataParameter()* constructor

##### Syntax

```
public    SDMODDataParameter ()
```

#### *SDMODDataParameter(SDMParserDocument)* constructor

##### Syntax

```
public    SDMODDataParameter ( SDMParserDocument document )
```

*SDMODDataParameter(int[], String[]) constructor*

*Syntax*

```
protected   SDMODDataParameter ( int[] routes , String[] values )
```

*getMode() method*

Returns The value of the appropriate SDMODData attribute.

*Syntax*

```
public String getMode ()
```

*Returns*

The value of the appropriate SDMODData attribute

*getName() method*

Returns The value of the appropriate SDMODData attribute.

*Syntax*

```
public String getName ()
```

*Returns*

The value of the appropriate SDMODData attribute

*getType() method*

Returns The value of the appropriate SDMODData attribute.

*Syntax*

```
public String getType ()
```

*Returns*

The value of the appropriate SDMODData attribute

*SDMODDataProperty class*

Deprecated. since 3.0, Use ODataProperty

*Syntax*

```
public class SDMODDataProperty extends SDMParseDocument,  
ISDMODDataProperty
```

*Members*

All members of SDMODDataProperty, including inherited members. **Constructors**



Modifier and Type	Constructor	Description
public	<i>SDMODDataProperty()</i> on page 1733	
public	<i>SDMODDataProperty(SDMParserDocument)</i> on page 1734	
protected	<i>SDMODDataProperty(int[], String[])</i> on page 1734	

## Methods

Modifier and Type	Method	Description
public List< ISDMODDataProperty >	<i>getChildPropertiesData()</i> on page 1734	Returns all the child properties added to this document with putChildProperty method.
public List< ISDMODDataProperty >	<i>getChildPropertiesDataWithAttribute(String, String)</i> on page 1734	Returns list of appropriate contained Property SDMODData elements with the given attribute value.
public List< ISDMODDataProperty >	<i>getChildPropertiesDataWithAttribute(String, String, boolean)</i> on page 1735	Returns list of appropriate contained Property SDMODData elements with the given attribute value.
public ISDMODDataProperty	<i>getChildPropertyData(String)</i> on page 1735	Return a single child property added with putChildProperty method.
public String	<i>getCollation()</i> on page 1735	Returns the value of the appropriate SDMODData attribute.
public String	<i>getDefaultValue()</i> on page 1736	Returns the value of the appropriate SDMODData attribute.
public int	<i>getDetailDisplayOrder()</i> on page 1736	In current version it return the same value as getListDisplayOrder.
public String	<i>getLabel()</i> on page 1736	Returns The value of the appropriate SDMODData attribute.
public int	<i>getListDisplayOrder()</i> on page 1736	In current version it returns the same value as getDetailDisplayOrder.

Modifier and Type	Method	Description
public int	<i>getMaxLength()</i> on page 1736	Returns the value of the appropriate SDMODData attribute with defaultValue = 0;.
public String	<i>getName()</i> on page 1737	Returns The value of the appropriate SDMODData attribute.
public String	<i>getPrecision()</i> on page 1737	Returns the value of the appropriate SDMODData attribute.
public String	<i>getScale()</i> on page 1737	Returns the value of the appropriate SDMODData attribute.
public String	<i>getSemantics()</i> on page 1737	Returns the value of the appropriate SDMODData attribute with defaultValue = 0;.
public String	<i>getType()</i> on page 1738	Returns The value of the appropriate SDMODData attribute.
public String	<i>getValue()</i> on page 1738	Returns the value of the property if there is a single property instance that is represented by this object and value is set with setValue method.
public boolean	<i>hasFixedLength()</i> on page 1738	Returns The value of the appropriate SDMODData attribute.
public boolean	<i>isComplex()</i> on page 1738	Returns if the property has complex type and has child properties.
public boolean	<i>isCreatable()</i> on page 1739	Returns The value of the appropriate SDMODData attribute.
public boolean	<i>isDeletable()</i> on page 1739	Returns The value of the appropriate SDMODData attribute.
public boolean	<i>isFilterable()</i> on page 1739	Returns The value of the appropriate SDMODData attribute.
public boolean	<i>isNullable()</i> on page 1739	Returns The value of the appropriate SDMODData attribute.
public boolean	<i>isSearchable()</i> on page 1739	Returns The value of the appropriate SDMODData attribute.

Modifier and Type	Method	Description
public boolean	<i>isUnicode()</i> on page 1740	Returns the value of the appropriate SDMODData attribute.
public boolean	<i>isUpdatable()</i> on page 1740	Returns The value of the appropriate SDMODData attribute.
public void	<i>putChildPropertyData(ISDMODDataProperty)</i> on page 1740	Put new child property to this property document.
public void	<i>setValue(String)</i> on page 1740	Sets the value of the property, represented by this object.

### Inherited members from SDMParserDocument

Modifier and Type	Member	Description
static transient final String	<i>ANY_STRING</i> on page 1953	
static transient final int	<i>ATTRIBUTE_ID</i> on page 1953	
static transient final String	<i>ATTRIBUTE_STRING</i> on page 1954	
public SDMParserDocument	<i>clone()</i> on page 1936	Creates a copy of this object.
protected Map< String, String >	<i>extensions</i> on page 1954	
public String	<i>getAttribute(String...)</i> on page 1936	Returns the value of the first attribute with the given route.
public List< String >	<i>getAttributes(String...)</i> on page 1937	Returns all the values of attributes with the given route.
protected int	<i>getAttributesEndPosition(int[], int, int)</i> on page 1937	
public Map< String, String >	<i>getChildAttributeMap(String...)</i> on page 1937	Returns all the name-value pairs of attributes contained by the element with the given route.
public List< String >	<i>getChildAttributes(String...)</i> on page 1938	Returns all the values of attributes contained by the element with the given route.

Modifier and Type	Member	Description
public List< ISDMParserDocument >	<i>getChildDocuments(String...)</i> on page 1938	Returns the elements contained by the element with the given route.
public List< ISDMParserDocument >	<i>getChildDocumentsWithAttribute(String, String, String...)</i> on page 1938	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public List< ISDMParserDocument >	<i>getChildDocumentsWithAttribute(String, String, boolean, String...)</i> on page 1939	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public SDMParserDocument	<i>getDocument(String...)</i> on page 1939	Returns the first element with the given route.
protected List< int[] >	<i>getDocumentPositions(String[], int, boolean, boolean)</i> on page 1940	
public List< ISDMParserDocument >	<i>getDocuments(String...)</i> on page 1940	Returns all the elements with the given route.
public List< ISDMParserDocument >	<i>getDocumentsWithAttribute(String, String, String...)</i> on page 1940	Returns the elements with the given route that contains the given attribute with the given value.
public List< ISDMParserDocument >	<i>getDocumentsWithAttribute(String, String, boolean, String...)</i> on page 1941	Returns the elements with the given route that contains the given attribute with the given value.
public ISDMParserDocument	<i>getDocumentWithAttribute(String, String, String...)</i> on page 1941	Returns the first element with the given route that contains the given attribute with the given value.
public ISDMParserDocument	<i>getDocumentWithAttribute(String, String, boolean, String...)</i> on page 1942	Returns the first element with the given route that contains the given attribute with the given value.
public String	<i>getElementName()</i> on page 1942	Returns The name of the root element of this document.

Modifier and Type	Member	Description
public String	<i>getExtension(String)</i> on page 1943	
public String	<i>getFunctionImportComplexProperty Value(String...)</i> on page 1943	
static int	<i>getNameId(String, boolean, boolean)</i> on page 1943	
public static List< String >	<i>getNameMap()</i> on page 1943	
public static String	<i>getPrefix(String)</i> on page 1943	
public String	<i>getPrefixForUri(String)</i> on page 1943	Returns the appropriate namespace prefix for the given XML name-space URI.
public static Map< String, String >	<i>getPrefixMapping()</i> on page 1944	
protected List< Integer >	<i>getStringPositions(String[], int, boolean, boolean)</i> on page 1944	
public String[]	<i>getStrings()</i> on page 1944	Returns all the string values contained by this document.
public String	<i>getValue(String...)</i> on page 1944	Returns the value of the first element with the given route.
public List< String >	<i>getValues(String...)</i> on page 1944	Returns all the values of elements with the given route.
protected int[]	<i>insertRoutePositions(int[], int, int[])</i> on page 1945	
protected void	<i>insertRoutesPositions(int, int[])</i> on page 1945	
protected void	<i>insertStringsPositions(int, String[])</i> on page 1945	
protected String[]	<i>insertStringsPositions(String[], int, String[])</i> on page 1945	

Modifier and Type	Member	Description
boolean	<i>isComplexEntity</i> on page 1954	
boolean	<i>isJson</i> on page 1954	
protected boolean	<i>isMatched(String, String)</i> on page 1945	
static transient List< String >	<i>nameMap</i> on page 1954	
static transient Map< String, String >	<i>prefixMapping</i> on page 1954	
public void	<i>putAttribute(String, String...)</i> on page 1946	Sets the value of the attribute with the given route If attribute does not exist it will be created as well as all other non existing elements in the route.
public void	<i>putDocument(ISDMParseDocument, String...)</i> on page 1946	Insert the document under the element with the given route inserted document will be placed before already existing documents with the same route name under All missing elements from the route will be created.
public void	<i>putExtension(String, String)</i> on page 1946	
protected void	<i>putString(int, String, int, String...)</i> on page 1947	
public void	<i>putValue(String, String...)</i> on page 1947	Sets the value of the first element with the given route.
public void	<i>read(BufferedReader)</i> on page 1947	
public static void	<i>readNameMap(BufferedReader)</i> on page 1947	
public boolean	<i>removeAttribute(String...)</i> on page 1948	Removes first element with the given route.
public boolean	<i>removeAttributes(String...)</i> on page 1948	Removes all the attribute with the given route.

Modifier and Type	Member	Description
public boolean	<i>removeDocument(String...)</i> on page 1948	Removes first element with the given route For removing multiple element use setDocuemtns with null arguments.
public void	<i>removeExtension(String)</i> on page 1948	
protected void	<i>removeRoutesPositions(int, int)</i> on page 1949	
protected int[]	<i>removeRoutesPositions(int[], int, int)</i> on page 1949	
protected boolean	<i>removeString(String...)</i> on page 1949	
protected boolean	<i>removeStrings(String...)</i> on page 1949	
protected void	<i>removeStringsPositions(int, int)</i> on page 1949	
protected String[]	<i>removeStringsPositions(String[], int, int)</i> on page 1949	
protected int	<i>replaceRoutesPositions(int, int, int[])</i> on page 1949	
protected int[]	<i>replaceRoutesPositions(int[], int, int, int[])</i> on page 1950	
protected int	<i>replaceStringsPositions(int, int, String[])</i> on page 1950	
protected String[]	<i>replaceStringsPositions(String[], int, int, String[])</i> on page 1950	
public static String	<i>resolveUrl(String, String)</i> on page 1950	
protected int[]	<i>routes</i> on page 1954	
	<i>SDMParserDocument()</i> on page 1935	

Modifier and Type	Member	Description
	<i>SDMParserDocument(boo- lean)</i> on page 1936	
public	<i>SDMParserDocument(String)</i> on page 1935	
public	<i>SDMParserDocu- ment(SDMParserDocument)</i> on page 1935	
protected	<i>SDMParserDocument(int[], String[])</i> on page 1936	
protected	<i>SDMParserDocument(String, boolean)</i> on page 1936	
public void	<i>setAttribute(String, String...)</i> on page 1950	
public void	<i>setAttributes(List&lt; String &gt;, String...)</i> on page 1950	Sets all the values of the attrib- utes with the given route Values will be paired to attributes in or- der Attributes with greater or equals index than size of new values will be untouched Attrib- utes paired with null values will be removed.
public boolean	<i>setDocument(ISDMParserDo- cument, String...)</i> on page 1951	
public void	<i>setDocuments(List&lt; ISDMPar- serDocument &gt; , String...)</i> on page 1951	Replaces all the elements with the given route Documents will be paired to elements in order Elements with greater or equals index than size of new elements will be untouched Element paired with null will be re- moved.
public void	<i>setElementName(String, String...)</i> on page 1951	Sets the name of the root ele- ment with the given route Use empty route for setting root name of this document.



Modifier and Type	Member	Description
public static void	<i>setNameMap(List&lt;String &gt;)</i> on page 1952	
public static void	<i>setPrefixMapping(Map&lt;String, String &gt;)</i> on page 1952	
protected void	<i>setString(String, String...)</i> on page 1952	
protected void	<i>setStrings(List&lt;String &gt;, String...)</i> on page 1952	
public void	<i>setValue(String, String...)</i> on page 1952	
public void	<i>setValues(List&lt;String &gt;, String...)</i> on page 1952	Sets all the values of the elements with the given route values will be paired to elements in order Elements with greater or equals index than size of new values will be untouched Null values will be treated as empty strings.
protected String[]	<i>strings</i> on page 1954	
public String	<i>toXMLString()</i> on page 1953	Returns the XML string representation of this object.
protected static final String	<i>URL_PROTOCOL_PREFIX</i> on page 1955	
static transient final int	<i>VALUE_ID</i> on page 1955	
static transient final String	<i>VALUE_STRING</i> on page 1955	
public void	<i>write(BufferedWriter)</i> on page 1953	
public static void	<i>writeNameMap(BufferedWriter)</i> on page 1953	

### Inherited members from ISDMParserDocument

Modifier and Type	Member	Description
public static final String	<i>ATTRIBUTE_ETAG</i> on page 1329	Name of the appropriate SDMOData element.
public static final String	<i>ATTRIBUTE_VALUEPREFIX_EDMTYPE</i> on page 1329	Value prefix for EDM Type type values.
public static Map< String, String >	<i>DEFAULT_PREFIXMAPPING</i> on page 1329	The default XML Namespace-to-Prefix mapping used for building XMLS.
public static final String[]	<i>EDMDATETIME_PATTERNS</i> on page 1329	Possible EDM DateTime patterns Note: Some pattern are not supported by OData specification but still widely used.
public static final String[]	<i>EDMDATETIMEOFFSET_PATTERNS</i> on page 1329	Possible EDM TimeOffset patterns Note: Some pattern are not supported by OData specification but still widely used.
public static final String	<i>EDMTIME_PATTERN</i> on page 1329	EDM Time pattern.
public static String	<i>ELEMENT_FEED</i> on page 1329	Name of the appropriate SDMOData element.
public static final String	<i>ELEMENT_ID</i> on page 1330	Name of the appropriate SDMOData element.
public static final String	<i>ROOT_DOCUMENT_NAME</i> on page 1330	The default root element name for a new document.
public static final String	<i>XMLNS_APPLICATION_URI</i> on page 1330	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/08/dataservices">http://schemas.microsoft.com/ado/2007/08/dataservices</a> .
public static final String	<i>XMLNS_ATOM_URI</i> on page 1330	Constant for XMLNS URI: <a href="http://www.w3.org/2005/Atom">http://www.w3.org/2005/Atom</a> .
public static final String	<i>XMLNS_DATASERVICES_URI</i> on page 1330	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/08/dataservices">http://schemas.microsoft.com/ado/2007/08/dataservices</a> .
public static final String	<i>XMLNS_EDM_URI</i> on page 1330	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/05/edm">http://schemas.microsoft.com/ado/2007/05/edm</a> .

Modifier and Type	Member	Description
public static final String	<i>XMLNS_EDMX_URI</i> on page 1330	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/06/edmx">http://schemas.microsoft.com/ado/2007/06/edmx</a> .
public static final String	<i>XMLNS_GENERICPLAYER_URI</i> on page 1331	Constant for XMLNS URI: <a href="http://www.sap.com/Protocols/SAPData/GenericPlayer">http://www.sap.com/Protocols/SAPData/GenericPlayer</a> .
public static final String	<i>XMLNS_METADATA_URI</i> on page 1331	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/08/dataservices/metadata">http://schemas.microsoft.com/ado/2007/08/dataservices/metadata</a> .
public static final String	<i>XMLNS_SAP_URI</i> on page 1331	Constant for XMLNS URI: <a href="http://www.sap.com/Protocols/SAPData">http://www.sap.com/Protocols/SAPData</a> .

#### Inherited members from ISDMPersistable

Modifier and Type	Member	Description
public void	<i>read(BufferedReader)</i> on page 1332	
public void	<i>write(BufferedWriter)</i> on page 1332	

#### Inherited members from ISDMODataProperty

Modifier and Type	Member	Description
public static final String	<i>ATTRIBUTE_COLLATION</i> on page 1244	Name of the appropriate SDMODData attribute.
public static final String	<i>ATTRIBUTE_CREATABLE</i> on page 1244	Name of the appropriate SDMODData attribute.
public static final String	<i>ATTRIBUTE_DEFAULTVALUE</i> on page 1244	Name of the appropriate SDMODData attribute.
public static final String	<i>ATTRIBUTE_DELETABLE</i> on page 1244	Name of the appropriate SDMODData attribute.
public static final String	<i>ATTRIBUTE_DETAIL_DISPLAYORDER</i> on page 1244	Name of the display-order SDMODData attribute.

<b>Modifier and Type</b>	<b>Member</b>	<b>Description</b>
public static final String	<i>ATTRIBUTE_FILTERABLE</i> on page 1244	Name of the appropriate SDMODData attribute.
public static final String	<i>ATTRIBUTE_FIXED-LENGTH</i> on page 1244	Name of the appropriate SDMODData attribute.
public static final String	<i>ATTRIBUTE_LABEL</i> on page 1245	Name of the appropriate SDMODData attribute.
public static final String	<i>ATTRIBUTE_LIST_DISPLAYORDER</i> on page 1245	Name of the display-order SDMODData attribute.
public static final String	<i>ATTRIBUTE_MAXLENGTH</i> on page 1245	Name of the appropriate SDMODData attribute.
public static final String	<i>ATTRIBUTE_NAME</i> on page 1245	Name of the appropriate SDMODData attribute.
public static final String	<i>ATTRIBUTE_NULLABLE</i> on page 1245	Name of the appropriate SDMODData attribute.
public static final String	<i>ATTRIBUTE_PRECISION</i> on page 1245	Name of the appropriate SDMODData attribute.
public static final String	<i>ATTRIBUTE_SCALE</i> on page 1245	Name of the appropriate SDMODData attribute.
public static final String	<i>ATTRIBUTE_SEARCHABLE</i> on page 1246	Name of the appropriate SDMODData attribute.
public static final String	<i>ATTRIBUTE_SEMANTICS</i> on page 1246	Name of the appropriate SDMODData attribute.
public static final String	<i>ATTRIBUTE_TYPE</i> on page 1246	Name of the appropriate SDMODData attribute.
public static final String	<i>ATTRIBUTE_UNICODE</i> on page 1246	Name of the appropriate SDMODData attribute.
public static final String	<i>ATTRIBUTE_UPDATABLE</i> on page 1246	Name of the appropriate SDMODData attribute.
public static final String	<i>ATTRIBUTE_USEIN-SEARCH</i> on page 1246	Name of the appropriate SDMODData attribute.
public static final String	<i>ATTRIBUTE_VISIBLEINDE-TAIL</i> on page 1246	Name of the appropriate SDMODData attribute.

Modifier and Type	Member	Description
public static final String	<i>ATTRIBUTE_VISIBLEINLIST</i> on page 1247	Name of the appropriate SDMODData attribute.
public static final String	<i>ELEMENT_PROPERTY</i> on page 1247	Name of the appropriate SDMODData element.

### Inherited members from ISDMParserDocument

Modifier and Type	Member	Description
public static final String	<i>ATTRIBUTE_ETAG</i> on page 1329	Name of the appropriate SDMODData element.
public static final String	<i>ATTRIBUTE_VALUEPREFIX_EDMTYPE</i> on page 1329	Value prefix for EDM Type type values.
public abstract ISDMParserDocument	<i>clone()</i> on page 1317	Creates a copy of this object.
public static Map< String, String >	<i>DEFAULT_PREFIXMAPPING</i> on page 1329	The default XML Namespace-to-Prefix mapping used for building XMLS.
public static final String[]	<i>EDMDATETIME_PATTERNS</i> on page 1329	Possible EDM DateTime patterns Note: Some pattern are not supported by OData specification but still widely used.
public static final String[]	<i>EDMDATETIMEOFFSET_PATTERNS</i> on page 1329	Possible EDM TimeOffset patterns Note: Some pattern are not supported by OData specification but still widely used.
public static final String	<i>EDMTIME_PATTERN</i> on page 1329	EDM Time pattern.
public static String	<i>ELEMENT_FEED</i> on page 1329	Name of the appropriate SDMODData element.
public static final String	<i>ELEMENT_ID</i> on page 1330	Name of the appropriate SDMODData element.
public abstract String	<i>getAttribute(String...)</i> on page 1317	Returns the value of the first attribute with the given route.
public abstract List< String >	<i>getAttributes(String...)</i> on page 1317	Returns all the values of attributes with the given route.

Modifier and Type	Member	Description
public abstract Map< String, String >	<i>getChildAttribute-Map(String...)</i> on page 1318	Returns all the name-value pairs of attributes contained by the element with the given route.
public abstract List< String >	<i>getChildAttributes(String...)</i> on page 1318	Returns all the values of attributes contained by the element with the given route.
public abstract List< ISDMParserDocument >	<i>getChildDocuments(String...)</i> on page 1318	Returns the elements contained by the element with the given route.
public abstract List< ISDMParserDocument >	<i>getChildDocumentsWithAttribute(String, String, String...)</i> on page 1319	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public abstract List< ISDMParserDocument >	<i>getChildDocumentsWithAttribute(String, String, boolean, String...)</i> on page 1319	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public abstract ISDMParserDocument	<i>getDocument(String...)</i> on page 1320	Returns the first element with the given route.
public abstract List< ISDMParserDocument >	<i>getDocuments(String...)</i> on page 1320	Returns all the elements with the given route.
public abstract List< ISDMParserDocument >	<i>getDocumentsWithAttribute(String, String, String...)</i> on page 1321	Returns the elements with the given route that contains the given attribute with the given value.
public abstract List< ISDMParserDocument >	<i>getDocumentsWithAttribute(String, String, boolean, String...)</i> on page 1321	Returns the elements with the given route that contains the given attribute with the given value.
public abstract ISDMParserDocument	<i>getDocumentWithAttribute(String, String, String...)</i> on page 1322	Returns the first element with the given route that contains the given attribute with the given value.

Modifier and Type	Member	Description
public abstract ISDMParserDocument	<i>getDocumentWithAttribute(String, String, boolean, String...)</i> on page 1322	Returns the first element with the given route that contains the given attribute with the given value.
public abstract String	<i>getElementName()</i> on page 1323	Returns The name of the root element of this document.
public abstract String	<i>getFunctionImportComplexProperty Value(String...)</i> on page 1323	
public abstract String	<i>getPrefixForUri(String)</i> on page 1323	Returns the appropriate namespace prefix for the given XML name-space URI.
public abstract String[]	<i>getStrings()</i> on page 1324	Returns all the string values contained by this document.
public abstract String	<i>getValue(String...)</i> on page 1324	Returns the value of the first element with the given route.
public abstract List< String >	<i>getValues(String...)</i> on page 1324	Returns all the values of elements with the given route.
public abstract void	<i>putAttribute(String, String...)</i> on page 1325	Sets the value of the attribute with the given route If attribute does not exist it will be created as well as all other non existing elements in the route.
public abstract void	<i>putDocument(ISDMParserDocument, String...)</i> on page 1325	Insert the document under the element with the given route inserted document will be placed before already existing documents with the same route name under All missing elements from the route will be created.
public abstract void	<i>putValue(String, String...)</i> on page 1325	Sets the value of the first element with the given route.
public abstract boolean	<i>removeAttribute(String...)</i> on page 1326	Removes first element with the given route.

Modifier and Type	Member	Description
public abstract boolean	<i>removeAttributes(String...)</i> on page 1326	Removes all the attribute with the given route.
public abstract boolean	<i>removeDocument(String...)</i> on page 1326	Removes first element with the given route For removing multiple element use setDocuemtns with null arguments.
public static final String	<i>ROOT_DOCUMENT_NAME</i> on page 1330	The default root element name for a new document.
public abstract void	<i>setAttributes(List&lt; String &gt;, String...)</i> on page 1327	Sets all the values of the attributes with the given route Values will be paired to attributes in order Attributes with greater or equals index than size of new values will be untouched Attributes paired with null values will be removed.
public abstract void	<i>setDocuments(List&lt; ISDMParserDocument &gt;, String...)</i> on page 1327	Replaces all the elements with the given route Documents will be paired to elements in order Elements with greater or equals index than size of new elements will be untouched Element paired with null will be removed.
public abstract void	<i>setElementName(String, String...)</i> on page 1328	Sets the name of the root element with the given route Use empty route for setting root name of this document.
public abstract void	<i>setValues(List&lt; String &gt;, String...)</i> on page 1328	Sets all the values of the elements with the given rout Values will be paired to elements in order Elements with greater or equals index than size of new values will be untouched Null values will be treated as empty strings.
public abstract String	<i>toXMLString()</i> on page 1328	Returns the XML string representation of this object.



Modifier and Type	Member	Description
public static final String	<i>XMLNS_APPLICATION_URI</i> on page 1330	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/08/dataservices">http://schemas.microsoft.com/ado/2007/08/dataservices</a> .
public static final String	<i>XMLNS_ATOM_URI</i> on page 1330	Constant for XMLNS URI: <a href="http://www.w3.org/2005/Atom">http://www.w3.org/2005/Atom</a> .
public static final String	<i>XMLNS_DATASERVICES_URI</i> on page 1330	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/08/dataservices">http://schemas.microsoft.com/ado/2007/08/dataservices</a> .
public static final String	<i>XMLNS_EDM_URI</i> on page 1330	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/05/edm">http://schemas.microsoft.com/ado/2007/05/edm</a> .
public static final String	<i>XMLNS_EDMX_URI</i> on page 1330	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/06/edmx">http://schemas.microsoft.com/ado/2007/06/edmx</a> .
public static final String	<i>XMLNS_GENERICPLAYER_URI</i> on page 1331	Constant for XMLNS URI: <a href="http://www.sap.com/Protocols/SAPData/GenericPlayer">http://www.sap.com/Protocols/SAPData/GenericPlayer</a> .
public static final String	<i>XMLNS_METADATA_URI</i> on page 1331	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/08/dataservices/metadata">http://schemas.microsoft.com/ado/2007/08/dataservices/metadata</a> .
public static final String	<i>XMLNS_SAP_URI</i> on page 1331	Constant for XMLNS URI: <a href="http://www.sap.com/Protocols/SAPData">http://www.sap.com/Protocols/SAPData</a> .

**Inherited members from ISDMPersistable**

Modifier and Type	Member	Description
public void	<i>read(BufferedReader)</i> on page 1332	
public void	<i>write(BufferedWriter)</i> on page 1332	

*SDMODataProperty()* constructor

**Syntax**

```
public SDMODataProperty ()
```

*SDMODataProperty(SDMParserDocument) constructor*

*Syntax*

```
public   SDMODataProperty ( SDMParserDocument document )
```

*SDMODataProperty(int[], String[]) constructor*

*Syntax*

```
protected   SDMODataProperty ( int[] routes ,   String[] values )
```

*getChildPropertiesData() method*

Returns all the child properties added to this document with putChildProperty method.

*Syntax*

```
public List< ISDMODataProperty > getChildPropertiesData ( )
```

*Returns*

List of child properties.

*getChildPropertiesDataWithAttribute(String, String) method*

Returns list of appropriate contained Property SDMOData elements with the given attribute value.

*Syntax*

```
public List< ISDMODataProperty >  
getChildPropertiesDataWithAttribute ( String attributeName ,   String  
attributeValue )
```

*Parameters*

- **attributeName** – the name of the attribute that value should be checked
- **attributeValue** – expected value of the attribute

*Returns*

list of appropriate contained Property SDMOData elements with the given attribute value

*getChildPropertiesDataWithAttribute(String, String, boolean) method*

Returns list of appropriate contained Property SDMODData elements with the given attribute value.

*Syntax*

```
public List< ISDMODDataProperty >
getChildPropertiesDataWithAttribute ( String attributeName , String
attributeValue , boolean addByDefault )
```

*Parameters*

- **attributeName** – the name of the attribute that value should be checked
- **attributeValue** – expected value of the attribute
- **addByDefault** – true if the child Property should be add in case if there is no attribute with the given name

*Returns*

list of appropriate contained Property SDMODData elements with the given attribute value

*getChildPropertyData(String) method*

Return a single child property added with putChildProperty method.

*Syntax*

```
public ISDMODDataProperty getChildPropertyData ( String
propertyName )
```

*Parameters*

- **propertyName** – The name of the child property that should be returned.

*Returns*

The found child property or null if there is no child property with the given name.

*getCollation() method*

Returns the value of the appropriate SDMODData attribute.

*Syntax*

```
public String getCollation ()
```

*Returns*

The value of the appropriate SDMODData attribute

### *getDefaultValue() method*

Returns the value of the appropriate SDMODData attribute.

#### *Syntax*

```
public String getDefaultValue ()
```

#### *Returns*

The value of the appropriate SDMODData attribute

### *getDetailDisplayOrder() method*

In current version it return the same value as getListDisplayOrder.

#### *Syntax*

```
public int getDetailDisplayOrder ()
```

#### *Returns*

The value of 'display-order' attribute with default value = 0;

### *getLabel() method*

Returns The value of the appropriate SDMODData attribute.

#### *Syntax*

```
public String getLabel ()
```

#### *Returns*

The value of the appropriate SDMODData attribute

### *getListDisplayOrder() method*

In current version it returns the same value as getDetailDisplayOrder.

#### *Syntax*

```
public int getListDisplayOrder ()
```

#### *Returns*

The value of 'display-order' attribute with default value = 0;

### *getMaxLength() method*

Returns the value of the appropriate SDMODData attribute with default value = 0;.

#### *Syntax*

```
public int getMaxLength ()
```

**Returns**

The value of the appropriate SDMOData attribute with defaultValue = 0;

**getName() method**

Returns The value of the appropriate SDMOData attribute.

**Syntax**

```
public String getName ()
```

**Returns**

The value of the appropriate SDMOData attribute

**getPrecision() method**

Returns the value of the appropriate SDMOData attribute.

**Syntax**

```
public String getPrecision ()
```

**Returns**

The value of the appropriate SDMOData attribute

**getScale() method**

Returns the value of the appropriate SDMOData attribute.

**Syntax**

```
public String getScale ()
```

**Returns**

The value of the appropriate SDMOData attribute

**getSemantics() method**

Returns the value of the appropriate SDMOData attribute with defaultValue = 0;.

**Syntax**

```
public String getSemantics ()
```

**Returns**

The value of the appropriate SDMOData attribute with defaultValue = 0;

### *getType() method*

Returns The value of the appropriate SDMODData attribute.

#### *Syntax*

```
public String getType ()
```

#### *Returns*

The value of the appropriate SDMODData attribute

### *getValue() method*

Returns the value of the property if there is a single property instance that is represented by this object and value is set with setValue method.

#### *Syntax*

```
public String getValue ()
```

#### *Returns*

the value of the property instance represented by this object.

#### *Usage*

Otherwise it returns null.

Typically this object contains value only if this object was returned by an SDMODData Entry.

### *hasFixedLength() method*

Returns The value of the appropriate SDMODData attribute.

#### *Syntax*

```
public boolean hasFixedLength ()
```

#### *Returns*

The value of the appropriate SDMODData attribute

### *isComplex() method*

Returns if the property has complex type and has child properties.

#### *Syntax*

```
public boolean isComplex ()
```

#### *Returns*

true if the property has complex type and has child properties.

*isCreatable() method*

Returns The value of the appropriate SDMODData attribute.

*Syntax*

```
public boolean isCreatable ()
```

*Returns*

The value of the appropriate SDMODData attribute

*isDeletable() method*

Returns The value of the appropriate SDMODData attribute.

*Syntax*

```
public boolean isDeletable ()
```

*Returns*

The value of the appropriate SDMODData attribute

*isFilterable() method*

Returns The value of the appropriate SDMODData attribute.

*Syntax*

```
public boolean isFilterable ()
```

*Returns*

The value of the appropriate SDMODData attribute

*isNullable() method*

Returns The value of the appropriate SDMODData attribute.

*Syntax*

```
public boolean isNullable ()
```

*Returns*

The value of the appropriate SDMODData attribute

*isSearchable() method*

Returns The value of the appropriate SDMODData attribute.

*Syntax*

```
public boolean isSearchable ()
```

### *Returns*

The value of the appropriate SDMODData attribute

### *isUnicode() method*

Returns the value of the appropriate SDMODData attribute.

### *Syntax*

```
public boolean isUnicode ()
```

### *Returns*

The value of the appropriate SDMODData attribute

### *isUpdatable() method*

Returns The value of the appropriate SDMODData attribute.

### *Syntax*

```
public boolean isUpdatable ()
```

### *Returns*

The value of the appropriate SDMODData attribute

### *putChildPropertyData(ISDMODDataProperty) method*

Put new child property to this property document.

### *Syntax*

```
public void putChildPropertyData ( ISDMODDataProperty property )
```

### *Parameters*

- **property** – The child property

### *setValue(String) method*

Sets the value of the property, represented by this object.

### *Syntax*

```
public void setValue ( String value )
```

### *Parameters*

- **value** – The value of the property instance represented by this object.

### *Usage*

This method should be used only if there a property instance that is represented by this object.

Typically this method is used when property object is returned by an SDMODData Entry object.



*SDMODataReturnTypeEntry class*

Deprecated. since 3.0, Use ODataReturnTypeEntry

*Syntax*

```
public class SDMODataReturnTypeEntry extends SDMODataEntry,
ISDMODataEntry
```

*Members*

All members of SDMODataReturnTypeEntry, including inherited members. **Variables**

Modifier and Type	Variable	Description
protected static final String	<i>SDM_RETURNTYPE_COLLECTION</i> on page 1769	

**Constructors**

Modifier and Type	Constructor	Description
public	<i>SDMODataReturnTypeEntry(boolean)</i> on page 1767	
public	<i>SDMODataReturnTypeEntry(SDMParserDocument, ISDMODataFunctionImport, ISDMODataSchema, boolean)</i> on page 1767	

**Methods**

Modifier and Type	Method	Description
public void	<i>putPropertyValue(String, String)</i> on page 1767	Puts the new property element as a sub-element of the 'properties' SDMOData element.
public void	<i>putPropertyValue(String, String, boolean)</i> on page 1768	Puts the new property element as a sub-element of the 'properties' SDMOData element.
public void	<i>read(BufferedReader)</i> on page 1768	
public void	<i>setCollectionId(String)</i> on page 1768	Maintains the Id of the SDMO-Cata Collection that this Entry belongs to.

Modifier and Type	Method	Description
public void	<i>setSchema(ISDMODataSchema)</i> on page 1769	Maintains the reference to the appropriate SDMOData Schema object.
public void	<i>write(BufferedWriter)</i> on page 1769	

**Inherited members from SDMODataEntry**

Modifier and Type	Member	Description
protected void	<i>addPropertyValues(ISDMODataProperty, Map&lt; String, String &gt;, String)</i> on page 1584	
protected static Long	<i>cache_timestamp</i> on page 1597	
protected static cacheState	<i>Cachestate</i> on page 1597	
protected String	<i>collectionId</i> on page 1597	
protected static final int	<i>FALSE</i> on page 1597	
protected void	<i>fillPropertyData(ISDMODataProperty, String...)</i> on page 1584	
protected void	<i>fillPropertyDataWithAttribute(ISDMODataProperty, String, String, boolean, String...)</i> on page 1584	
protected static final String	<i>FILTER</i> on page 1597	
protected static final String	<i>FILTER_AND</i> on page 1597	
protected static final String	<i>FILTER_EQ</i> on page 1598	
public List< ISDMODataLink >	<i>getActionLinks()</i> on page 1584	Returns SDMOData Link objects that are set as action links (Has semantics (SAP namespace) attribute with value 'action')
public String	<i>getAuthorName()</i> on page 1585	Returns The value of the 'name' SDMOData element of the 'author' SDMOData element.

Modifier and Type	Member	Description
public cacheState	<i>getCacheState()</i> on page 1585	
public Long	<i>getCacheTimestamp()</i> on page 1585	
public String	<i>getCollectionId()</i> on page 1585	Returns the Id of the SDMOCa-ta Collection that this Entry belongs to.
public String	<i>getEtag()</i> on page 1585	Returns the Id of the SDMODa-ta Collection that this Entry belongs to.
public String	<i>getFilterUrl()</i> on page 1585	Returns the full execution URL hat can be used for filtering collection search for this single entry.
public List< ISDMODataProperty >	<i>getGPUseInSearchPropertiesData()</i> on page 1586	Returns the value and meta information (retrieved from SDMOData Schema document) of the properties of this SDMO-Data Entry document with 'true' use-in-search (Generic Player name-space) attribute value.
public List< ISDMODataProperty >	<i>getGPVisibleInDetailPropertiesData()</i> on page 1586	Returns the value and meta information (retrieved from SDMOData Schema document) of the properties of this SDMO-Data Entry document with 'true' visible-in-detail (Generic Player name-space) attribute value.
public List< ISDMODataProperty >	<i>getGPVisibleInListPropertiesData()</i> on page 1586	Returns the value and meta information (retrieved from SDMOData Schema document) of the properties of this SDMO-Data Entry document with 'true' visible-in-list (Generic Player name-space) attribute value.
public List< ISDMODataIcon >	<i>getIcons()</i> on page 1587	Returns the list of the appropriate SDMOData elements.

Modifier and Type	Member	Description
public String	<i>getId()</i> on page 1587	Returns The Id of this SDMO-Data Entry (value of appropriate SDMODData Id element)
public boolean	<i>getIsLocal()</i> on page 1587	
public Map< String, String >	<i>getKeyPropertyValues()</i> on page 1587	Returns the values of the properties that are marked as key properties in the SDMODData Schema document.
public Date	<i>getLastUpdated()</i> on page 1587	Returns The parsed value of the 'updated' SDMODData Element.
public List< ISDMODDataLink >	<i>getLinks()</i> on page 1588	Returns the list of the appropriate SDMODData elements.
public List< ISDMODDataProperty >	<i>getPropertiesData()</i> on page 1588	Returns the value and meta information (retrieved from SDMODData Schema document) of the properties of this SDMO-data Entry document.
public List< ISDMODDataProperty >	<i>getPropertiesDataWithAttribute(String, String)</i> on page 1588	Returns the value and meta information (retrieved from SDMODData Schema document) of the properties of this SDMO-Data Entry document with the given attribute value.
public List< ISDMODDataProperty >	<i>getPropertiesDataWithAttribute(String, String, boolean)</i> on page 1588	Returns the value and meta information (retrieved from SDMODData Schema document) of the properties of this SDMO-Data Entry document with the given attribute value.
public ISDMParserDocument	<i>getPropertiesDocument()</i> on page 1589	Returns the representer document of SDMODData 'properties' (Metadata name-space) document This method is created for performance reasons mostly to use in search methods.
public String	<i>getPropertyValue(String...)</i> on page 1589	Returns the value of the appropriate property.

Modifier and Type	Member	Description
public < T > T	<i>getPropertyValueParsed(String...)</i> on page 1590	Returns the value of the appropriate property parsed to it's real type.
public List< String >	<i>getPropertyValues(List&lt; String[]&gt;)</i> on page 1590	Return list of property values for the given property paths.
public Map< String, String >	<i>getPropertyValues()</i> on page 1591	Returns the all the values of properties contained by this SDMODData Entry document Key for the properties will be their name of their full path in case they are enclosed by Complex Types.
public List< ISDMODDataLink >	<i>getRelatedDataLinks()</i> on page 1591	Returns SDMODData Link objects that represents links to Related Data.
public List< ISDMODDataProperty >	<i>getSAPSearchablePropertiesData()</i> on page 1591	Returns the value and meta information (retrieved from SDMODData Schema document) of the properties of this SDMODData Entry document with 'true' searchable (SAP name-space) attribute value.
public ISDMODDataSchema	<i>getSchema()</i> on page 1591	Returns the appropriate SDMODData Schema object.
public ISDMODDataLink	<i>getSelfLink()</i> on page 1592	Returns SDMSDMODData Link object that should be used for self related operations (with 'rel' attribute value 'self' or 'edit')
public ISDMODDataLink	<i>getSubscriptionLink()</i> on page 1592	Returns SDMODData Link object that should be used for subscription or null if there is no subscription link defined.
public String	<i>getSummary()</i> on page 1592	Returns The value of the appropriate SDMODData element.
public String	<i>getTitle()</i> on page 1592	Returns The value of the appropriate SDMODData element.

Modifier and Type	Member	Description
protected static boolean	<i>isLocalEntry</i> on page 1598	
protected JsonObject	<i>jsonObject</i> on page 1598	JSON related variables
protected void	<i>materialize()</i> on page 1592	
protected static final int	<i>NOT_TESTED</i> on page 1598	
protected void	<i>parseCollectionId()</i> on page 1593	
protected long	<i>parseEdmTime(String)</i> on page 1593	
public void	<i>putComplexPropertyValue(String, String...)</i> on page 1593	Puts the new property element as a sub-element of the 'complex properties' SDMOData element.
public void	<i>putDocument(ISDMParseDocument, String...)</i> on page 1593	Insert the document under the element with the given route inserted document will be placed before already existing documents with the same route name under All missing elements from the route will be created.
public void	<i>putId(String)</i> on page 1594	Sets id of this SDMOData Entry document (value of appropriate SDMOData Id element)
protected String	<i>resolveTargetCollection(ISDMODataLink)</i> on page 1595	
protected ISDMODataSchema	<i>schema</i> on page 1598	
public	<i>SDMODataEntry()</i> on page 1583	
public	<i>SDMODataEntry(boolean)</i> on page 1583	
protected	<i>SDMODataEntry(int[], String[])</i> on page 1584	
public	<i>SDMODataEntry(ISDMODataSchema)</i> on page 1583	

Modifier and Type	Member	Description
public	<i>SDMODDataEntry(SDMParserDocument)</i> on page 1583	
public	<i>SDMODDataEntry(SDMParserDocument, ISDMODDataSchema)</i> on page 1583	
public	<i>SDMODDataEntry(JsonObject)</i> on page 1584	Json Related
public void	<i>setAuthorName(String)</i> on page 1595	Sets the value of the 'name' SDMODData element of the 'author' SDMODData element.
public void	<i>setCachestate(cache.State)</i> on page 1595	
public void	<i>setCacheTimestamp(Long)</i> on page 1595	
public void	<i>setIsLocal(boolean)</i> on page 1596	
public void	<i>setSummary(String)</i> on page 1596	Sets the value of the appropriate SDMODData element.
public void	<i>setTitle(String)</i> on page 1596	Sets the value of the appropriate SDMODData element.
protected static final int	<i>TRUE</i> on page 1598	

#### Inherited members from SDMParserDocument

Modifier and Type	Member	Description
static transient final String	<i>ANY_STRING</i> on page 1953	
static transient final int	<i>ATTRIBUTE_ID</i> on page 1953	
static transient final String	<i>ATTRIBUTE_STRING</i> on page 1954	
public SDMParserDocument	<i>clone()</i> on page 1936	Creates a copy of this object.
protected Map< String, String >	<i>extensions</i> on page 1954	

Modifier and Type	Member	Description
public String	<i>getAttribute(String...)</i> on page 1936	Returns the value of the first attribute with the given route.
public List< String >	<i>getAttributes(String...)</i> on page 1937	Returns all the values of attributes with the given route.
protected int	<i>getAttributesEndPosition(int[], int, int)</i> on page 1937	
public Map< String, String >	<i>getChildAttributeMap(String...)</i> on page 1937	Returns all the name-value pairs of attributes contained by the element with the given route.
public List< String >	<i>getChildAttributes(String...)</i> on page 1938	Returns all the values of attributes contained by the element with the given route.
public List< ISDMParserDocument >	<i>getChildDocuments(String...)</i> on page 1938	Returns the elements contained by the element with the given route.
public List< ISDMParserDocument >	<i>getChildDocumentsWithAttribute(String, String, String...)</i> on page 1938	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public List< ISDMParserDocument >	<i>getChildDocumentsWithAttribute(String, String, boolean, String...)</i> on page 1939	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public SDMParserDocument	<i>getDocument(String...)</i> on page 1939	Returns the first element with the given route.
protected List< int[] >	<i>getDocumentPositions(String[], int, boolean, boolean)</i> on page 1940	
public List< ISDMParserDocument >	<i>getDocuments(String...)</i> on page 1940	Returns all the elements with the given route.
public List< ISDMParserDocument >	<i>getDocumentsWithAttribute(String, String, String...)</i> on page 1940	Returns the elements with the given route that contains the given attribute with the given value.



Modifier and Type	Member	Description
public List< ISDMParserDocument >	<i>getDocumentsWithAttribute(String, String, boolean, String...)</i> on page 1941	Returns the elements with the given route that contains the given attribute with the given value.
public ISDMParserDocument	<i>getDocumentWithAttribute(String, String, String...)</i> on page 1941	Returns the first element with the given route that contains the given attribute with the given value.
public ISDMParserDocument	<i>getDocumentWithAttribute(String, String, boolean, String...)</i> on page 1942	Returns the first element with the given route that contains the given attribute with the given value.
public String	<i>getElementName()</i> on page 1942	Returns The name of the root element of this document.
public String	<i>getExtension(String)</i> on page 1943	
public String	<i>getFunctionImportComplexPropertyValue(String...)</i> on page 1943	
static int	<i>getNameId(String, boolean, boolean)</i> on page 1943	
public static List< String >	<i>getNameMap()</i> on page 1943	
public static String	<i>getPrefix(String)</i> on page 1943	
public String	<i>getPrefixForUri(String)</i> on page 1943	Returns the appropriate namespace prefix for the given XML name-space URI.
public static Map< String, String >	<i>getPrefixMapping()</i> on page 1944	
protected List< Integer >	<i>getStringPositions(String[], int, boolean, boolean)</i> on page 1944	
public String[]	<i>getStrings()</i> on page 1944	Returns all the string values contained by this document.

Modifier and Type	Member	Description
public String	<i>getValue(String...)</i> on page 1944	Returns the value of the first element with the given route.
public List< String >	<i>getValues(String...)</i> on page 1944	Returns all the values of elements with the given route.
protected int[]	<i>insertRoutePositions(int[], int, int[])</i> on page 1945	
protected void	<i>insertRoutesPositions(int, int[])</i> on page 1945	
protected void	<i>insertStringsPositions(int, String[])</i> on page 1945	
protected String[]	<i>insertStringsPositions(String[], int, String[])</i> on page 1945	
boolean	<i>isComplexEntity</i> on page 1954	
boolean	<i>isJson</i> on page 1954	
protected boolean	<i>isMatched(String, String)</i> on page 1945	
static transient List< String >	<i>nameMap</i> on page 1954	
static transient Map< String, String >	<i>prefixMapping</i> on page 1954	
public void	<i>putAttribute(String, String...)</i> on page 1946	Sets the value of the attribute with the given route. If attribute does not exist it will be created as well as all other non existing elements in the route.
public void	<i>putExtension(String, String)</i> on page 1946	
protected void	<i>putString(int, String, int, String...)</i> on page 1947	
public void	<i>putValue(String, String...)</i> on page 1947	Sets the value of the first element with the given route.
public static void	<i>readNameMap(BufferedReader)</i> on page 1947	

Modifier and Type	Member	Description
public boolean	<i>removeAttribute(String...)</i> on page 1948	Removes first element with the given route.
public boolean	<i>removeAttributes(String...)</i> on page 1948	Removes all the attribute with the given route.
public boolean	<i>removeDocument(String...)</i> on page 1948	Removes first element with the given route For removing multiple element use setDocuemtns with null arguments.
public void	<i>removeExtension(String)</i> on page 1948	
protected void	<i>removeRoutesPositions(int, int)</i> on page 1949	
protected int[]	<i>removeRoutesPositions(int[], int, int)</i> on page 1949	
protected boolean	<i>removeString(String...)</i> on page 1949	
protected boolean	<i>removeStrings(String...)</i> on page 1949	
protected void	<i>removeStringsPositions(int, int)</i> on page 1949	
protected String[]	<i>removeStringsPositions(String[], int, int)</i> on page 1949	
protected int	<i>replaceRoutesPositions(int, int, int[])</i> on page 1949	
protected int[]	<i>replaceRoutesPositions(int[], int, int, int[])</i> on page 1950	
protected int	<i>replaceStringsPositions(int, int, String[])</i> on page 1950	
protected String[]	<i>replaceStringsPositions(String[], int, int, String[])</i> on page 1950	
public static String	<i>resolveUrl(String, String)</i> on page 1950	

Modifier and Type	Member	Description
protected int[]	<i>routes</i> on page 1954	
	<i>SDMParserDocument()</i> on page 1935	
	<i>SDMParserDocument(boolean)</i> on page 1936	
public	<i>SDMParserDocument(String)</i> on page 1935	
public	<i>SDMParserDocument(SDMParserDocument)</i> on page 1935	
protected	<i>SDMParserDocument(int[], String[])</i> on page 1936	
protected	<i>SDMParserDocument(String, boolean)</i> on page 1936	
public void	<i>setAttribute(String, String...)</i> on page 1950	
public void	<i>setAttributes(List&lt;String&gt;, String...)</i> on page 1950	Sets all the values of the attributes with the given route Values will be paired to attributes in order Attributes with greater or equals index than size of new values will be untouched Attributes paired with null values will be removed.
public boolean	<i>setDocument(ISDMParserDocument, String...)</i> on page 1951	
public void	<i>setDocuments(List&lt;ISDMParserDocument&gt;, String...)</i> on page 1951	Replaces all the elements with the given route Documents will be paired to elements in order Elements with greater or equals index than size of new elements will be untouched Element paired with null will be removed.

Modifier and Type	Member	Description
public void	<i>setElementName(String, String...)</i> on page 1951	Sets the name of the root element with the given route Use empty route for setting root name of this document.
public static void	<i>setNameMap(List&lt;String &gt;)</i> on page 1952	
public static void	<i>setPrefixMapping(Map&lt;String, String &gt;)</i> on page 1952	
protected void	<i>setString(String, String...)</i> on page 1952	
protected void	<i>setStrings(List&lt;String &gt;, String...)</i> on page 1952	
public void	<i>setValue(String, String...)</i> on page 1952	
public void	<i>setValues(List&lt;String &gt;, String...)</i> on page 1952	Sets all the values of the elements with the given rout Values will be paired to elements in order Elements with greater or equals index than size of new values will be untouched Null values will be treated as empty strings.
protected String[]	<i>strings</i> on page 1954	
public String	<i>toXMLString()</i> on page 1953	Returns the XML string representation of this object.
protected static final String	<i>URL_PROTOCOL_PREFIX</i> on page 1955	
static transient final int	<i>VALUE_ID</i> on page 1955	
static transient final String	<i>VALUE_STRING</i> on page 1955	
public static void	<i>writeNameMap(BufferedWriter)</i> on page 1953	

### Inherited members from ISDMParserDocument

Modifier and Type	Member	Description
public static final String	<i>ATTRIBUTE_ETAG</i> on page 1329	Name of the appropriate SDMOData element.
public static final String	<i>ATTRIBUTE_VALUEPREFIX_EDMTYPE</i> on page 1329	Value prefix for EDM Type type values.
public static Map< String, String >	<i>DEFAULT_PREFIXMAPPING</i> on page 1329	The default XML Namespace-to-Prefix mapping used for building XMLS.
public static final String[]	<i>EDMDATETIME_PATTERNS</i> on page 1329	Possible EDM DateTime patterns Note: Some pattern are not supported by OData specification but still widely used.
public static final String[]	<i>EDMDATETIMEOFFSET_PATTERNS</i> on page 1329	Possible EDM TimeOffset patterns Note: Some pattern are not supported by OData specification but still widely used.
public static final String	<i>EDMTIME_PATTERN</i> on page 1329	EDM Time pattern.
public static String	<i>ELEMENT_FEED</i> on page 1329	Name of the appropriate SDMOData element.
public static final String	<i>ELEMENT_ID</i> on page 1330	Name of the appropriate SDMOData element.
public static final String	<i>ROOT_DOCUMENT_NAME</i> on page 1330	The default root element name for a new document.
public static final String	<i>XMLNS_APPLICATION_URI</i> on page 1330	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/08/dataservices">http://schemas.microsoft.com/ado/2007/08/dataservices</a> .
public static final String	<i>XMLNS_ATOM_URI</i> on page 1330	Constant for XMLNS URI: <a href="http://www.w3.org/2005/Atom">http://www.w3.org/2005/Atom</a> .
public static final String	<i>XMLNS_DATASERVICES_URI</i> on page 1330	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/08/dataservices">http://schemas.microsoft.com/ado/2007/08/dataservices</a> .
public static final String	<i>XMLNS_EDM_URI</i> on page 1330	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/05/edm">http://schemas.microsoft.com/ado/2007/05/edm</a> .

Modifier and Type	Member	Description
public static final String	<i>XMLNS_EDMX_URI</i> on page 1330	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/06/edmx">http://schemas.microsoft.com/ado/2007/06/edmx</a> .
public static final String	<i>XMLNS_GENERICPLAYER_URI</i> on page 1331	Constant for XMLNS URI: <a href="http://www.sap.com/Protocols/SAPData/GenericPlayer">http://www.sap.com/Protocols/SAPData/GenericPlayer</a> .
public static final String	<i>XMLNS_METADATA_URI</i> on page 1331	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/08/dataservices/metadata">http://schemas.microsoft.com/ado/2007/08/dataservices/metadata</a> .
public static final String	<i>XMLNS_SAP_URI</i> on page 1331	Constant for XMLNS URI: <a href="http://www.sap.com/Protocols/SAPData">http://www.sap.com/Protocols/SAPData</a> .

#### Inherited members from ISDMPersistable

Modifier and Type	Member	Description
public void	<i>read(BufferedReader)</i> on page 1332	
public void	<i>write(BufferedWriter)</i> on page 1332	

#### Inherited members from ISDMODataEntry

Modifier and Type	Member	Description
public static final String	<i>ATTRIBUTE_SEMANTICS</i> on page 1168	Name of the appropriate SDMODData attribute.
public static final String	<i>ATTRIBUTE_TERM</i> on page 1169	Name of the appropriate SDMODData attribute.
public static final String	<i>ATTRIBUTE_VALUE_SEMANTICS_ACTION</i> on page 1169	Value option for appropriate SDMODData attribute.
public static final String	<i>ELEMENT_AUTHOR</i> on page 1169	Name of the appropriate SDMODData element.
public static final String	<i>ELEMENT_CATEGORY</i> on page 1169	Name of the appropriate SDMODData element.

Modifier and Type	Member	Description
public static final String	<i>ELEMENT_CONTENT</i> on page 1169	Name of the appropriate SDMOData element.
public static final String	<i>ELEMENT_ENTRY</i> on page 1169	Name of the appropriate SDMOData element.
public static final String	<i>ELEMENT_LINK</i> on page 1169	Name of the appropriate SDMOData element.
public static final String	<i>ELEMENT_NAME</i> on page 1170	Name of the appropriate SDMOData element.
public static final String	<i>ELEMENT_PROPERTIES</i> on page 1170	Name of the appropriate SDMOData element.
public static final String	<i>ELEMENT_SUMMARY</i> on page 1170	Name of the appropriate SDMOData element.
public static final String	<i>ELEMENT_TITLE</i> on page 1170	Name of the appropriate SDMOData element.
public static final String	<i>ELEMENT_UPDATED</i> on page 1170	Name of the appropriate SDMOData element.
public static final String	<i>PROPERTY_LEVEL_SEPARATOR</i> on page 1170	
public void	<i>setCacheState(cacheState)</i> on page 1167	

#### Inherited members from ISDMParserDocument

Modifier and Type	Member	Description
public static final String	<i>ATTRIBUTE_ETAG</i> on page 1329	Name of the appropriate SDMOData element.
public static final String	<i>ATTRIBUTE_VALUEPREFIX_EDMTYPE</i> on page 1329	Value prefix for EDM Type type values.
public abstract ISDMParserDocument	<i>clone()</i> on page 1317	Creates a copy of this object.
public static Map< String, String >	<i>DEFAULT_PREFIXMAPPING</i> on page 1329	The default XML Namespace-to-Prefix mapping used for building XMLS.



Modifier and Type	Member	Description
public static final String[]	<i>EDMDATETIME_PATTERNS</i> on page 1329	Possible EDM DateTime patterns Note: Some pattern are not supported by OData specification but still widely used.
public static final String[]	<i>EDMDATETIMEOFFSET_PATTERNS</i> on page 1329	Possible EDM TimeOffset patterns Note: Some pattern are not supported by OData specification but still widely used.
public static final String	<i>EDMTIME_PATTERN</i> on page 1329	EDM Time pattern.
public static String	<i>ELEMENT_FEED</i> on page 1329	Name of the appropriate SDMOData element.
public static final String	<i>ELEMENT_ID</i> on page 1330	Name of the appropriate SDMOData element.
public abstract String	<i>getAttribute(String...)</i> on page 1317	Returns the value of the first attribute with the given route.
public abstract List< String >	<i>getAttributes(String...)</i> on page 1317	Returns all the values of attributes with the given route.
public abstract Map< String, String >	<i>getChildAttributeMap(String...)</i> on page 1318	Returns all the name-value pairs of attributes contained by the element with the given route.
public abstract List< String >	<i>getChildAttributes(String...)</i> on page 1318	Returns all the values of attributes contained by the element with the given route.
public abstract List< ISDMParserDocument >	<i>getChildDocuments(String...)</i> on page 1318	Returns the elements contained by the element with the given route.
public abstract List< ISDMParserDocument >	<i>getChildDocumentsWithAttribute(String, String, String...)</i> on page 1319	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public abstract List< ISDMParserDocument >	<i>getChildDocumentsWithAttribute(String, String, boolean, String...)</i> on page 1319	Returns the elements contained by the element with the given route and having the given attribute with the given value.

Modifier and Type	Member	Description
public abstract ISDMParseDocument	<i>getDocument(String...)</i> on page 1320	Returns the first element with the given route.
public abstract List< ISDMParseDocument >	<i>getDocuments(String...)</i> on page 1320	Returns all the elements with the given route.
public abstract List< ISDMParseDocument >	<i>getDocumentsWithAttribute(String, String, String...)</i> on page 1321	Returns the elements with the given route that contains the given attribute with the given value.
public abstract List< ISDMParseDocument >	<i>getDocumentsWithAttribute(String, String, boolean, String...)</i> on page 1321	Returns the elements with the given route that contains the given attribute with the given value.
public abstract ISDMParseDocument	<i>getDocumentWithAttribute(String, String, String...)</i> on page 1322	Returns the first element with the given route that contains the given attribute with the given value.
public abstract ISDMParseDocument	<i>getDocumentWithAttribute(String, String, boolean, String...)</i> on page 1322	Returns the first element with the given route that contains the given attribute with the given value.
public abstract String	<i>getElementName()</i> on page 1323	Returns The name of the root element of this document.
public abstract String	<i>getFunctionImportComplexPropertyValue(String...)</i> on page 1323	
public abstract String	<i>getPrefixForUri(String)</i> on page 1323	Returns the appropriate namespace prefix for the given XML name-space URI.
public abstract String[]	<i>getStrings()</i> on page 1324	Returns all the string values contained by this document.
public abstract String	<i>getValue(String...)</i> on page 1324	Returns the value of the first element with the given route.
public abstract List< String >	<i>getValues(String...)</i> on page 1324	Returns all the values of elements with the given route.

Modifier and Type	Member	Description
public abstract void	<i>putAttribute(String, String...)</i> on page 1325	Sets the value of the attribute with the given route. If attribute does not exist it will be created as well as all other non existing elements in the route.
public abstract void	<i>putDocument(ISDMParseDocument, String...)</i> on page 1325	Insert the document under the element with the given route. Inserted document will be placed before already existing documents with the same route name under. All missing elements from the route will be created.
public abstract void	<i>putValue(String, String...)</i> on page 1325	Sets the value of the first element with the given route.
public abstract boolean	<i>removeAttribute(String...)</i> on page 1326	Removes first element with the given route.
public abstract boolean	<i>removeAttributes(String...)</i> on page 1326	Removes all the attribute with the given route.
public abstract boolean	<i>removeDocument(String...)</i> on page 1326	Removes first element with the given route. For removing multiple element use <code>setDocuments</code> with null arguments.
public static final String	<i>ROOT_DOCUMENT_NAME</i> on page 1330	The default root element name for a new document.
public abstract void	<i>setAttributes(List&lt;String&gt;, String...)</i> on page 1327	Sets all the values of the attributes with the given route. Values will be paired to attributes in order. Attributes with greater or equals index than size of new values will be untouched. Attributes paired with null values will be removed.

Modifier and Type	Member	Description
public abstract void	<i>setDocuments(List&lt; ISDMParserDocument &gt;, String...)</i> on page 1327	Replaces all the elements with the given route Documents will be paired to elements in order Elements with greater or equals index than size of new elements will be untouched Element paired with null will be removed.
public abstract void	<i>setElementName(String, String...)</i> on page 1328	Sets the name of the root element with the given route Use empty route for setting root name of this document.
public abstract void	<i>setValues(List&lt; String &gt;, String...)</i> on page 1328	Sets all the values of the elements with the given route Values will be paired to elements in order Elements with greater or equals index than size of new values will be untouched Null values will be treated as empty strings.
public abstract String	<i>toXMLString()</i> on page 1328	Returns the XML string representation of this object.
public static final String	<i>XMLNS_APPLICATION_URI</i> on page 1330	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/08/dataservices">http://schemas.microsoft.com/ado/2007/08/dataservices</a> .
public static final String	<i>XMLNS_ATOM_URI</i> on page 1330	Constant for XMLNS URI: <a href="http://www.w3.org/2005/Atom">http://www.w3.org/2005/Atom</a> .
public static final String	<i>XMLNS_DATASERVICES_URI</i> on page 1330	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/08/dataservices">http://schemas.microsoft.com/ado/2007/08/dataservices</a> .
public static final String	<i>XMLNS_EDM_URI</i> on page 1330	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/05/edm">http://schemas.microsoft.com/ado/2007/05/edm</a> .
public static final String	<i>XMLNS_EDMX_URI</i> on page 1330	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/06/edmx">http://schemas.microsoft.com/ado/2007/06/edmx</a> .

Modifier and Type	Member	Description
public static final String	<i>XMLNS_GENERICPLAYER_URI</i> on page 1331	Constant for XMLNS URI: <a href="http://www.sap.com/Protocols/SAPData/GenericPlayer">http://www.sap.com/Protocols/SAPData/GenericPlayer</a> .
public static final String	<i>XMLNS_METADATA_URI</i> on page 1331	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/08/dataservices/metadata">http://schemas.microsoft.com/ado/2007/08/dataservices/metadata</a> .
public static final String	<i>XMLNS_SAP_URI</i> on page 1331	Constant for XMLNS URI: <a href="http://www.sap.com/Protocols/SAPData">http://www.sap.com/Protocols/SAPData</a> .

#### Inherited members from ISDMPersistable

Modifier and Type	Member	Description
public void	<i>read(BufferedReader)</i> on page 1332	
public void	<i>write(BufferedWriter)</i> on page 1332	

#### Inherited members from ISDMODataEntry

Modifier and Type	Member	Description
public static final String	<i>ATTRIBUTE_SEMANTICS</i> on page 1168	Name of the appropriate SDMODData attribute.
public static final String	<i>ATTRIBUTE_TERM</i> on page 1169	Name of the appropriate SDMODData attribute.
public static final String	<i>ATTRIBUTE_VALUE_SEMANTICS_ACTION</i> on page 1169	Value option for appropriate SDMODData attribute.
public static final String	<i>ELEMENT_AUTHOR</i> on page 1169	Name of the appropriate SDMODData element.
public static final String	<i>ELEMENT_CATEGORY</i> on page 1169	Name of the appropriate SDMODData element.
public static final String	<i>ELEMENT_CONTENT</i> on page 1169	Name of the appropriate SDMODData element.

Modifier and Type	Member	Description
public static final String	<i>ELEMENT_ENTRY</i> on page 1169	Name of the appropriate SDMOData element.
public static final String	<i>ELEMENT_LINK</i> on page 1169	Name of the appropriate SDMOData element.
public static final String	<i>ELEMENT_NAME</i> on page 1170	Name of the appropriate SDMOData element.
public static final String	<i>ELEMENT_PROPERTIES</i> on page 1170	Name of the appropriate SDMOData element.
public static final String	<i>ELEMENT_SUMMARY</i> on page 1170	Name of the appropriate SDMOData element.
public static final String	<i>ELEMENT_TITLE</i> on page 1170	Name of the appropriate SDMOData element.
public static final String	<i>ELEMENT_UPDATED</i> on page 1170	Name of the appropriate SDMOData element.
public static final String	<i>PROPERTY_LEVEL_SEPARATOR</i> on page 1170	
public void	<i>setCachestate(cacheState)</i> on page 1167	

#### Inherited members from ISDMParserDocument

Modifier and Type	Member	Description
public static final String	<i>ATTRIBUTE_ETAG</i> on page 1329	Name of the appropriate SDMOData element.
public static final String	<i>ATTRIBUTE_VALUEPREFIX_EDMTYPE</i> on page 1329	Value prefix for EDM Type type values.
public abstract ISDMParserDocument	<i>clone()</i> on page 1317	Creates a copy of this object.
public static Map< String, String >	<i>DEFAULT_PREFIXMAPPING</i> on page 1329	The default XML Namespace-to-Prefix mapping used for building XMLS.
public static final String[]	<i>EDMDATETIME_PATTERNS</i> on page 1329	Possible EDM DateTime patterns Note: Some pattern are not supported by OData specification but still widely used.

Modifier and Type	Member	Description
public static final String[]	<i>EDMDATETIMEOFFSET_PATTERNS</i> on page 1329	Possible EDM TimeOffset patterns Note: Some pattern are not supported by OData specification but still widely used.
public static final String	<i>EDMTIME_PATTERN</i> on page 1329	EDM Time pattern.
public static String	<i>ELEMENT_FEED</i> on page 1329	Name of the appropriate SDMOData element.
public static final String	<i>ELEMENT_ID</i> on page 1330	Name of the appropriate SDMOData element.
public abstract String	<i>getAttribute(String...)</i> on page 1317	Returns the value of the first attribute with the given route.
public abstract List< String >	<i>getAttributes(String...)</i> on page 1317	Returns all the values of attributes with the given route.
public abstract Map< String, String >	<i>getChildAttributeMap(String...)</i> on page 1318	Returns all the name-value pairs of attributes contained by the element with the given route.
public abstract List< String >	<i>getChildAttributes(String...)</i> on page 1318	Returns all the values of attributes contained by the element with the given route.
public abstract List< ISDMParseDocument >	<i>getChildDocuments(String...)</i> on page 1318	Returns the elements contained by the element with the given route.
public abstract List< ISDMParseDocument >	<i>getChildDocumentsWithAttribute(String, String, String...)</i> on page 1319	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public abstract List< ISDMParseDocument >	<i>getChildDocumentsWithAttribute(String, String, boolean, String...)</i> on page 1319	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public abstract ISDMParseDocument	<i>getDocument(String...)</i> on page 1320	Returns the first element with the given route.
public abstract List< ISDMParseDocument >	<i>getDocuments(String...)</i> on page 1320	Returns all the elements with the given route.

Modifier and Type	Member	Description
public abstract List< ISDMParseDocument >	<i>getDocumentsWithAttribute(String, String, String...)</i> on page 1321	Returns the elements with the given route that contains the given attribute with the given value.
public abstract List< ISDMParseDocument >	<i>getDocumentsWithAttribute(String, String, boolean, String...)</i> on page 1321	Returns the elements with the given route that contains the given attribute with the given value.
public abstract ISDMParseDocument	<i>getDocumentWithAttribute(String, String, String...)</i> on page 1322	Returns the first element with the given route that contains the given attribute with the given value.
public abstract ISDMParseDocument	<i>getDocumentWithAttribute(String, String, boolean, String...)</i> on page 1322	Returns the first element with the given route that contains the given attribute with the given value.
public abstract String	<i>getElementName()</i> on page 1323	Returns The name of the root element of this document.
public abstract String	<i>getFunctionImportComplexPropertyValue(String...)</i> on page 1323	
public abstract String	<i>getPrefixForUri(String)</i> on page 1323	Returns the appropriate namespace prefix for the given XML name-space URI.
public abstract String[]	<i>getStrings()</i> on page 1324	Returns all the string values contained by this document.
public abstract String	<i>getValue(String...)</i> on page 1324	Returns the value of the first element with the given route.
public abstract List< String >	<i>getValues(String...)</i> on page 1324	Returns all the values of elements with the given route.
public abstract void	<i>putAttribute(String, String...)</i> on page 1325	Sets the value of the attribute with the given route If attribute does not exist it will be created as well as all other non existing elements in the route.



Modifier and Type	Member	Description
public abstract void	<i>putDocument(ISDMParseDocument, String...)</i> on page 1325	Insert the document under the element with the given route inserted document will be placed before already existing documents with the same route name under All missing elements from the route will be created.
public abstract void	<i>putValue(String, String...)</i> on page 1325	Sets the value of the first element with the given route.
public abstract boolean	<i>removeAttribute(String...)</i> on page 1326	Removes first element with the given route.
public abstract boolean	<i>removeAttributes(String...)</i> on page 1326	Removes all the attribute with the given route.
public abstract boolean	<i>removeDocument(String...)</i> on page 1326	Removes first element with the given route For removing multiple element use setDocuemtns with null arguments.
public static final String	<i>ROOT_DOCUMENT_NAME</i> on page 1330	The default root element name for a new document.
public abstract void	<i>setAttributes(List&lt;String&gt;, String...)</i> on page 1327	Sets all the values of the attributes with the given route Values will be paired to attributes in order Attributes with greater or equals index than size of new values will be untouched Attributes paired with null values will be removed.
public abstract void	<i>setDocuments(List&lt;ISDMParseDocument&gt;, String...)</i> on page 1327	Replaces all the elements with the given route Documents will be paired to elements in order Elements with greater or equals index than size of new elements will be untouched Element paired with null will be removed.

Modifier and Type	Member	Description
public abstract void	<i>setElementName(String, String...)</i> on page 1328	Sets the name of the root element with the given route Use empty route for setting root name of this document.
public abstract void	<i>setValues(List&lt; String &gt;, String...)</i> on page 1328	Sets all the values of the elements with the given rout Values will be paired to elements in order Elements with greater or equals index than size of new values will be untouched Null values will be treated as empty strings.
public abstract String	<i>toXMLString()</i> on page 1328	Returns the XML string representation of this object.
public static final String	<i>XMLNS_APPLICATION_URI</i> on page 1330	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/08/dataservices">http://schemas.microsoft.com/ado/2007/08/dataservices</a> .
public static final String	<i>XMLNS_ATOM_URI</i> on page 1330	Constant for XMLNS URI: <a href="http://www.w3.org/2005/Atom">http://www.w3.org/2005/Atom</a> .
public static final String	<i>XMLNS_DATASERVICES_URI</i> on page 1330	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/08/dataservices">http://schemas.microsoft.com/ado/2007/08/dataservices</a> .
public static final String	<i>XMLNS_EDM_URI</i> on page 1330	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/05/edm">http://schemas.microsoft.com/ado/2007/05/edm</a> .
public static final String	<i>XMLNS_EDMX_URI</i> on page 1330	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/06/edmx">http://schemas.microsoft.com/ado/2007/06/edmx</a> .
public static final String	<i>XMLNS_GENERICPLAYER_URI</i> on page 1331	Constant for XMLNS URI: <a href="http://www.sap.com/Protocols/SAPData/GenericPlayer">http://www.sap.com/Protocols/SAPData/GenericPlayer</a> .
public static final String	<i>XMLNS_METADATA_URI</i> on page 1331	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/08/dataservices/metadata">http://schemas.microsoft.com/ado/2007/08/dataservices/metadata</a> .

Modifier and Type	Member	Description
public static final String	<i>XMLNS_SAP_URI</i> on page 1331	Constant for XMLNS URI: <a href="http://www.sap.com/Protocols/SAPData">http://www.sap.com/Protocols/SAPData</a> .

#### Inherited members from ISDMPersistable

Modifier and Type	Member	Description
public void	<i>read(BufferedReader)</i> on page 1332	
public void	<i>write(BufferedWriter)</i> on page 1332	

#### *SDMODataReturnEntry(boolean) constructor*

##### Syntax

```
public SDMODataReturnEntry ( boolean isComplex )
```

#### *SDMODataReturnEntry(SDMParserDocument, ISDMODataFunctionImport, ISDMODataSchema, boolean) constructor*

##### Syntax

```
public SDMODataReturnEntry ( SDMParserDocument document ,  
ISDMODataFunctionImport functionImport , ISDMODataSchema schema ,  
boolean isComplex )
```

#### *putPropertyValue(String, String) method*

Puts the new property element as a sub-element of the 'properties' SDMOData element.

##### Syntax

```
public void putPropertyValue ( String propertyName , String  
propertyValue )
```

##### Parameters

- **propertyName** – The name of the property with or without name-space.
- **propertyValue** – The value of the property

##### Usage

An element with the same name will be overwritten by the new element. Not-prefixed property name will be automatically prefixed with the current prefix of DataServices XML name-space.

### *putPropertyValue(String, String, boolean) method*

Puts the new property element as a sub-element of the 'properties' SDMOData element.

#### *Syntax*

```
public void putPropertyValue ( String propertyName , String  
propertyValue , boolean useDefaultPrefix )
```

#### *Parameters*

- **useDefaultPrefix** – If true not-prefixed property name will be automatically prefixed with the current prefix of DataServices XML names-pace.
- **propertyName** – The name of the property with or without name-space.
- **propertyValue** – The value of the property

#### *Usage*

An element with the same name will be overwritten by the new element.

If name of the property is not prefixed and useDefaultPreix is false, name of the property should be prefixed by the caller. (Use getPrefix for get the valid prefix for a name-space URI)

### *read(BufferedReader) method*

#### *Syntax*

```
public void read ( BufferedReader reader ) throws  
SDMPersistenceException
```

#### *Parameters*

- **reader** – The buffered reader to read the object from.

#### *Exceptions*

- **SDMPersistenceException** – if data can not be loaded from the reader.

### *setCollectionId(String) method*

Maintains the Id of the SDMOCata Collection that this Entry belongs to.

#### *Syntax*

```
public void setCollectionId ( String collectionId )
```

#### *Parameters*

- **collectionId** – The Id of the SDMOCata Collection that this Entry belongs to

*setSchema(ISDMODataSchema) method*

Maintains the reference to the appropriate SDMOData Schema object.

*Syntax*

```
public void setSchema ( ISDMODataSchema schema )
```

*Parameters*

- **schema** – The appropriate SDMOData Schema object.

*write(BufferedWriter) method**Syntax*

```
public void write ( BufferedWriter writer ) throws  
SDMPersistenceException
```

*Parameters*

- **writer** – The buffered writer that object data needs to be written into.

*Exceptions*

- **SDMPersistenceException** – if data can not be written into the writer

*SDM\_RETURNTYPE\_COLLECTION variable**Syntax*

```
protected static final String SDM_RETURNTYPE_COLLECTION
```

*SDMODataReturnEntry.SDMODataReturnSchema class*

Deprecated. since 3.0, Use

com.sap.mobile.lib.request.ODataReturnEntry.ODataReturnSchema

*Syntax*

```
protected class SDMODataReturnSchema extends SDMODataSchema,  
ISDMLocalSchema
```

*Members*

All members of SDMODataReturnSchema, including inherited members. **Variables**

Modifier and Type	Variable	Description
protected SDMODataComplexType	<i>complexType</i> on page 1787	

Modifier and Type	Variable	Description
protected List< ISDMODDataProperty >	<i>referenceProperties</i> on page 1787	

### Constructors

Modifier and Type	Constructor	Description
public	<i>SDMODDataReturnSchema()</i> on page 1786	
public	<i>SDMODDataReturnSchema(List&lt; ISDMODDataProperty &gt;)</i> on page 1786	
public	<i>SDMODDataReturnSchema(List&lt; ISDMODDataProperty &gt;, SDMODDataComplexType)</i> on page 1786	

### Methods

Modifier and Type	Method	Description
public void	<i>addProperty(ISDMODDataProperty)</i> on page 1786	
public SDMODDataComplexType	<i>getComplexType(String)</i> on page 1786	
public SDMODDataEntityType	<i>getEntityTypeForCollection(String)</i> on page 1787	
public void	<i>read(BufferedReader)</i> on page 1787	
public void	<i>write(BufferedWriter)</i> on page 1787	

### Inherited members from SDMODDataSchema

Modifier and Type	Member	Description
public SDMODDataAssociation	<i>getAssociation(String)</i> on page 1820	Returns the appropriate SDMO-Data Association element with the given relationship attribute.

Modifier and Type	Member	Description
public List< ISDMODataAssociation >	<i>getAssociations()</i> on page 1820	Returns the list of the appropriate SDMODData elements.
public SDMODDataAssociationSet	<i>getAssociationSet(String)</i> on page 1820	Returns the appropriate AssociationSet with for given association.
public List< ISDMODataAssociationSet >	<i>getAssociationSets()</i> on page 1821	Returns the list of the appropriate SDMODData elements.
public List< ISDMODataComplexType >	<i>getComplexTypes()</i> on page 1821	Returns The list of the appropriate SDMODData element.
public SDMODDataEntitySet	<i>getEntitySet(String)</i> on page 1821	Returns The appropriate SDMODData EntitySet.
public SDMODDataEntityType	<i>getEntityType(String)</i> on page 1822	Returns The 'EntityType' SDMODData element associated with the reference argument.
public List< ISDMODataFunctionImport >	<i>getFunctionImports()</i> on page 1822	Returns The list of the 'FunctionImport' SDMODData element.
public List< ISDMODataFunctionImport >	<i>getFunctionImportsForCollection(String)</i> on page 1823	Returns List of FunctionImports valid for the appropriate collection.
public ISDMODataServiceDocument	<i>getServiceDocument()</i> on page 1823	Returns the appropriate SDMODData Service Document.
public String	<i>getTargetCollectionIdForNavigationProperty(String, String)</i> on page 1823	Resolves the target collection Id of the given SDMODData Navigation Property element.
public	<i>SDMODDataSchema()</i> on page 1820	
protected	<i>SDMODDataSchema(int[], String[])</i> on page 1820	
public	<i>SDMODDataSchema(SDMParserDocument)</i> on page 1820	
protected ISDMODataServiceDocument	<i>serviceDocument</i> on page 1824	

Modifier and Type	Member	Description
public void	<i>setServiceDocument(ISDMO-DataServiceDocument)</i> on page 1824	Maintains reference to the appropriate SDMOData Service Document.

**Inherited members from SDMParserDocument**

Modifier and Type	Member	Description
static transient final String	<i>ANY_STRING</i> on page 1953	
static transient final int	<i>ATTRIBUTE_ID</i> on page 1953	
static transient final String	<i>ATTRIBUTE_STRING</i> on page 1954	
public SDMParserDocument	<i>clone()</i> on page 1936	Creates a copy of this object.
protected Map< String, String >	<i>extensions</i> on page 1954	
public String	<i>getAttribute(String...)</i> on page 1936	Returns the value of the first attribute with the given route.
public List< String >	<i>getAttributes(String...)</i> on page 1937	Returns all the values of attributes with the given route.
protected int	<i>getAttributesEndPosition(int[], int, int)</i> on page 1937	
public Map< String, String >	<i>getChildAttributeMap(String...)</i> on page 1937	Returns all the name-value pairs of attributes contained by the element with the given route.
public List< String >	<i>getChildAttributes(String...)</i> on page 1938	Returns all the values of attributes contained by the element with the given route.
public List< ISDMParserDocument >	<i>getChildDocuments(String...)</i> on page 1938	Returns the elements contained by the element with the given route.
public List< ISDMParserDocument >	<i>getChildDocumentsWithAttribute(String, String, String...)</i> on page 1938	Returns the elements contained by the element with the given route and having the given attribute with the given value.



Modifier and Type	Member	Description
public List< ISDMParserDocument >	<i>getChildDocumentsWithAttribute(String, String, boolean, String...)</i> on page 1939	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public SDMParserDocument	<i>getDocument(String...)</i> on page 1939	Returns the first element with the given route.
protected List< int[] >	<i>getDocumentPositions(String[], int, boolean, boolean)</i> on page 1940	
public List< ISDMParserDocument >	<i>getDocuments(String...)</i> on page 1940	Returns all the elements with the given route.
public List< ISDMParserDocument >	<i>getDocumentsWithAttribute(String, String, String...)</i> on page 1940	Returns the elements with the given route that contains the given attribute with the given value.
public List< ISDMParserDocument >	<i>getDocumentsWithAttribute(String, String, boolean, String...)</i> on page 1941	Returns the elements with the given route that contains the given attribute with the given value.
public ISDMParserDocument	<i>getDocumentWithAttribute(String, String, String...)</i> on page 1941	Returns the first element with the given route that contains the given attribute with the given value.
public ISDMParserDocument	<i>getDocumentWithAttribute(String, String, boolean, String...)</i> on page 1942	Returns the first element with the given route that contains the given attribute with the given value.
public String	<i>getElementName()</i> on page 1942	Returns The name of the root element of this document.
public String	<i>getExtension(String)</i> on page 1943	
public String	<i>getFunctionImportComplexPropertyValue(String...)</i> on page 1943	

Modifier and Type	Member	Description
static int	<i>getNameId(String, boolean, boolean)</i> on page 1943	
public static List< String >	<i>getNameMap()</i> on page 1943	
public static String	<i>getPrefix(String)</i> on page 1943	
public String	<i>getPrefixForUri(String)</i> on page 1943	Returns the appropriate name-space prefix for the given XML name-space URI.
public static Map< String, String >	<i>getPrefixMapping()</i> on page 1944	
protected List< Integer >	<i>getStringPositions(String[], int, boolean, boolean)</i> on page 1944	
public String[]	<i>getStrings()</i> on page 1944	Returns all the string values contained by this document.
public String	<i>getValue(String...)</i> on page 1944	Returns the value of the first element with the given route.
public List< String >	<i>getValues(String...)</i> on page 1944	Returns all the values of elements with the given route.
protected int[]	<i>insertRoutePositions(int[], int, int[])</i> on page 1945	
protected void	<i>insertRoutesPositions(int, int[])</i> on page 1945	
protected void	<i>insertStringsPositions(int, String[])</i> on page 1945	
protected String[]	<i>insertStringsPositions(String[], int, String[])</i> on page 1945	
boolean	<i>isComplexEntity</i> on page 1954	
boolean	<i>isJson</i> on page 1954	
protected boolean	<i>isMatched(String, String)</i> on page 1945	

Modifier and Type	Member	Description
static transient List< String >	<i>nameMap</i> on page 1954	
static transient Map< String, String >	<i>prefixMapping</i> on page 1954	
public void	<i>putAttribute(String, String...)</i> on page 1946	Sets the value of the attribute with the given route If attribute does not exist it will be created as well as all other non existing elements in the route.
public void	<i>putDocument(ISDMParseDocument, String...)</i> on page 1946	Insert the document under the element with the given route inserted document will be placed before already existing documents with the same route name under All missing elements from the route will be created.
public void	<i>putExtension(String, String)</i> on page 1946	
protected void	<i>putString(int, String, int, String...)</i> on page 1947	
public void	<i>putValue(String, String...)</i> on page 1947	Sets the value of the first element with the given route.
public void	<i>read(BufferedReader)</i> on page 1947	
public static void	<i>readNameMap(BufferedReader)</i> on page 1947	
public boolean	<i>removeAttribute(String...)</i> on page 1948	Removes first element with the given route.
public boolean	<i>removeAttributes(String...)</i> on page 1948	Removes all the attribute with the given route.
public boolean	<i>removeDocument(String...)</i> on page 1948	Removes first element with the given route For removing multiple element use setDocuemtns with null arguments.
public void	<i>removeExtension(String)</i> on page 1948	

Modifier and Type	Member	Description
protected void	<i>removeRoutesPositions(int, int)</i> on page 1949	
protected int[]	<i>removeRoutesPositions(int[], int, int)</i> on page 1949	
protected boolean	<i>removeString(String...)</i> on page 1949	
protected boolean	<i>removeStrings(String...)</i> on page 1949	
protected void	<i>removeStringsPositions(int, int)</i> on page 1949	
protected String[]	<i>removeStringsPositions(String[], int, int)</i> on page 1949	
protected int	<i>replaceRoutesPositions(int, int, int[])</i> on page 1949	
protected int[]	<i>replaceRoutesPositions(int[], int, int, int[])</i> on page 1950	
protected int	<i>replaceStringsPositions(int, int, String[])</i> on page 1950	
protected String[]	<i>replaceStringsPositions(String[], int, int, String[])</i> on page 1950	
public static String	<i>resolveUrl(String, String)</i> on page 1950	
protected int[]	<i>routes</i> on page 1954	
	<i>SDMParserDocument()</i> on page 1935	
	<i>SDMParserDocument(boolean)</i> on page 1936	
public	<i>SDMParserDocument(String)</i> on page 1935	

Modifier and Type	Member	Description
public	<i>SDMParserDocument(SDMParserDocument)</i> on page 1935	
protected	<i>SDMParserDocument(int[], String[])</i> on page 1936	
protected	<i>SDMParserDocument(String, boolean)</i> on page 1936	
public void	<i>setAttribute(String, String...)</i> on page 1950	
public void	<i>setAttributes(List&lt;String&gt;, String...)</i> on page 1950	Sets all the values of the attributes with the given route Values will be paired to attributes in order Attributes with greater or equals index than size of new values will be untouched Attributes paired with null values will be removed.
public boolean	<i>setDocument(ISDMParserDocument, String...)</i> on page 1951	
public void	<i>setDocuments(List&lt;ISDMParserDocument&gt;, String...)</i> on page 1951	Replaces all the elements with the given route Documents will be paired to elements in order Elements with greater or equals index than size of new elements will be untouched Element paired with null will be removed.
public void	<i>setElementName(String, String...)</i> on page 1951	Sets the name of the root element with the given route Use empty route for setting root name of this document.
public static void	<i>setNameMap(List&lt;String&gt;)</i> on page 1952	
public static void	<i>setPrefixMapping(Map&lt;String, String&gt;)</i> on page 1952	

Modifier and Type	Member	Description
protected void	<i>setString(String, String...)</i> on page 1952	
protected void	<i>setStrings(List&lt; String &gt;, String...)</i> on page 1952	
public void	<i>setValue(String, String...)</i> on page 1952	
public void	<i>setValues(List&lt; String &gt;, String...)</i> on page 1952	Sets all the values of the elements with the given route values will be paired to elements in order Elements with greater or equals index than size of new values will be untouched Null values will be treated as empty strings.
protected String[]	<i>strings</i> on page 1954	
public String	<i>toXMLString()</i> on page 1953	Returns the XML string representation of this object.
protected static final String	<i>URL_PROTOCOL_PREFIX</i> on page 1955	
static transient final int	<i>VALUE_ID</i> on page 1955	
static transient final String	<i>VALUE_STRING</i> on page 1955	
public void	<i>write(BufferedWriter)</i> on page 1953	
public static void	<i>writeNameMap(BufferedWriter)</i> on page 1953	

#### Inherited members from ISDMParserDocument

Modifier and Type	Member	Description
public static final String	<i>ATTRIBUTE_ETAG</i> on page 1329	Name of the appropriate SDMOData element.
public static final String	<i>ATTRIBUTE_VALUEPREFIX_EDMTYPE</i> on page 1329	Value prefix for EDM Type type values.

Modifier and Type	Member	Description
public static Map< String, String >	<i>DEFAULT_PREFIXMAP-PING</i> on page 1329	The default XML Namespace-to-Prefix mapping used for building XMLS.
public static final String[]	<i>EDMDATETIME_PATTERNS</i> on page 1329	Possible EDM DateTime patterns Note: Some pattern are not supported by OData specification but still widely used.
public static final String[]	<i>EDMDATETIMEOFFSET_PATTERNS</i> on page 1329	Possible EDM TimeOffset patterns Note: Some pattern are not supported by OData specification but still widely used.
public static final String	<i>EDMTIME_PATTERN</i> on page 1329	EDM Time pattern.
public static String	<i>ELEMENT_FEED</i> on page 1329	Name of the appropriate SDMOData element.
public static final String	<i>ELEMENT_ID</i> on page 1330	Name of the appropriate SDMOData element.
public static final String	<i>ROOT_DOCUMENT_NAME</i> on page 1330	The default root element name for a new document.
public static final String	<i>XMLNS_APPLICATION_URI</i> on page 1330	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/08/dataservices">http://schemas.microsoft.com/ado/2007/08/dataservices</a> .
public static final String	<i>XMLNS_ATOM_URI</i> on page 1330	Constant for XMLNS URI: <a href="http://www.w3.org/2005/Atom">http://www.w3.org/2005/Atom</a> .
public static final String	<i>XMLNS_DATASERVICES_URI</i> on page 1330	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/08/dataservices">http://schemas.microsoft.com/ado/2007/08/dataservices</a> .
public static final String	<i>XMLNS_EDM_URI</i> on page 1330	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/05/edm">http://schemas.microsoft.com/ado/2007/05/edm</a> .
public static final String	<i>XMLNS_EDMX_URI</i> on page 1330	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/06/edmx">http://schemas.microsoft.com/ado/2007/06/edmx</a> .

Modifier and Type	Member	Description
public static final String	<i>XMLNS_GENERICPLAYER_URI</i> on page 1331	Constant for XMLNS URI: <a href="http://www.sap.com/Protocols/SAPData/GenericPlayer">http://www.sap.com/Protocols/SAPData/GenericPlayer</a> .
public static final String	<i>XMLNS_METADATA_URI</i> on page 1331	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/08/dataservices/metadata">http://schemas.microsoft.com/ado/2007/08/dataservices/metadata</a> .
public static final String	<i>XMLNS_SAP_URI</i> on page 1331	Constant for XMLNS URI: <a href="http://www.sap.com/Protocols/SAPData">http://www.sap.com/Protocols/SAPData</a> .

#### Inherited members from ISDMPersistable

Modifier and Type	Member	Description
public void	<i>read(BufferedReader)</i> on page 1332	
public void	<i>write(BufferedWriter)</i> on page 1332	

#### Inherited members from ISDMODataSchema

Modifier and Type	Member	Description
public static final String	<i>ACTION_FOR</i> on page 1258	name of the appropriate SDMO-data attribute
public static final String	<i>ATTRIBUTE_ENTITYSET</i> on page 1259	Name of the appropriate SDMODData attribute.
public static final String	<i>ATTRIBUTE_ENTITYTYPE</i> on page 1259	Name of the appropriate SDMODData attribute.
public static final String	<i>ATTRIBUTE_NAME</i> on page 1259	Name of the appropriate SDMODData attribute.
public static final String	<i>ATTRIBUTE_NAMESPACE</i> on page 1259	Name of the appropriate SDMODData attribute.
public static final String	<i>ELEMENT_COMPLEXTYPE</i> on page 1259	Name of the appropriate SDMODData element.
public static final String	<i>ELEMENT_DATASERVICES</i> on page 1259	Name of the appropriate SDMODData element.



Modifier and Type	Member	Description
public static final String	<i>ELEMENT_EDMX</i> on page 1259	Name of the appropriate SDMOData element.
public static final String	<i>ELEMENT_ENTITYCONTAINER</i> on page 1260	Name of the appropriate SDMOData element.
public static final String	<i>ELEMENT_ENTITYSET</i> on page 1260	Name of the appropriate SDMOData element.
public static final String	<i>ELEMENT_ENTITYTYPE</i> on page 1260	Name of the appropriate SDMOData element.
public static final String	<i>ELEMENT_FUNCTIONALIMPORT</i> on page 1260	Name of the appropriate SDMOData element.
public static final String	<i>ELEMENT_SCHEMA</i> on page 1260	Name of the appropriate SDMOData element.

#### Inherited members from ISDMParserDocument

Modifier and Type	Member	Description
public static final String	<i>ATTRIBUTE_ETAG</i> on page 1329	Name of the appropriate SDMOData element.
public static final String	<i>ATTRIBUTE_VALUEPREFIX_EDMTYPE</i> on page 1329	Value prefix for EDM Type type values.
public abstract ISDMParserDocument	<i>clone()</i> on page 1317	Creates a copy of this object.
public static Map< String, String >	<i>DEFAULT_PREFIXMAPPING</i> on page 1329	The default XML Namespace-to-Prefix mapping used for building XMLS.
public static final String[]	<i>EDMDATETIME_PATTERNS</i> on page 1329	Possible EDM DateTime patterns Note: Some pattern are not supported by OData specification but still widely used.
public static final String[]	<i>EDMDATETIMEOFFSET_PATTERNS</i> on page 1329	Possible EDM DateTimeOffset patterns Note: Some pattern are not supported by OData specification but still widely used.
public static final String	<i>EDMTIME_PATTERN</i> on page 1329	EDM Time pattern.

Modifier and Type	Member	Description
public static String	<i>ELEMENT_FEED</i> on page 1329	Name of the appropriate SDMOData element.
public static final String	<i>ELEMENT_ID</i> on page 1330	Name of the appropriate SDMOData element.
public abstract String	<i>getAttribute(String...)</i> on page 1317	Returns the value of the first attribute with the given route.
public abstract List< String >	<i>getAttributes(String...)</i> on page 1317	Returns all the values of attributes with the given route.
public abstract Map< String, String >	<i>getChildAttributeMap(String...)</i> on page 1318	Returns all the name-value pairs of attributes contained by the element with the given route.
public abstract List< String >	<i>getChildAttributes(String...)</i> on page 1318	Returns all the values of attributes contained by the element with the given route.
public abstract List< ISDMParseDocument >	<i>getChildDocuments(String...)</i> on page 1318	Returns the elements contained by the element with the given route.
public abstract List< ISDMParseDocument >	<i>getChildDocumentsWithAttribute(String, String, String...)</i> on page 1319	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public abstract List< ISDMParseDocument >	<i>getChildDocumentsWithAttribute(String, String, boolean, String...)</i> on page 1319	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public abstract ISDMParseDocument	<i>getDocument(String...)</i> on page 1320	Returns the first element with the given route.
public abstract List< ISDMParseDocument >	<i>getDocuments(String...)</i> on page 1320	Returns all the elements with the given route.
public abstract List< ISDMParseDocument >	<i>getDocumentsWithAttribute(String, String, String...)</i> on page 1321	Returns the elements with the given route that contains the given attribute with the given value.

Modifier and Type	Member	Description
public abstract List< ISDMParseDocument >	<i>getDocumentsWithAttribute(String, String, boolean, String...)</i> on page 1321	Returns the elements with the given route that contains the given attribute with the given value.
public abstract ISDMParseDocument	<i>getDocumentWithAttribute(String, String, String...)</i> on page 1322	Returns the first element with the given route that contains the given attribute with the given value.
public abstract ISDMParseDocument	<i>getDocumentWithAttribute(String, String, boolean, String...)</i> on page 1322	Returns the first element with the given route that contains the given attribute with the given value.
public abstract String	<i>getElementName()</i> on page 1323	Returns The name of the root element of this document.
public abstract String	<i>getFunctionImportComplexPropertyValue(String...)</i> on page 1323	
public abstract String	<i>getPrefixForUri(String)</i> on page 1323	Returns the appropriate namespace prefix for the given XML name-space URI.
public abstract String[]	<i>getStrings()</i> on page 1324	Returns all the string values contained by this document.
public abstract String	<i>getValue(String...)</i> on page 1324	Returns the value of the first element with the given route.
public abstract List< String >	<i>getValues(String...)</i> on page 1324	Returns all the values of elements with the given route.
public abstract void	<i>putAttribute(String, String...)</i> on page 1325	Sets the value of the attribute with the given route If attribute does not exist it will be created as well as all other non existing elements in the route.

Modifier and Type	Member	Description
public abstract void	<i>putDocument(ISDMParseDocument, String...)</i> on page 1325	Insert the document under the element with the given route inserted document will be placed before already existing documents with the same route name under All missing elements from the route will be created.
public abstract void	<i>putValue(String, String...)</i> on page 1325	Sets the value of the first element with the given route.
public abstract boolean	<i>removeAttribute(String...)</i> on page 1326	Removes first element with the given route.
public abstract boolean	<i>removeAttributes(String...)</i> on page 1326	Removes all the attribute with the given route.
public abstract boolean	<i>removeDocument(String...)</i> on page 1326	Removes first element with the given route For removing multiple element use setDocuemtns with null arguments.
public static final String	<i>ROOT_DOCUMENT_NAME</i> on page 1330	The default root element name for a new document.
public abstract void	<i>setAttributes(List&lt;String&gt;, String...)</i> on page 1327	Sets all the values of the attributes with the given route Values will be paired to attributes in order Attributes with greater or equals index than size of new values will be untouched Attributes paired with null values will be removed.
public abstract void	<i>setDocuments(List&lt;ISDMParseDocument&gt;, String...)</i> on page 1327	Replaces all the elements with the given route Documents will be paired to elements in order Elements with greater or equals index than size of new elements will be untouched Element paired with null will be removed.

Modifier and Type	Member	Description
public abstract void	<i>setElementName(String, String...)</i> on page 1328	Sets the name of the root element with the given route Use empty route for setting root name of this document.
public abstract void	<i>setValues(List&lt; String &gt;, String...)</i> on page 1328	Sets all the values of the elements with the given rout Values will be paired to elements in order Elements with greater or equals index than size of new values will be untouched Null values will be treated as empty strings.
public abstract String	<i>toXMLString()</i> on page 1328	Returns the XML string representation of this object.
public static final String	<i>XMLNS_APPLICATION_URI</i> on page 1330	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/08/dataservices">http://schemas.microsoft.com/ado/2007/08/dataservices</a> .
public static final String	<i>XMLNS_ATOM_URI</i> on page 1330	Constant for XMLNS URI: <a href="http://www.w3.org/2005/Atom">http://www.w3.org/2005/Atom</a> .
public static final String	<i>XMLNS_DATASERVICES_URI</i> on page 1330	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/08/dataservices">http://schemas.microsoft.com/ado/2007/08/dataservices</a> .
public static final String	<i>XMLNS_EDM_URI</i> on page 1330	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/05/edm">http://schemas.microsoft.com/ado/2007/05/edm</a> .
public static final String	<i>XMLNS_EDMX_URI</i> on page 1330	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/06/edmx">http://schemas.microsoft.com/ado/2007/06/edmx</a> .
public static final String	<i>XMLNS_GENERICPLAYER_URI</i> on page 1331	Constant for XMLNS URI: <a href="http://www.sap.com/Protocols/SAPData/GenericPlayer">http://www.sap.com/Protocols/SAPData/GenericPlayer</a> .
public static final String	<i>XMLNS_METADATA_URI</i> on page 1331	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/08/dataservices/metadata">http://schemas.microsoft.com/ado/2007/08/dataservices/metadata</a> .

Modifier and Type	Member	Description
public static final String	<i>XMLNS_SAP_URI</i> on page 1331	Constant for XMLNS URI: <a href="http://www.sap.com/Protocols/SAPData">http://www.sap.com/Protocols/SAPData</a> .

**Inherited members from ISDMPersistable**

Modifier and Type	Member	Description
public void	<i>read(BufferedReader)</i> on page 1332	
public void	<i>write(BufferedWriter)</i> on page 1332	

*SDMODataReturnSchema()* constructor*Syntax*

```
public SDMODataReturnSchema ( )
```

*SDMODataReturnSchema(List< ISDMODataProperty >)* constructor*Syntax*

```
public SDMODataReturnSchema ( List< ISDMODataProperty >
referenceProperties )
```

*SDMODataReturnSchema(List< ISDMODataProperty >, SDMODataComplexType)* constructor*Syntax*

```
public SDMODataReturnSchema ( List< ISDMODataProperty >
referenceProperties , SDMODataComplexType complexType )
```

*addProperty(ISDMODataProperty)* method*Syntax*

```
public void addProperty ( ISDMODataProperty property )
```

*getComplexType(String)* method*Syntax*

```
public SDMODataComplexType getComplexType ( String
complexTypeReference )
```

*getEntityTypeForCollection(String) method**Syntax*

```
public SDMODataEntityType getEntityTypeForCollection ( String
collectionId )
```

*read(BufferedReader) method**Syntax*

```
public void read ( BufferedReader reader ) throws
SDMPersistenceException
```

*write(BufferedWriter) method**Syntax*

```
public void write ( BufferedWriter writer ) throws
SDMPersistenceException
```

*complexType variable**Syntax*

```
protected SDMODataComplexType complexType
```

*referenceProperties variable**Syntax*

```
protected List< ISDMODataProperty > referenceProperties
```

*SDMODataReturnTypeInfo.SDMODataReturnSchema.SDMODataReturnEntityType class*

Deprecated. since 3.0, Use

com.sap.mobile.lib.request.ODataReturnTypeInfo.ODataReturnSchema.ODataReturnEntityType

*Syntax*

```
protected class SDMODataReturnEntityType extends
SDMODataEntityType
```

*Members*

All members of SDMODataReturnEntityType, including inherited members. **Variables**

Modifier and Type	Variable	Description
protected List< ISDMODDataProperty >	<i>referenceProperties</i> on page 1804	

### Constructors

Modifier and Type	Constructor	Description
public	<i>SDMODDataReturnEntityType(List&lt; ISDMODDataProperty &gt;)</i> on page 1803	

### Methods

Modifier and Type	Method	Description
public List< ISDMODDataProperty >	<i>getProperties()</i> on page 1803	

### Inherited members from SDMODDataEntityType

Modifier and Type	Member	Description
public List< ISDMODDataProperty >	<i>getGPUUseInSearchPropertiesData()</i> on page 1558	Returns The list of appropriate SDMODData elements with 'true' use-in-search (Generic Player names-pace) attribute value.
public List< ISDMODDataProperty >	<i>getGPVisibleInDetailPropertiesData()</i> on page 1559	Returns The list of appropriate SDMODData elements with 'true' visible-in-detail (Generic Player names-pace) attribute value.
public List< ISDMODDataProperty >	<i>getGPVisibleInListPropertiesData()</i> on page 1559	Returns The list of appropriate SDMODData elements with 'true' visible-in-list (Generic Player names-pace) attribute value.
public List< String >	<i>getKeyPropertyNames()</i> on page 1559	Returns the list of the values of the 'PropertyRef' SDMODData element contained by the 'Key' SDMODData element.
public String	<i>getName()</i> on page 1559	Returns The value of the appropriate SDMODData attribute.



Modifier and Type	Member	Description
public List< ISDMODataNavigationProperty >	<i>getNavigationProperties()</i> on page 1560	Returns The list of appropriate SDMODData elements.
public ISDMODataNavigationProperty	<i>getNavigationProperty(String)</i> on page 1560	Returns The appropriate SDMODData element with the given name.
public List< ISDMODataProperty >	<i>getPropertiesWithAttribute(String, String)</i> on page 1560	Returns The list of appropriate SDMODData elements with given attribute value.
public List< ISDMODataProperty >	<i>getPropertiesWithAttribute(String, String, boolean)</i> on page 1561	Returns The list of appropriate SDMODData elements with given attribute value.
public ISDMODataProperty	<i>getProperty(String)</i> on page 1561	Returns The appropriate SDMODData element with the given name.
public List< ISDMODataProperty >	<i>getSAPSearchablePropertiesData()</i> on page 1561	Returns The list of appropriate SDMODData elements with 'true' searchable (SAP names-pace) attribute value.
protected ISDMODataSchema	<i>getSchema()</i> on page 1561	
public List< ISDMODataProperty >	<i>getSearchablePropertiesData(String)</i> on page 1562	Returns The list of appropriate SDMODData elements with 'true' attribute value of the given attribute.
public boolean	<i>hasStream()</i> on page 1562	Returns The value of the appropriate SDMODData attribute.
public	<i>SDMODDataEntityType()</i> on page 1558	
protected	<i>SDMODDataEntityType(int[], String[])</i> on page 1558	
public	<i>SDMODDataEntityType(SDMParserDocument)</i> on page 1558	
protected void	<i>setSchema(ISDMODataSchema)</i> on page 1562	

### Inherited members from SDMParserDocument

Modifier and Type	Member	Description
static transient final String	<i>ANY_STRING</i> on page 1953	
static transient final int	<i>ATTRIBUTE_ID</i> on page 1953	
static transient final String	<i>ATTRIBUTE_STRING</i> on page 1954	
public SDMParserDocument	<i>clone()</i> on page 1936	Creates a copy of this object.
protected Map< String, String >	<i>extensions</i> on page 1954	
public String	<i>getAttribute(String...)</i> on page 1936	Returns the value of the first attribute with the given route.
public List< String >	<i>getAttributes(String...)</i> on page 1937	Returns all the values of attributes with the given route.
protected int	<i>getAttributesEndPosition(int[], int, int)</i> on page 1937	
public Map< String, String >	<i>getChildAttributeMap(String...)</i> on page 1937	Returns all the name-value pairs of attributes contained by the element with the given route.
public List< String >	<i>getChildAttributes(String...)</i> on page 1938	Returns all the values of attributes contained by the element with the given route.
public List< ISDMParserDocument >	<i>getChildDocuments(String...)</i> on page 1938	Returns the elements contained by the element with the given route.
public List< ISDMParserDocument >	<i>getChildDocumentsWithAttribute(String, String, String...)</i> on page 1938	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public List< ISDMParserDocument >	<i>getChildDocumentsWithAttribute(String, String, boolean, String...)</i> on page 1939	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public SDMParserDocument	<i>getDocument(String...)</i> on page 1939	Returns the first element with the given route.

Modifier and Type	Member	Description
protected List< int[]>	<i>getDocumentPositions(String[], int, boolean, boolean)</i> on page 1940	
public List< ISDMParserDocument >	<i>getDocuments(String...)</i> on page 1940	Returns all the elements with the given route.
public List< ISDMParserDocument >	<i>getDocumentsWithAttribute(String, String, String...)</i> on page 1940	Returns the elements with the given route that contains the given attribute with the given value.
public List< ISDMParserDocument >	<i>getDocumentsWithAttribute(String, String, boolean, String...)</i> on page 1941	Returns the elements with the given route that contains the given attribute with the given value.
public ISDMParserDocument	<i>getDocumentWithAttribute(String, String, String...)</i> on page 1941	Returns the first element with the given route that contains the given attribute with the given value.
public ISDMParserDocument	<i>getDocumentWithAttribute(String, String, boolean, String...)</i> on page 1942	Returns the first element with the given route that contains the given attribute with the given value.
public String	<i>getElementName()</i> on page 1942	Returns The name of the root element of this document.
public String	<i>getExtension(String)</i> on page 1943	
public String	<i>getFunctionImportComplexProperty Value(String...)</i> on page 1943	
static int	<i>getNameId(String, boolean, boolean)</i> on page 1943	
public static List< String >	<i>getNameMap()</i> on page 1943	
public static String	<i>getPrefix(String)</i> on page 1943	

Modifier and Type	Member	Description
public String	<i>getPrefixForUri(String)</i> on page 1943	Returns the appropriate name-space prefix for the given XML name-space URI.
public static Map< String, String >	<i>getPrefixMapping()</i> on page 1944	
protected List< Integer >	<i>getStringPositions(String[], int, boolean, boolean)</i> on page 1944	
public String[]	<i>getStrings()</i> on page 1944	Returns all the string values contained by this document.
public String	<i>getValue(String...)</i> on page 1944	Returns the value of the first element with the given route.
public List< String >	<i>getValues(String...)</i> on page 1944	Returns all the values of elements with the given route.
protected int[]	<i>insertRoutePositions(int[], int, int[])</i> on page 1945	
protected void	<i>insertRoutesPositions(int, int[])</i> on page 1945	
protected void	<i>insertStringsPositions(int, String[])</i> on page 1945	
protected String[]	<i>insertStringsPositions(String[], int, String[])</i> on page 1945	
boolean	<i>isComplexEntity</i> on page 1954	
boolean	<i>isJson</i> on page 1954	
protected boolean	<i>isMatched(String, String)</i> on page 1945	
static transient List< String >	<i>nameMap</i> on page 1954	
static transient Map< String, String >	<i>prefixMapping</i> on page 1954	

Modifier and Type	Member	Description
public void	<i>putAttribute(String, String...)</i> on page 1946	Sets the value of the attribute with the given route. If attribute does not exist it will be created as well as all other non existing elements in the route.
public void	<i>putDocument(ISDMParseDocument, String...)</i> on page 1946	Insert the document under the element with the given route. Inserted document will be placed before already existing documents with the same route name under. All missing elements from the route will be created.
public void	<i>putExtension(String, String)</i> on page 1946	
protected void	<i>putString(int, String, int, String...)</i> on page 1947	
public void	<i>putValue(String, String...)</i> on page 1947	Sets the value of the first element with the given route.
public void	<i>read(BufferedReader)</i> on page 1947	
public static void	<i>readNameMap(BufferedReader)</i> on page 1947	
public boolean	<i>removeAttribute(String...)</i> on page 1948	Removes first element with the given route.
public boolean	<i>removeAttributes(String...)</i> on page 1948	Removes all the attribute with the given route.
public boolean	<i>removeDocument(String...)</i> on page 1948	Removes first element with the given route. For removing multiple element use setDocuments with null arguments.
public void	<i>removeExtension(String)</i> on page 1948	
protected void	<i>removeRoutesPositions(int, int)</i> on page 1949	

Modifier and Type	Member	Description
protected int[]	<i>removeRoutesPositions(int[], int, int)</i> on page 1949	
protected boolean	<i>removeString(String...)</i> on page 1949	
protected boolean	<i>removeStrings(String...)</i> on page 1949	
protected void	<i>removeStringsPositions(int, int)</i> on page 1949	
protected String[]	<i>removeStringsPositions(String[], int, int)</i> on page 1949	
protected int	<i>replaceRoutesPositions(int, int, int[])</i> on page 1949	
protected int[]	<i>replaceRoutesPositions(int[], int, int, int[])</i> on page 1950	
protected int	<i>replaceStringsPositions(int, int, String[])</i> on page 1950	
protected String[]	<i>replaceStringsPositions(String[], int, int, String[])</i> on page 1950	
public static String	<i>resolveUrl(String, String)</i> on page 1950	
protected int[]	<i>routes</i> on page 1954	
	<i>SDMParserDocument()</i> on page 1935	
	<i>SDMParserDocument(boolean)</i> on page 1936	
public	<i>SDMParserDocument(String)</i> on page 1935	
public	<i>SDMParserDocument(SDMParserDocument)</i> on page 1935	

Modifier and Type	Member	Description
protected	<i>SDMParserDocument(int[], String[])</i> on page 1936	
protected	<i>SDMParserDocument(String, boolean)</i> on page 1936	
public void	<i>setAttribute(String, String...)</i> on page 1950	
public void	<i>setAttributes(List&lt;String&gt;, String...)</i> on page 1950	Sets all the values of the attributes with the given route Values will be paired to attributes in order Attributes with greater or equals index than size of new values will be untouched Attributes paired with null values will be removed.
public boolean	<i>setDocument(ISDMParserDocument, String...)</i> on page 1951	
public void	<i>setDocuments(List&lt;ISDMParserDocument&gt;, String...)</i> on page 1951	Replaces all the elements with the given route Documents will be paired to elements in order Elements with greater or equals index than size of new elements will be untouched Element paired with null will be removed.
public void	<i>setElementName(String, String...)</i> on page 1951	Sets the name of the root element with the given route Use empty route for setting root name of this document.
public static void	<i>setNameMap(List&lt;String&gt;)</i> on page 1952	
public static void	<i>setPrefixMapping(Map&lt;String, String&gt;)</i> on page 1952	
protected void	<i>setString(String, String...)</i> on page 1952	

Modifier and Type	Member	Description
protected void	<i>setStrings(List&lt; String &gt;, String...)</i> on page 1952	
public void	<i>setValue(String, String...)</i> on page 1952	
public void	<i>setValues(List&lt; String &gt;, String...)</i> on page 1952	Sets all the values of the elements with the given route Values will be paired to elements in order Elements with greater or equals index than size of new values will be untouched Null values will be treated as empty strings.
protected String[]	<i>strings</i> on page 1954	
public String	<i>toXMLString()</i> on page 1953	Returns the XML string representation of this object.
protected static final String	<i>URL_PROTOCOL_PREFIX</i> on page 1955	
static transient final int	<i>VALUE_ID</i> on page 1955	
static transient final String	<i>VALUE_STRING</i> on page 1955	
public void	<i>write(BufferedWriter)</i> on page 1953	
public static void	<i>writeNameMap(BufferedWriter)</i> on page 1953	

#### Inherited members from ISDMParserDocument

Modifier and Type	Member	Description
public static final String	<i>ATTRIBUTE_ETAG</i> on page 1329	Name of the appropriate SDMOData element.
public static final String	<i>ATTRIBUTE_VALUEPREFIX_EDMTYPE</i> on page 1329	Value prefix for EDM Type type values.
public static Map< String, String >	<i>DEFAULT_PREFIXMAPPING</i> on page 1329	The default XML Namespace-to-Prefix mapping used for building XMLS.



Modifier and Type	Member	Description
public static final String[]	<i>EDMDATETIME_PATTERNS</i> on page 1329	Possible EDM DateTime patterns Note: Some pattern are not supported by OData specification but still widely used.
public static final String[]	<i>EDMDATETIMEOFFSET_PATTERNS</i> on page 1329	Possible EDM TimeOffset patterns Note: Some pattern are not supported by OData specification but still widely used.
public static final String	<i>EDMTIME_PATTERN</i> on page 1329	EDM Time pattern.
public static String	<i>ELEMENT_FEED</i> on page 1329	Name of the appropriate SDMOData element.
public static final String	<i>ELEMENT_ID</i> on page 1330	Name of the appropriate SDMOData element.
public static final String	<i>ROOT_DOCUMENT_NAME</i> on page 1330	The default root element name for a new document.
public static final String	<i>XMLNS_APPLICATION_URI</i> on page 1330	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/08/dataservices">http://schemas.microsoft.com/ado/2007/08/dataservices</a> .
public static final String	<i>XMLNS_ATOM_URI</i> on page 1330	Constant for XMLNS URI: <a href="http://www.w3.org/2005/Atom">http://www.w3.org/2005/Atom</a> .
public static final String	<i>XMLNS_DATASERVICES_URI</i> on page 1330	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/08/dataservices">http://schemas.microsoft.com/ado/2007/08/dataservices</a> .
public static final String	<i>XMLNS_EDM_URI</i> on page 1330	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/05/edm">http://schemas.microsoft.com/ado/2007/05/edm</a> .
public static final String	<i>XMLNS_EDMX_URI</i> on page 1330	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/06/edmx">http://schemas.microsoft.com/ado/2007/06/edmx</a> .
public static final String	<i>XMLNS_GENERICPLAYER_URI</i> on page 1331	Constant for XMLNS URI: <a href="http://www.sap.com/Protocols/SAPData/GenericPlayer">http://www.sap.com/Protocols/SAPData/GenericPlayer</a> .

Modifier and Type	Member	Description
public static final String	<i>XMLNS_METADATA_URI</i> on page 1331	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/08/dataservices/metadata">http://schemas.microsoft.com/ado/2007/08/dataservices/metadata</a> .
public static final String	<i>XMLNS_SAP_URI</i> on page 1331	Constant for XMLNS URI: <a href="http://www.sap.com/Protocols/SAPData">http://www.sap.com/Protocols/SAPData</a> .

**Inherited members from ISDMPersistable**

Modifier and Type	Member	Description
public void	<i>read(BufferedReader)</i> on page 1332	
public void	<i>write(BufferedWriter)</i> on page 1332	

**Inherited members from ISDMODataEntityType**

Modifier and Type	Member	Description
public static final String	<i>ATTRIBUTE_HASSTREAM</i> on page 1146	Name of the appropriate SDMODData attribute.
public static final String	<i>ATTRIBUTE_NAME</i> on page 1146	Name of the appropriate SDMODData attribute.
public static final String	<i>ELEMENT_ENTITYTYPE</i> on page 1146	Name of the appropriate SDMODData element.
public static final String	<i>ELEMENT_KEY</i> on page 1146	Name of the appropriate SDMODData element.
public static final String	<i>ELEMENT_PROPERTY</i> on page 1146	Name of the appropriate SDMODData element.
public static final String	<i>ELEMENT_PROPERTYREF</i> on page 1147	Name of the appropriate SDMODData element.

**Inherited members from ISDMParserDocument**

Modifier and Type	Member	Description
public static final String	<i>ATTRIBUTE_ETAG</i> on page 1329	Name of the appropriate SDMODData element.

Modifier and Type	Member	Description
public static final String	<i>ATTRIBUTE_VALUEPREFIX_EDMTYPE</i> on page 1329	Value prefix for EDM Type type values.
public abstract ISDMParseDocument	<i>clone()</i> on page 1317	Creates a copy of this object.
public static Map< String, String >	<i>DEFAULT_PREFIXMAPPING</i> on page 1329	The default XML Namespace-to-Prefix mapping used for building XMLS.
public static final String[]	<i>EDMDATETIME_PATTERNS</i> on page 1329	Possible EDM DateTime patterns Note: Some pattern are not supported by OData specification but still widely used.
public static final String[]	<i>EDMDATETIMEOFFSET_PATTERNS</i> on page 1329	Possible EDM TimeOffset patterns Note: Some pattern are not supported by OData specification but still widely used.
public static final String	<i>EDMTIME_PATTERN</i> on page 1329	EDM Time pattern.
public static String	<i>ELEMENT_FEED</i> on page 1329	Name of the appropriate SDMOData element.
public static final String	<i>ELEMENT_ID</i> on page 1330	Name of the appropriate SDMOData element.
public abstract String	<i>getAttribute(String...)</i> on page 1317	Returns the value of the first attribute with the given route.
public abstract List< String >	<i>getAttributes(String...)</i> on page 1317	Returns all the values of attributes with the given route.
public abstract Map< String, String >	<i>getChildAttributeMap(String...)</i> on page 1318	Returns all the name-value pairs of attributes contained by the element with the given route.
public abstract List< String >	<i>getChildAttributes(String...)</i> on page 1318	Returns all the values of attributes contained by the element with the given route.
public abstract List< ISDMParseDocument >	<i>getChildDocuments(String...)</i> on page 1318	Returns the elements contained by the element with the given route.

Modifier and Type	Member	Description
public abstract List< ISDMParseDocument >	<i>getChildDocumentsWithAttribute(String, String, String...)</i> on page 1319	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public abstract List< ISDMParseDocument >	<i>getChildDocumentsWithAttribute(String, String, boolean, String...)</i> on page 1319	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public abstract ISDMParseDocument	<i>getDocument(String...)</i> on page 1320	Returns the first element with the given route.
public abstract List< ISDMParseDocument >	<i>getDocuments(String...)</i> on page 1320	Returns all the elements with the given route.
public abstract List< ISDMParseDocument >	<i>getDocumentsWithAttribute(String, String, String...)</i> on page 1321	Returns the elements with the given route that contains the given attribute with the given value.
public abstract List< ISDMParseDocument >	<i>getDocumentsWithAttribute(String, String, boolean, String...)</i> on page 1321	Returns the elements with the given route that contains the given attribute with the given value.
public abstract ISDMParseDocument	<i>getDocumentWithAttribute(String, String, String...)</i> on page 1322	Returns the first element with the given route that contains the given attribute with the given value.
public abstract ISDMParseDocument	<i>getDocumentWithAttribute(String, String, boolean, String...)</i> on page 1322	Returns the first element with the given route that contains the given attribute with the given value.
public abstract String	<i>getElementName()</i> on page 1323	Returns The name of the root element of this document.
public abstract String	<i>getFunctionImportComplexPropertyValue(String...)</i> on page 1323	
public abstract String	<i>getPrefixForUri(String)</i> on page 1323	Returns the appropriate namespace prefix for the given XML name-space URI.

Modifier and Type	Member	Description
public abstract String[]	<i>getStrings()</i> on page 1324	Returns all the string values contained by this document.
public abstract String	<i>getValue(String...)</i> on page 1324	Returns the value of the first element with the given route.
public abstract List< String >	<i>getValues(String...)</i> on page 1324	Returns all the values of elements with the given route.
public abstract void	<i>putAttribute(String, String...)</i> on page 1325	Sets the value of the attribute with the given route If attribute does not exist it will be created as well as all other non existing elements in the route.
public abstract void	<i>putDocument(ISDMParserDocument, String...)</i> on page 1325	Insert the document under the element with the given route inserted document will be placed before already existing documents with the same route name under All missing elements from the route will be created.
public abstract void	<i>putValue(String, String...)</i> on page 1325	Sets the value of the first element with the given route.
public abstract boolean	<i>removeAttribute(String...)</i> on page 1326	Removes first element with the given route.
public abstract boolean	<i>removeAttributes(String...)</i> on page 1326	Removes all the attribute with the given route.
public abstract boolean	<i>removeDocument(String...)</i> on page 1326	Removes first element with the given route For removing multiple element use setDocuemtns with null arguments.
public static final String	<i>ROOT_DOCUMENT_NAME</i> on page 1330	The default root element name for a new document.

Modifier and Type	Member	Description
public abstract void	<i>setAttributes(List&lt; String &gt;, String...)</i> on page 1327	Sets all the values of the attributes with the given route Values will be paired to attributes in order Attributes with greater or equals index than size of new values will be untouched Attributes paired with null values will be removed.
public abstract void	<i>setDocuments(List&lt; ISDMParserDocument &gt;, String...)</i> on page 1327	Replaces all the elements with the given route Documents will be paired to elements in order Elements with greater or equals index than size of new elements will be untouched Element paired with null will be removed.
public abstract void	<i>setElementName(String, String...)</i> on page 1328	Sets the name of the root element with the given route Use empty route for setting root name of this document.
public abstract void	<i>setValues(List&lt; String &gt;, String...)</i> on page 1328	Sets all the values of the elements with the given rout Values will be paired to elements in order Elements with greater or equals index than size of new values will be untouched Null values will be treated as empty strings.
public abstract String	<i>toXMLString()</i> on page 1328	Returns the XML string representation of this object.
public static final String	<i>XMLNS_APPLICATION_URI</i> on page 1330	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/08/dataservices">http://schemas.microsoft.com/ado/2007/08/dataservices</a> .
public static final String	<i>XMLNS_ATOM_URI</i> on page 1330	Constant for XMLNS URI: <a href="http://www.w3.org/2005/Atom">http://www.w3.org/2005/Atom</a> .

Modifier and Type	Member	Description
public static final String	<i>XMLNS_DATASERVICES_URI</i> on page 1330	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/08/dataservices">http://schemas.microsoft.com/ado/2007/08/dataservices</a> .
public static final String	<i>XMLNS_EDM_URI</i> on page 1330	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/05/edm">http://schemas.microsoft.com/ado/2007/05/edm</a> .
public static final String	<i>XMLNS_EDMX_URI</i> on page 1330	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/06/edmx">http://schemas.microsoft.com/ado/2007/06/edmx</a> .
public static final String	<i>XMLNS_GENERICPLAYER_URI</i> on page 1331	Constant for XMLNS URI: <a href="http://www.sap.com/Protocols/SAPData/GenericPlayer">http://www.sap.com/Protocols/SAPData/GenericPlayer</a> .
public static final String	<i>XMLNS_METADATA_URI</i> on page 1331	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/08/dataservices/metadata">http://schemas.microsoft.com/ado/2007/08/dataservices/metadata</a> .
public static final String	<i>XMLNS_SAP_URI</i> on page 1331	Constant for XMLNS URI: <a href="http://www.sap.com/Protocols/SAPData">http://www.sap.com/Protocols/SAPData</a> .

#### Inherited members from ISDMPersistable

Modifier and Type	Member	Description
public void	<i>read(BufferedReader)</i> on page 1332	
public void	<i>write(BufferedWriter)</i> on page 1332	

*SDMODataReturnEntityType*(List< ISDMODataProperty >) constructor

#### Syntax

```
public SDMODataReturnEntityType ( List< ISDMODataProperty >
referenceProperties )
```

*getProperties()* method

#### Syntax

```
public List< ISDMODataProperty > getProperties ()
```

*referenceProperties* variable**Syntax**

```
protected List< ISDMODataProperty > referenceProperties
```

**SDMODataSchema** class

Deprecated. since 3.0, Use ODataSchema

**Syntax**

```
public class SDMODataSchema extends SDMParserDocument,
ISDMODataSchema
```

**Derived classes**

- *SDMODataReturnSchema* on page 1769

**Members**

All members of SDMODataSchema, including inherited members. **Variables**

Modifier and Type	Variable	Description
protected ISDMODataService-Document	<i>serviceDocument</i> on page 1824	

**Constructors**

Modifier and Type	Constructor	Description
public	<i>SDMODataSchema()</i> on page 1820	
public	<i>SDMODataSchema(SDMParserDocument)</i> on page 1820	
protected	<i>SDMODataSchema(int[], String[])</i> on page 1820	

**Methods**

Modifier and Type	Method	Description
public SDMODataAssociation	<i>getAssociation(String)</i> on page 1820	Returns the appropriate SDMO-Data Association element with the given relationship attribute.
public List< ISDMODataAssociation >	<i>getAssociations()</i> on page 1820	Returns the list of the appropriate SDMOData elements.



Modifier and Type	Method	Description
public SDMODataAssociationSet	<i>getAssociationSet(String)</i> on page 1820	Returns the appropriate AssociationSet with for given association.
public List< ISDMODataAssociationSet >	<i>getAssociationSets()</i> on page 1821	Returns the list of the appropriate SDMOData elements.
public SDMODataComplexType	<i>getComplexType(String)</i> on page 1821	Returns The 'ComplexType' SDMOData element associated with the reference.
public List< ISDMODataComplexType >	<i>getComplexTypes()</i> on page 1821	Returns The list of the appropriate SDMOData element.
public SDMODataEntitySet	<i>getEntitySet(String)</i> on page 1821	Returns The appropriate SDMOData EntitySet.
public SDMODataEntityType	<i>getEntityType(String)</i> on page 1822	Returns The 'EntityType' SDMOData element associated with the reference argument.
public SDMODataEntityType	<i>getEntityTypeForCollection(String)</i> on page 1822	Returns the 'EntityType' SDMOData element contained by the 'EntitySet' element that is associated with the collectionId matching.
public List< ISDMODataFunctionImport >	<i>getFunctionImports()</i> on page 1822	Returns The list of the 'FunctionImport' SDMOData element.
public List< ISDMODataFunctionImport >	<i>getFunctionImportsForCollection(String)</i> on page 1823	Returns List of FunctionImports valid for the appropriate collection.
public ISDMODataServiceDocument	<i>getServiceDocument()</i> on page 1823	Returns the appropriate SDMOData Service Document.
public String	<i>getTargetCollectionIdForNavigationProperty(String, String)</i> on page 1823	Resolves the target collection Id of the given SDMOData Navigation Property element.
public void	<i>setServiceDocument(ISDMODataServiceDocument)</i> on page 1824	Maintains reference to the appropriate SDMOData Service Document.

### Inherited members from SDMParserDocument

Modifier and Type	Member	Description
static transient final String	<i>ANY_STRING</i> on page 1953	
static transient final int	<i>ATTRIBUTE_ID</i> on page 1953	
static transient final String	<i>ATTRIBUTE_STRING</i> on page 1954	
public SDMParserDocument	<i>clone()</i> on page 1936	Creates a copy of this object.
protected Map< String, String >	<i>extensions</i> on page 1954	
public String	<i>getAttribute(String...)</i> on page 1936	Returns the value of the first attribute with the given route.
public List< String >	<i>getAttributes(String...)</i> on page 1937	Returns all the values of attributes with the given route.
protected int	<i>getAttributesEndPosition(int[], int, int)</i> on page 1937	
public Map< String, String >	<i>getChildAttributeMap(String...)</i> on page 1937	Returns all the name-value pairs of attributes contained by the element with the given route.
public List< String >	<i>getChildAttributes(String...)</i> on page 1938	Returns all the values of attributes contained by the element with the given route.
public List< ISDMParserDocument >	<i>getChildDocuments(String...)</i> on page 1938	Returns the elements contained by the element with the given route.
public List< ISDMParserDocument >	<i>getChildDocumentsWithAttribute(String, String, String...)</i> on page 1938	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public List< ISDMParserDocument >	<i>getChildDocumentsWithAttribute(String, String, boolean, String...)</i> on page 1939	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public SDMParserDocument	<i>getDocument(String...)</i> on page 1939	Returns the first element with the given route.

Modifier and Type	Member	Description
protected List< int[]>	<i>getDocumentPositions(String[], int, boolean, boolean)</i> on page 1940	
public List< ISDMParseDocument >	<i>getDocuments(String...)</i> on page 1940	Returns all the elements with the given route.
public List< ISDMParseDocument >	<i>getDocumentsWithAttribute(String, String, String...)</i> on page 1940	Returns the elements with the given route that contains the given attribute with the given value.
public List< ISDMParseDocument >	<i>getDocumentsWithAttribute(String, String, boolean, String...)</i> on page 1941	Returns the elements with the given route that contains the given attribute with the given value.
public ISDMParseDocument	<i>getDocumentWithAttribute(String, String, String...)</i> on page 1941	Returns the first element with the given route that contains the given attribute with the given value.
public ISDMParseDocument	<i>getDocumentWithAttribute(String, String, boolean, String...)</i> on page 1942	Returns the first element with the given route that contains the given attribute with the given value.
public String	<i>getElementName()</i> on page 1942	Returns The name of the root element of this document.
public String	<i>getExtension(String)</i> on page 1943	
public String	<i>getFunctionImportComplexProperty Value(String...)</i> on page 1943	
static int	<i>getNameId(String, boolean, boolean)</i> on page 1943	
public static List< String >	<i>getNameMap()</i> on page 1943	
public static String	<i>getPrefix(String)</i> on page 1943	

Modifier and Type	Member	Description
public String	<i>getPrefixForUri(String)</i> on page 1943	Returns the appropriate name-space prefix for the given XML name-space URI.
public static Map< String, String >	<i>getPrefixMapping()</i> on page 1944	
protected List< Integer >	<i>getStringPositions(String[], int, boolean, boolean)</i> on page 1944	
public String[]	<i>getStrings()</i> on page 1944	Returns all the string values contained by this document.
public String	<i>getValue(String...)</i> on page 1944	Returns the value of the first element with the given route.
public List< String >	<i>getValues(String...)</i> on page 1944	Returns all the values of elements with the given route.
protected int[]	<i>insertRoutePositions(int[], int, int[])</i> on page 1945	
protected void	<i>insertRoutesPositions(int, int[])</i> on page 1945	
protected void	<i>insertStringsPositions(int, String[])</i> on page 1945	
protected String[]	<i>insertStringsPositions(String[], int, String[])</i> on page 1945	
boolean	<i>isComplexEntity</i> on page 1954	
boolean	<i>isJson</i> on page 1954	
protected boolean	<i>isMatched(String, String)</i> on page 1945	
static transient List< String >	<i>nameMap</i> on page 1954	
static transient Map< String, String >	<i>prefixMapping</i> on page 1954	

Modifier and Type	Member	Description
public void	<i>putAttribute(String, String...)</i> on page 1946	Sets the value of the attribute with the given route. If attribute does not exist it will be created as well as all other non existing elements in the route.
public void	<i>putDocument(ISDMParseDocument, String...)</i> on page 1946	Insert the document under the element with the given route. Inserted document will be placed before already existing documents with the same route name under. All missing elements from the route will be created.
public void	<i>putExtension(String, String)</i> on page 1946	
protected void	<i>putString(int, String, int, String...)</i> on page 1947	
public void	<i>putValue(String, String...)</i> on page 1947	Sets the value of the first element with the given route.
public void	<i>read(BufferedReader)</i> on page 1947	
public static void	<i>readNameMap(BufferedReader)</i> on page 1947	
public boolean	<i>removeAttribute(String...)</i> on page 1948	Removes first element with the given route.
public boolean	<i>removeAttributes(String...)</i> on page 1948	Removes all the attribute with the given route.
public boolean	<i>removeDocument(String...)</i> on page 1948	Removes first element with the given route. For removing multiple element use setDocuments with null arguments.
public void	<i>removeExtension(String)</i> on page 1948	
protected void	<i>removeRoutesPositions(int, int)</i> on page 1949	

Modifier and Type	Member	Description
protected int[]	<i>removeRoutesPositions(int[], int, int)</i> on page 1949	
protected boolean	<i>removeString(String...)</i> on page 1949	
protected boolean	<i>removeStrings(String...)</i> on page 1949	
protected void	<i>removeStringsPositions(int, int)</i> on page 1949	
protected String[]	<i>removeStringsPositions(String[], int, int)</i> on page 1949	
protected int	<i>replaceRoutesPositions(int, int, int[])</i> on page 1949	
protected int[]	<i>replaceRoutesPositions(int[], int, int, int[])</i> on page 1950	
protected int	<i>replaceStringsPositions(int, int, String[])</i> on page 1950	
protected String[]	<i>replaceStringsPositions(String[], int, int, String[])</i> on page 1950	
public static String	<i>resolveUrl(String, String)</i> on page 1950	
protected int[]	<i>routes</i> on page 1954	
	<i>SDMParserDocument()</i> on page 1935	
	<i>SDMParserDocument(boolean)</i> on page 1936	
public	<i>SDMParserDocument(String)</i> on page 1935	
public	<i>SDMParserDocument(SDMParserDocument)</i> on page 1935	

Modifier and Type	Member	Description
protected	<i>SDMParserDocument(int[], String[])</i> on page 1936	
protected	<i>SDMParserDocument(String, boolean)</i> on page 1936	
public void	<i>setAttribute(String, String...)</i> on page 1950	
public void	<i>setAttributes(List&lt;String&gt;, String...)</i> on page 1950	Sets all the values of the attributes with the given route Values will be paired to attributes in order Attributes with greater or equals index than size of new values will be untouched Attributes paired with null values will be removed.
public boolean	<i>setDocument(ISDMParserDocument, String...)</i> on page 1951	
public void	<i>setDocuments(List&lt;ISDMParserDocument&gt;, String...)</i> on page 1951	Replaces all the elements with the given route Documents will be paired to elements in order Elements with greater or equals index than size of new elements will be untouched Element paired with null will be removed.
public void	<i>setElementName(String, String...)</i> on page 1951	Sets the name of the root element with the given route Use empty route for setting root name of this document.
public static void	<i>setNameMap(List&lt;String&gt;)</i> on page 1952	
public static void	<i>setPrefixMapping(Map&lt;String, String&gt;)</i> on page 1952	
protected void	<i>setString(String, String...)</i> on page 1952	

Modifier and Type	Member	Description
protected void	<i>setStrings(List&lt; String &gt;, String...)</i> on page 1952	
public void	<i>setValue(String, String...)</i> on page 1952	
public void	<i>setValues(List&lt; String &gt;, String...)</i> on page 1952	Sets all the values of the elements with the given route Values will be paired to elements in order Elements with greater or equals index than size of new values will be untouched Null values will be treated as empty strings.
protected String[]	<i>strings</i> on page 1954	
public String	<i>toXMLString()</i> on page 1953	Returns the XML string representation of this object.
protected static final String	<i>URL_PROTOCOL_PREFIX</i> on page 1955	
static transient final int	<i>VALUE_ID</i> on page 1955	
static transient final String	<i>VALUE_STRING</i> on page 1955	
public void	<i>write(BufferedWriter)</i> on page 1953	
public static void	<i>writeNameMap(BufferedWriter)</i> on page 1953	

#### Inherited members from ISDMParserDocument

Modifier and Type	Member	Description
public static final String	<i>ATTRIBUTE_ETAG</i> on page 1329	Name of the appropriate SDMOData element.
public static final String	<i>ATTRIBUTE_VALUEPREFIX_EDMTYPE</i> on page 1329	Value prefix for EDM Type type values.
public static Map< String, String >	<i>DEFAULT_PREFIXMAPPING</i> on page 1329	The default XML Namespace-to-Prefix mapping used for building XMLS.



Modifier and Type	Member	Description
public static final String[]	<i>EDMDATETIME_PATTERNS</i> on page 1329	Possible EDM DateTime patterns Note: Some pattern are not supported by OData specification but still widely used.
public static final String[]	<i>EDMDATETIMEOFFSET_PATTERNS</i> on page 1329	Possible EDM TimeOffset patterns Note: Some pattern are not supported by OData specification but still widely used.
public static final String	<i>EDMTIME_PATTERN</i> on page 1329	EDM Time pattern.
public static String	<i>ELEMENT_FEED</i> on page 1329	Name of the appropriate SDMOData element.
public static final String	<i>ELEMENT_ID</i> on page 1330	Name of the appropriate SDMOData element.
public static final String	<i>ROOT_DOCUMENT_NAME</i> on page 1330	The default root element name for a new document.
public static final String	<i>XMLNS_APPLICATION_URI</i> on page 1330	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/08/dataservices">http://schemas.microsoft.com/ado/2007/08/dataservices</a> .
public static final String	<i>XMLNS_ATOM_URI</i> on page 1330	Constant for XMLNS URI: <a href="http://www.w3.org/2005/Atom">http://www.w3.org/2005/Atom</a> .
public static final String	<i>XMLNS_DATASERVICES_URI</i> on page 1330	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/08/dataservices">http://schemas.microsoft.com/ado/2007/08/dataservices</a> .
public static final String	<i>XMLNS_EDM_URI</i> on page 1330	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/05/edm">http://schemas.microsoft.com/ado/2007/05/edm</a> .
public static final String	<i>XMLNS_EDMX_URI</i> on page 1330	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/06/edmx">http://schemas.microsoft.com/ado/2007/06/edmx</a> .
public static final String	<i>XMLNS_GENERICPLAYER_URI</i> on page 1331	Constant for XMLNS URI: <a href="http://www.sap.com/Protocols/SAPData/GenericPlayer">http://www.sap.com/Protocols/SAPData/GenericPlayer</a> .

Modifier and Type	Member	Description
public static final String	<i>XMLNS_METADATA_URI</i> on page 1331	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/08/dataservices/metadata">http://schemas.microsoft.com/ado/2007/08/dataservices/metadata</a> .
public static final String	<i>XMLNS_SAP_URI</i> on page 1331	Constant for XMLNS URI: <a href="http://www.sap.com/Protocols/SAPData">http://www.sap.com/Protocols/SAPData</a> .

**Inherited members from ISDMPersistable**

Modifier and Type	Member	Description
public void	<i>read(BufferedReader)</i> on page 1332	
public void	<i>write(BufferedWriter)</i> on page 1332	

**Inherited members from ISDMODataSchema**

Modifier and Type	Member	Description
public static final String	<i>ACTION_FOR</i> on page 1258	name of the appropriate SDMO-data attribute
public static final String	<i>ATTRIBUTE_ENTITYSET</i> on page 1259	Name of the appropriate SDMODData attribute.
public static final String	<i>ATTRIBUTE_ENTITYTYPE</i> on page 1259	Name of the appropriate SDMODData attribute.
public static final String	<i>ATTRIBUTE_NAME</i> on page 1259	Name of the appropriate SDMODData attribute.
public static final String	<i>ATTRIBUTE_NAMESPACE</i> on page 1259	Name of the appropriate SDMODData attribute.
public static final String	<i>ELEMENT_COMPLEXTYPE</i> on page 1259	Name of the appropriate SDMODData element.
public static final String	<i>ELEMENT_DATASERVICES</i> on page 1259	Name of the appropriate SDMODData element.
public static final String	<i>ELEMENT_EDMX</i> on page 1259	Name of the appropriate SDMODData element.

Modifier and Type	Member	Description
public static final String	<i>ELEMENT_ENTITYCONTAINER</i> on page 1260	Name of the appropriate SDMOData element.
public static final String	<i>ELEMENT_ENTITYSET</i> on page 1260	Name of the appropriate SDMOData element.
public static final String	<i>ELEMENT_ENTITYTYPE</i> on page 1260	Name of the appropriate SDMOData element.
public static final String	<i>ELEMENT_FUNCTIONALIMPORT</i> on page 1260	Name of the appropriate SDMOData element.
public static final String	<i>ELEMENT_SCHEMA</i> on page 1260	Name of the appropriate SDMOData element.

#### Inherited members from ISDMParserDocument

Modifier and Type	Member	Description
public static final String	<i>ATTRIBUTE_ETAG</i> on page 1329	Name of the appropriate SDMOData element.
public static final String	<i>ATTRIBUTE_VALUEPREFIX_EDMTYPE</i> on page 1329	Value prefix for EDM Type type values.
public abstract ISDMParserDocument	<i>clone()</i> on page 1317	Creates a copy of this object.
public static Map< String, String >	<i>DEFAULT_PREFIXMAPPING</i> on page 1329	The default XML Namespace-to-Prefix mapping used for building XMLS.
public static final String[]	<i>EDMDATETIME_PATTERNS</i> on page 1329	Possible EDM DateTime patterns Note: Some pattern are not supported by OData specification but still widely used.
public static final String[]	<i>EDMDATETIMEOFFSET_PATTERNS</i> on page 1329	Possible EDM TimeOffset patterns Note: Some pattern are not supported by OData specification but still widely used.
public static final String	<i>EDMTIME_PATTERN</i> on page 1329	EDM Time pattern.
public static String	<i>ELEMENT_FEED</i> on page 1329	Name of the appropriate SDMOData element.

Modifier and Type	Member	Description
public static final String	<i>ELEMENT_ID</i> on page 1330	Name of the appropriate SDMOData element.
public abstract String	<i>getAttribute(String...)</i> on page 1317	Returns the value of the first attribute with the given route.
public abstract List< String >	<i>getAttributes(String...)</i> on page 1317	Returns all the values of attributes with the given route.
public abstract Map< String, String >	<i>getChildAttribute-Map(String...)</i> on page 1318	Returns all the name-value pairs of attributes contained by the element with the given route.
public abstract List< String >	<i>getChildAttributes(String...)</i> on page 1318	Returns all the values of attributes contained by the element with the given route.
public abstract List< ISDMParseDocument >	<i>getChildDocuments(String...)</i> on page 1318	Returns the elements contained by the element with the given route.
public abstract List< ISDMParseDocument >	<i>getChildDocumentsWithAttribute(String, String, String...)</i> on page 1319	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public abstract List< ISDMParseDocument >	<i>getChildDocumentsWithAttribute(String, String, boolean, String...)</i> on page 1319	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public abstract ISDMParseDocument	<i>getDocument(String...)</i> on page 1320	Returns the first element with the given route.
public abstract List< ISDMParseDocument >	<i>getDocuments(String...)</i> on page 1320	Returns all the elements with the given route.
public abstract List< ISDMParseDocument >	<i>getDocumentsWithAttribute(String, String, String...)</i> on page 1321	Returns the elements with the given route that contains the given attribute with the given value.
public abstract List< ISDMParseDocument >	<i>getDocumentsWithAttribute(String, String, boolean, String...)</i> on page 1321	Returns the elements with the given route that contains the given attribute with the given value.

Modifier and Type	Member	Description
public abstract ISDMParserDocument	<i>getDocumentWithAttribute(String, String, String...)</i> on page 1322	Returns the first element with the given route that contains the given attribute with the given value.
public abstract ISDMParserDocument	<i>getDocumentWithAttribute(String, String, boolean, String...)</i> on page 1322	Returns the first element with the given route that contains the given attribute with the given value.
public abstract String	<i>getElementName()</i> on page 1323	Returns The name of the root element of this document.
public abstract String	<i>getFunctionImportComplexProperty Value(String...)</i> on page 1323	
public abstract String	<i>getPrefixForUri(String)</i> on page 1323	Returns the appropriate namespace prefix for the given XML name-space URI.
public abstract String[]	<i>getStrings()</i> on page 1324	Returns all the string values contained by this document.
public abstract String	<i>getValue(String...)</i> on page 1324	Returns the value of the first element with the given route.
public abstract List< String >	<i>getValues(String...)</i> on page 1324	Returns all the values of elements with the given route.
public abstract void	<i>putAttribute(String, String...)</i> on page 1325	Sets the value of the attribute with the given route If attribute does not exist it will be created as well as all other non existing elements in the route.
public abstract void	<i>putDocument(ISDMParserDocument, String...)</i> on page 1325	Insert the document under the element with the given route inserted document will be placed before already existing documents with the same route name under All missing elements from the route will be created.
public abstract void	<i>putValue(String, String...)</i> on page 1325	Sets the value of the first element with the given route.

Modifier and Type	Member	Description
public abstract boolean	<i>removeAttribute(String...)</i> on page 1326	Removes first element with the given route.
public abstract boolean	<i>removeAttributes(String...)</i> on page 1326	Removes all the attribute with the given route.
public abstract boolean	<i>removeDocument(String...)</i> on page 1326	Removes first element with the given route For removing multiple element use setDocuemtns with null arguments.
public static final String	<i>ROOT_DOCUMENT_NAME</i> on page 1330	The default root element name for a new document.
public abstract void	<i>setAttributes(List&lt; String &gt;, String...)</i> on page 1327	Sets all the values of the attributes with the given route Values will be paired to attributes in order Attributes with greater or equals index than size of new values will be untouched Attributes paired with null values will be removed.
public abstract void	<i>setDocuments(List&lt; ISDMParserDocument &gt;, String...)</i> on page 1327	Replaces all the elements with the given route Documents will be paired to elements in order Elements with greater or equals index than size of new elements will be untouched Element paired with null will be removed.
public abstract void	<i>setElementName(String, String...)</i> on page 1328	Sets the name of the root element with the given route Use empty route for setting root name of this document.
public abstract void	<i>setValues(List&lt; String &gt;, String...)</i> on page 1328	Sets all the values of the elements with the given rout Values will be paired to elements in order Elements with greater or equals index than size of new values will be untouched Null values will be treated as empty strings.

Modifier and Type	Member	Description
public abstract String	<i>toXMLString()</i> on page 1328	Returns the XML string representation of this object.
public static final String	<i>XMLNS_APPLICATION_URI</i> on page 1330	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/08/dataservices">http://schemas.microsoft.com/ado/2007/08/dataservices</a> .
public static final String	<i>XMLNS_ATOM_URI</i> on page 1330	Constant for XMLNS URI: <a href="http://www.w3.org/2005/Atom">http://www.w3.org/2005/Atom</a> .
public static final String	<i>XMLNS_DATASERVICES_URI</i> on page 1330	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/08/dataservices">http://schemas.microsoft.com/ado/2007/08/dataservices</a> .
public static final String	<i>XMLNS_EDM_URI</i> on page 1330	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/05/edm">http://schemas.microsoft.com/ado/2007/05/edm</a> .
public static final String	<i>XMLNS_EDMX_URI</i> on page 1330	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/06/edmx">http://schemas.microsoft.com/ado/2007/06/edmx</a> .
public static final String	<i>XMLNS_GENERICPLAYER_URI</i> on page 1331	Constant for XMLNS URI: <a href="http://www.sap.com/Protocols/SAPData/GenericPlayer">http://www.sap.com/Protocols/SAPData/GenericPlayer</a> .
public static final String	<i>XMLNS_METADATA_URI</i> on page 1331	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/08/dataservices/metadata">http://schemas.microsoft.com/ado/2007/08/dataservices/metadata</a> .
public static final String	<i>XMLNS_SAP_URI</i> on page 1331	Constant for XMLNS URI: <a href="http://www.sap.com/Protocols/SAPData">http://www.sap.com/Protocols/SAPData</a> .

#### Inherited members from ISDMPersistable

Modifier and Type	Member	Description
public void	<i>read(BufferedReader)</i> on page 1332	
public void	<i>write(BufferedWriter)</i> on page 1332	

### *SDMODataSchema()* constructor

#### *Syntax*

```
public   SDMODataSchema ( )
```

### *SDMODataSchema(SDMParserDocument)* constructor

#### *Syntax*

```
public   SDMODataSchema ( SDMParserDocument document )
```

### *SDMODataSchema(int[], String[])* constructor

#### *Syntax*

```
protected   SDMODataSchema ( int[] routes , String[] values )
```

### *getAssociation(String)* method

Returns the appropriate SDMOData Association element with the given relationship attribute.

#### *Syntax*

```
public   SDMODataAssociation   getAssociation ( String relationShip )
```

### *getAssociations()* method

Returns the list of the appropriate SDMOData elements.

#### *Syntax*

```
public   List< ISDMODataAssociation >   getAssociations ( )
```

#### *Returns*

List of the appropriate SDMOData elements

### *getAssociationSet(String)* method

Returns the appropriate AssociationSet with for given association.

#### *Syntax*

```
public   SDMODataAssociationSet   getAssociationSet ( String association )
```

#### *Parameters*

- **association** – The association of the AssociationSet

#### *Returns*

The appropriate AssociationSet with for given association



*getAssociationSets() method*

Returns the list of the appropriate SDMODData elements.

*Syntax*

```
public List< ISDMODDataAssociationSet > getAssociationSets ()
```

*Returns*

List of the appropriate SDMODData elements

*getComplexType(String) method*

Returns The 'ComplexType' SDMODData element associated with the reference.

*Syntax*

```
public SDMODDataComplexType getComplexType (String
complexTypeReference )
```

*Parameters*

- **complexTypeReference** – Reference to the appropriate Complex Type (example: 'namespace.complextypename')

*Returns*

The 'ComplexType' SDMODData element associated with the reference

*getComplexTypes() method*

Returns The list of the appropriate SDMODData element.

*Syntax*

```
public List< ISDMODDataComplexType > getComplexTypes ()
```

*Returns*

The list of the appropriate SDMODData element

*getEntitySet(String) method*

Returns The appropriate SDMODData EntitySet.

*Syntax*

```
public SDMODDataEntitySet getEntitySet (String collectionId)
```

*Parameters*

- **collectionId** – The href of the collection to find the SDMODData EntitySet for

*Returns*

The appropriate SDMODData EntitySet

### *getEntityType(String) method*

Returns The 'EntityType' SDMOData element associated with the reference argument.

#### *Syntax*

```
public SDMODataEntityType getEntityType ( String  
entityTypeReference )
```

#### *Parameters*

- **entityTypeReference** – Reference to the appropriate Entity Type (example: 'namespace.entitytypename')

#### *Returns*

The 'EntityType' SDMOData element associated with the reference argument

### *getEntityTypeForCollection(String) method*

Returns the 'EntityType' SDMOData element contained by the 'EntitySet' element that is associated with the collectionId matching.

#### *Syntax*

```
public SDMODataEntityType getEntityTypeForCollection ( String  
collectionId )
```

#### *Parameters*

- **collectionId** – The Id to be compared with the name of 'EntitySet' elements

#### *Returns*

The matching EntityType

### *getFunctionImports() method*

Returns The list of the 'FunctionImport' SDMOData element.

#### *Syntax*

```
public List< ISDMODataFunctionImport > getFunctionImports ()
```

#### *Returns*

The list of the 'FunctionImport' SDMOData element

*getFunctionImportsForCollection(String) method*

Returns List of FunctionImports valid for the appropriate collection.

*Syntax*

```
public List< ISDMODataFunctionImport >
getFunctionImportsForCollection ( String collectionId )
```

*Parameters*

- **collectionId** – The href of the appropriate collection.

*Returns*

List of FunctionImports valid for the appropriate collection.

*getServiceDocument() method*

Returns the appropriate SDMOData Service Document.

*Syntax*

```
public ISDMODataServiceDocument getServiceDocument ()
```

*Returns*

The appropriate SDMOData Service Document

*getTargetCollectionIdForNavigationProperty(String, String) method*

Resolves the target collection Id of the given SDMOData Navigation Property element.

*Syntax*

```
public String getTargetCollectionIdForNavigationProperty
( String sourceCollectionId , String navigationPropertyName )
```

*Parameters*

- **sourceCollectionId** – The source Id of the source collection that is linked with the target collection
- **navigationPropertyName** – The name of the Navigation Property

*Returns*

The Id of the target collection

*setServiceDocument(ISDMODataServiceDocument) method*  
 Maintains reference to the appropriate SDMOData Service Document.

**Syntax**

```
public void setServiceDocument ( ISDMODataServiceDocument
serviceDocument )
```

**Parameters**

- **serviceDocument** – The appropriate SDMOData Service Document

*serviceDocument variable*

**Syntax**

```
protected ISDMODataServiceDocument serviceDocument
```

**SDMODataServiceDocument class**

Deprecated. since 3.0, Use ODataServiceDocument

**Syntax**

```
public class SDMODataServiceDocument extends
SDMParserDocument, ISDMODataServiceDocument
```

**Members**

All members of SDMODataServiceDocument, including inherited members. **Variables**

Modifier and Type	Variable	Description
protected JsonObject	<i>gwServiceDocument</i> on page 1843	
protected boolean	<i>isJson</i> on page 1843	
protected Map< String, ISDMODataOpenSearchDescription >	<i>openSearchDescriptions</i> on page 1843	
protected ISDMODataSchema	<i>schema</i> on page 1843	

**Constructors**

Modifier and Type	Constructor	Description
public	<i>SDMODataServiceDocument()</i> on page 1839	

Modifier and Type	Constructor	Description
public	<i>SDMODDataServiceDocument(SDMParserDocument)</i> on page 1839	
public	<i>SDMODDataServiceDocument(JsonObject)</i> on page 1840	
protected	<i>SDMODDataServiceDocument(int[], String[])</i> on page 1840	

### Methods

Modifier and Type	Method	Description
public List< ISDMODataCollection >	<i>getAllCollections()</i> on page 1840	Returns the list of all 'collection' SDMODData element contained by the 'workspace' elements.
public String	<i>getBaseUrl()</i> on page 1840	Returns The value of the 'base' SDMODData attribute.
public String	<i>getEtag()</i> on page 1840	Returns The value of the 'etag' SDMODData attribute.
public String	<i>getLanguage()</i> on page 1840	Returns the value of the 'lang' SDMODData attribute.
public ISDMODataOpenSearchDescription	<i>getOpenSearchDescription(String)</i> on page 1841	Returns the appropriate OpenSearch Description Document for the given collection.
public ISDMODataSchema	<i>getSchema()</i> on page 1841	Returns the appropriate SDMODData Schema document.
public String	<i>getSchemaUrl()</i> on page 1841	Returns The full URL that can be used for retrieving the SDMODData Schema document.
public List< ISDMODataWorkspace >	<i>getWorkspaces()</i> on page 1841	Returns the list of appropriate SDMODData elements.
public void	<i>read(BufferedReader)</i> on page 1842	

Modifier and Type	Method	Description
public void	<i>setOpenSearchDescription(String, ISDMODataOpenSearchDescription)</i> on page 1842	Maintains the appropriate OpenSearch Description Document for the given collection.
public void	<i>setSchema(ISDMODataSchema)</i> on page 1842	Maintains the appropriate SDMOData Schema document.
public void	<i>write(BufferedWriter)</i> on page 1842	

#### Inherited members from SDMParserDocument

Modifier and Type	Member	Description
static transient final String	<i>ANY_STRING</i> on page 1953	
static transient final int	<i>ATTRIBUTE_ID</i> on page 1953	
static transient final String	<i>ATTRIBUTE_STRING</i> on page 1954	
public SDMParserDocument	<i>clone()</i> on page 1936	Creates a copy of this object.
protected Map< String, String >	<i>extensions</i> on page 1954	
public String	<i>getAttribute(String...)</i> on page 1936	Returns the value of the first attribute with the given route.
public List< String >	<i>getAttributes(String...)</i> on page 1937	Returns all the values of attributes with the given route.
protected int	<i>getAttributesEndPosition(int[], int, int)</i> on page 1937	
public Map< String, String >	<i>getChildAttributeMap(String...)</i> on page 1937	Returns all the name-value pairs of attributes contained by the element with the given route.
public List< String >	<i>getChildAttributes(String...)</i> on page 1938	Returns all the values of attributes contained by the element with the given route.
public List< ISDMParserDocument >	<i>getChildDocuments(String...)</i> on page 1938	Returns the elements contained by the element with the given route.

Modifier and Type	Member	Description
public List< ISDMParserDocument >	<i>getChildDocumentsWithAttribute(String, String, String...)</i> on page 1938	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public List< ISDMParserDocument >	<i>getChildDocumentsWithAttribute(String, String, boolean, String...)</i> on page 1939	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public SDMParserDocument	<i>getDocument(String...)</i> on page 1939	Returns the first element with the given route.
protected List< int[] >	<i>getDocumentPositions(String[], int, boolean, boolean)</i> on page 1940	
public List< ISDMParserDocument >	<i>getDocuments(String...)</i> on page 1940	Returns all the elements with the given route.
public List< ISDMParserDocument >	<i>getDocumentsWithAttribute(String, String, String...)</i> on page 1940	Returns the elements with the given route that contains the given attribute with the given value.
public List< ISDMParserDocument >	<i>getDocumentsWithAttribute(String, String, boolean, String...)</i> on page 1941	Returns the elements with the given route that contains the given attribute with the given value.
public ISDMParserDocument	<i>getDocumentWithAttribute(String, String, String...)</i> on page 1941	Returns the first element with the given route that contains the given attribute with the given value.
public ISDMParserDocument	<i>getDocumentWithAttribute(String, String, boolean, String...)</i> on page 1942	Returns the first element with the given route that contains the given attribute with the given value.
public String	<i>getElementName()</i> on page 1942	Returns The name of the root element of this document.
public String	<i>getExtension(String)</i> on page 1943	

Modifier and Type	Member	Description
public String	<i>getFunctionImportComplexProperty Value(String...)</i> on page 1943	
static int	<i>getNameId(String, boolean, boolean)</i> on page 1943	
public static List< String >	<i>getNameMap()</i> on page 1943	
public static String	<i>getPrefix(String)</i> on page 1943	
public String	<i>getPrefixForUri(String)</i> on page 1943	Returns the appropriate namespace prefix for the given XML name-space URI.
public static Map< String, String >	<i>getPrefixMapping()</i> on page 1944	
protected List< Integer >	<i>getStringPositions(String[], int, boolean, boolean)</i> on page 1944	
public String[]	<i>getStrings()</i> on page 1944	Returns all the string values contained by this document.
public String	<i>getValue(String...)</i> on page 1944	Returns the value of the first element with the given route.
public List< String >	<i>getValues(String...)</i> on page 1944	Returns all the values of elements with the given route.
protected int[]	<i>insertRoutePositions(int[], int, int[])</i> on page 1945	
protected void	<i>insertRoutesPositions(int, int[])</i> on page 1945	
protected void	<i>insertStringsPositions(int, String[])</i> on page 1945	
protected String[]	<i>insertStringsPositions(String[], int, String[])</i> on page 1945	
boolean	<i>isComplexEntity</i> on page 1954	



Modifier and Type	Member	Description
protected boolean	<i>isMatched(String, String)</i> on page 1945	
static transient List< String >	<i>nameMap</i> on page 1954	
static transient Map< String, String >	<i>prefixMapping</i> on page 1954	
public void	<i>putAttribute(String, String...)</i> on page 1946	Sets the value of the attribute with the given route If attribute does not exist it will be created as well as all other non existing elements in the route.
public void	<i>putDocument(ISDMParserDocument, String...)</i> on page 1946	Insert the document under the element with the given route inserted document will be placed before already existing documents with the same route name under All missing elements from the route will be created.
public void	<i>putExtension(String, String)</i> on page 1946	
protected void	<i>putString(int, String, int, String...)</i> on page 1947	
public void	<i>putValue(String, String...)</i> on page 1947	Sets the value of the first element with the given route.
public static void	<i>readNameMap(BufferedReader)</i> on page 1947	
public boolean	<i>removeAttribute(String...)</i> on page 1948	Removes first element with the given route.
public boolean	<i>removeAttributes(String...)</i> on page 1948	Removes all the attribute with the given route.
public boolean	<i>removeDocument(String...)</i> on page 1948	Removes first element with the given route For removing multiple element use setDocuemtns with null arguments.
public void	<i>removeExtension(String)</i> on page 1948	

Modifier and Type	Member	Description
protected void	<i>removeRoutesPositions(int, int)</i> on page 1949	
protected int[]	<i>removeRoutesPositions(int[], int, int)</i> on page 1949	
protected boolean	<i>removeString(String...)</i> on page 1949	
protected boolean	<i>removeStrings(String...)</i> on page 1949	
protected void	<i>removeStringsPositions(int, int)</i> on page 1949	
protected String[]	<i>removeStringsPositions(String[], int, int)</i> on page 1949	
protected int	<i>replaceRoutesPositions(int, int, int[])</i> on page 1949	
protected int[]	<i>replaceRoutesPositions(int[], int, int, int[])</i> on page 1950	
protected int	<i>replaceStringsPositions(int, int, String[])</i> on page 1950	
protected String[]	<i>replaceStringsPositions(String[], int, int, String[])</i> on page 1950	
public static String	<i>resolveUrl(String, String)</i> on page 1950	
protected int[]	<i>routes</i> on page 1954	
	<i>SDMParserDocument()</i> on page 1935	
	<i>SDMParserDocument(boolean)</i> on page 1936	
public	<i>SDMParserDocument(String)</i> on page 1935	

Modifier and Type	Member	Description
public	<i>SDMParserDocument(SDMParserDocument)</i> on page 1935	
protected	<i>SDMParserDocument(int[], String[])</i> on page 1936	
protected	<i>SDMParserDocument(String, boolean)</i> on page 1936	
public void	<i>setAttribute(String, String...)</i> on page 1950	
public void	<i>setAttributes(List&lt;String&gt;, String...)</i> on page 1950	Sets all the values of the attributes with the given route Values will be paired to attributes in order Attributes with greater or equals index than size of new values will be untouched Attributes paired with null values will be removed.
public boolean	<i>setDocument(ISDMParserDocument, String...)</i> on page 1951	
public void	<i>setDocuments(List&lt;ISDMParserDocument&gt;, String...)</i> on page 1951	Replaces all the elements with the given route Documents will be paired to elements in order Elements with greater or equals index than size of new elements will be untouched Element paired with null will be removed.
public void	<i>setElementName(String, String...)</i> on page 1951	Sets the name of the root element with the given route Use empty route for setting root name of this document.
public static void	<i>setNameMap(List&lt;String&gt;)</i> on page 1952	
public static void	<i>setPrefixMapping(Map&lt;String, String&gt;)</i> on page 1952	

Modifier and Type	Member	Description
protected void	<i>setString(String, String...)</i> on page 1952	
protected void	<i>setStrings(List&lt; String &gt;, String...)</i> on page 1952	
public void	<i>setValue(String, String...)</i> on page 1952	
public void	<i>setValues(List&lt; String &gt;, String...)</i> on page 1952	Sets all the values of the elements with the given route values will be paired to elements in order Elements with greater or equals index than size of new values will be untouched Null values will be treated as empty strings.
protected String[]	<i>strings</i> on page 1954	
public String	<i>toXMLString()</i> on page 1953	Returns the XML string representation of this object.
protected static final String	<i>URL_PROTOCOL_PREFIX</i> on page 1955	
static transient final int	<i>VALUE_ID</i> on page 1955	
static transient final String	<i>VALUE_STRING</i> on page 1955	
public static void	<i>writeNameMap(BufferedWriter)</i> on page 1953	

#### Inherited members from ISDMParserDocument

Modifier and Type	Member	Description
public static final String	<i>ATTRIBUTE_ETAG</i> on page 1329	Name of the appropriate SDMOData element.
public static final String	<i>ATTRIBUTE_VALUEPREFIX_EDMTYPE</i> on page 1329	Value prefix for EDM Type type values.
public static Map< String, String >	<i>DEFAULT_PREFIXMAPPING</i> on page 1329	The default XML Namespace-to-Prefix mapping used for building XMLS.

Modifier and Type	Member	Description
public static final String[]	<i>EDMDATETIME_PATTERNS</i> on page 1329	Possible EDM DateTime patterns Note: Some pattern are not supported by OData specification but still widely used.
public static final String[]	<i>EDMDATETIMEOFFSET_PATTERNS</i> on page 1329	Possible EDM TimeOffset patterns Note: Some pattern are not supported by OData specification but still widely used.
public static final String	<i>EDMTIME_PATTERN</i> on page 1329	EDM Time pattern.
public static String	<i>ELEMENT_FEED</i> on page 1329	Name of the appropriate SDMOData element.
public static final String	<i>ELEMENT_ID</i> on page 1330	Name of the appropriate SDMOData element.
public static final String	<i>ROOT_DOCUMENT_NAME</i> on page 1330	The default root element name for a new document.
public static final String	<i>XMLNS_APPLICATION_URI</i> on page 1330	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/08/dataservices">http://schemas.microsoft.com/ado/2007/08/dataservices</a> .
public static final String	<i>XMLNS_ATOM_URI</i> on page 1330	Constant for XMLNS URI: <a href="http://www.w3.org/2005/Atom">http://www.w3.org/2005/Atom</a> .
public static final String	<i>XMLNS_DATASERVICES_URI</i> on page 1330	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/08/dataservices">http://schemas.microsoft.com/ado/2007/08/dataservices</a> .
public static final String	<i>XMLNS_EDM_URI</i> on page 1330	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/05/edm">http://schemas.microsoft.com/ado/2007/05/edm</a> .
public static final String	<i>XMLNS_EDMX_URI</i> on page 1330	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/06/edmx">http://schemas.microsoft.com/ado/2007/06/edmx</a> .
public static final String	<i>XMLNS_GENERICPLAYER_URI</i> on page 1331	Constant for XMLNS URI: <a href="http://www.sap.com/Protocols/SAPData/GenericPlayer">http://www.sap.com/Protocols/SAPData/GenericPlayer</a> .

Modifier and Type	Member	Description
public static final String	<i>XMLNS_METADATA_URI</i> on page 1331	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/08/dataservices/metadata">http://schemas.microsoft.com/ado/2007/08/dataservices/metadata</a> .
public static final String	<i>XMLNS_SAP_URI</i> on page 1331	Constant for XMLNS URI: <a href="http://www.sap.com/Protocols/SAPData">http://www.sap.com/Protocols/SAPData</a> .

**Inherited members from ISDMPersistable**

Modifier and Type	Member	Description
public void	<i>read(BufferedReader)</i> on page 1332	
public void	<i>write(BufferedWriter)</i> on page 1332	

**Inherited members from ISDMODataServiceDocument**

Modifier and Type	Member	Description
public static final String	<i>ATTRIBUTE_BASE</i> on page 1269	Name of the appropriate SDMOData attribute.
public static final String	<i>ATTRIBUTE_LANG</i> on page 1269	Name of the appropriate SDMOData attribute.
public static final String	<i>ELEMENT_COLLECTION</i> on page 1269	Name of the appropriate SDMOData element.
public static final String	<i>ELEMENT_SERVICE</i> on page 1269	Name of the appropriate SDMOData element.
public static final String	<i>ELEMENT_WORKSPACE</i> on page 1269	Name of the appropriate SDMOData element.
public static final String	<i>URL_SUFFIX_METADATA</i> on page 1270	URL value suffix for retrieving SDMOData Schema document.

**Inherited members from ISDMParserDocument**

Modifier and Type	Member	Description
public static final String	<i>ATTRIBUTE_ETAG</i> on page 1329	Name of the appropriate SDMOData element.

Modifier and Type	Member	Description
public static final String	<i>ATTRIBUTE_VALUEPREFIX_EDMTYPE</i> on page 1329	Value prefix for EDM Type type values.
public abstract ISDMParseDocument	<i>clone()</i> on page 1317	Creates a copy of this object.
public static Map< String, String >	<i>DEFAULT_PREFIXMAPPING</i> on page 1329	The default XML Namespace-to-Prefix mapping used for building XMLS.
public static final String[]	<i>EDMDATETIME_PATTERNS</i> on page 1329	Possible EDM DateTime patterns Note: Some pattern are not supported by OData specification but still widely used.
public static final String[]	<i>EDMDATETIMEOFFSET_PATTERNS</i> on page 1329	Possible EDM TimeOffset patterns Note: Some pattern are not supported by OData specification but still widely used.
public static final String	<i>EDMTIME_PATTERN</i> on page 1329	EDM Time pattern.
public static String	<i>ELEMENT_FEED</i> on page 1329	Name of the appropriate SDMOData element.
public static final String	<i>ELEMENT_ID</i> on page 1330	Name of the appropriate SDMOData element.
public abstract String	<i>getAttribute(String...)</i> on page 1317	Returns the value of the first attribute with the given route.
public abstract List< String >	<i>getAttributes(String...)</i> on page 1317	Returns all the values of attributes with the given route.
public abstract Map< String, String >	<i>getChildAttributeMap(String...)</i> on page 1318	Returns all the name-value pairs of attributes contained by the element with the given route.
public abstract List< String >	<i>getChildAttributes(String...)</i> on page 1318	Returns all the values of attributes contained by the element with the given route.
public abstract List< ISDMParseDocument >	<i>getChildDocuments(String...)</i> on page 1318	Returns the elements contained by the element with the given route.

Modifier and Type	Member	Description
public abstract List< ISDMParseDocument >	<i>getChildDocumentsWithAttribute(String, String, String...)</i> on page 1319	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public abstract List< ISDMParseDocument >	<i>getChildDocumentsWithAttribute(String, String, boolean, String...)</i> on page 1319	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public abstract ISDMParseDocument	<i>getDocument(String...)</i> on page 1320	Returns the first element with the given route.
public abstract List< ISDMParseDocument >	<i>getDocuments(String...)</i> on page 1320	Returns all the elements with the given route.
public abstract List< ISDMParseDocument >	<i>getDocumentsWithAttribute(String, String, String...)</i> on page 1321	Returns the elements with the given route that contains the given attribute with the given value.
public abstract List< ISDMParseDocument >	<i>getDocumentsWithAttribute(String, String, boolean, String...)</i> on page 1321	Returns the elements with the given route that contains the given attribute with the given value.
public abstract ISDMParseDocument	<i>getDocumentWithAttribute(String, String, String...)</i> on page 1322	Returns the first element with the given route that contains the given attribute with the given value.
public abstract ISDMParseDocument	<i>getDocumentWithAttribute(String, String, boolean, String...)</i> on page 1322	Returns the first element with the given route that contains the given attribute with the given value.
public abstract String	<i>getElementName()</i> on page 1323	Returns The name of the root element of this document.
public abstract String	<i>getFunctionImportComplexPropertyValue(String...)</i> on page 1323	
public abstract String	<i>getPrefixForUri(String)</i> on page 1323	Returns the appropriate namespace prefix for the given XML name-space URI.



Modifier and Type	Member	Description
public abstract String[]	<i>getStrings()</i> on page 1324	Returns all the string values contained by this document.
public abstract String	<i>getValue(String...)</i> on page 1324	Returns the value of the first element with the given route.
public abstract List< String >	<i>getValues(String...)</i> on page 1324	Returns all the values of elements with the given route.
public abstract void	<i>putAttribute(String, String...)</i> on page 1325	Sets the value of the attribute with the given route If attribute does not exist it will be created as well as all other non existing elements in the route.
public abstract void	<i>putDocument(ISDMParseDocument, String...)</i> on page 1325	Insert the document under the element with the given route inserted document will be placed before already existing documents with the same route name under All missing elements from the route will be created.
public abstract void	<i>putValue(String, String...)</i> on page 1325	Sets the value of the first element with the given route.
public abstract boolean	<i>removeAttribute(String...)</i> on page 1326	Removes first element with the given route.
public abstract boolean	<i>removeAttributes(String...)</i> on page 1326	Removes all the attribute with the given route.
public abstract boolean	<i>removeDocument(String...)</i> on page 1326	Removes first element with the given route For removing multiple element use setDocuemtns with null arguments.
public static final String	<i>ROOT_DOCUMENT_NAME</i> on page 1330	The default root element name for a new document.

Modifier and Type	Member	Description
public abstract void	<i>setAttributes(List&lt; String &gt;, String...)</i> on page 1327	Sets all the values of the attributes with the given route Values will be paired to attributes in order Attributes with greater or equals index than size of new values will be untouched Attributes paired with null values will be removed.
public abstract void	<i>setDocuments(List&lt; ISDMParserDocument &gt;, String...)</i> on page 1327	Replaces all the elements with the given route Documents will be paired to elements in order Elements with greater or equals index than size of new elements will be untouched Element paired with null will be removed.
public abstract void	<i>setElementName(String, String...)</i> on page 1328	Sets the name of the root element with the given route Use empty route for setting root name of this document.
public abstract void	<i>setValues(List&lt; String &gt;, String...)</i> on page 1328	Sets all the values of the elements with the given route Values will be paired to elements in order Elements with greater or equals index than size of new values will be untouched Null values will be treated as empty strings.
public abstract String	<i>toXMLString()</i> on page 1328	Returns the XML string representation of this object.
public static final String	<i>XMLNS_APPLICATION_URI</i> on page 1330	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/08/dataservices">http://schemas.microsoft.com/ado/2007/08/dataservices</a> .
public static final String	<i>XMLNS_ATOM_URI</i> on page 1330	Constant for XMLNS URI: <a href="http://www.w3.org/2005/Atom">http://www.w3.org/2005/Atom</a> .

Modifier and Type	Member	Description
public static final String	<i>XMLNS_DATASERVICES_URI</i> on page 1330	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/08/dataservices">http://schemas.microsoft.com/ado/2007/08/dataservices</a> .
public static final String	<i>XMLNS_EDM_URI</i> on page 1330	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/05/edm">http://schemas.microsoft.com/ado/2007/05/edm</a> .
public static final String	<i>XMLNS_EDMX_URI</i> on page 1330	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/06/edmx">http://schemas.microsoft.com/ado/2007/06/edmx</a> .
public static final String	<i>XMLNS_GENERICPLAYER_URI</i> on page 1331	Constant for XMLNS URI: <a href="http://www.sap.com/Protocols/SAPData/GenericPlayer">http://www.sap.com/Protocols/SAPData/GenericPlayer</a> .
public static final String	<i>XMLNS_METADATA_URI</i> on page 1331	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/08/dataservices/metadata">http://schemas.microsoft.com/ado/2007/08/dataservices/metadata</a> .
public static final String	<i>XMLNS_SAP_URI</i> on page 1331	Constant for XMLNS URI: <a href="http://www.sap.com/Protocols/SAPData">http://www.sap.com/Protocols/SAPData</a> .

#### Inherited members from ISDMPersistable

Modifier and Type	Member	Description
public void	<i>read(BufferedReader)</i> on page 1332	
public void	<i>write(BufferedWriter)</i> on page 1332	

#### *SDMODataServiceDocument()* constructor

##### Syntax

```
public SDMODataServiceDocument ()
```

#### *SDMODataServiceDocument(SDMParserDocument)* constructor

##### Syntax

```
public SDMODataServiceDocument ( SDMParserDocument document )
```

*SDMODataServiceDocument(JsonObject) constructor*

*Syntax*

```
public   SDMODataServiceDocument ( JsonObject document )
```

*SDMODataServiceDocument(int[], String[]) constructor*

*Syntax*

```
protected   SDMODataServiceDocument ( int[] routes , String[]  
values )
```

*getAllCollections() method*

Returns the list of all 'collection' SDMOData element contained by the 'workspace' elements.

*Syntax*

```
public List< ISDMODataCollection > getAllCollections ()
```

*Returns*

The list of all 'collection' SDMOData element contained by the 'workspace' elements

*getBaseUrl() method*

Returns The value of the 'base' SDMOData attribute.

*Syntax*

```
public String getBaseUrl ()
```

*Returns*

The value of the 'base' SDMOData attribute

*getEtag() method*

Returns The value of the 'etag' SDMOData attribute.

*Syntax*

```
public String getEtag ()
```

*Returns*

The value of the 'etag' SDMOData attribute

*getLanguage() method*

Returns the value of the 'lang' SDMOData attribute.

*Syntax*

```
public String getLanguage ()
```

*Returns*

The value of the 'lang' SDMOData attribute

*getOpenSearchDescription(String) method*

Returns the appropriate OpenSearch Description Document for the given collection.

*Syntax*

```
public ISDMODataOpenSearchDescription
getOpenSearchDescription ( String collectionId )
```

*Parameters*

- **collectionId** – The Id of the collection

*Returns*

The appropriate OpenSearch Description Document

*getSchema() method*

Returns the appropriate SDMOData Schema document.

*Syntax*

```
public ISDMODataSchema getSchema ()
```

*Returns*

The appropriate SDMOData Schema document

*getSchemaUrl() method*

Returns The full URL that can be used for retrieving the SDMOData Schema document.

*Syntax*

```
public String getSchemaUrl ()
```

*Returns*

The full URL that can be used for retrieving the SDMOData Schema document

*getWorkspaces() method*

Returns the list of appropriate SDMOData elements.

*Syntax*

```
public List< ISDMODataWorkspace > getWorkspaces ()
```

*Returns*

The list of appropriate SDMOData elements

### *read(BufferedReader) method*

#### *Syntax*

```
public void read (BufferedReader reader) throws  
SDMPersistenceException
```

#### *Parameters*

- **reader** – The buffered reader to read the object from.

#### *Exceptions*

- **SDMPersistenceException** – if data can not be loaded from the reader.

### *setOpenSearchDescription(String, ISDMODataOpenSearchDescription) method*

Maintains the appropriate OpenSearch Description Document for the given collection.

#### *Syntax*

```
public void setOpenSearchDescription (String collectionId ,  
ISDMODataOpenSearchDescription openSearchDescription )
```

#### *Parameters*

- **collectionId** – The Id of the collection
- **openSearchDescription** – The appropriate OpenSearch Description Document

### *setSchema(ISDMODataSchema) method*

Maintains the appropriate SDMOData Schema document.

#### *Syntax*

```
public void setSchema ( ISDMODataSchema schema )
```

#### *Parameters*

- **schema** – The appropriate SDMOData Schema document

### *write(BufferedWriter) method*

#### *Syntax*

```
public void write (BufferedWriter writer) throws  
SDMPersistenceException
```

#### *Parameters*

- **writer** – The buffered writer that object data needs to be written into.

*Exceptions*

- **SDMPersistenceException** – if data can not be written into the writer

*gwServiceDocument variable**Syntax*

```
protected JsonObject gwServiceDocument
```

*isJson variable**Syntax*

```
protected boolean isJson
```

*openSearchDescriptions variable**Syntax*

```
protected Map< String, ISDMODataOpenSearchDescription >  
openSearchDescriptions
```

*schema variable**Syntax*

```
protected ISDMODataSchema schema
```

*SDMODataSubscriptionEntry class*

Deprecated. since 3.0, Use ODataSubscriptionEntry

*Syntax*

```
public class SDMODataSubscriptionEntry extends SDMODataEntry,  
ISDMODataSubscriptionEntry
```

*Members*

All members of SDMODataSubscriptionEntry, including inherited members. **Constructors**

Modifier and Type	Constructor	Description
public	<i>SDMODataSubscriptionEntry()</i> on page 1875	
public	<i>SDMODataSubscriptionEntry(String, String)</i> on page 1875	

Modifier and Type	Constructor	Description
public	<i>SDMODataSubscriptionEntry(String, String, String, String, String, String)</i> on page 1876	
public	<i>SDMODataSubscriptionEntry(SDMParserDocument)</i> on page 1876	
protected	<i>SDMODataSubscriptionEntry(int[], String[])</i> on page 1876	

### Methods

Modifier and Type	Method	Description
public String	<i>getCollection()</i> on page 1876	Returns The value of the appropriate entry property.
public String	<i>getDeliveryAddress()</i> on page 1876	Returns The value of the appropriate entry property.
public String	<i>getFilter()</i> on page 1876	Returns The value of the appropriate entry property.
public String	<i>getSelect()</i> on page 1877	Returns The value of the appropriate entry property.
public void	<i>setCollection(String)</i> on page 1877	Sets the value of the appropriate entry property.
public void	<i>setDeliveryAddress(String)</i> on page 1877	Sets the value of the appropriate entry property.
public void	<i>setFilter(String)</i> on page 1877	Sets the value of the appropriate entry property.
public void	<i>setSelect(String)</i> on page 1878	Sets the value of the appropriate entry property.

### Inherited members from *SDMODataEntry*



Modifier and Type	Member	Description
protected void	<i>addPropertyValues(ISDMODataProperty, Map&lt; String, String &gt;, String)</i> on page 1584	
protected static Long	<i>cache_timestamp</i> on page 1597	
protected static cacheState	<i>Cachestate</i> on page 1597	
protected String	<i>collectionId</i> on page 1597	
protected static final int	<i>FALSE</i> on page 1597	
protected void	<i>fillPropertyData(ISDMODataProperty, String...)</i> on page 1584	
protected void	<i>fillPropertyDataWithAttribute(ISDMODataProperty, String, String, boolean, String...)</i> on page 1584	
protected static final String	<i>FILTER</i> on page 1597	
protected static final String	<i>FILTER_AND</i> on page 1597	
protected static final String	<i>FILTER_EQ</i> on page 1598	
public List< ISDMODataLink >	<i>getActionLinks()</i> on page 1584	Returns SDMODData Link objects that are set as action links (Has semantics (SAP namespace) attribute with value 'action')
public String	<i>getAuthorName()</i> on page 1585	Returns The value of the 'name' SDMODData element of the 'author' SDMODData element.
public cacheState	<i>getCachestate()</i> on page 1585	
public Long	<i>getCacheTimestamp()</i> on page 1585	
public String	<i>getCollectionId()</i> on page 1585	Returns the Id of the SDMOCata Collection that this Entry belongs to.

Modifier and Type	Member	Description
public String	<i>getEtag()</i> on page 1585	Returns the Id of the SDMOData Collection that this Entry belongs to.
public String	<i>getFilterUrl()</i> on page 1585	Returns the full execution URL that can be used for filtering collection search for this single entry.
public List< ISDMODataProperty >	<i>getGPUseInSearchPropertiesData()</i> on page 1586	Returns the value and meta information (retrieved from SDMOData Schema document) of the properties of this SDMOData Entry document with 'true' use-in-search (Generic Player name-space) attribute value.
public List< ISDMODataProperty >	<i>getGPVisibleInDetailPropertiesData()</i> on page 1586	Returns the value and meta information (retrieved from SDMOData Schema document) of the properties of this SDMOData Entry document with 'true' visible-in-detail (Generic Player name-space) attribute value.
public List< ISDMODataProperty >	<i>getGPVisibleInListPropertiesData()</i> on page 1586	Returns the value and meta information (retrieved from SDMOData Schema document) of the properties of this SDMOData Entry document with 'true' visible-in-list (Generic Player name-space) attribute value.
public List< ISDMODataIcon >	<i>getIcons()</i> on page 1587	Returns the list of the appropriate SDMOData elements.
public String	<i>getId()</i> on page 1587	Returns The Id of this SDMOData Entry (value of appropriate SDMOData Id element)
public boolean	<i>getIsLocal()</i> on page 1587	

Modifier and Type	Member	Description
public Map< String, String >	<i>getKeyPropertyValues()</i> on page 1587	Returns the values of the properties that are marked as key properties in the SDMOData Schema document.
public Date	<i>getLastUpdated()</i> on page 1587	Returns The parsed value of the 'updated' SDMOData Element.
public List< ISDMODataLink >	<i>getLinks()</i> on page 1588	Returns the list of the appropriate SDMOData elements.
public List< ISDMODataProperty >	<i>getPropertiesData()</i> on page 1588	Returns the value and meta information (retrieved from SDMOData Schema document) of the properties of this SDMOData Entry document.
public List< ISDMODataProperty >	<i>getPropertiesDataWithAttribute(String, String)</i> on page 1588	Returns the value and meta information (retrieved from SDMOData Schema document) of the properties of this SDMOData Entry document with the given attribute value.
public List< ISDMODataProperty >	<i>getPropertiesDataWithAttribute(String, String, boolean)</i> on page 1588	Returns the value and meta information (retrieved from SDMOData Schema document) of the properties of this SDMOData Entry document with the given attribute value.
public ISDMParserDocument	<i>getPropertiesDocument()</i> on page 1589	Returns the representer document of SDMOData 'properties' (Metadata name-space) document This method is created for performance reasons mostly to use in search methods.
public String	<i>getPropertyValue(String...)</i> on page 1589	Returns the value of the appropriate property.
public< T > T	<i>getPropertyValueParsed(String...)</i> on page 1590	Returns the value of the appropriate property parsed to it's real type.

Modifier and Type	Member	Description
public List< String >	<i>getPropertyValues(List&lt;String[]&gt;)</i> on page 1590	Return list of property values for the given property paths.
public Map< String, String >	<i>getPropertyValues()</i> on page 1591	Returns the all the values of properties contained by this SDMOData Entry document Key for the properties will be their name of their full path in case they are enclosed by Complex Types.
public List< ISDMODataLink >	<i>getRelatedDataLinks()</i> on page 1591	Returns SDMOData Link objects that represents links to Related Data.
public List< ISDMODataProperty >	<i>getSAPSearchablePropertiesData()</i> on page 1591	Returns the value and meta information (retrieved from SDMOData Schema document) of the properties of this SDMOData Entry document with 'true' searchable (SAP name-space) attribute value.
public ISDMODataSchema	<i>getSchema()</i> on page 1591	Returns the appropriate SDMOData Schema object.
public ISDMODataLink	<i>getSelfLink()</i> on page 1592	Returns SDMSDMOData Link object that should be used for self related operations (with 'rel' attribute value 'self' or 'edit')
public ISDMODataLink	<i>getSubscriptionLink()</i> on page 1592	Returns SDMOData Link object that should be used for subscription or null if there is no subscription link defined.
public String	<i>getSummary()</i> on page 1592	Returns The value of the appropriate SDMOData element.
public String	<i>getTitle()</i> on page 1592	Returns The value of the appropriate SDMOData element.
protected static boolean	<i>isLocalEntry</i> on page 1598	
protected JsonObject	<i>jsonObject</i> on page 1598	JSON related variables

Modifier and Type	Member	Description
protected void	<i>materialize()</i> on page 1592	
protected static final int	<i>NOT_TESTED</i> on page 1598	
protected void	<i>parseCollectionId()</i> on page 1593	
protected long	<i>parseEdmTime(String)</i> on page 1593	
public void	<i>putComplexPropertyValue(String, String...)</i> on page 1593	Puts the new property element as a sub-element of the 'complex properties' SDMOData element.
public void	<i>putDocument(ISDMParseDocument, String...)</i> on page 1593	Insert the document under the element with the given route inserted document will be placed before already existing documents with the same route name under All missing elements from the route will be created.
public void	<i>putId(String)</i> on page 1594	Sets id of this SDMOData Entry document (value of appropriate SDMOData Id element)
public void	<i>putPropertyValue(String, String)</i> on page 1594	Puts the new property element as a sub-element of the 'properties' SDMOData element.
public void	<i>putPropertyValue(String, String, boolean)</i> on page 1594	Puts the new property element as a sub-element of the 'properties' SDMOData element.
public void	<i>read(BufferedReader)</i> on page 1595	
protected String	<i>resolveTargetCollection(ISDMODataLink)</i> on page 1595	
protected ISDMODataSchema	<i>schema</i> on page 1598	
public	<i>SDMODataEntry()</i> on page 1583	

Modifier and Type	Member	Description
public	<i>SDMODDataEntry(boolean)</i> on page 1583	
protected	<i>SDMODDataEntry(int[], String[])</i> on page 1584	
public	<i>SDMODDataEntry(ISDMODataSchema)</i> on page 1583	
public	<i>SDMODDataEntry(SDMParserDocument)</i> on page 1583	
public	<i>SDMODDataEntry(SDMParserDocument, ISDMODataSchema)</i> on page 1583	
public	<i>SDMODDataEntry(JsonObject)</i> on page 1584	Json Related
public void	<i>setAuthorName(String)</i> on page 1595	Sets the value of the 'name' SDMODData element of the 'author' SDMODData element.
public void	<i>setCachestate(cacheState)</i> on page 1595	
public void	<i>setCacheTimestamp(Long)</i> on page 1595	
public void	<i>setCollectionId(String)</i> on page 1596	Maintains the Id of the SDMO-Cata Collection that this Entry belongs to.
public void	<i>setIsLocal(boolean)</i> on page 1596	
public void	<i>setSchema(ISDMODataSchema)</i> on page 1596	Maintains the reference to the appropriate SDMODData Schema object.
public void	<i>setSummary(String)</i> on page 1596	Sets the value of the appropriate SDMODData element.
public void	<i>setTitle(String)</i> on page 1596	Sets the value of the appropriate SDMODData element.
protected static final int	<i>TRUE</i> on page 1598	

Modifier and Type	Member	Description
public void	<i>write(BufferedWriter)</i> on page 1597	

### Inherited members from SDMParserDocument

Modifier and Type	Member	Description
static transient final String	<i>ANY_STRING</i> on page 1953	
static transient final int	<i>ATTRIBUTE_ID</i> on page 1953	
static transient final String	<i>ATTRIBUTE_STRING</i> on page 1954	
public SDMParserDocument	<i>clone()</i> on page 1936	Creates a copy of this object.
protected Map< String, String >	<i>extensions</i> on page 1954	
public String	<i>getAttribute(String...)</i> on page 1936	Returns the value of the first attribute with the given route.
public List< String >	<i>getAttributes(String...)</i> on page 1937	Returns all the values of attributes with the given route.
protected int	<i>getAttributesEndPosition(int[], int, int)</i> on page 1937	
public Map< String, String >	<i>getChildAttributeMap(String...)</i> on page 1937	Returns all the name-value pairs of attributes contained by the element with the given route.
public List< String >	<i>getChildAttributes(String...)</i> on page 1938	Returns all the values of attributes contained by the element with the given route.
public List< ISDMParserDocument >	<i>getChildDocuments(String...)</i> on page 1938	Returns the elements contained by the element with the given route.
public List< ISDMParserDocument >	<i>getChildDocumentsWithAttribute(String, String, String...)</i> on page 1938	Returns the elements contained by the element with the given route and having the given attribute with the given value.

Modifier and Type	Member	Description
public List< ISDMParserDocument >	<i>getChildDocumentsWithAttribute(String, String, boolean, String...)</i> on page 1939	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public SDMParserDocument	<i>getDocument(String...)</i> on page 1939	Returns the first element with the given route.
protected List< int[] >	<i>getDocumentPositions(String[], int, boolean, boolean)</i> on page 1940	
public List< ISDMParserDocument >	<i>getDocuments(String...)</i> on page 1940	Returns all the elements with the given route.
public List< ISDMParserDocument >	<i>getDocumentsWithAttribute(String, String, String...)</i> on page 1940	Returns the elements with the given route that contains the given attribute with the given value.
public List< ISDMParserDocument >	<i>getDocumentsWithAttribute(String, String, boolean, String...)</i> on page 1941	Returns the elements with the given route that contains the given attribute with the given value.
public ISDMParserDocument	<i>getDocumentWithAttribute(String, String, String...)</i> on page 1941	Returns the first element with the given route that contains the given attribute with the given value.
public ISDMParserDocument	<i>getDocumentWithAttribute(String, String, boolean, String...)</i> on page 1942	Returns the first element with the given route that contains the given attribute with the given value.
public String	<i>getElementName()</i> on page 1942	Returns The name of the root element of this document.
public String	<i>getExtension(String)</i> on page 1943	
public String	<i>getFunctionImportComplexProperty Value(String...)</i> on page 1943	



Modifier and Type	Member	Description
static int	<i>getNameId(String, boolean, boolean)</i> on page 1943	
public static List< String >	<i>getNameMap()</i> on page 1943	
public static String	<i>getPrefix(String)</i> on page 1943	
public String	<i>getPrefixForUri(String)</i> on page 1943	Returns the appropriate name-space prefix for the given XML name-space URI.
public static Map< String, String >	<i>getPrefixMapping()</i> on page 1944	
protected List< Integer >	<i>getStringPositions(String[], int, boolean, boolean)</i> on page 1944	
public String[]	<i>getStrings()</i> on page 1944	Returns all the string values contained by this document.
public String	<i>getValue(String...)</i> on page 1944	Returns the value of the first element with the given route.
public List< String >	<i>getValues(String...)</i> on page 1944	Returns all the values of elements with the given route.
protected int[]	<i>insertRoutePositions(int[], int, int[])</i> on page 1945	
protected void	<i>insertRoutesPositions(int, int[])</i> on page 1945	
protected void	<i>insertStringsPositions(int, String[])</i> on page 1945	
protected String[]	<i>insertStringsPositions(String[], int, String[])</i> on page 1945	
boolean	<i>isComplexEntity</i> on page 1954	
boolean	<i>isJson</i> on page 1954	
protected boolean	<i>isMatched(String, String)</i> on page 1945	

Modifier and Type	Member	Description
static transient List< String >	<i>nameMap</i> on page 1954	
static transient Map< String, String >	<i>prefixMapping</i> on page 1954	
public void	<i>putAttribute(String, String...)</i> on page 1946	Sets the value of the attribute with the given route If attribute does not exist it will be created as well as all other non existing elements in the route.
public void	<i>putExtension(String, String)</i> on page 1946	
protected void	<i>putString(int, String, int, String...)</i> on page 1947	
public void	<i>putValue(String, String...)</i> on page 1947	Sets the value of the first element with the given route.
public static void	<i>readNameMap(BufferedReader)</i> on page 1947	
public boolean	<i>removeAttribute(String...)</i> on page 1948	Removes first element with the given route.
public boolean	<i>removeAttributes(String...)</i> on page 1948	Removes all the attribute with the given route.
public boolean	<i>removeDocument(String...)</i> on page 1948	Removes first element with the given route For removing multiple element use setDocuemtns with null arguments.
public void	<i>removeExtension(String)</i> on page 1948	
protected void	<i>removeRoutesPositions(int, int)</i> on page 1949	
protected int[]	<i>removeRoutesPositions(int[], int, int)</i> on page 1949	
protected boolean	<i>removeString(String...)</i> on page 1949	
protected boolean	<i>removeStrings(String...)</i> on page 1949	

Modifier and Type	Member	Description
protected void	<i>removeStringsPositions(int, int)</i> on page 1949	
protected String[]	<i>removeStringsPositions(String[], int, int)</i> on page 1949	
protected int	<i>replaceRoutesPositions(int, int, int[])</i> on page 1949	
protected int[]	<i>replaceRoutesPositions(int[], int, int, int[])</i> on page 1950	
protected int	<i>replaceStringsPositions(int, int, String[])</i> on page 1950	
protected String[]	<i>replaceStringsPositions(String[], int, int, String[])</i> on page 1950	
public static String	<i>resolveUrl(String, String)</i> on page 1950	
protected int[]	<i>routes</i> on page 1954	
	<i>SDMParserDocument()</i> on page 1935	
	<i>SDMParserDocument(boolean)</i> on page 1936	
public	<i>SDMParserDocument(String)</i> on page 1935	
public	<i>SDMParserDocument(SDMParserDocument)</i> on page 1935	
protected	<i>SDMParserDocument(int[], String[])</i> on page 1936	
protected	<i>SDMParserDocument(String, boolean)</i> on page 1936	
public void	<i>setAttribute(String, String...)</i> on page 1950	

Modifier and Type	Member	Description
public void	<i>setAttributes(List&lt; String &gt;, String...)</i> on page 1950	Sets all the values of the attributes with the given route Values will be paired to attributes in order Attributes with greater or equals index than size of new values will be untouched Attributes paired with null values will be removed.
public boolean	<i>setDocument(ISDMParseDocument, String...)</i> on page 1951	
public void	<i>setDocuments(List&lt; ISDMParseDocument &gt;, String...)</i> on page 1951	Replaces all the elements with the given route Documents will be paired to elements in order Elements with greater or equals index than size of new elements will be untouched Element paired with null will be removed.
public void	<i>setElementName(String, String...)</i> on page 1951	Sets the name of the root element with the given route Use empty route for setting root name of this document.
public static void	<i>setNameMap(List&lt; String &gt;)</i> on page 1952	
public static void	<i>setPrefixMapping(Map&lt; String, String &gt;)</i> on page 1952	
protected void	<i>setString(String, String...)</i> on page 1952	
protected void	<i>setStrings(List&lt; String &gt;, String...)</i> on page 1952	
public void	<i>setValue(String, String...)</i> on page 1952	

Modifier and Type	Member	Description
public void	<i>setValues(List&lt;String&gt;, String...)</i> on page 1952	Sets all the values of the elements with the given route. Values will be paired to elements in order. Elements with greater or equals index than size of new values will be untouched. Null values will be treated as empty strings.
protected String[]	<i>strings</i> on page 1954	
public String	<i>toXMLString()</i> on page 1953	Returns the XML string representation of this object.
protected static final String	<i>URL_PROTOCOL_PREFIX</i> on page 1955	
static transient final int	<i>VALUE_ID</i> on page 1955	
static transient final String	<i>VALUE_STRING</i> on page 1955	
public static void	<i>writeNameMap(BufferedWriter)</i> on page 1953	

#### Inherited members from ISDMParserDocument

Modifier and Type	Member	Description
public static final String	<i>ATTRIBUTE_ETAG</i> on page 1329	Name of the appropriate SDMOData element.
public static final String	<i>ATTRIBUTE_VALUEPREFIX_EDMTYPE</i> on page 1329	Value prefix for EDM Type type values.
public static Map<String, String>	<i>DEFAULT_PREFIX_MAPPING</i> on page 1329	The default XML Namespace-to-Prefix mapping used for building XMLS.
public static final String[]	<i>EDMDATETIME_PATTERNS</i> on page 1329	Possible EDM DateTime patterns. Note: Some patterns are not supported by OData specification but still widely used.

Modifier and Type	Member	Description
public static final String[]	<i>EDMDATETIMEOFFSET_PATTERNS</i> on page 1329	Possible EDM TimeOffset patterns Note: Some pattern are not supported by OData specification but still widely used.
public static final String	<i>EDMTIME_PATTERN</i> on page 1329	EDM Time pattern.
public static String	<i>ELEMENT_FEED</i> on page 1329	Name of the appropriate SDMOData element.
public static final String	<i>ELEMENT_ID</i> on page 1330	Name of the appropriate SDMOData element.
public static final String	<i>ROOT_DOCUMENT_NAME</i> on page 1330	The default root element name for a new document.
public static final String	<i>XMLNS_APPLICATION_URI</i> on page 1330	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/08/dataservices">http://schemas.microsoft.com/ado/2007/08/dataservices</a> .
public static final String	<i>XMLNS_ATOM_URI</i> on page 1330	Constant for XMLNS URI: <a href="http://www.w3.org/2005/Atom">http://www.w3.org/2005/Atom</a> .
public static final String	<i>XMLNS_DATASERVICES_URI</i> on page 1330	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/08/dataservices">http://schemas.microsoft.com/ado/2007/08/dataservices</a> .
public static final String	<i>XMLNS_EDM_URI</i> on page 1330	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/05/edm">http://schemas.microsoft.com/ado/2007/05/edm</a> .
public static final String	<i>XMLNS_EDMX_URI</i> on page 1330	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/06/edmx">http://schemas.microsoft.com/ado/2007/06/edmx</a> .
public static final String	<i>XMLNS_GENERICPLAYER_URI</i> on page 1331	Constant for XMLNS URI: <a href="http://www.sap.com/Protocols/SAPData/GenericPlayer">http://www.sap.com/Protocols/SAPData/GenericPlayer</a> .
public static final String	<i>XMLNS_METADATA_URI</i> on page 1331	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/08/dataservices/metadata">http://schemas.microsoft.com/ado/2007/08/dataservices/metadata</a> .

Modifier and Type	Member	Description
public static final String	<i>XMLNS_SAP_URI</i> on page 1331	Constant for XMLNS URI: <a href="http://www.sap.com/Protocols/SAPData">http://www.sap.com/Protocols/SAPData</a> .

**Inherited members from ISDMPersistable**

Modifier and Type	Member	Description
public void	<i>read(BufferedReader)</i> on page 1332	
public void	<i>write(BufferedWriter)</i> on page 1332	

**Inherited members from ISDMODataEntry**

Modifier and Type	Member	Description
public static final String	<i>ATTRIBUTE_SEMANTICS</i> on page 1168	Name of the appropriate SDMOData attribute.
public static final String	<i>ATTRIBUTE_TERM</i> on page 1169	Name of the appropriate SDMOData attribute.
public static final String	<i>ATTRIBUTE_VALUE_SEMANTICS_ACTION</i> on page 1169	Value option for appropriate SDMOData attribute.
public static final String	<i>ELEMENT_AUTHOR</i> on page 1169	Name of the appropriate SDMOData element.
public static final String	<i>ELEMENT_CATEGORY</i> on page 1169	Name of the appropriate SDMOData element.
public static final String	<i>ELEMENT_CONTENT</i> on page 1169	Name of the appropriate SDMOData element.
public static final String	<i>ELEMENT_ENTRY</i> on page 1169	Name of the appropriate SDMOData element.
public static final String	<i>ELEMENT_LINK</i> on page 1169	Name of the appropriate SDMOData element.
public static final String	<i>ELEMENT_NAME</i> on page 1170	Name of the appropriate SDMOData element.

Modifier and Type	Member	Description
public static final String	<i>ELEMENT_PROPERTIES</i> on page 1170	Name of the appropriate SDMODData element.
public static final String	<i>ELEMENT_SUMMARY</i> on page 1170	Name of the appropriate SDMODData element.
public static final String	<i>ELEMENT_TITLE</i> on page 1170	Name of the appropriate SDMODData element.
public static final String	<i>ELEMENT_UPDATED</i> on page 1170	Name of the appropriate SDMODData element.
public static final String	<i>PROPERTY_LEVEL_SEPARATOR</i> on page 1170	
public void	<i>setCacheState(cacheState)</i> on page 1167	

#### Inherited members from ISDMParserDocument

Modifier and Type	Member	Description
public static final String	<i>ATTRIBUTE_ETAG</i> on page 1329	Name of the appropriate SDMODData element.
public static final String	<i>ATTRIBUTE_VALUEPREFIX_EDMTYPE</i> on page 1329	Value prefix for EDM Type type values.
public abstract ISDMParserDocument	<i>clone()</i> on page 1317	Creates a copy of this object.
public static Map< String, String >	<i>DEFAULT_PREFIXMAPPING</i> on page 1329	The default XML Namespace-to-Prefix mapping used for building XMLS.
public static final String[]	<i>EDMDATETIME_PATTERNS</i> on page 1329	Possible EDM DateTime patterns Note: Some pattern are not supported by OData specification but still widely used.
public static final String[]	<i>EDMDATETIMEOFFSET_PATTERNS</i> on page 1329	Possible EDM DateTimeOffset patterns Note: Some pattern are not supported by OData specification but still widely used.
public static final String	<i>EDMTIME_PATTERN</i> on page 1329	EDM Time pattern.



Modifier and Type	Member	Description
public static String	<i>ELEMENT_FEED</i> on page 1329	Name of the appropriate SDMOData element.
public static final String	<i>ELEMENT_ID</i> on page 1330	Name of the appropriate SDMOData element.
public abstract String	<i>getAttribute(String...)</i> on page 1317	Returns the value of the first attribute with the given route.
public abstract List< String >	<i>getAttributes(String...)</i> on page 1317	Returns all the values of attributes with the given route.
public abstract Map< String, String >	<i>getChildAttributeMap(String...)</i> on page 1318	Returns all the name-value pairs of attributes contained by the element with the given route.
public abstract List< String >	<i>getChildAttributes(String...)</i> on page 1318	Returns all the values of attributes contained by the element with the given route.
public abstract List< ISDMParseDocument >	<i>getChildDocuments(String...)</i> on page 1318	Returns the elements contained by the element with the given route.
public abstract List< ISDMParseDocument >	<i>getChildDocumentsWithAttribute(String, String, String...)</i> on page 1319	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public abstract List< ISDMParseDocument >	<i>getChildDocumentsWithAttribute(String, String, boolean, String...)</i> on page 1319	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public abstract ISDMParseDocument	<i>getDocument(String...)</i> on page 1320	Returns the first element with the given route.
public abstract List< ISDMParseDocument >	<i>getDocuments(String...)</i> on page 1320	Returns all the elements with the given route.
public abstract List< ISDMParseDocument >	<i>getDocumentsWithAttribute(String, String, String...)</i> on page 1321	Returns the elements with the given route that contains the given attribute with the given value.

Modifier and Type	Member	Description
public abstract List< ISDMParseDocument >	<i>getDocumentsWithAttribute(String, String, boolean, String...)</i> on page 1321	Returns the elements with the given route that contains the given attribute with the given value.
public abstract ISDMParseDocument	<i>getDocumentWithAttribute(String, String, String...)</i> on page 1322	Returns the first element with the given route that contains the given attribute with the given value.
public abstract ISDMParseDocument	<i>getDocumentWithAttribute(String, String, boolean, String...)</i> on page 1322	Returns the first element with the given route that contains the given attribute with the given value.
public abstract String	<i>getElementName()</i> on page 1323	Returns The name of the root element of this document.
public abstract String	<i>getFunctionImportComplexPropertyValue(String...)</i> on page 1323	
public abstract String	<i>getPrefixForUri(String)</i> on page 1323	Returns the appropriate namespace prefix for the given XML name-space URI.
public abstract String[]	<i>getStrings()</i> on page 1324	Returns all the string values contained by this document.
public abstract String	<i>getValue(String...)</i> on page 1324	Returns the value of the first element with the given route.
public abstract List< String >	<i>getValues(String...)</i> on page 1324	Returns all the values of elements with the given route.
public abstract void	<i>putAttribute(String, String...)</i> on page 1325	Sets the value of the attribute with the given route If attribute does not exist it will be created as well as all other non existing elements in the route.

Modifier and Type	Member	Description
public abstract void	<i>putDocument(ISDMParseDocument, String...)</i> on page 1325	Insert the document under the element with the given route inserted document will be placed before already existing documents with the same route name under All missing elements from the route will be created.
public abstract void	<i>putValue(String, String...)</i> on page 1325	Sets the value of the first element with the given route.
public abstract boolean	<i>removeAttribute(String...)</i> on page 1326	Removes first element with the given route.
public abstract boolean	<i>removeAttributes(String...)</i> on page 1326	Removes all the attribute with the given route.
public abstract boolean	<i>removeDocument(String...)</i> on page 1326	Removes first element with the given route For removing multiple element use setDocuemtns with null arguments.
public static final String	<i>ROOT_DOCUMENT_NAME</i> on page 1330	The default root element name for a new document.
public abstract void	<i>setAttributes(List&lt;String&gt;, String...)</i> on page 1327	Sets all the values of the attributes with the given route Values will be paired to attributes in order Attributes with greater or equals index than size of new values will be untouched Attributes paired with null values will be removed.
public abstract void	<i>setDocuments(List&lt;ISDMParseDocument&gt;, String...)</i> on page 1327	Replaces all the elements with the given route Documents will be paired to elements in order Elements with greater or equals index than size of new elements will be untouched Element paired with null will be removed.

Modifier and Type	Member	Description
public abstract void	<i>setElementName(String, String...)</i> on page 1328	Sets the name of the root element with the given route Use empty route for setting root name of this document.
public abstract void	<i>setValues(List&lt; String &gt;, String...)</i> on page 1328	Sets all the values of the elements with the given rout Values will be paired to elements in order Elements with greater or equals index than size of new values will be untouched Null values will be treated as empty strings.
public abstract String	<i>toXMLString()</i> on page 1328	Returns the XML string representation of this object.
public static final String	<i>XMLNS_APPLICATION_URI</i> on page 1330	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/08/dataservices">http://schemas.microsoft.com/ado/2007/08/dataservices</a> .
public static final String	<i>XMLNS_ATOM_URI</i> on page 1330	Constant for XMLNS URI: <a href="http://www.w3.org/2005/Atom">http://www.w3.org/2005/Atom</a> .
public static final String	<i>XMLNS_DATASERVICES_URI</i> on page 1330	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/08/dataservices">http://schemas.microsoft.com/ado/2007/08/dataservices</a> .
public static final String	<i>XMLNS_EDM_URI</i> on page 1330	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/05/edm">http://schemas.microsoft.com/ado/2007/05/edm</a> .
public static final String	<i>XMLNS_EDMX_URI</i> on page 1330	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/06/edmx">http://schemas.microsoft.com/ado/2007/06/edmx</a> .
public static final String	<i>XMLNS_GENERICPLAYER_URI</i> on page 1331	Constant for XMLNS URI: <a href="http://www.sap.com/Protocols/SAPData/GenericPlayer">http://www.sap.com/Protocols/SAPData/GenericPlayer</a> .
public static final String	<i>XMLNS_METADATA_URI</i> on page 1331	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/08/dataservices/metadata">http://schemas.microsoft.com/ado/2007/08/dataservices/metadata</a> .

Modifier and Type	Member	Description
public static final String	<i>XMLNS_SAP_URI</i> on page 1331	Constant for XMLNS URI: <a href="http://www.sap.com/Protocols/SAPData">http://www.sap.com/Protocols/SAPData</a> .

**Inherited members from ISDMPersistable**

Modifier and Type	Member	Description
public void	<i>read(BufferedReader)</i> on page 1332	
public void	<i>write(BufferedWriter)</i> on page 1332	

**Inherited members from ISDMODataSubscriptionEntry**

Modifier and Type	Member	Description
public static final String	<i>ELEMENT_COLLECTION</i> on page 1283	Name of the appropriate SDMOData element.
public static final String	<i>ELEMENT_DELIVERYADDRESS</i> on page 1283	Name of the appropriate SDMOData element.
public static final String	<i>ELEMENT_FILTER</i> on page 1283	Name of the appropriate SDMOData element.
public static final String	<i>ELEMENT_SELECT</i> on page 1283	Name of the appropriate SDMOData element.

**Inherited members from ISDMODataEntry**

Modifier and Type	Member	Description
public static final String	<i>ATTRIBUTE_SEMANTICS</i> on page 1168	Name of the appropriate SDMOData attribute.
public static final String	<i>ATTRIBUTE_TERM</i> on page 1169	Name of the appropriate SDMOData attribute.
public static final String	<i>ATTRIBUTE_VALUE_SEMANTICS_ACTION</i> on page 1169	Value option for appropriate SDMOData attribute.
public static final String	<i>ELEMENT_AUTHOR</i> on page 1169	Name of the appropriate SDMOData element.

Modifier and Type	Member	Description
public static final String	<i>ELEMENT_CATEGORY</i> on page 1169	Name of the appropriate SDMODData element.
public static final String	<i>ELEMENT_CONTENT</i> on page 1169	Name of the appropriate SDMODData element.
public static final String	<i>ELEMENT_ENTRY</i> on page 1169	Name of the appropriate SDMODData element.
public static final String	<i>ELEMENT_LINK</i> on page 1169	Name of the appropriate SDMODData element.
public static final String	<i>ELEMENT_NAME</i> on page 1170	Name of the appropriate SDMODData element.
public static final String	<i>ELEMENT_PROPERTIES</i> on page 1170	Name of the appropriate SDMODData element.
public static final String	<i>ELEMENT_SUMMARY</i> on page 1170	Name of the appropriate SDMODData element.
public static final String	<i>ELEMENT_TITLE</i> on page 1170	Name of the appropriate SDMODData element.
public static final String	<i>ELEMENT_UPDATED</i> on page 1170	Name of the appropriate SDMODData element.
public abstract List< ISDMO-DataLink >	<i>getActionLinks()</i> on page 1157	Returns SDMODData Link objects that are set as action links (Has semantics (SAP namespace) attribute with value 'action')
public abstract String	<i>getAuthorName()</i> on page 1157	Returns The value of the 'name' SDMODData element of the 'author' SDMODData element.
public cacheState	<i>getCachestate()</i> on page 1158	
public Long	<i>getCacheTimestamp()</i> on page 1158	
public abstract String	<i>getCollectionId()</i> on page 1158	Returns the Id of the SDMOCa-ta Collection that this Entry belongs to.

Modifier and Type	Member	Description
public abstract String	<i>getEtag()</i> on page 1158	Returns the Id of the SDMOData Collection that this Entry belongs to.
public abstract String	<i>getFilterUrl()</i> on page 1158	Returns the full execution URL that can be used for filtering collection search for this single entry.
public abstract List< ISDMODataProperty >	<i>getGPUseInSearchPropertiesData()</i> on page 1159	Returns the value and meta information (retrieved from SDMOData Schema document) of the properties of this SDMOData Entry document with 'true' use-in-search (Generic Player name-space) attribute value.
public abstract List< ISDMODataProperty >	<i>getGPVisibleInDetailPropertiesData()</i> on page 1159	Returns the value and meta information (retrieved from SDMOData Schema document) of the properties of this SDMOData Entry document with 'true' visible-in-detail (Generic Player name-space) attribute value.
public abstract List< ISDMODataProperty >	<i>getGPVisibleInListPropertiesData()</i> on page 1159	Returns the value and meta information (retrieved from SDMOData Schema document) of the properties of this SDMOData Entry document with 'true' visible-in-list (Generic Player name-space) attribute value.
public abstract List< ISDMODataIcon >	<i>getIcons()</i> on page 1159	Returns the list of the appropriate SDMOData elements.
public abstract String	<i>getId()</i> on page 1160	Returns The Id of this SDMOData Entry (value of appropriate SDMOData Id element)
public boolean	<i>getIsLocal()</i> on page 1160	

Modifier and Type	Member	Description
public abstract Map< String, String >	<i>getKeyPropertyValues()</i> on page 1160	Returns the values of the properties that are marked as key properties in the SDMOData Schema document.
public abstract Date	<i>getLastUpdated()</i> on page 1160	Returns The parsed value of the 'updated' SDMOData Element.
public abstract List< ISDMO-DataLink >	<i>getLinks()</i> on page 1160	Returns the list of the appropriate SDMOData elements.
public abstract List< ISDMO-DataProperty >	<i>getPropertiesData()</i> on page 1161	Returns the value and meta information (retrieved from SDMOData Schema document) of the properties of this SDMO-data Entry document.
public abstract List< ISDMO-DataProperty >	<i>getPropertiesDataWithAttribute(String, String)</i> on page 1161	Returns the value and meta information (retrieved from SDMOData Schema document) of the properties of this SDMO-Data Entry document with the given attribute value.
public abstract List< ISDMO-DataProperty >	<i>getPropertiesDataWithAttribute(String, String, boolean)</i> on page 1161	Returns the value and meta information (retrieved from SDMOData Schema document) of the properties of this SDMO-Data Entry document with the given attribute value.
public abstract ISDMParserDocument	<i>getPropertiesDocument()</i> on page 1162	Returns the representer document of SDMOData 'properties' (Metadata name-space) document This method is created for performance reasons mostly to use in search methods.
public abstract String	<i>getPropertyValue(String...)</i> on page 1162	Returns the value of the appropriate property.
public abstract< T > T	<i>getPropertyValue-Parsed(String...)</i> on page 1163	Returns the value of the appropriate property parsed to it's real type.



Modifier and Type	Member	Description
public abstract Map< String, String >	<i>getPropertyValues()</i> on page 1163	Returns the all the values of properties contained by this SDMODData Entry document Key for the properties will be their name of their full path in case they are enclosed by Complex Types.
public abstract List< String >	<i>getPropertyValues(List&lt; String[]&gt;)</i> on page 1163	Return list of property values for the given property paths.
public abstract List< ISDMODDataLink >	<i>getRelatedDataLinks()</i> on page 1164	Returns SDMODData Link objects that represents links to Related Data.
public abstract List< ISDMODDataProperty >	<i>getSAPSearchablePropertiesData()</i> on page 1164	Returns the value and meta information (retrieved from SDMODData Schema document) of the properties of this SDMODData Entry document with 'true' searchable (SAP name-space) attribute value.
public abstract ISDMODDataSchema	<i>getSchema()</i> on page 1164	Returns the appropriate SDMODData Schema object.
public abstract ISDMODDataLink	<i>getSelfLink()</i> on page 1164	Returns SDMSDMODData Link object that should be used for self related operations (with 'rel' attribute value 'self' or 'edit')
public abstract ISDMODDataLink	<i>getSubscriptionLink()</i> on page 1165	Returns SDMODData Link object that should be used for subscription or null if there is no subscription link defined.
public abstract String	<i>getSummary()</i> on page 1165	Returns The value of the appropriate SDMODData element.
public abstract String	<i>getTitle()</i> on page 1165	Returns The value of the appropriate SDMODData element.
public static final String	<i>PROPERTY_LEVEL_SEPARATOR</i> on page 1170	

Modifier and Type	Member	Description
public abstract void	<i>putComplexPropertyValue(String, String...)</i> on page 1165	Puts the new property element as a sub-element of the 'complex properties' SDMODData element.
public abstract void	<i>putId(String)</i> on page 1166	Sets id of this SDMODData Entry document (value of appropriate SDMODData Id element)
public abstract void	<i>putPropertyValue(String, String)</i> on page 1166	Puts the new property element as a sub-element of the 'properties' SDMODData element.
public abstract void	<i>putPropertyValue(String, String, boolean)</i> on page 1166	Puts the new property element as a sub-element of the 'properties' SDMODData element.
public abstract void	<i>setAuthorName(String)</i> on page 1167	Sets the value of the 'name' SDMODData element of the 'author' SDMODData element.
public void	<i>setCacheState(cacheState)</i> on page 1167	
public void	<i>setCacheTimestamp(Long)</i> on page 1167	
public abstract void	<i>setCollectionId(String)</i> on page 1167	Maintains the Id of the SDMO-Cata Collection that this Entry belongs to.
public void	<i>setIsLocal(boolean)</i> on page 1168	
public abstract void	<i>setSchema(ISDMODDataSchema)</i> on page 1168	Maintains the reference to the appropriate SDMODData Schema object.
public abstract void	<i>setSummary(String)</i> on page 1168	Sets the value of the appropriate SDMODData element.
public abstract void	<i>setTitle(String)</i> on page 1168	Sets the value of the appropriate SDMODData element.

### Inherited members from ISDMParserDocument

Modifier and Type	Member	Description
public static final String	<i>ATTRIBUTE_ETAG</i> on page 1329	Name of the appropriate SDMOData element.
public static final String	<i>ATTRIBUTE_VALUEPREFIX_EDMTYPE</i> on page 1329	Value prefix for EDM Type type values.
public abstract ISDMParseDocument	<i>clone()</i> on page 1317	Creates a copy of this object.
public static Map< String, String >	<i>DEFAULT_PREFIXMAPPING</i> on page 1329	The default XML Namespace-to-Prefix mapping used for building XMLS.
public static final String[]	<i>EDMDATETIME_PATTERNS</i> on page 1329	Possible EDM DateTime patterns Note: Some pattern are not supported by OData specification but still widely used.
public static final String[]	<i>EDMDATETIMEOFFSET_PATTERNS</i> on page 1329	Possible EDM DateTimeOffset patterns Note: Some pattern are not supported by OData specification but still widely used.
public static final String	<i>EDMTIME_PATTERN</i> on page 1329	EDM Time pattern.
public static String	<i>ELEMENT_FEED</i> on page 1329	Name of the appropriate SDMOData element.
public static final String	<i>ELEMENT_ID</i> on page 1330	Name of the appropriate SDMOData element.
public abstract String	<i>getAttribute(String...)</i> on page 1317	Returns the value of the first attribute with the given route.
public abstract List< String >	<i>getAttributes(String...)</i> on page 1317	Returns all the values of attributes with the given route.
public abstract Map< String, String >	<i>getChildAttributeMap(String...)</i> on page 1318	Returns all the name-value pairs of attributes contained by the element with the given route.
public abstract List< String >	<i>getChildAttributes(String...)</i> on page 1318	Returns all the values of attributes contained by the element with the given route.

Modifier and Type	Member	Description
public abstract List< ISDMParseDocument >	<i>getChildDocuments(String...)</i> on page 1318	Returns the elements contained by the element with the given route.
public abstract List< ISDMParseDocument >	<i>getChildDocumentsWithAttribute(String, String, String...)</i> on page 1319	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public abstract List< ISDMParseDocument >	<i>getChildDocumentsWithAttribute(String, String, boolean, String...)</i> on page 1319	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public abstract ISDMParseDocument	<i>getDocument(String...)</i> on page 1320	Returns the first element with the given route.
public abstract List< ISDMParseDocument >	<i>getDocuments(String...)</i> on page 1320	Returns all the elements with the given route.
public abstract List< ISDMParseDocument >	<i>getDocumentsWithAttribute(String, String, String...)</i> on page 1321	Returns the elements with the given route that contains the given attribute with the given value.
public abstract List< ISDMParseDocument >	<i>getDocumentsWithAttribute(String, String, boolean, String...)</i> on page 1321	Returns the elements with the given route that contains the given attribute with the given value.
public abstract ISDMParseDocument	<i>getDocumentWithAttribute(String, String, String...)</i> on page 1322	Returns the first element with the given route that contains the given attribute with the given value.
public abstract ISDMParseDocument	<i>getDocumentWithAttribute(String, String, boolean, String...)</i> on page 1322	Returns the first element with the given route that contains the given attribute with the given value.
public abstract String	<i>getElementName()</i> on page 1323	Returns The name of the root element of this document.
public abstract String	<i>getFunctionImportComplexPropertyValue(String...)</i> on page 1323	

Modifier and Type	Member	Description
public abstract String	<i>getPrefixForUri(String)</i> on page 1323	Returns the appropriate name-space prefix for the given XML name-space URI.
public abstract String[]	<i>getStrings()</i> on page 1324	Returns all the string values contained by this document.
public abstract String	<i>getValue(String...)</i> on page 1324	Returns the value of the first element with the given route.
public abstract List< String >	<i>getValues(String...)</i> on page 1324	Returns all the values of elements with the given route.
public abstract void	<i>putAttribute(String, String...)</i> on page 1325	Sets the value of the attribute with the given route If attribute does not exist it will be created as well as all other non existing elements in the route.
public abstract void	<i>putDocument(ISDMParseDocument, String...)</i> on page 1325	Insert the document under the element with the given route inserted document will be placed before already existing documents with the same route name under All missing elements from the route will be created.
public abstract void	<i>putValue(String, String...)</i> on page 1325	Sets the value of the first element with the given route.
public abstract boolean	<i>removeAttribute(String...)</i> on page 1326	Removes first element with the given route.
public abstract boolean	<i>removeAttributes(String...)</i> on page 1326	Removes all the attribute with the given route.
public abstract boolean	<i>removeDocument(String...)</i> on page 1326	Removes first element with the given route For removing multiple element use setDocuemtns with null arguments.
public static final String	<i>ROOT_DOCUMENT_NAME</i> on page 1330	The default root element name for a new document.

Modifier and Type	Member	Description
public abstract void	<i>setAttributes(List&lt; String &gt;, String...)</i> on page 1327	Sets all the values of the attributes with the given route Values will be paired to attributes in order Attributes with greater or equals index than size of new values will be untouched Attributes paired with null values will be removed.
public abstract void	<i>setDocuments(List&lt; ISDMParserDocument &gt;, String...)</i> on page 1327	Replaces all the elements with the given route Documents will be paired to elements in order Elements with greater or equals index than size of new elements will be untouched Element paired with null will be removed.
public abstract void	<i>setElementName(String, String...)</i> on page 1328	Sets the name of the root element with the given route Use empty route for setting root name of this document.
public abstract void	<i>setValues(List&lt; String &gt;, String...)</i> on page 1328	Sets all the values of the elements with the given rout Values will be paired to elements in order Elements with greater or equals index than size of new values will be untouched Null values will be treated as empty strings.
public abstract String	<i>toXMLString()</i> on page 1328	Returns the XML string representation of this object.
public static final String	<i>XMLNS_APPLICATION_URI</i> on page 1330	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/08/dataservices">http://schemas.microsoft.com/ado/2007/08/dataservices</a> .
public static final String	<i>XMLNS_ATOM_URI</i> on page 1330	Constant for XMLNS URI: <a href="http://www.w3.org/2005/Atom">http://www.w3.org/2005/Atom</a> .

Modifier and Type	Member	Description
public static final String	<i>XMLNS_DATASERVICES_URI</i> on page 1330	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/08/dataservices">http://schemas.microsoft.com/ado/2007/08/dataservices</a> .
public static final String	<i>XMLNS_EDM_URI</i> on page 1330	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/05/edm">http://schemas.microsoft.com/ado/2007/05/edm</a> .
public static final String	<i>XMLNS_EDMX_URI</i> on page 1330	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/06/edmx">http://schemas.microsoft.com/ado/2007/06/edmx</a> .
public static final String	<i>XMLNS_GENERICPLAYER_URI</i> on page 1331	Constant for XMLNS URI: <a href="http://www.sap.com/Protocols/SAPData/GenericPlayer">http://www.sap.com/Protocols/SAPData/GenericPlayer</a> .
public static final String	<i>XMLNS_METADATA_URI</i> on page 1331	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/08/dataservices/metadata">http://schemas.microsoft.com/ado/2007/08/dataservices/metadata</a> .
public static final String	<i>XMLNS_SAP_URI</i> on page 1331	Constant for XMLNS URI: <a href="http://www.sap.com/Protocols/SAPData">http://www.sap.com/Protocols/SAPData</a> .

#### Inherited members from ISDMPersistable

Modifier and Type	Member	Description
public void	<i>read(BufferedReader)</i> on page 1332	
public void	<i>write(BufferedWriter)</i> on page 1332	

#### *SDMODataSubscriptionEntry()* constructor

##### Syntax

```
public SDMODataSubscriptionEntry ()
```

#### *SDMODataSubscriptionEntry(String, String)* constructor

##### Syntax

```
public SDMODataSubscriptionEntry (String deliveryAddress , String collection )
```

*SDMODataSubscriptionEntry(String, String, String, String, String, String)*  
*constructor*

*Syntax*

```
public SDMODataSubscriptionEntry ( String deliveryAddress , String  
collection , String filter , String select , String title , String author )
```

*SDMODataSubscriptionEntry(SDMParserDocument)* *constructor*

*Syntax*

```
public SDMODataSubscriptionEntry ( SDMParserDocument  
document )
```

*SDMODataSubscriptionEntry(int[], String[])* *constructor*

*Syntax*

```
protected SDMODataSubscriptionEntry ( int[] routes , String[]  
values )
```

*getCollection()* *method*

Returns The value of the appropriate entry property.

*Syntax*

```
public String getCollection ()
```

*Returns*

The value of the appropriate entry property

*getDeliveryAddress()* *method*

Returns The value of the appropriate entry property.

*Syntax*

```
public String getDeliveryAddress ()
```

*Returns*

The value of the appropriate entry property

*getFilter()* *method*

Returns The value of the appropriate entry property.

*Syntax*

```
public String getFilter ()
```



*Returns*

The value of the appropriate entry property

*getSelect() method*

Returns The value of the appropriate entry property.

*Syntax*

```
public String getSelect ()
```

*Returns*

The value of the appropriate entry property

*setCollection(String) method*

Sets the value of the appropriate entry property.

*Syntax*

```
public void setCollection (String collection)
```

*Parameters*

- **collection** – The new value of the appropriate entry property

*setDeliveryAddress(String) method*

Sets the value of the appropriate entry property.

*Syntax*

```
public void setDeliveryAddress (String deliveryAddress)
```

*Parameters*

- **deliveryAddress** –

*setFilter(String) method*

Sets the value of the appropriate entry property.

*Syntax*

```
public void setFilter (String filterString)
```

*Parameters*

- **filterString** – The new value of the appropriate entry property

*setSelect(String) method*

Sets the value of the appropriate entry property.

*Syntax*

```
public void setSelect ( String selectString )
```

*Parameters*

- **selectString** – The new value of the appropriate entry property

*SDMODataURL class*

Deprecated. since 3.0, Use ODataURL

*Syntax*

```
public class SDMODataURL extends SDMParserDocument,
ISDMODataURL
```

*Members*

All members of SDMODataURL, including inherited members. **Variables**

Modifier and Type	Variable	Description
protected String	<i>baseUrl</i> on page 1895	

**Constructors**

Modifier and Type	Constructor	Description
public	<i>SDMODataURL()</i> on page 1892	
public	<i>SDMODataURL(SDMParserDocument)</i> on page 1893	
protected	<i>SDMODataURL(int[], String[])</i> on page 1893	

**Methods**

Modifier and Type	Method	Description
public List< String >	<i>getMandatoryTemplateParameters()</i> on page 1893	Returns the list of mandatory template parameter names.
protected List< String >	<i>getMandatoryTemplateParameters(String)</i> on page 1893	

Modifier and Type	Method	Description
public List< String >	<i>getOptionalTemplateParameters()</i> on page 1893	Returns the list of optional template parameter names.
protected List< String >	<i>getOptionalTemplateParameters(String)</i> on page 1893	
public String	<i>getTemplate()</i> on page 1894	Returns the value of the appropriate SDMODData attribute.
public List< String >	<i>getTemplateParameters()</i> on page 1894	Returns the list of all template parameter names.
public String	<i>getType()</i> on page 1894	Returns the value of the appropriate SDMODData attribute.
public String	<i>getUrl()</i> on page 1894	Returns the full URL of this SDMODData attribute without parameters.
public String	<i>getUrlFromTemplate(Map&lt; String, String &gt;)</i> on page 1894	Returns the full URL of this SDMODData attribute extended with parameter names and values according to the given parameter map.
public void	<i>read(BufferedReader)</i> on page 1895	
protected void	<i>setBaseUrl(String)</i> on page 1895	
public void	<i>write(BufferedWriter)</i> on page 1895	

#### Inherited members from SDMParserDocument

Modifier and Type	Member	Description
static transient final String	<i>ANY_STRING</i> on page 1953	
static transient final int	<i>ATTRIBUTE_ID</i> on page 1953	
static transient final String	<i>ATTRIBUTE_STRING</i> on page 1954	
public SDMParserDocument	<i>clone()</i> on page 1936	Creates a copy of this object.

Modifier and Type	Member	Description
protected Map< String, String >	<i>extensions</i> on page 1954	
public String	<i>getAttribute(String...)</i> on page 1936	Returns the value of the first attribute with the given route.
public List< String >	<i>getAttributes(String...)</i> on page 1937	Returns all the values of attributes with the given route.
protected int	<i>getAttributesEndPosition(int[], int, int)</i> on page 1937	
public Map< String, String >	<i>getChildAttribute-Map(String...)</i> on page 1937	Returns all the name-value pairs of attributes contained by the element with the given route.
public List< String >	<i>getChildAttributes(String...)</i> on page 1938	Returns all the values of attributes contained by the element with the given route.
public List< ISDMParseDocument >	<i>getChildDocuments(String...)</i> on page 1938	Returns the elements contained by the element with the given route.
public List< ISDMParseDocument >	<i>getChildDocumentsWithAttribute(String, String, String...)</i> on page 1938	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public List< ISDMParseDocument >	<i>getChildDocumentsWithAttribute(String, String, boolean, String...)</i> on page 1939	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public SDMParseDocument	<i>getDocument(String...)</i> on page 1939	Returns the first element with the given route.
protected List< int[] >	<i>getDocumentPositions(String[], int, boolean, boolean)</i> on page 1940	
public List< ISDMParseDocument >	<i>getDocuments(String...)</i> on page 1940	Returns all the elements with the given route.
public List< ISDMParseDocument >	<i>getDocumentsWithAttribute(String, String, String...)</i> on page 1940	Returns the elements with the given route that contains the given attribute with the given value.

Modifier and Type	Member	Description
public List< ISDMParserDocument >	<i>getDocumentsWithAttribute(String, String, boolean, String...)</i> on page 1941	Returns the elements with the given route that contains the given attribute with the given value.
public ISDMParserDocument	<i>getDocumentWithAttribute(String, String, String...)</i> on page 1941	Returns the first element with the given route that contains the given attribute with the given value.
public ISDMParserDocument	<i>getDocumentWithAttribute(String, String, boolean, String...)</i> on page 1942	Returns the first element with the given route that contains the given attribute with the given value.
public String	<i>getElementName()</i> on page 1942	Returns The name of the root element of this document.
public String	<i>getExtension(String)</i> on page 1943	
public String	<i>getFunctionImportComplexPropertyValue(String...)</i> on page 1943	
static int	<i>getNameId(String, boolean, boolean)</i> on page 1943	
public static List< String >	<i>getNameMap()</i> on page 1943	
public static String	<i>getPrefix(String)</i> on page 1943	
public String	<i>getPrefixForUri(String)</i> on page 1943	Returns the appropriate namespace prefix for the given XML name-space URI.
public static Map< String, String >	<i>getPrefixMapping()</i> on page 1944	
protected List< Integer >	<i>getStringPositions(String[], int, boolean, boolean)</i> on page 1944	
public String[]	<i>getStrings()</i> on page 1944	Returns all the string values contained by this document.

Modifier and Type	Member	Description
public String	<i>getValue(String...)</i> on page 1944	Returns the value of the first element with the given route.
public List< String >	<i>getValues(String...)</i> on page 1944	Returns all the values of elements with the given route.
protected int[]	<i>insertRoutePositions(int[], int, int[])</i> on page 1945	
protected void	<i>insertRoutesPositions(int, int[])</i> on page 1945	
protected void	<i>insertStringsPositions(int, String[])</i> on page 1945	
protected String[]	<i>insertStringsPositions(String[], int, String[])</i> on page 1945	
boolean	<i>isComplexEntity</i> on page 1954	
boolean	<i>isJson</i> on page 1954	
protected boolean	<i>isMatched(String, String)</i> on page 1945	
static transient List< String >	<i>nameMap</i> on page 1954	
static transient Map< String, String >	<i>prefixMapping</i> on page 1954	
public void	<i>putAttribute(String, String...)</i> on page 1946	Sets the value of the attribute with the given route. If attribute does not exist it will be created as well as all other non existing elements in the route.
public void	<i>putDocument(ISDMParseDocument, String...)</i> on page 1946	Insert the document under the element with the given route. Inserted document will be placed before already existing documents with the same route name. All missing elements from the route will be created.
public void	<i>putExtension(String, String)</i> on page 1946	

Modifier and Type	Member	Description
protected void	<i>putString(int, String, int, String...)</i> on page 1947	
public void	<i>putValue(String, String...)</i> on page 1947	Sets the value of the first element with the given route.
public static void	<i>readNameMap(BufferedReader)</i> on page 1947	
public boolean	<i>removeAttribute(String...)</i> on page 1948	Removes first element with the given route.
public boolean	<i>removeAttributes(String...)</i> on page 1948	Removes all the attribute with the given route.
public boolean	<i>removeDocument(String...)</i> on page 1948	Removes first element with the given route For removing multiple element use setDocuemtns with null arguments.
public void	<i>removeExtension(String)</i> on page 1948	
protected void	<i>removeRoutesPositions(int, int)</i> on page 1949	
protected int[]	<i>removeRoutesPositions(int[], int, int)</i> on page 1949	
protected boolean	<i>removeString(String...)</i> on page 1949	
protected boolean	<i>removeStrings(String...)</i> on page 1949	
protected void	<i>removeStringsPositions(int, int)</i> on page 1949	
protected String[]	<i>removeStringsPositions(String[], int, int)</i> on page 1949	
protected int	<i>replaceRoutesPositions(int, int, int[])</i> on page 1949	
protected int[]	<i>replaceRoutesPositions(int[], int, int, int[])</i> on page 1950	

Modifier and Type	Member	Description
protected int	<i>replaceStringsPositions(int, int, String[])</i> on page 1950	
protected String[]	<i>replaceStringsPositions(String[], int, int, String[])</i> on page 1950	
public static String	<i>resolveUrl(String, String)</i> on page 1950	
protected int[]	<i>routes</i> on page 1954	
	<i>SDMParserDocument()</i> on page 1935	
	<i>SDMParserDocument(boolean)</i> on page 1936	
public	<i>SDMParserDocument(String)</i> on page 1935	
public	<i>SDMParserDocument(SDMParserDocument)</i> on page 1935	
protected	<i>SDMParserDocument(int[], String[])</i> on page 1936	
protected	<i>SDMParserDocument(String, boolean)</i> on page 1936	
public void	<i>setAttribute(String, String...)</i> on page 1950	
public void	<i>setAttributes(List&lt;String&gt;, String...)</i> on page 1950	Sets all the values of the attributes with the given route Values will be paired to attributes in order Attributes with greater or equals index than size of new values will be untouched Attributes paired with null values will be removed.
public boolean	<i>setDocument(ISDMParserDocument, String...)</i> on page 1951	



Modifier and Type	Member	Description
public void	<i>setDocuments(List&lt; ISDMParserDocument &gt;, String...)</i> on page 1951	Replaces all the elements with the given route Documents will be paired to elements in order Elements with greater or equals index than size of new elements will be untouched Element paired with null will be removed.
public void	<i>setElementName(String, String...)</i> on page 1951	Sets the name of the root element with the given route Use empty route for setting root name of this document.
public static void	<i>setNameMap(List&lt;String &gt;)</i> on page 1952	
public static void	<i>setPrefixMapping(Map&lt;String, String &gt;)</i> on page 1952	
protected void	<i>setString(String, String...)</i> on page 1952	
protected void	<i>setStrings(List&lt;String &gt;, String...)</i> on page 1952	
public void	<i>setValue(String, String...)</i> on page 1952	
public void	<i>setValues(List&lt;String &gt;, String...)</i> on page 1952	Sets all the values of the elements with the given route Values will be paired to elements in order Elements with greater or equals index than size of new values will be untouched Null values will be treated as empty strings.
protected String[]	<i>strings</i> on page 1954	
public String	<i>toXMLString()</i> on page 1953	Returns the XML string representation of this object.
protected static final String	<i>URL_PROTOCOL_PREFIX</i> on page 1955	

Modifier and Type	Member	Description
static transient final int	<i>VALUE_ID</i> on page 1955	
static transient final String	<i>VALUE_STRING</i> on page 1955	
public static void	<i>writeNameMap(BufferedWriter)</i> on page 1953	

### Inherited members from ISDMParserDocument

Modifier and Type	Member	Description
public static final String	<i>ATTRIBUTE_ETAG</i> on page 1329	Name of the appropriate SDMOData element.
public static final String	<i>ATTRIBUTE_VALUEPREFIX_EDMTYPE</i> on page 1329	Value prefix for EDM Type type values.
public static Map< String, String >	<i>DEFAULT_PREFIXMAPPING</i> on page 1329	The default XML Namespace-to-Prefix mapping used for building XMLS.
public static final String[]	<i>EDMDATETIME_PATTERNS</i> on page 1329	Possible EDM DateTime patterns Note: Some pattern are not supported by OData specification but still widely used.
public static final String[]	<i>EDMDATETIMEOFFSET_PATTERNS</i> on page 1329	Possible EDM TimeOffset patterns Note: Some pattern are not supported by OData specification but still widely used.
public static final String	<i>EDMTIME_PATTERN</i> on page 1329	EDM Time pattern.
public static String	<i>ELEMENT_FEED</i> on page 1329	Name of the appropriate SDMOData element.
public static final String	<i>ELEMENT_ID</i> on page 1330	Name of the appropriate SDMOData element.
public static final String	<i>ROOT_DOCUMENT_NAME</i> on page 1330	The default root element name for a new document.
public static final String	<i>XMLNS_APPLICATION_URI</i> on page 1330	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/08/dataservices">http://schemas.microsoft.com/ado/2007/08/dataservices</a> .

Modifier and Type	Member	Description
public static final String	<i>XMLNS_ATOM_URI</i> on page 1330	Constant for XMLNS URI: <a href="http://www.w3.org/2005/Atom">http://www.w3.org/2005/Atom</a> .
public static final String	<i>XMLNS_DATASERVICES_URI</i> on page 1330	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/08/dataservices">http://schemas.microsoft.com/ado/2007/08/dataservices</a> .
public static final String	<i>XMLNS_EDM_URI</i> on page 1330	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/05/edm">http://schemas.microsoft.com/ado/2007/05/edm</a> .
public static final String	<i>XMLNS_EDMX_URI</i> on page 1330	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/06/edmx">http://schemas.microsoft.com/ado/2007/06/edmx</a> .
public static final String	<i>XMLNS_GENERICPLAYER_URI</i> on page 1331	Constant for XMLNS URI: <a href="http://www.sap.com/Protocols/SAPData/GenericPlayer">http://www.sap.com/Protocols/SAPData/GenericPlayer</a> .
public static final String	<i>XMLNS_METADATA_URI</i> on page 1331	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/08/dataservices/metadata">http://schemas.microsoft.com/ado/2007/08/dataservices/metadata</a> .
public static final String	<i>XMLNS_SAP_URI</i> on page 1331	Constant for XMLNS URI: <a href="http://www.sap.com/Protocols/SAPData">http://www.sap.com/Protocols/SAPData</a> .

#### Inherited members from ISDMPersistable

Modifier and Type	Member	Description
public void	<i>read(BufferedReader)</i> on page 1332	
public void	<i>write(BufferedWriter)</i> on page 1332	

#### Inherited members from ISDMODataURL

Modifier and Type	Member	Description
public static final String	<i>ATTRIBUTE_TEMPLATE</i> on page 1291	Name of the appropriate SDMODData attribute.

Modifier and Type	Member	Description
public static final String	<i>ATTRIBUTE_TYPE</i> on page 1291	Name of the appropriate SDMOData attribute.
public static final String	<i>ELEMENT_URL</i> on page 1291	Name of the appropriate SDMOData element.

#### Inherited members from ISDMParserDocument

Modifier and Type	Member	Description
public static final String	<i>ATTRIBUTE_ETAG</i> on page 1329	Name of the appropriate SDMOData element.
public static final String	<i>ATTRIBUTE_VALUEPREFIX_EDMTYPE</i> on page 1329	Value prefix for EDM Type type values.
public abstract ISDMParserDocument	<i>clone()</i> on page 1317	Creates a copy of this object.
public static Map< String, String >	<i>DEFAULT_PREFIXMAPPING</i> on page 1329	The default XML Namespace-to-Prefix mapping used for building XMLS.
public static final String[]	<i>EDMDATETIME_PATTERNS</i> on page 1329	Possible EDM DateTime patterns Note: Some pattern are not supported by OData specification but still widely used.
public static final String[]	<i>EDMDATETIMEOFFSET_PATTERNS</i> on page 1329	Possible EDM TimeOffset patterns Note: Some pattern are not supported by OData specification but still widely used.
public static final String	<i>EDMTIME_PATTERN</i> on page 1329	EDM Time pattern.
public static String	<i>ELEMENT_FEED</i> on page 1329	Name of the appropriate SDMOData element.
public static final String	<i>ELEMENT_ID</i> on page 1330	Name of the appropriate SDMOData element.
public abstract String	<i>getAttribute(String...)</i> on page 1317	Returns the value of the first attribute with the given route.
public abstract List< String >	<i>getAttributes(String...)</i> on page 1317	Returns all the values of attributes with the given route.

Modifier and Type	Member	Description
public abstract Map< String, String >	<i>getChildAttribute-Map(String...)</i> on page 1318	Returns all the name-value pairs of attributes contained by the element with the given route.
public abstract List< String >	<i>getChildAttributes(String...)</i> on page 1318	Returns all the values of attributes contained by the element with the given route.
public abstract List< ISDMParserDocument >	<i>getChildDocuments(String...)</i> on page 1318	Returns the elements contained by the element with the given route.
public abstract List< ISDMParserDocument >	<i>getChildDocumentsWithAttribute(String, String, String...)</i> on page 1319	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public abstract List< ISDMParserDocument >	<i>getChildDocumentsWithAttribute(String, String, boolean, String...)</i> on page 1319	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public abstract ISDMParserDocument	<i>getDocument(String...)</i> on page 1320	Returns the first element with the given route.
public abstract List< ISDMParserDocument >	<i>getDocuments(String...)</i> on page 1320	Returns all the elements with the given route.
public abstract List< ISDMParserDocument >	<i>getDocumentsWithAttribute(String, String, String...)</i> on page 1321	Returns the elements with the given route that contains the given attribute with the given value.
public abstract List< ISDMParserDocument >	<i>getDocumentsWithAttribute(String, String, boolean, String...)</i> on page 1321	Returns the elements with the given route that contains the given attribute with the given value.
public abstract ISDMParserDocument	<i>getDocumentWithAttribute(String, String, String...)</i> on page 1322	Returns the first element with the given route that contains the given attribute with the given value.

Modifier and Type	Member	Description
public abstract ISDMParserDocument	<i>getDocumentWithAttribute(String, String, boolean, String...)</i> on page 1322	Returns the first element with the given route that contains the given attribute with the given value.
public abstract String	<i>getElementName()</i> on page 1323	Returns The name of the root element of this document.
public abstract String	<i>getFunctionImportComplexPropertyValue(String...)</i> on page 1323	
public abstract String	<i>getPrefixForUri(String)</i> on page 1323	Returns the appropriate name-space prefix for the given XML name-space URI.
public abstract String[]	<i>getStrings()</i> on page 1324	Returns all the string values contained by this document.
public abstract String	<i>getValue(String...)</i> on page 1324	Returns the value of the first element with the given route.
public abstract List< String >	<i>getValues(String...)</i> on page 1324	Returns all the values of elements with the given route.
public abstract void	<i>putAttribute(String, String...)</i> on page 1325	Sets the value of the attribute with the given route If attribute does not exist it will be created as well as all other non existing elements in the route.
public abstract void	<i>putDocument(ISDMParserDocument, String...)</i> on page 1325	Insert the document under the element with the given route inserted document will be placed before already existing documents with the same route name under All missing elements from the route will be created.
public abstract void	<i>putValue(String, String...)</i> on page 1325	Sets the value of the first element with the given route.
public abstract boolean	<i>removeAttribute(String...)</i> on page 1326	Removes first element with the given route.

Modifier and Type	Member	Description
public abstract boolean	<i>removeAttributes(String...)</i> on page 1326	Removes all the attribute with the given route.
public abstract boolean	<i>removeDocument(String...)</i> on page 1326	Removes first element with the given route For removing multiple element use setDocuemtns with null arguments.
public static final String	<i>ROOT_DOCUMENT_NAME</i> on page 1330	The default root element name for a new document.
public abstract void	<i>setAttributes(List&lt; String &gt;, String...)</i> on page 1327	Sets all the values of the attributes with the given route Values will be paired to attributes in order Attributes with greater or equals index than size of new values will be untouched Attributes paired with null values will be removed.
public abstract void	<i>setDocuments(List&lt; ISDMParserDocument &gt;, String...)</i> on page 1327	Replaces all the elements with the given route Documents will be paired to elements in order Elements with greater or equals index than size of new elements will be untouched Element paired with null will be removed.
public abstract void	<i>setElementName(String, String...)</i> on page 1328	Sets the name of the root element with the given route Use empty route for setting root name of this document.
public abstract void	<i>setValues(List&lt; String &gt;, String...)</i> on page 1328	Sets all the values of the elements with the given rout Values will be paired to elements in order Elements with greater or equals index than size of new values will be untouched Null values will be treated as empty strings.
public abstract String	<i>toXMLString()</i> on page 1328	Returns the XML string representation of this object.

Modifier and Type	Member	Description
public static final String	<i>XMLNS_APPLICATION_URI</i> on page 1330	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/08/dataservices">http://schemas.microsoft.com/ado/2007/08/dataservices</a> .
public static final String	<i>XMLNS_ATOM_URI</i> on page 1330	Constant for XMLNS URI: <a href="http://www.w3.org/2005/Atom">http://www.w3.org/2005/Atom</a> .
public static final String	<i>XMLNS_DATASERVICES_URI</i> on page 1330	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/08/dataservices">http://schemas.microsoft.com/ado/2007/08/dataservices</a> .
public static final String	<i>XMLNS_EDM_URI</i> on page 1330	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/05/edm">http://schemas.microsoft.com/ado/2007/05/edm</a> .
public static final String	<i>XMLNS_EDMX_URI</i> on page 1330	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/06/edmx">http://schemas.microsoft.com/ado/2007/06/edmx</a> .
public static final String	<i>XMLNS_GENERICPLAYER_URI</i> on page 1331	Constant for XMLNS URI: <a href="http://www.sap.com/Protocols/SAPData/GenericPlayer">http://www.sap.com/Protocols/SAPData/GenericPlayer</a> .
public static final String	<i>XMLNS_METADATA_URI</i> on page 1331	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/08/dataservices/metadata">http://schemas.microsoft.com/ado/2007/08/dataservices/metadata</a> .
public static final String	<i>XMLNS_SAP_URI</i> on page 1331	Constant for XMLNS URI: <a href="http://www.sap.com/Protocols/SAPData">http://www.sap.com/Protocols/SAPData</a> .

**Inherited members from ISDMPersistable**

Modifier and Type	Member	Description
public void	<i>read(BufferedReader)</i> on page 1332	
public void	<i>write(BufferedWriter)</i> on page 1332	

*SDMODataURL()* constructor**Syntax**

```
public SDMODataURL ()
```



*SDMODataURL(SDMParserDocument) constructor**Syntax*

```
public   SDMODataURL ( SDMParserDocument document )
```

*SDMODataURL(int[], String[]) constructor**Syntax*

```
protected   SDMODataURL ( int[] routes , String[] values )
```

*getMandatoryTemplateParameters() method*

Returns the list of mandatory template parameter names.

*Syntax*

```
public List< String > getMandatoryTemplateParameters ()
```

*Returns*

the list of mandatory template parameter names

*getMandatoryTemplateParameters(String) method**Syntax*

```
protected List< String > getMandatoryTemplateParameters  
( String template )
```

*getOptionalTemplateParameters() method*

Returns the list of optional template parameter names.

*Syntax*

```
public List< String > getOptionalTemplateParameters ()
```

*Returns*

the list of optional template parameter names

*getOptionalTemplateParameters(String) method**Syntax*

```
protected List< String > getOptionalTemplateParameters  
( String template )
```

### *getTemplate() method*

Returns the value of the appropriate SDMODData attribute.

#### *Syntax*

```
public String getTemplate ()
```

#### *Returns*

The value of the appropriate SDMODData attribute

### *getTemplateParameters() method*

Returns the list of all template parameter names.

#### *Syntax*

```
public List< String > getTemplateParameters ()
```

#### *Returns*

the list of all template parameter names

### *getType() method*

Returns the value of the appropriate SDMODData attribute.

#### *Syntax*

```
public String getType ()
```

#### *Returns*

The value of the appropriate SDMODData attribute

### *getUrl() method*

Returns the full URL of this SDMODData attribute without parameters.

#### *Syntax*

```
public String getUrl ()
```

#### *Returns*

The full URL this SDMODData attribute without parameters

### *getUrlFromTemplate(Map< String, String >) method*

Returns the full URL of this SDMODData attribute extended with parameter names and values according to the given parameter map.

#### *Syntax*

```
public String getUrlFromTemplate (Map< String, String >  
parameters )
```

### Returns

The full URL this SDMOData attribute with parameters names and values

### *read(BufferedReader) method*

#### Syntax

```
public void read (BufferedReader reader) throws  
SDMPersistenceException
```

#### Parameters

- **reader** – The buffered reader to read the object from.

#### Exceptions

- **SDMPersistenceException** – if data can not be loaded from the reader.

### *setBaseUrl(String) method*

#### Syntax

```
protected void setBaseUrl (String baseUrl)
```

### *write(BufferedWriter) method*

#### Syntax

```
public void write (BufferedWriter writer) throws  
SDMPersistenceException
```

#### Parameters

- **writer** – The buffered writer that object data needs to be written into.

#### Exceptions

- **SDMPersistenceException** – if data can not be written into the writer

### *baseUrl variable*

#### Syntax

```
protected String baseUrl
```

*SDMODataWorkspace* class

Deprecated. since 3.0, Use ODataWorkspace

**Syntax**

```
public class SDMODataWorkspace extends SDMParserDocument,
ISDMODataWorkspace
```

**Members**

All members of SDMODataWorkspace, including inherited members. **Variables**

Modifier and Type	Variable	Description
protected String	<i>baseUrl</i> on page 1911	

**Constructors**

Modifier and Type	Constructor	Description
public	<i>SDMODataWorkspace()</i> on page 1910	
public	<i>SDMODataWorkspace(SDMParserDocument)</i> on page 1910	
protected	<i>SDMODataWorkspace(int[], String[])</i> on page 1910	

**Methods**

Modifier and Type	Method	Description
public List< ISDMODataCollection >	<i>getCollections()</i> on page 1910	Returns The list of of 'collection' SDMOData element.
public String	<i>getSemantics()</i> on page 1911	Returns the value of the appropriate SDMOData attribute.
public String	<i>getTitle()</i> on page 1911	Returns the value of the appropriate SDMOData element.
protected void	<i>setBaseUrl(String)</i> on page 1911	

**Inherited members from SDMParserDocument**

Modifier and Type	Member	Description
static transient final String	<i>ANY_STRING</i> on page 1953	
static transient final int	<i>ATTRIBUTE_ID</i> on page 1953	
static transient final String	<i>ATTRIBUTE_STRING</i> on page 1954	
public SDMParserDocument	<i>clone()</i> on page 1936	Creates a copy of this object.
protected Map< String, String >	<i>extensions</i> on page 1954	
public String	<i>getAttribute(String...)</i> on page 1936	Returns the value of the first attribute with the given route.
public List< String >	<i>getAttributes(String...)</i> on page 1937	Returns all the values of attributes with the given route.
protected int	<i>getAttributesEndPosition(int[], int, int)</i> on page 1937	
public Map< String, String >	<i>getChildAttributeMap(String...)</i> on page 1937	Returns all the name-value pairs of attributes contained by the element with the given route.
public List< String >	<i>getChildAttributes(String...)</i> on page 1938	Returns all the values of attributes contained by the element with the given route.
public List< ISDMParserDocument >	<i>getChildDocuments(String...)</i> on page 1938	Returns the elements contained by the element with the given route.
public List< ISDMParserDocument >	<i>getChildDocumentsWithAttribute(String, String, String...)</i> on page 1938	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public List< ISDMParserDocument >	<i>getChildDocumentsWithAttribute(String, String, boolean, String...)</i> on page 1939	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public SDMParserDocument	<i>getDocument(String...)</i> on page 1939	Returns the first element with the given route.

Modifier and Type	Member	Description
protected List< int[]>	<i>getDocumentPositions(String[], int, boolean, boolean)</i> on page 1940	
public List< ISDMParseDocument >	<i>getDocuments(String...)</i> on page 1940	Returns all the elements with the given route.
public List< ISDMParseDocument >	<i>getDocumentsWithAttribute(String, String, String...)</i> on page 1940	Returns the elements with the given route that contains the given attribute with the given value.
public List< ISDMParseDocument >	<i>getDocumentsWithAttribute(String, String, boolean, String...)</i> on page 1941	Returns the elements with the given route that contains the given attribute with the given value.
public ISDMParseDocument	<i>getDocumentWithAttribute(String, String, String...)</i> on page 1941	Returns the first element with the given route that contains the given attribute with the given value.
public ISDMParseDocument	<i>getDocumentWithAttribute(String, String, boolean, String...)</i> on page 1942	Returns the first element with the given route that contains the given attribute with the given value.
public String	<i>getElementName()</i> on page 1942	Returns The name of the root element of this document.
public String	<i>getExtension(String)</i> on page 1943	
public String	<i>getFunctionImportComplexPropertyValue(String...)</i> on page 1943	
static int	<i>getNameId(String, boolean, boolean)</i> on page 1943	
public static List< String >	<i>getNameMap()</i> on page 1943	
public static String	<i>getPrefix(String)</i> on page 1943	

Modifier and Type	Member	Description
public String	<i>getPrefixForUri(String)</i> on page 1943	Returns the appropriate name-space prefix for the given XML name-space URI.
public static Map< String, String >	<i>getPrefixMapping()</i> on page 1944	
protected List< Integer >	<i>getStringPositions(String[], int, boolean, boolean)</i> on page 1944	
public String[]	<i>getStrings()</i> on page 1944	Returns all the string values contained by this document.
public String	<i>getValue(String...)</i> on page 1944	Returns the value of the first element with the given route.
public List< String >	<i>getValues(String...)</i> on page 1944	Returns all the values of elements with the given route.
protected int[]	<i>insertRoutePositions(int[], int, int[])</i> on page 1945	
protected void	<i>insertRoutesPositions(int, int[])</i> on page 1945	
protected void	<i>insertStringsPositions(int, String[])</i> on page 1945	
protected String[]	<i>insertStringsPositions(String[], int, String[])</i> on page 1945	
boolean	<i>isComplexEntity</i> on page 1954	
boolean	<i>isJson</i> on page 1954	
protected boolean	<i>isMatched(String, String)</i> on page 1945	
static transient List< String >	<i>nameMap</i> on page 1954	
static transient Map< String, String >	<i>prefixMapping</i> on page 1954	

Modifier and Type	Member	Description
public void	<i>putAttribute(String, String...)</i> on page 1946	Sets the value of the attribute with the given route. If attribute does not exist it will be created as well as all other non existing elements in the route.
public void	<i>putDocument(ISDMParseDocument, String...)</i> on page 1946	Insert the document under the element with the given route. Inserted document will be placed before already existing documents with the same route name under. All missing elements from the route will be created.
public void	<i>putExtension(String, String)</i> on page 1946	
protected void	<i>putString(int, String, int, String...)</i> on page 1947	
public void	<i>putValue(String, String...)</i> on page 1947	Sets the value of the first element with the given route.
public void	<i>read(BufferedReader)</i> on page 1947	
public static void	<i>readNameMap(BufferedReader)</i> on page 1947	
public boolean	<i>removeAttribute(String...)</i> on page 1948	Removes first element with the given route.
public boolean	<i>removeAttributes(String...)</i> on page 1948	Removes all the attribute with the given route.
public boolean	<i>removeDocument(String...)</i> on page 1948	Removes first element with the given route. For removing multiple element use setDocuments with null arguments.
public void	<i>removeExtension(String)</i> on page 1948	
protected void	<i>removeRoutesPositions(int, int)</i> on page 1949	



Modifier and Type	Member	Description
protected int[]	<i>removeRoutesPositions(int[], int, int)</i> on page 1949	
protected boolean	<i>removeString(String...)</i> on page 1949	
protected boolean	<i>removeStrings(String...)</i> on page 1949	
protected void	<i>removeStringsPositions(int, int)</i> on page 1949	
protected String[]	<i>removeStringsPositions(String[], int, int)</i> on page 1949	
protected int	<i>replaceRoutesPositions(int, int, int[])</i> on page 1949	
protected int[]	<i>replaceRoutesPositions(int[], int, int, int[])</i> on page 1950	
protected int	<i>replaceStringsPositions(int, int, String[])</i> on page 1950	
protected String[]	<i>replaceStringsPositions(String[], int, int, String[])</i> on page 1950	
public static String	<i>resolveUrl(String, String)</i> on page 1950	
protected int[]	<i>routes</i> on page 1954	
	<i>SDMParserDocument()</i> on page 1935	
	<i>SDMParserDocument(boolean)</i> on page 1936	
public	<i>SDMParserDocument(String)</i> on page 1935	
public	<i>SDMParserDocument(SDMParserDocument)</i> on page 1935	

Modifier and Type	Member	Description
protected	<i>SDMParserDocument(int[], String[])</i> on page 1936	
protected	<i>SDMParserDocument(String, boolean)</i> on page 1936	
public void	<i>setAttribute(String, String...)</i> on page 1950	
public void	<i>setAttributes(List&lt;String&gt;, String...)</i> on page 1950	Sets all the values of the attributes with the given route Values will be paired to attributes in order Attributes with greater or equals index than size of new values will be untouched Attributes paired with null values will be removed.
public boolean	<i>setDocument(ISDMParserDocument, String...)</i> on page 1951	
public void	<i>setDocuments(List&lt;ISDMParserDocument&gt;, String...)</i> on page 1951	Replaces all the elements with the given route Documents will be paired to elements in order Elements with greater or equals index than size of new elements will be untouched Element paired with null will be removed.
public void	<i>setElementName(String, String...)</i> on page 1951	Sets the name of the root element with the given route Use empty route for setting root name of this document.
public static void	<i>setNameMap(List&lt;String&gt;)</i> on page 1952	
public static void	<i>setPrefixMapping(Map&lt;String, String&gt;)</i> on page 1952	
protected void	<i>setString(String, String...)</i> on page 1952	

Modifier and Type	Member	Description
protected void	<i>setStrings(List&lt; String &gt;, String...)</i> on page 1952	
public void	<i>setValue(String, String...)</i> on page 1952	
public void	<i>setValues(List&lt; String &gt;, String...)</i> on page 1952	Sets all the values of the elements with the given route Values will be paired to elements in order Elements with greater or equals index than size of new values will be untouched Null values will be treated as empty strings.
protected String[]	<i>strings</i> on page 1954	
public String	<i>toXMLString()</i> on page 1953	Returns the XML string representation of this object.
protected static final String	<i>URL_PROTOCOL_PREFIX</i> on page 1955	
static transient final int	<i>VALUE_ID</i> on page 1955	
static transient final String	<i>VALUE_STRING</i> on page 1955	
public void	<i>write(BufferedWriter)</i> on page 1953	
public static void	<i>writeNameMap(BufferedWriter)</i> on page 1953	

#### Inherited members from ISDMParserDocument

Modifier and Type	Member	Description
public static final String	<i>ATTRIBUTE_ETAG</i> on page 1329	Name of the appropriate SDMOData element.
public static final String	<i>ATTRIBUTE_VALUEPREFIX_EDMTYPE</i> on page 1329	Value prefix for EDM Type type values.
public static Map< String, String >	<i>DEFAULT_PREFIXMAPPING</i> on page 1329	The default XML Namespace-to-Prefix mapping used for building XMLS.

Modifier and Type	Member	Description
public static final String[]	<i>EDMDATETIME_PATTERNS</i> on page 1329	Possible EDM DateTime patterns Note: Some pattern are not supported by OData specification but still widely used.
public static final String[]	<i>EDMDATETIMEOFFSET_PATTERNS</i> on page 1329	Possible EDM TimeOffset patterns Note: Some pattern are not supported by OData specification but still widely used.
public static final String	<i>EDMTIME_PATTERN</i> on page 1329	EDM Time pattern.
public static String	<i>ELEMENT_FEED</i> on page 1329	Name of the appropriate SDMOData element.
public static final String	<i>ELEMENT_ID</i> on page 1330	Name of the appropriate SDMOData element.
public static final String	<i>ROOT_DOCUMENT_NAME</i> on page 1330	The default root element name for a new document.
public static final String	<i>XMLNS_APPLICATION_URI</i> on page 1330	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/08/dataservices">http://schemas.microsoft.com/ado/2007/08/dataservices</a> .
public static final String	<i>XMLNS_ATOM_URI</i> on page 1330	Constant for XMLNS URI: <a href="http://www.w3.org/2005/Atom">http://www.w3.org/2005/Atom</a> .
public static final String	<i>XMLNS_DATASERVICES_URI</i> on page 1330	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/08/dataservices">http://schemas.microsoft.com/ado/2007/08/dataservices</a> .
public static final String	<i>XMLNS_EDM_URI</i> on page 1330	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/05/edm">http://schemas.microsoft.com/ado/2007/05/edm</a> .
public static final String	<i>XMLNS_EDMX_URI</i> on page 1330	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/06/edmx">http://schemas.microsoft.com/ado/2007/06/edmx</a> .
public static final String	<i>XMLNS_GENERICPLAYER_URI</i> on page 1331	Constant for XMLNS URI: <a href="http://www.sap.com/Protocols/SAPData/GenericPlayer">http://www.sap.com/Protocols/SAPData/GenericPlayer</a> .

Modifier and Type	Member	Description
public static final String	<i>XMLNS_METADATA_URI</i> on page 1331	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/08/dataservices/metadata">http://schemas.microsoft.com/ado/2007/08/dataservices/metadata</a> .
public static final String	<i>XMLNS_SAP_URI</i> on page 1331	Constant for XMLNS URI: <a href="http://www.sap.com/Protocols/SAPData">http://www.sap.com/Protocols/SAPData</a> .

**Inherited members from ISDMPersistable**

Modifier and Type	Member	Description
public void	<i>read(BufferedReader)</i> on page 1332	
public void	<i>write(BufferedWriter)</i> on page 1332	

**Inherited members from ISDMODataWorkspace**

Modifier and Type	Member	Description
public static final String	<i>ATTRIBUTE_SEMANTICS</i> on page 1298	Name of the appropriate SDMODData attribute.
public static final String	<i>ELEMENT_TITLE</i> on page 1298	Name of the appropriate SDMODData element.
public static final String	<i>ELEMENT_WORKSPACE</i> on page 1298	Name of the appropriate SDMODData element.

**Inherited members from ISDMParserDocument**

Modifier and Type	Member	Description
public static final String	<i>ATTRIBUTE_ETAG</i> on page 1329	Name of the appropriate SDMODData element.
public static final String	<i>ATTRIBUTE_VALUEPREFIX_EDMTYPE</i> on page 1329	Value prefix for EDM Type type values.
public abstract ISDMParserDocument	<i>clone()</i> on page 1317	Creates a copy of this object.

Modifier and Type	Member	Description
public static Map< String, String >	<i>DEFAULT_PREFIXMAP-PING</i> on page 1329	The default XML Namespace-to-Prefix mapping used for building XMLS.
public static final String[]	<i>EDMDATETIME_PATTERNS</i> on page 1329	Possible EDM DateTime patterns Note: Some pattern are not supported by OData specification but still widely used.
public static final String[]	<i>EDMDATETIMEOFFSET_PATTERNS</i> on page 1329	Possible EDM TimeOffset patterns Note: Some pattern are not supported by OData specification but still widely used.
public static final String	<i>EDMTIME_PATTERN</i> on page 1329	EDM Time pattern.
public static String	<i>ELEMENT_FEED</i> on page 1329	Name of the appropriate SDMOData element.
public static final String	<i>ELEMENT_ID</i> on page 1330	Name of the appropriate SDMOData element.
public abstract String	<i>getAttribute(String...)</i> on page 1317	Returns the value of the first attribute with the given route.
public abstract List< String >	<i>getAttributes(String...)</i> on page 1317	Returns all the values of attributes with the given route.
public abstract Map< String, String >	<i>getChildAttribute-Map(String...)</i> on page 1318	Returns all the name-value pairs of attributes contained by the element with the given route.
public abstract List< String >	<i>getChildAttributes(String...)</i> on page 1318	Returns all the values of attributes contained by the element with the given route.
public abstract List< ISDMParseDocument >	<i>getChildDocuments(String...)</i> on page 1318	Returns the elements contained by the element with the given route.
public abstract List< ISDMParseDocument >	<i>getChildDocumentsWithAttribute(String, String, String...)</i> on page 1319	Returns the elements contained by the element with the given route and having the given attribute with the given value.

Modifier and Type	Member	Description
public abstract List< ISDMParseDocument >	<i>getChildDocumentsWithAttribute(String, String, boolean, String...)</i> on page 1319	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public abstract ISDMParseDocument	<i>getDocument(String...)</i> on page 1320	Returns the first element with the given route.
public abstract List< ISDMParseDocument >	<i>getDocuments(String...)</i> on page 1320	Returns all the elements with the given route.
public abstract List< ISDMParseDocument >	<i>getDocumentsWithAttribute(String, String, String...)</i> on page 1321	Returns the elements with the given route that contains the given attribute with the given value.
public abstract List< ISDMParseDocument >	<i>getDocumentsWithAttribute(String, String, boolean, String...)</i> on page 1321	Returns the elements with the given route that contains the given attribute with the given value.
public abstract ISDMParseDocument	<i>getDocumentWithAttribute(String, String, String...)</i> on page 1322	Returns the first element with the given route that contains the given attribute with the given value.
public abstract ISDMParseDocument	<i>getDocumentWithAttribute(String, String, boolean, String...)</i> on page 1322	Returns the first element with the given route that contains the given attribute with the given value.
public abstract String	<i>getElementName()</i> on page 1323	Returns The name of the root element of this document.
public abstract String	<i>getFunctionImportComplexProperty Value(String...)</i> on page 1323	
public abstract String	<i>getPrefixForUri(String)</i> on page 1323	Returns the appropriate namespace prefix for the given XML name-space URI.
public abstract String[]	<i>getStrings()</i> on page 1324	Returns all the string values contained by this document.

Modifier and Type	Member	Description
public abstract String	<i>getValue(String...)</i> on page 1324	Returns the value of the first element with the given route.
public abstract List< String >	<i>getValues(String...)</i> on page 1324	Returns all the values of elements with the given route.
public abstract void	<i>putAttribute(String, String...)</i> on page 1325	Sets the value of the attribute with the given route If attribute does not exist it will be created as well as all other non existing elements in the route.
public abstract void	<i>putDocument(ISDMParserDocument, String...)</i> on page 1325	Insert the document under the element with the given route inserted document will be placed before already existing documents with the same route name under All missing elements from the route will be created.
public abstract void	<i>putValue(String, String...)</i> on page 1325	Sets the value of the first element with the given route.
public abstract boolean	<i>removeAttribute(String...)</i> on page 1326	Removes first element with the given route.
public abstract boolean	<i>removeAttributes(String...)</i> on page 1326	Removes all the attribute with the given route.
public abstract boolean	<i>removeDocument(String...)</i> on page 1326	Removes first element with the given route For removing multiple element use setDocuemtns with null arguments.
public static final String	<i>ROOT_DOCUMENT_NAME</i> on page 1330	The default root element name for a new document.
public abstract void	<i>setAttributes(List&lt; String &gt;, String...)</i> on page 1327	Sets all the values of the attributes with the given route Values will be paired to attributes in order Attributes with greater or equals index than size of new values will be untouched Attributes paired with null values will be removed.



Modifier and Type	Member	Description
public abstract void	<i>setDocuments(List&lt; ISDMParserDocument &gt;, String...)</i> on page 1327	Replaces all the elements with the given route Documents will be paired to elements in order Elements with greater or equals index than size of new elements will be untouched Element paired with null will be removed.
public abstract void	<i>setElementName(String, String...)</i> on page 1328	Sets the name of the root element with the given route Use empty route for setting root name of this document.
public abstract void	<i>setValues(List&lt; String &gt;, String...)</i> on page 1328	Sets all the values of the elements with the given route Values will be paired to elements in order Elements with greater or equals index than size of new values will be untouched Null values will be treated as empty strings.
public abstract String	<i>toXMLString()</i> on page 1328	Returns the XML string representation of this object.
public static final String	<i>XMLNS_APPLICATION_URI</i> on page 1330	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/08/dataservices">http://schemas.microsoft.com/ado/2007/08/dataservices</a> .
public static final String	<i>XMLNS_ATOM_URI</i> on page 1330	Constant for XMLNS URI: <a href="http://www.w3.org/2005/Atom">http://www.w3.org/2005/Atom</a> .
public static final String	<i>XMLNS_DATASERVICES_URI</i> on page 1330	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/08/dataservices">http://schemas.microsoft.com/ado/2007/08/dataservices</a> .
public static final String	<i>XMLNS_EDM_URI</i> on page 1330	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/05/edm">http://schemas.microsoft.com/ado/2007/05/edm</a> .
public static final String	<i>XMLNS_EDMX_URI</i> on page 1330	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/06/edmx">http://schemas.microsoft.com/ado/2007/06/edmx</a> .

Modifier and Type	Member	Description
public static final String	<i>XMLNS_GENERICPLAYER_URI</i> on page 1331	Constant for XMLNS URI: <a href="http://www.sap.com/Protocols/SAPData/GenericPlayer">http://www.sap.com/Protocols/SAPData/GenericPlayer</a> .
public static final String	<i>XMLNS_METADATA_URI</i> on page 1331	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/08/dataservices/metadata">http://schemas.microsoft.com/ado/2007/08/dataservices/metadata</a> .
public static final String	<i>XMLNS_SAP_URI</i> on page 1331	Constant for XMLNS URI: <a href="http://www.sap.com/Protocols/SAPData">http://www.sap.com/Protocols/SAPData</a> .

**Inherited members from ISDMPersistable**

Modifier and Type	Member	Description
public void	<i>read(BufferedReader)</i> on page 1332	
public void	<i>write(BufferedWriter)</i> on page 1332	

*SDMODataWorkspace()* constructor*Syntax*

```
public    SDMODataWorkspace ()
```

*SDMODataWorkspace(SDMParserDocument)* constructor*Syntax*

```
public    SDMODataWorkspace ( SDMParserDocument document )
```

*SDMODataWorkspace(int[], String[])* constructor*Syntax*

```
protected    SDMODataWorkspace ( int[] routes , String[] values )
```

*getCollections()* method

Returns The list of of 'collection' SDMOData element.

*Syntax*

```
public List< ISDMODataCollection > getCollections ()
```

**Returns**

The list of of 'collection' SDMOData element.

**getSemantics() method**

Returns the value of the appropriate SDMOData attribute.

**Syntax**

```
public String getSemantics ()
```

**Returns**

The value of the appropriate SDMOData attribute

**getTitle() method**

Returns the value of the appropriate SDMOData element.

**Syntax**

```
public String getTitle ()
```

**Returns**

The value of the appropriate SDMOData element

**setBaseUrl(String) method****Syntax**

```
protected void setBaseUrl (String baseUrl)
```

**baseUrl variable****Syntax**

```
protected String baseUrl
```

**SDMParser class**

Deprecated. since 3.0, Use Parser

**Syntax**

```
public class SDMParser extends ISDMParser
```

**Members**

All members of SDMParser, including inherited members. **Variables**

Modifier and Type	Variable	Description
protected File	<i>defaultFolder</i> on page 1925	

Modifier and Type	Variable	Description
static Object	<i>lockObject</i> on page 1925	
protected ISDMLogger	<i>logger</i> on page 1925	
protected int	<i>logLevel</i> on page 1925	
protected static final String	<i>NAMEMAP_FILENAME</i> on page 1926	
Object	<i>pa</i> on page 1926	
protected SAXParser	<i>parser</i> on page 1926	
protected ISDMPreferences	<i>preferences</i> on page 1926	

### Constructors

Modifier and Type	Constructor	Description
public	<i>SDMParser(ISDMPreferences, ISDMLogger)</i> on page 1914	

### Methods

Modifier and Type	Method	Description
	<i>[instance initializer]()</i> on page 1915	
public String	<i>buildSDMODataDocumentXML(ISDMParserDocument)</i> on page 1915	Replaced by com.sap.mobile.lib.parser.IParser#buildODataDocument(IParserDocument).
public String	<i>buildSDMODataEntryJson(ISDMODataEntry, String, ISDMODataSchema)</i> on page 1915	Replaced by com.sap.mobile.lib.parser.IParser#buildODataEntryRequestBody(IODataEntry ,String , IODataSchema , int).
public String	<i>buildSDMODataEntryXML(ISDMODataEntry)</i> on page 1916	Replaced by com.sap.mobile.lib.parser.IParser#buildODataEntryRequestBody(IODataEntry ,String , IODataSchema , int).

Modifier and Type	Method	Description
public void	<i>enableParserPerformanceLog(boolean, Context)</i> on page 1916	Replaced by com.sap.mobile.lib.parser.IParser#enableParserPerformanceLog(boolean,Context).
void	<i>init()</i> on page 1916	
public List< ISDMODataEntry >	<i>parseFunctionImportResultXML(String, ISDMODataFunctionImport, ISDMODataSchema)</i> on page 1917	Replaced by com.sap.mobile.lib.parser.IParser#parseFunctionImportResult(String , IODataFunctionImport , IODataSchema).
public List< ISDMODataEntry >	<i>parseFunctionImportResultXML(InputStream, ISDMODataFunctionImport, ISDMODataSchema)</i> on page 1917	Replaced by com.sap.mobile.lib.parser.IParser#parseFunctionImportResult(InputStream , IODataFunctionImport , IODataSchema ).
public List< ISDMODataEntry >	<i>parseSDMODataEntriesXML(String, String, ISDMODataSchema)</i> on page 1918	Replaced by com.sap.mobile.lib.parser.IParser#parseODataEntries(String , String , IODataSchema ).
public List< ISDMODataEntry >	<i>parseSDMODataEntriesXML(InputStream, String, ISDMODataSchema)</i> on page 1919	Replaced by com.sap.mobile.lib.parser.IParser#parseODataEntries(InputStream , String , IODataSchema ).
public ISDMODataError	<i>parseSDMODataErrorXML(String)</i> on page 1919	Replaced by com.sap.mobile.lib.parser.IParser#parseODataError(String).
public ISDMODataError	<i>parseSDMODataErrorXML(InputStream)</i> on page 1920	Replaced by com.sap.mobile.lib.parser.IParser#parseODataError(InputStream).
public ISDMODataOpenSearchDescription	<i>parseSDMODataOpenSearchDescriptionXML(String, String, ISDMODataServiceDocument)</i> on page 1920	Replaced by com.sap.mobile.lib.parser.IParser#parseODataOpenSearchDescription(String , String , IODataServiceDocument ).

Modifier and Type	Method	Description
public ISDMODataOpenSearchDescription	<i>parseSDMODataOpenSearchDescriptionXML(InputStream, String, ISDMODataServiceDocument)</i> on page 1921	Replaced by com.sap.mobile.lib.parser.IParser#parseODataOpenSearchDescription(InputStream, String, IODataServiceDocument).
public ISDMODataSchema	<i>parseSDMODataSchemaXML(String, ISDMODataServiceDocument)</i> on page 1922	Replaced by com.sap.mobile.lib.parser.IParser#parseODataSchema(String, IODataServiceDocument).
public ISDMODataSchema	<i>parseSDMODataSchemaXML(InputStream, ISDMODataServiceDocument)</i> on page 1922	Replaced by com.sap.mobile.lib.parser.IParser#parseODataSchema(InputStream, IODataServiceDocument).
public ISDMODataServiceDocument	<i>parseSDMODataServiceDocumentXML(String)</i> on page 1923	Replaced by com.sap.mobile.lib.parser.IParser#parseODataServiceDocument(String).
public ISDMODataServiceDocument	<i>parseSDMODataServiceDocumentXML(InputStream)</i> on page 1923	Replaced by com.sap.mobile.lib.parser.IParser#parseODataServiceDocument(InputStream).
public ISDMParserDocument	<i>parseXML(InputStream)</i> on page 1924	Replaced by com.sap.mobile.lib.parser.IParser#parse(InputStream).
public ISDMParserDocument	<i>parseXML(String)</i> on page 1924	Replaced by com.sap.mobile.lib.parser.IParser#parse(String).
protected synchronized void	<i>readNameMap()</i> on page 1925	
protected void	<i>writeNameMap(int)</i> on page 1925	

### *SDMParser(ISDMPreferences, ISDMLogger) constructor*

#### **Syntax**

```
public SDMParser ( ISDMPreferences preferences , ISDMLogger logger )
throws SDMParserException
```

*[instance initializer]() method**Syntax*

```
[instance initializer] ()
```

*buildSDMODataDocumentXML(ISDMParserDocument) method*

Replaced by `com.sap.mobile.lib.parser.IParser#buildODataDocument(IParserDocument)`.

*Syntax*

```
public String buildSDMODataDocumentXML ( ISDMParserDocument
document ) throws SDMParserException
```

*Parameters*

- **document** – The SDMParserDocument object to build the XML from

*Returns*

The built document XML

*Exceptions*

- **SDMParserException class** – If building XML has failed
- **IllegalArgumentException** – If the argument is null

*Usage*

Builds and XML representation of the document argument

*buildSDMODataEntryJson(ISDMODataEntry, String, ISDMODataSchema) method*

Replaced by

```
com.sap.mobile.lib.parser.IParser#buildODataEntryRequestBody(IODataEntry ,String ,
IODataSchema , int).
```

*Syntax*

```
public String buildSDMODataEntryJson ( ISDMODataEntry entry ,
String collectionId , ISDMODataSchema schema )
```

*Parameters*

- **entry** – The SDMODataEntry object to build the XML from
- **collectionId** – Collection to which the post needs to be made

*Returns*

The built document Json

### *Usage*

Builds a valid SDMOData Entry JSON Post body from the entry argument

### *buildSDMODataEntryXML(ISDMODataEntry) method*

Replaced by

com.sap.mobile.lib.parser.IParser#buildODataEntryRequestBody(IODataEntry ,String , IODataSchema , int).

### *Syntax*

```
public String buildSDMODataEntryXML ( ISDMODataEntry entry ) throws SDMParseException
```

### *Parameters*

- **entry** – The SDMODataEntry object to build the XML from

### *Returns*

The built document XML

### *Exceptions*

- **SDMParseException class** – If building XML has failed
- **IllegalArgumentException** – If the argument is null

### *Usage*

Builds a valid SDMOData Entry XML from the entry argument

### *enableParserPerformanceLog(boolean, Context) method*

Replaced by

com.sap.mobile.lib.parser.IParser#enableParserPerformanceLog(boolean,Context).

### *Syntax*

```
public void enableParserPerformanceLog ( boolean perflog , Context applicationContext )
```

### *Parameters*

- **perflog** –
- **applicationContext** –

### *init() method*

### *Syntax*

```
void init () throws SDMParseException
```



*parseFunctionImportResultXML(String, ISDMODataFunctionImport, ISDMODataSchema) method*

Replaced by `com.sap.mobile.lib.parser.IParser#parseFunctionImportResult(String, IODataFunctionImport, IODataSchema)`.

*Syntax*

```
public List< ISDMODataEntry > parseFunctionImportResultXML
( String xml , ISDMODataFunctionImport functionImport ,
ISDMODataSchema schema ) throws SDMParserException,
IllegalArgumentException
```

*Parameters*

- **xml** – The Function Import result XML
- **functionImport** – The SDMOData Function Import document
- **schema** – The appropriate SDMOData Schema document

*Returns*

List of SDMOData Entry containing the result values

*Exceptions*

- **SDMParserException class** – If parsing XML has failed
- **IllegalArgumentException** – If either of the arguments is null

*Usage*

Parser a non error result of the execution of a Function Import SDMOData document The result will be converted to a list of SDMOData Entry documents If the result was a simple type it can accessed due the result entries as if it were a property,

*parseFunctionImportResultXML(InputStream, ISDMODataFunctionImport, ISDMODataSchema) method*

Replaced by `com.sap.mobile.lib.parser.IParser#parseFunctionImportResult(InputStream, IODataFunctionImport, IODataSchema)`.

*Syntax*

```
public List< ISDMODataEntry > parseFunctionImportResultXML
( InputStream stream , ISDMODataFunctionImport functionImport ,
ISDMODataSchema schema ) throws
SDMParserException,IllegalArgumentException
```

### *Parameters*

- **stream** – The function Import result stream
- **functionImport** – The SDMOData Function Import document
- **schema** – The appropriate SDMOData Schema document

### *Returns*

List of SDMOData Entry containing the result values

### *Exceptions*

- **SDMParserException class** – If parsing XML has failed
- **IllegalArgumentException** – If either of the arguments is null

### *Usage*

Parser a non error result of the execution of a Function Import SDMOData document The result will be converted to a list of SDMOData Entry documents If the result was a simple type it can accessed due the result entries as if it were a property,

### *parseSDMODataEntriesXML(String, String, ISDMODataSchema) method*

Replaced by `com.sap.mobile.lib.parser.IParser#parseODataEntries(String, String, IODataSchema)`.

### *Syntax*

```
public List< ISDMODataEntry > parseSDMODataEntriesXML (String  
entriesXML , String collectionId , ISDMODataSchema schema ) throws  
SDMParserException, IllegalArgumentException
```

### *Parameters*

- **entriesXML** – The XML source of either a single SDMOData Entry or SDMOData Feed of several SDMOData entries
- **collectionId** – The id of the collection that the result entries should belong to
- **schema** – The relevant SDMOData schema document

### *Returns*

The list of the SDMOData Entries contained by the source XML

### *Exceptions*

- **SDMParserException class** – If the XML source is invalid
- **IllegalArgumentException** – If the argument is null

*Usage*

Parses SAPData XML structure that represent either a single SDMODData Entry or an SDMODData Feed with several SDMODData entries

*parseSDMODDataEntriesXML(InputStream, String, ISDMODDataSchema) method*  
 Replaced by com.sap.mobile.lib.parser.IParser#parseODataEntries(InputStream , String , IODataSchema ).

*Syntax*

```
public List< ISDMODDataEntry > parseSDMODDataEntriesXML
( InputStream stream , String collectionId , ISDMODDataSchema schema )
throws SDMParseException, IllegalArgumentException
```

*Parameters*

- **stream** – The stream that holds the XML source of either a single SDMODData Entry or SDMODData Feed of several SDMODData entries
- **collectionId** – The id of the collection that the result entries should belong to
- **schema** – The relevant SDMODData schema document

*Returns*

The list of the SDMODData Entries contained by the source XML

*Exceptions*

- **SDMParseException class** – If the XML source is invalid
- **IllegalArgumentException** – If the argument is null

*Usage*

Parses SAPData XML structure from stream that represent either a single SDMODData Entry or an SDMODData Feed of several SDMODData entries

*parseSDMODDataErrorXML(String) method*  
 Replaced by com.sap.mobile.lib.parser.IParser#parseODataError(String).

*Syntax*

```
public ISDMODDataError parseSDMODDataErrorXML ( String errorXML )
throws SDMParseException
```

*Parameters*

- **errorXML** – The SDMODData Error XML

*Returns*

The SDMODData Error document

### *Exceptions*

- **SDMParseException class** – If the XML source is invalid
- **IllegalArgumentException** – If the argument is null

### *Usage*

Parses the SDMOData Error XML

### *parseSDMODataErrorXML(InputStream) method*

Replaced by `com.sap.mobile.lib.parser.IParser#parseODataError(InputStream)`.

### *Syntax*

```
public ISDMODataError parseSDMODataErrorXML ( InputStream  
stream ) throws SDMParseException
```

### *Parameters*

- **stream** – The SDMOData Error XML as stream

### *Returns*

The SDMOData Error document

### *Exceptions*

- **SDMParseException class** – If the stream source is invalid
- **IllegalArgumentException** – If the argument is null

### *Usage*

Parses the SDMOData Error XML from stream

### *parseSDMODataOpenSearchDescriptionXML(String, String, ISDMODataServiceDocument) method*

Replaced by `com.sap.mobile.lib.parser.IParser#parseODataOpenSearchDescription(String, String, IODataServiceDocument)`.

### *Syntax*

```
public ISDMODataOpenSearchDescription  
parseSDMODataOpenSearchDescriptionXML ( String  
openSearchDescriptionXML , String collectionId ,  
ISDMODataServiceDocument serviceDocument ) throws  
SDMParseException, IllegalArgumentException
```

*Parameters*

- **openSearchDescriptionXML** – The SDMODData Open Search Description XML

*Returns*

SDMODData Open Search Description document

*Exceptions*

- **SDMParserException class** – If the XML source is invalid
- **IllegalArgumentException** – If the argument is null

*Usage*

Parses the SDMODData Open Search Description XML

*parseSDMODDataOpenSearchDescriptionXML(InputStream, String, ISDMODDataServiceDocument) method*

Replaced by

com.sap.mobile.lib.parser.IParser#parseODataOpenSearchDescription(InputStream , String , IODataServiceDocument ).

*Syntax*

```
public ISDMODDataOpenSearchDescription
parseSDMODDataOpenSearchDescriptionXML ( InputStream stream ,
String collectionId , ISDMODDataServiceDocument serviceDocument ) throws
SDMParserException, IllegalArgumentException
```

*Parameters*

- **stream** – The stream that holds the SDMODData Open Search Description XML.

*Returns*

SDMODData Open Search Description document

*Exceptions*

- **SDMParserException class** – If the stream source is invalid.
- **IllegalArgumentException** – If the argument is null.

*Usage*

Parses the SDMODData Open Search Description XML from stream

*parseSDMODataSchemaXML(String, ISDMODataServiceDocument) method*

Replaced by

`com.sap.mobile.lib.parser.IParser#parseODataSchema(String, IODataServiceDocument).`

### *Syntax*

```
public ISDMODataSchema parseSDMODataSchemaXML ( String  
schemaXML , ISDMODataServiceDocument serviceDocument ) throws  
SDMParserException, IllegalArgumentException
```

### *Parameters*

- **schemaXML** – The SDMOData Schema XML
- **serviceDocument** – The appropriate SDMOData Service Document object

### *Returns*

The SDMOData Schema document

### *Exceptions*

- **SDMParserException class** – If the XML source is invalid
- **IllegalArgumentException** – If the argument is null

### *Usage*

Parses the SDMOData Schema XML

*parseSDMODataSchemaXML(InputStream, ISDMODataServiceDocument)*

*method*

Replaced by

`com.sap.mobile.lib.parser.IParser#parseODataSchema(InputStream, IODataServiceDocument).`

### *Syntax*

```
public ISDMODataSchema parseSDMODataSchemaXML ( InputStream  
stream , ISDMODataServiceDocument serviceDocument ) throws  
SDMParserException, IllegalArgumentException
```

### *Parameters*

- **stream** – The stream that holds SDMOData Schema XML
- **serviceDocument** – The appropriate SDMOData Service Document object

### *Returns*

The SDMOData Schema document

*Exceptions*

- **SDMParserException class** – If the stream source is invalid
- **IllegalArgumentException** – If the argument is null

*Usage*

Parses the SDMOData Schema XML from stream

*parseSDMODataServiceDocumentXML(String) method*

Replaced by `com.sap.mobile.lib.parser.IParser#parseODataServiceDocument(String)`.

*Syntax*

```
public ISDMODataServiceDocument
parseSDMODataServiceDocumentXML ( String serviceDocumentXML ) throws
SDMParserException, IllegalArgumentException
```

*Parameters*

- **serviceDocumentXML** – The SDMOData Service Document XML

*Returns*

The SDMOData Service Document

*Exceptions*

- **SDMParserException class** – If the XML source is invalid
- **IllegalArgumentException** – If the argument is null

*Usage*

Parses the SDMOData Service Document XML

*parseSDMODataServiceDocumentXML(InputStream) method*

Replaced by `com.sap.mobile.lib.parser.IParser#parseODataServiceDocument(InputStream)`.

*Syntax*

```
public ISDMODataServiceDocument
parseSDMODataServiceDocumentXML ( InputStream stream ) throws
SDMParserException, IllegalArgumentException
```

*Parameters*

- **stream** – The stream that holds SDMOData Service Document XML

### *Returns*

The SDMOData Service Document

### *Exceptions*

- **SDMParserException class** – If the stream source is invalid
- **IllegalArgumentException** – If the argument is null

### *Usage*

Parses the SDMOData Service Document XML from stream

### *parseXML(InputStream) method*

Replaced by `com.sap.mobile.lib.parser.IParser#parse(InputStream)`.

### *Syntax*

```
public ISDMParserDocument parseXML ( InputStream stream ) throws  
SDMParserException
```

### *Parameters*

- **stream** – A stream that holds a syntactically valid XML

### *Returns*

The Object representation of the parsed XML

### *Exceptions*

- **SDMParserException class** – If the stream source is invalid
- **IllegalArgumentException** – If the argument is null

### *Usage*

Parses the stream source of an XML and converts it to a Java Object containing all the information that were contained by the source XML

### *parseXML(String) method*

Replaced by `com.sap.mobile.lib.parser.IParser#parse(String)`.

### *Syntax*

```
public ISDMParserDocument parseXML ( String xml ) throws  
SDMParserException
```

### *Parameters*

- **xml** – A syntactically valid XML



*Returns*

The Object representation of the parsed XML

*Exceptions*

- **SDMParseException class** – If the XML source is invalid
- **IllegalArgumentException** – If the argument is null

*Usage*

Parses the Source XML and converts it to a Java Object containing all the information that were contained by the source XML

*readNameMap() method**Syntax*

```
protected synchronized void readNameMap () throws IOException
```

*writeNameMap(int) method**Syntax*

```
protected void writeNameMap ( int starpos ) throws IOException
```

*defaultFolder variable**Syntax*

```
protected File defaultFolder
```

*lockObject variable**Syntax*

```
static Object lockObject
```

*logger variable**Syntax*

```
protected ISDMLogger logger
```

*logLevel variable**Syntax*

```
protected int logLevel
```

### *NAMEMAP\_FILENAME variable*

#### *Syntax*

```
protected static final String NAMEMAP_FILENAME
```

### *pa variable*

#### *Syntax*

```
Object pa
```

### *parser variable*

#### *Syntax*

```
protected SAXParser parser
```

### *preferences variable*

#### *Syntax*

```
protected ISDMPreferences preferences
```

### *SDMParserDocument class*

Deprecated. since 3.0, Use ParserDocument

#### *Syntax*

```
public class SDMParserDocument extends ISDMParserDocument
```

### *Derived classes*

- *SDMODDataAssociation* on page 1442
- *SDMODDataAssociationEnd* on page 1458
- *SDMODDataCollection* on page 1489
- *SDMODDataComplexType* on page 1511
- *SDMODDataEntitySet* on page 1526
- *SDMODDataEntityType* on page 1542
- *SDMODDataEntry* on page 1562
- *SDMODDataError* on page 1598
- *SDMODDataFunctionImport* on page 1613
- *SDMODDataIcon* on page 1632
- *SDMODDataLink* on page 1648
- *SDMODDataNavigationProperty* on page 1669
- *SDMODDataOpenSearchDescription* on page 1685
- *SDMODDataParameter* on page 1701

- *SDMODataProperty* on page 1716
- *SDMODataSchema* on page 1804
- *SDMODataServiceDocument* on page 1824
- *SDMODataURL* on page 1878
- *SDMODataWorkspace* on page 1896

### Members

All members of *SDMParserDocument*, including inherited members. **Variables**

Modifier and Type	Variable	Description
static transient final String	<i>ANY_STRING</i> on page 1953	
static transient final int	<i>ATTRIBUTE_ID</i> on page 1953	
static transient final String	<i>ATTRIBUTE_STRING</i> on page 1954	
protected Map< String, String >	<i>extensions</i> on page 1954	
boolean	<i>isComplexEntity</i> on page 1954	
boolean	<i>isJson</i> on page 1954	
static transient List< String >	<i>nameMap</i> on page 1954	
static transient Map< String, String >	<i>prefixMapping</i> on page 1954	
protected int[]	<i>routes</i> on page 1954	
protected String[]	<i>strings</i> on page 1954	
protected static final String	<i>URL_PROTOCOL_PREFIX</i> on page 1955	
static transient final int	<i>VALUE_ID</i> on page 1955	
static transient final String	<i>VALUE_STRING</i> on page 1955	

### Constructors

Modifier and Type	Constructor	Description
public	<i>SDMParserDocument(String)</i> on page 1935	

Modifier and Type	Constructor	Description
public	<i>SDMParserDocument</i> ( <i>SDMParserDocument</i> ) on page 1935	
	<i>SDMParserDocument</i> () on page 1935	
	<i>SDMParserDocument</i> ( <i>boolean</i> ) on page 1936	
protected	<i>SDMParserDocument</i> ( <i>int</i> [], <i>String</i> []) on page 1936	
protected	<i>SDMParserDocument</i> ( <i>String</i> , <i>boolean</i> ) on page 1936	

### Methods

Modifier and Type	Method	Description
public <i>SDMParserDocument</i>	<i>clone</i> () on page 1936	Creates a copy of this object.
public <i>String</i>	<i>getAttribute</i> ( <i>String</i> ...) on page 1936	Returns the value of the first attribute with the given route.
public <i>List</i> < <i>String</i> >	<i>getAttributes</i> ( <i>String</i> ...) on page 1937	Returns all the values of attributes with the given route.
protected <i>int</i>	<i>getAttributesEndPosition</i> ( <i>int</i> [], <i>int</i> , <i>int</i> ) on page 1937	
public <i>Map</i> < <i>String</i> , <i>String</i> >	<i>getChildAttributeMap</i> ( <i>String</i> ...) on page 1937	Returns all the name-value pairs of attributes contained by the element with the given route.
public <i>List</i> < <i>String</i> >	<i>getChildAttributes</i> ( <i>String</i> ...) on page 1938	Returns all the values of attributes contained by the element with the given route.
public <i>List</i> < <i>ISDMParserDocument</i> >	<i>getChildDocuments</i> ( <i>String</i> ...) on page 1938	Returns the elements contained by the element with the given route.
public <i>List</i> < <i>ISDMParserDocument</i> >	<i>getChildDocumentsWithAttribute</i> ( <i>String</i> , <i>String</i> , <i>String</i> ...) on page 1938	Returns the elements contained by the element with the given route and having the given attribute with the given value.

Modifier and Type	Method	Description
public List< ISDMParserDocument >	<i>getChildDocumentsWithAttribute(String, String, boolean, String...)</i> on page 1939	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public SDMParserDocument	<i>getDocument(String...)</i> on page 1939	Returns the first element with the given route.
protected List< int[] >	<i>getDocumentPositions(String[], int, boolean, boolean)</i> on page 1940	
public List< ISDMParserDocument >	<i>getDocuments(String...)</i> on page 1940	Returns all the elements with the given route.
public List< ISDMParserDocument >	<i>getDocumentsWithAttribute(String, String, String...)</i> on page 1940	Returns the elements with the given route that contains the given attribute with the given value.
public List< ISDMParserDocument >	<i>getDocumentsWithAttribute(String, String, boolean, String...)</i> on page 1941	Returns the elements with the given route that contains the given attribute with the given value.
public ISDMParserDocument	<i>getDocumentWithAttribute(String, String, String...)</i> on page 1941	Returns the first element with the given route that contains the given attribute with the given value.
public ISDMParserDocument	<i>getDocumentWithAttribute(String, String, boolean, String...)</i> on page 1942	Returns the first element with the given route that contains the given attribute with the given value.
public String	<i>getElementName()</i> on page 1942	Returns The name of the root element of this document.
public String	<i>getExtension(String)</i> on page 1943	
public String	<i>getFunctionImportComplexProperty Value(String...)</i> on page 1943	

Modifier and Type	Method	Description
static int	<i>getNameId(String, boolean, boolean)</i> on page 1943	
public static List< String >	<i>getNameMap()</i> on page 1943	
public static String	<i>getPrefix(String)</i> on page 1943	
public String	<i>getPrefixForUri(String)</i> on page 1943	Returns the appropriate name-space prefix for the given XML name-space URI.
public static Map< String, String >	<i>getPrefixMapping()</i> on page 1944	
protected List< Integer >	<i>getStringPositions(String[], int, boolean, boolean)</i> on page 1944	
public String[]	<i>getStrings()</i> on page 1944	Returns all the string values contained by this document.
public String	<i>getValue(String...)</i> on page 1944	Returns the value of the first element with the given route.
public List< String >	<i>getValues(String...)</i> on page 1944	Returns all the values of elements with the given route.
protected int[]	<i>insertRoutePositions(int[], int, int[])</i> on page 1945	
protected void	<i>insertRoutesPositions(int, int[])</i> on page 1945	
protected void	<i>insertStringsPositions(int, String[])</i> on page 1945	
protected String[]	<i>insertStringsPositions(String[], int, String[])</i> on page 1945	
protected boolean	<i>isMatched(String, String)</i> on page 1945	
public void	<i>putAttribute(String, String...)</i> on page 1946	Sets the value of the attribute with the given route If attribute does not exist it will be created as well as all other non existing elements in the route.

Modifier and Type	Method	Description
public void	<i>putDocument(ISDMParseDocument, String...)</i> on page 1946	Insert the document under the element with the given route inserted document will be placed before already existing documents with the same route name under All missing elements from the route will be created.
public void	<i>putExtension(String, String)</i> on page 1946	
protected void	<i>putString(int, String, int, String...)</i> on page 1947	
public void	<i>putValue(String, String...)</i> on page 1947	Sets the value of the first element with the given route.
public void	<i>read(BufferedReader)</i> on page 1947	
public static void	<i>readNameMap(BufferedReader)</i> on page 1947	
public boolean	<i>removeAttribute(String...)</i> on page 1948	Removes first element with the given route.
public boolean	<i>removeAttributes(String...)</i> on page 1948	Removes all the attribute with the given route.
public boolean	<i>removeDocument(String...)</i> on page 1948	Removes first element with the given route For removing multiple element use setDocuemtns with null arguments.
public void	<i>removeExtension(String)</i> on page 1948	
protected void	<i>removeRoutesPositions(int, int)</i> on page 1949	
protected int[]	<i>removeRoutesPositions(int[], int, int)</i> on page 1949	
protected boolean	<i>removeString(String...)</i> on page 1949	

Modifier and Type	Method	Description
protected boolean	<i>removeStrings(String...)</i> on page 1949	
protected void	<i>removeStringsPositions(int, int)</i> on page 1949	
protected String[]	<i>removeStringsPositions(String[], int, int)</i> on page 1949	
protected int	<i>replaceRoutesPositions(int, int, int[])</i> on page 1949	
protected int[]	<i>replaceRoutesPositions(int[], int, int, int[])</i> on page 1950	
protected int	<i>replaceStringsPositions(int, int, String[])</i> on page 1950	
protected String[]	<i>replaceStringsPositions(String[], int, int, String[])</i> on page 1950	
public static String	<i>resolveUrl(String, String)</i> on page 1950	
public void	<i>setAttribute(String, String...)</i> on page 1950	
public void	<i>setAttributes(List&lt;String&gt;, String...)</i> on page 1950	Sets all the values of the attributes with the given route Values will be paired to attributes in order Attributes with greater or equals index than size of new values will be untouched Attributes paired with null values will be removed.
public boolean	<i>setDocument(ISDMParseDocument, String...)</i> on page 1951	



Modifier and Type	Method	Description
public void	<i>setDocuments(List&lt; ISDMParserDocument &gt;, String...)</i> on page 1951	Replaces all the elements with the given route Documents will be paired to elements in order Elements with greater or equals index than size of new elements will be untouched Element paired with null will be removed.
public void	<i>setElementName(String, String...)</i> on page 1951	Sets the name of the root element with the given route Use empty route for setting root name of this document.
public static void	<i>setNameMap(List&lt;String &gt;)</i> on page 1952	
public static void	<i>setPrefixMapping(Map&lt;String, String &gt;)</i> on page 1952	
protected void	<i>setString(String, String...)</i> on page 1952	
protected void	<i>setStrings(List&lt;String &gt;, String...)</i> on page 1952	
public void	<i>setValue(String, String...)</i> on page 1952	
public void	<i>setValues(List&lt;String &gt;, String...)</i> on page 1952	Sets all the values of the elements with the given route Values will be paired to elements in order Elements with greater or equals index than size of new values will be untouched Null values will be treated as empty strings.
public String	<i>toXMLString()</i> on page 1953	Returns the XML string representation of this object.
public void	<i>write(BufferedWriter)</i> on page 1953	
public static void	<i>writeNameMap(BufferedWriter)</i> on page 1953	

**Inherited members from ISDMParserDocument**

<b>Modifier and Type</b>	<b>Member</b>	<b>Description</b>
public static final String	<i>ATTRIBUTE_ETAG</i> on page 1329	Name of the appropriate SDMOData element.
public static final String	<i>ATTRIBUTE_VALUEPREFIX_EDMTYPE</i> on page 1329	Value prefix for EDM Type type values.
public static Map< String, String >	<i>DEFAULT_PREFIXMAPPING</i> on page 1329	The default XML Namespace-to-Prefix mapping used for building XMLS.
public static final String[]	<i>EDMDATETIME_PATTERNS</i> on page 1329	Possible EDM DateTime patterns Note: Some pattern are not supported by OData specification but still widely used.
public static final String[]	<i>EDMDATETIMEOFFSET_PATTERNS</i> on page 1329	Possible EDM TimeOffset patterns Note: Some pattern are not supported by OData specification but still widely used.
public static final String	<i>EDMTIME_PATTERN</i> on page 1329	EDM Time pattern.
public static String	<i>ELEMENT_FEED</i> on page 1329	Name of the appropriate SDMOData element.
public static final String	<i>ELEMENT_ID</i> on page 1330	Name of the appropriate SDMOData element.
public static final String	<i>ROOT_DOCUMENT_NAME</i> on page 1330	The default root element name for a new document.
public static final String	<i>XMLNS_APPLICATION_URI</i> on page 1330	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/08/dataservices">http://schemas.microsoft.com/ado/2007/08/dataservices</a> .
public static final String	<i>XMLNS_ATOM_URI</i> on page 1330	Constant for XMLNS URI: <a href="http://www.w3.org/2005/Atom">http://www.w3.org/2005/Atom</a> .
public static final String	<i>XMLNS_DATASERVICES_URI</i> on page 1330	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/08/dataservices">http://schemas.microsoft.com/ado/2007/08/dataservices</a> .

Modifier and Type	Member	Description
public static final String	<i>XMLNS_EDM_URI</i> on page 1330	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/05/edm">http://schemas.microsoft.com/ado/2007/05/edm</a> .
public static final String	<i>XMLNS_EDMX_URI</i> on page 1330	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/06/edmx">http://schemas.microsoft.com/ado/2007/06/edmx</a> .
public static final String	<i>XMLNS_GENERICPLAYER_URI</i> on page 1331	Constant for XMLNS URI: <a href="http://www.sap.com/Protocols/SAPData/GenericPlayer">http://www.sap.com/Protocols/SAPData/GenericPlayer</a> .
public static final String	<i>XMLNS_METADATA_URI</i> on page 1331	Constant for XMLNS URI: <a href="http://schemas.microsoft.com/ado/2007/08/dataservices/metadata">http://schemas.microsoft.com/ado/2007/08/dataservices/metadata</a> .
public static final String	<i>XMLNS_SAP_URI</i> on page 1331	Constant for XMLNS URI: <a href="http://www.sap.com/Protocols/SAPData">http://www.sap.com/Protocols/SAPData</a> .

#### Inherited members from ISDMPersistable

Modifier and Type	Member	Description
public void	<i>read(BufferedReader)</i> on page 1332	
public void	<i>write(BufferedWriter)</i> on page 1332	

#### *SDMParserDocument(String)* constructor

##### Syntax

```
public SDMParserDocument ( String name )
```

#### *SDMParserDocument(SDMParseDocument)* constructor

##### Syntax

```
public SDMParserDocument ( SDMParserDocument document )
```

#### *SDMParserDocument()* constructor

##### Syntax

```
SDMParserDocument ( )
```

*SDMParserDocument(boolean) constructor*

*Syntax*

```
SDMParserDocument ( boolean isComplex )
```

*SDMParserDocument(int[], String[]) constructor*

*Syntax*

```
protected SDMParserDocument ( int[] routes , String[] values )
```

*SDMParserDocument(String, boolean) constructor*

*Syntax*

```
protected SDMParserDocument ( String name , boolean jsonFlag )
```

*clone() method*

Creates a copy of this object.

*Syntax*

```
public SDMParserDocument clone () throws  
CloneNotSupportedException
```

*Returns*

The new copy of this object

*getAttribute(String...) method*

Returns the value of the first attribute with the given route.

*Syntax*

```
public String getAttribute ( String... route )
```

*Parameters*

- **route** – The route to the attribute

*Returns*

The value of the first attribute or null if there is no such attribute

*Exceptions*

- **IllegalArgumentException** – if the argument is null.

*getAttributes(String...) method*

Returns all the values of attributes with the given route.

*Syntax*

```
public List< String > getAttributes ( String... route )
```

*Parameters*

- **route** – The route to the attributes

*Returns*

The list of values

*Exceptions*

- **IllegalArgumentException** – if the argument is null.

*getAttributesEndPosition(int[], int, int) method**Syntax*

```
protected int getAttributesEndPosition ( int[] array , int start ,  
int end )
```

*getChildAttributeMap(String...) method*

Returns all the name-value pairs of attributes contained by the element with the given route.

*Syntax*

```
public Map< String, String > getChildAttributeMap ( String...  
route )
```

*Parameters*

- **route** – The route to the element with the child attributes

*Returns*

The list of values

*Exceptions*

- **IllegalArgumentException** – if the argument is null.

### *getChildAttributes(String...) method*

Returns all the values of attributes contained by the element with the given route.

#### *Syntax*

```
public List< String > getChildAttributes ( String... route )
```

#### *Parameters*

- **route** – The route to the element with the child attributes

#### *Returns*

The list of values

#### *Exceptions*

- **IllegalArgumentException** – if the argument is null.

### *getChildDocuments(String...) method*

Returns the elements contained by the element with the given route.

#### *Syntax*

```
public List< ISDMParserDocument > getChildDocuments  
( String... route )
```

#### *Parameters*

- **route** – The route to the element with the child elements

#### *Returns*

List of elements as new ISDMParser documents

#### *Exceptions*

- **IllegalArgumentException** – if the argument is null.

### *getChildDocumentsWithAttribute(String, String, String...) method*

Returns the elements contained by the element with the given route and having the given attribute with the given value.

#### *Syntax*

```
public List< ISDMParserDocument >  
getChildDocumentsWithAttribute ( String attributeName , String  
attributeValue , String... route )
```

*Parameters*

- **route** – The route to the element with the child elements
- **attributeName** – The name of the attribute
- **attributeValue** – The expected value of the attribute

*Returns*

List of elements as new ISDMParser documents

*Exceptions*

- **IllegalArgumentException** – if either of the arguments is null.

*getChildDocumentsWithAttribute(String, String, boolean, String...) method*

Returns the elements contained by the element with the given route and having the given attribute with the given value.

*Syntax*

```
public List< ISDMParserDocument >
getChildDocumentsWithAttribute ( String attributeName , String
attributeValue , boolean addByDefault , String... route )
```

*Parameters*

- **route** – The route to the element with the child elements
- **attributeName** – The name of the attribute
- **attributeValue** – The expected value of the attribute
- **addByDefault** – true if element should be returned in case it does not contain the given attribute

*Returns*

List of elements as new ISDMParser documents

*Exceptions*

- **IllegalArgumentException** – if either of the arguments is null.

*getDocument(String...) method*

Returns the first element with the given route.

*Syntax*

```
public SDMParserDocument getDocument ( String... route )
```

### *Parameters*

- **route** – The route to the element

### *Returns*

The element as a new ISDMParser document or null if there is no such element

### *Exceptions*

- **IllegalArgumentException** – if the argument is null.

*getDocumentPositions(String[], int, boolean, boolean) method*

### *Syntax*

```
protected List< int[] > getDocumentPositions ( String[] route ,  
int resultCount , boolean addMaxRoutePos , boolean skipAttributes )
```

*getDocuments(String...) method*

Returns all the elements with the given route.

### *Syntax*

```
public List< ISDMParserDocument > getDocuments ( String...  
route )
```

### *Parameters*

- **route** – The route to the elements

### *Returns*

List of elements as new ISDMParser documents

### *Exceptions*

- **IllegalArgumentException** – if the argument is null.

*getDocumentsWithAttribute(String, String, String...) method*

Returns the elements with the given route that contains the given attribute with the given value.

### *Syntax*

```
public List< ISDMParserDocument > getDocumentsWithAttribute (   
String attributeName , String attributeValue , String... route )
```



*Parameters*

- **route** – The route to the elements
- **attributeName** – The name of the attribute
- **attributeValue** – The expected value of the attribute

*Returns*

List of elements as new ISDMParser documents

*Exceptions*

- **IllegalArgumentException** – if either of the arguments is null.

*getDocumentsWithAttribute(String, String, boolean, String...) method*

Returns the elements with the given route that contains the given attribute with the given value.

*Syntax*

```
public List< ISDMParserDocument > getDocumentsWithAttribute (
String attributeName , String attributeValue , boolean addByDefault ,
String... route )
```

*Parameters*

- **route** – The route to the elements
- **attributeName** – The name of the attribute
- **attributeValue** – The expected value of the attribute
- **addByDefault** – true if element should be returned in case it does not contain the given attribute

*Returns*

List of elements as new ISDMParser documents

*Exceptions*

- **IllegalArgumentException** – if either of the arguments is null.

*getDocumentWithAttribute(String, String, String...) method*

Returns the first element with the given route that contains the given attribute with the given value.

*Syntax*

```
public ISDMParserDocument getDocumentWithAttribute (String
attributeName , String attributeValue , String... route )
```

### *Parameters*

- **route** – The route to the element
- **attributeName** – The name of the attribute
- **attributeValue** – The expected value of the attribute

### *Returns*

The element as a new ISDMParser document or null if there is no such element

### *Exceptions*

- **IllegalArgumentException** – if either of the arguments is null.

### *getDocumentWithAttribute(String, String, boolean, String...) method*

Returns the first element with the given route that contains the given attribute with the given value.

### *Syntax*

```
public ISDMParserDocument getDocumentWithAttribute (String  
attributeName , String attributeValue , boolean addByDefault , String...  
route )
```

### *Parameters*

- **route** – The route to the element
- **attributeName** – The name of the attribute
- **attributeValue** – The expected value of the attribute
- **addByDefault** – true if element should be returned in case it does not contain the given attribute

### *Returns*

The element as a new ISDMParser document or null if there is no such element

### *Exceptions*

- **IllegalArgumentException** – if either of the arguments is null.

### *getElementName() method*

Returns The name of the root element of this document.

### *Syntax*

```
public String getElementName ()
```

### *Returns*

The name of the root element of this document

*getExtension(String) method**Syntax*

```
public String getExtension ( String extensionId )
```

*getFunctionImportComplexPropertyValue(String...) method**Syntax*

```
public String getFunctionImportComplexPropertyValue  
( String... route )
```

*getNameId(String, boolean, boolean) method**Syntax*

```
static int getNameId ( String name , boolean checkWithoutPrefix ,  
boolean addIfNotExist )
```

*getNameMap() method**Syntax*

```
public static List< String > getNameMap ( )
```

*getPrefix(String) method**Syntax*

```
public static String getPrefix ( String uri )
```

*getPrefixForUri(String) method*

Returns the appropriate name-space prefix for the given XML name-space URI.

*Syntax*

```
public String getPrefixForUri ( String uri )
```

*Parameters*

- **uri** – An XML names-pace URI

*Returns*

The appropriate name-space prefix

*Exceptions*

- **IllegalArgumentException** – if the argument is null.

### *getPrefixMapping() method*

#### *Syntax*

```
public static Map< String, String > getPrefixMapping ()
```

### *getStringPositions(String[], int, boolean, boolean) method*

#### *Syntax*

```
protected List< Integer > getStringPositions ( String[] route ,  
int resultCount , boolean addFieldId , boolean addMaxRoutePos )
```

### *getStrings() method*

Returns all the string values contained by this document.

#### *Syntax*

```
public String[] getStrings ()
```

#### *Returns*

all the string values contained by this document

### *getValue(String...) method*

Returns the value of the first element with the given route.

#### *Syntax*

```
public String getValue ( String... route )
```

#### *Parameters*

- **route** – The route to the element

#### *Returns*

The value of the first element or null if there is no such element

#### *Exceptions*

- **IllegalArgumentException** – if the argument is null.

### *getValues(String...) method*

Returns all the values of elements with the given route.

#### *Syntax*

```
public List< String > getValues ( String... route )
```

*Parameters*

- **route** – The route to the elements

*Returns*

The list of values

*Exceptions*

- **IllegalArgumentException** – if the argument is null.

*insertRoutePositions(int[], int, int[]) method**Syntax*

```
protected int[] insertRoutePositions ( int[] array , int start ,
int[] subRoutes )
```

*insertRoutesPositions(int, int[]) method**Syntax*

```
protected void insertRoutesPositions ( int start , int[]
subRoutes )
```

*insertStringsPositions(int, String[]) method**Syntax*

```
protected void insertStringsPositions ( int start , String[]
subStrings )
```

*insertStringsPositions(String[], int, String[]) method**Syntax*

```
protected String[] insertStringsPositions ( String[] array , int
start , String[] subStrings )
```

*isMatched(String, String) method**Syntax*

```
protected boolean isMatched ( String xmlName , String routeName )
```

### *putAttribute(String, String...) method*

Sets the value of the attribute with the given route. If attribute does not exist it will be created as well as all other non-existing elements in the route.

#### *Syntax*

```
public void putAttribute (String value , String... route) throws  
IllegalArgumentException
```

#### *Parameters*

- **value** – The new value
- **route** – The route to the attribute

#### *Exceptions*

- **IllegalArgumentException** – if either of the arguments is null.

### *putDocument(ISDMParseDocument, String...) method*

Insert the document under the element with the given route. Inserted document will be placed before already existing documents with the same route name under. All missing elements from the route will be created.

#### *Syntax*

```
public void putDocument (ISDMParseDocument document , String...  
route) throws IllegalArgumentException
```

#### *Parameters*

- **document** – The new document
- **route** – The route to the parent element of the new document

#### *Exceptions*

- **IllegalArgumentException** – if either of the arguments is null.

### *putExtension(String, String) method*

#### *Syntax*

```
public void putExtension (String extensionId , String  
extensionValue )
```

*putString(int, String, int, String...) method***Syntax**

```
protected void putString ( int stringId , String value , int
existLength , String... route )
```

*putValue(String, String...) method*

Sets the value of the first element with the given route.

**Syntax**

```
public void putValue ( String value , String... route ) throws
IllegalArgumentException
```

**Parameters**

- **value** – The new value
- **route** – The route to the element

**Exceptions**

- **IllegalArgumentException** – if either of the arguments is null.

*read(BufferedReader) method***Syntax**

```
public void read ( BufferedReader reader ) throws
SDMPersistenceException
```

**Parameters**

- **reader** – The buffered reader to read the object from.

**Exceptions**

- **SDMPersistenceException** – if data can not be loaded from the reader.

*readNameMap(BufferedReader) method***Syntax**

```
public static void readNameMap ( BufferedReader reader ) throws
IOException
```

### *removeAttribute(String...) method*

Removes first element with the given route.

#### *Syntax*

```
public boolean removeAttribute ( String... route )
```

#### *Parameters*

- **route** – The route to the attribute to remove

#### *Returns*

true if at least one attribute has been removed or false otherwise

### *removeAttributes(String...) method*

Removes all the attribute with the given route.

#### *Syntax*

```
public boolean removeAttributes ( String... route )
```

#### *Parameters*

- **route** – The route to the attributes to remove

#### *Returns*

true if at least one attribute has been removed or false otherwise

### *removeDocument(String...) method*

Removes first element with the given route For removing multiple element use setDocuemtns with null arguments.

#### *Syntax*

```
public boolean removeDocument ( String... route ) throws  
IllegalArgumentException
```

#### *Parameters*

- **route** – The route to the element to remove

#### *Returns*

true if at least one element has been removed or false otherwise

### *removeExtension(String) method*

#### *Syntax*

```
public void removeExtension ( String extensionId )
```



*removeRoutesPositions(int, int) method**Syntax*

```
protected void removeRoutesPositions ( int start , int end )
```

*removeRoutesPositions(int[], int, int) method**Syntax*

```
protected int[] removeRoutesPositions ( int[] array , int start ,  
int end )
```

*removeString(String...) method**Syntax*

```
protected boolean removeString ( String... route )
```

*removeStrings(String...) method**Syntax*

```
protected boolean removeStrings ( String... route )
```

*removeStringsPositions(int, int) method**Syntax*

```
protected void removeStringsPositions ( int start , int end )
```

*removeStringsPositions(String[], int, int) method**Syntax*

```
protected String[] removeStringsPositions ( String[] array , int  
start , int end )
```

*replaceRoutesPositions(int, int, int[]) method**Syntax*

```
protected int replaceRoutesPositions ( int start , int end , int[]  
subRoutes )
```

### *replaceRoutesPositions(int[], int, int, int[]) method*

#### *Syntax*

```
protected int[] replaceRoutesPositions ( int[] array , int start ,  
int end , int[] subRoutes )
```

### *replaceStringsPositions(int, int, String[]) method*

#### *Syntax*

```
protected int replaceStringsPositions ( int start , int end ,  
String[] subStrings )
```

### *replaceStringsPositions(String[], int, int, String[]) method*

#### *Syntax*

```
protected String[] replaceStringsPositions ( String[] array , int  
start , int end , String[] subStrings )
```

### *resolveUrl(String, String) method*

#### *Syntax*

```
public static String resolveUrl ( String baseUrl , String url )
```

### *setAttribute(String, String...) method*

#### *Syntax*

```
public void setAttribute ( String value , String... route ) throws  
IllegalArgumentException
```

### *setAttributes(List< String >, String...) method*

Sets all the values of the attributes with the given route Values will be paired to attributes in order Attributes with greater or equals index than size of new values will be untouched Attributes paired with null values will be removed.

#### *Syntax*

```
public void setAttributes ( List< String > values , String...  
route ) throws IllegalArgumentException
```

#### *Parameters*

- **values** – The new values of the attributes
- **route** – The route to the attributes

*Exceptions*

- **IllegalArgumentException** – if either of the arguments is null.

*setDocument(ISDMParserDocument, String...) method**Syntax*

```
public boolean setDocument ( ISDMParserDocument document ,
String... route ) throws IllegalArgumentException
```

*setDocuments(List< ISDMParserDocument >, String...) method*

Replaces all the elements with the given route Documents will be paired to elements in order Elements with greater or equals index than size of new elements will be untouched Element paired with null will be removed.

*Syntax*

```
public void setDocuments ( List< ISDMParserDocument > documents ,
String... route ) throws IllegalArgumentException
```

*Parameters*

- **documents** – The list of new documents or nulls if one or more document should be removed
- **route** – The route to the elements

*Exceptions*

- **IllegalArgumentException** – if either of the arguments is null.

*setElementName(String, String...) method*

Sets the name of the root element with the given route Use empty route for setting root name of this document.

*Syntax*

```
public void setElementName ( String name , String... route )
```

*Parameters*

- **name** – The new name of the root element
- **route** – The route to the element

*Exceptions*

- **IllegalArgumentException** – if either of the arguments is null.

### *setNameMap(List< String >) method*

#### *Syntax*

```
public static void setNameMap ( List< String > nameMap )
```

### *setPrefixMapping(Map< String, String >) method*

#### *Syntax*

```
public static void setPrefixMapping ( Map< String, String > prefixMapping )
```

### *setString(String, String...) method*

#### *Syntax*

```
protected void setString ( String value , String... route )
```

### *setStrings(List< String >, String...) method*

#### *Syntax*

```
protected void setStrings ( List< String > values , String... route )
```

### *setValue(String, String...) method*

#### *Syntax*

```
public void setValue ( String value , String... route ) throws  
IllegalArgumentException
```

### *setValues(List< String >, String...) method*

Sets all the values of the elements with the given rout Values will be paired to elements in order Elements with greater or equals index than size of new values will be untouched Null values will be treated as empty strings.

#### *Syntax*

```
public void setValues ( List< String > values , String... route )  
throws IllegalArgumentException
```

#### *Parameters*

- **values** – The new values of the elements
- **route** – The route to the elements

*Exceptions*

- **IllegalArgumentException** – if either of the arguments is null.

*toXMLString() method*

Returns the XML string representation of this object.

*Syntax*

```
public String toXMLString ()
```

*Returns*

The XML string representation of this object

*write(BufferedWriter) method**Syntax*

```
public void write (BufferedWriter writer) throws
SDMPersistenceException
```

*Parameters*

- **writer** – The buffered writer that object data needs to be written into.

*Exceptions*

- **SDMPersistenceException** – if data can not be written into the writer

*writeNameMap(BufferedWriter) method**Syntax*

```
public static void writeNameMap (BufferedWriter writer) throws
IOException
```

*ANY\_STRING variable**Syntax*

```
static transient final String ANY_STRING
```

*ATTRIBUTE\_ID variable**Syntax*

```
static transient final int ATTRIBUTE_ID
```

*ATTRIBUTE\_STRING variable*

*Syntax*

```
static transient final String ATTRIBUTE_STRING
```

*extensions variable*

*Syntax*

```
protected Map< String, String > extensions
```

*isComplexEntity variable*

*Syntax*

```
boolean isComplexEntity
```

*isJson variable*

*Syntax*

```
boolean isJson
```

*nameMap variable*

*Syntax*

```
static transient List< String > nameMap
```

*prefixMapping variable*

*Syntax*

```
static transient Map< String, String > prefixMapping
```

*routes variable*

*Syntax*

```
protected int[] routes
```

*strings variable*

*Syntax*

```
protected String[] strings
```

*URL\_PROTOCOL\_PREFIX* variable*Syntax*

```
protected static final String URL_PROTOCOL_PREFIX
```

*VALUE\_ID* variable*Syntax*

```
static transient final int VALUE_ID
```

*VALUE\_STRING* variable*Syntax*

```
static transient final String VALUE_STRING
```

*SDMParserException* class

Deprecated. since 3.0, Use ParserException Main exception throwable by SDMParser or SDMOdata documents.

*Syntax*

```
public class SDMParserException extends Exception
```

*Members*

All members of SDMParserException, including inherited members. **Constructors**

Modifier and Type	Constructor	Description
public	<i>SDMParserException()</i> on page 1956	Constructor.
public	<i>SDMParserException(String)</i> on page 1956	Constructor.
public	<i>SDMParserException(Throwable)</i> on page 1956	Constructor.
public	<i>SDMParserException(String, Throwable)</i> on page 1956	Constructor.
public	<i>SDMParserException(int, String, Throwable)</i> on page 1957	
public	<i>SDMParserException(int, String)</i> on page 1957	

**Methods**

Modifier and Type	Method	Description
public int	<i>getErrorCode()</i> on page 1957	

*SDMParserException()* constructor

Constructor.

*Syntax*

```
public SDMParserException ()
```

*SDMParserException(String)* constructor

Constructor.

*Syntax*

```
public SDMParserException ( String detailMessage )
```

*Parameters*

- **detailMessage** – Error message

*SDMParserException(Throwable)* constructor

Constructor.

*Syntax*

```
public SDMParserException ( Throwable throwable )
```

*Parameters*

- **throwable** – Route exception

*SDMParserException(String, Throwable)* constructor

Constructor.

*Syntax*

```
public SDMParserException ( String detailMessage , Throwable throwable )
```

*Parameters*

- **detailMessage** – Error message
- **throwable** – Route exception



*SDMParseException(int, String, Throwable) constructor***Syntax**

```
public SDMParseException ( int iErrorCode , String detailMessage ,
    Throwable throwable )
```

*SDMParseException(int, String) constructor***Syntax**

```
public SDMParseException ( int iErrorCode , String detailMessage )
```

*getErrorCode() method***Syntax**

```
public int getErrorCode ()
```

*SDMParseHandler class*

Deprecated. since 3.0, Use ParserHandler

**Syntax**

```
public class SDMParseHandler extends DefaultHandler
```

**Members**

All members of SDMParseHandler, including inherited members. **Variables**

Modifier and Type	Variable	Description
protected StringBuffer	<i>buffer</i> on page 1959	
protected List< Integer >	<i>routes</i> on page 1959	
protected List< String >	<i>values</i> on page 1959	

**Methods**

Modifier and Type	Method	Description
protected void	<i>addValue()</i> on page 1958	
public void	<i>characters(char[], int, int)</i> on page 1958	
public void	<i>endElement(String, String, String)</i> on page 1958	
public SDMParseDocument	<i>getDocument()</i> on page 1958	

Modifier and Type	Method	Description
protected String	<i>resolveAttributeName(Attributes, int)</i> on page 1958	
protected String	<i>resolveName(String, String, String)</i> on page 1959	
public void	<i>startDocument()</i> on page 1959	
public void	<i>startElement(String, String, String, Attributes)</i> on page 1959	
public void	<i>startPrefixMapping(String, String)</i> on page 1959	

*addValue() method***Syntax**

```
protected void addValue ()
```

*characters(char[], int, int) method***Syntax**

```
public void characters ( char[] ch , int start , int length ) throws SAXException
```

*endElement(String, String, String) method***Syntax**

```
public void endElement ( String uri , String localName , String qName ) throws SAXException
```

*getDocument() method***Syntax**

```
public SDMParserDocument getDocument ()
```

*resolveAttributeName(Attributes, int) method***Syntax**

```
protected String resolveAttributeName ( Attributes attributes , int i )
```

*resolveName(String, String, String) method*

**Syntax**

```
protected String resolveName (String uri , String localName ,
String qName )
```

*startDocument() method*

**Syntax**

```
public void startDocument () throws SAXException
```

*startElement(String, String, String, Attributes) method*

**Syntax**

```
public void startElement (String uri , String localName , String
qName , Attributes attributes) throws SAXException
```

*startPrefixMapping(String, String) method*

**Syntax**

```
public void startPrefixMapping (String prefix , String uri) throws
SAXException
```

*buffer variable*

**Syntax**

```
protected StringBuffer buffer
```

*routes variable*

**Syntax**

```
protected List< Integer > routes
```

*values variable*

**Syntax**

```
protected List< String > values
```

*SDMPersistence class***Syntax**

```
public class SDMPersistence extends ISDMPersistence,
ISDMPreferenceChangeListener
```

**Members**

All members of SDMPersistence, including inherited members. **Variables**

Modifier and Type	Variable	Description
protected ActivityManager	<i>activityManager</i> on page 1968	
protected int	<i>bufferSize</i> on page 1968	
protected static final String	<i>CACHE_KEY</i> on page 1968	
protected File	<i>defaultFolder</i> on page 1968	
protected SDMEncryptDecrypt	<i>encDec</i> on page 1968	
static Object	<i>lockObject</i> on page 1968	
protected ISDMLogger	<i>logger</i> on page 1968	
protected String	<i>mCipherTransformation</i> on page 1968	
protected Integer	<i>mLogLevel</i> on page 1969	
protected static final String	<i>mLogTag</i> on page 1969	
protected static final String	<i>SECURE_POSTFIX</i> on page 1969	
protected Boolean	<i>secureMode</i> on page 1969	

**Constructors**

Modifier and Type	Constructor	Description
public	<i>SDMPersistence(ISDMPreferences, ISDMLogger)</i> on page 1962	Deprecated.
public	<i>SDMPersistence(ISDMPreferences, ISDMLogger, byte[], String)</i> on page 1962	Deprecated.

Modifier and Type	Constructor	Description
protected	<i>SDMPersistence(ISDMPreferences, ISDMLogger, byte[], String, ActivityManager)</i> on page 1963	

## Methods

Modifier and Type	Method	Description
public void	<i>clear()</i> on page 1963	Deprecated.
protected void	<i>deleteFiles(final boolean)</i> on page 1963	
public static byte[]	<i>generateSecretKey()</i> on page 1963	Deprecated.
public static byte[]	<i>generateSecretKey(String)</i> on page 1963	Deprecated.
public boolean	<i>isDataPersisted(String)</i> on page 1964	Deprecated.
protected boolean	<i>isValidKey(String)</i> on page 1964	
public InputStream	<i>loadDataStream(String)</i> on page 1964	Deprecated.
public< T extends ISDMPersistent > boolean	<i>loadObject(String, T)</i> on page 1964	Deprecated.
public byte[]	<i>loadRawData(String)</i> on page 1964	Deprecated.
public boolean	<i>loadSDMCache(ISDMCache)</i> on page 1965	Deprecated.
public boolean	<i>loadSDMCache(String, ISDMCache)</i> on page 1965	Deprecated.
public void	<i>onPreferenceChanged(String, Object)</i> on page 1965	Deprecated.
public boolean	<i>removeData(String)</i> on page 1965	Deprecated.

Modifier and Type	Method	Description
public boolean	<i>removeSDMCache()</i> on page 1966	Deprecated.
public boolean	<i>removeSDMCache(String)</i> on page 1966	Deprecated.
public void	<i>setEncryptionKey(byte[], String)</i> on page 1966	Deprecated.
public void	<i>storeDataStream(String, InputStream)</i> on page 1966	Deprecated.
public void	<i>storeObject(String, ISDMPersistable)</i> on page 1967	Deprecated.
public void	<i>storeRawData(String, byte[])</i> on page 1967	Deprecated.
public void	<i>storeSDMCache(ISDMCache)</i> on page 1967	Deprecated.
public void	<i>storeSDMCache(String, ISDMCache)</i> on page 1967	Deprecated.

*SDMPersistence(ISDMPreferences, ISDMLogger)* constructor [deprecated]  
 Deprecated.

#### Syntax

```
public SDMPersistence ( ISDMPreferences preferences , ISDMLogger
logger ) throws SDMPersistenceException
```

#### Usage

Deprecated

*SDMPersistence(ISDMPreferences, ISDMLogger, byte[], String)* constructor [deprecated]

Deprecated.

#### Syntax

```
public SDMPersistence ( ISDMPreferences preferences , ISDMLogger
logger , byte[] secretKey , String secretKeyAlgorithm ) throws
SDMPersistenceException
```

*Usage*

Deprecated

*SDMPersistence(ISDMPreferences, ISDMLogger, byte[], String, ActivityManager)*  
*constructor*

*Syntax*

```
protected SDMPersistence ( ISDMPreferences preferences ,
ISDMLogger logger , byte[] secretKey , String secretKeyAlgorithm ,
ActivityManager activityManager ) throws SDMPersistenceException
```

*clear() method [deprecated]*

Deprecated.

*Syntax*

```
public void clear ()
```

*Usage*

Deprecated

*deleteFiles(final boolean) method*

*Syntax*

```
protected void deleteFiles ( final boolean secured )
```

*generateSecretKey() method [deprecated]*

Deprecated.

*Syntax*

```
public static byte[] generateSecretKey () throws
NoSuchAlgorithmException
```

*Usage*

Deprecated

*generateSecretKey(String) method [deprecated]*

Deprecated.

*Syntax*

```
public static byte[] generateSecretKey ( String secretKeyAlgorithm )
throws NoSuchAlgorithmException
```

### *Usage*

Deprecated

### *isDataPersisted(String) method [deprecated]*

Deprecated.

### *Syntax*

```
public boolean isDataPersisted (String key)
```

### *Usage*

Deprecated

### *isValidKey(String) method*

### *Syntax*

```
protected boolean isValidKey (String key)
```

### *loadDataStream(String) method [deprecated]*

Deprecated.

### *Syntax*

```
public InputStream loadDataStream (String key) throws  
SDMPersistenceException
```

### *Usage*

Deprecated

### *loadObject(String, T) method [deprecated]*

Deprecated.

### *Syntax*

```
public< T extends ISDMPersistable > boolean loadObject (String  
key , T object) throws SDMPersistenceException
```

### *Usage*

Deprecated

### *loadRawData(String) method [deprecated]*

Deprecated.

### *Syntax*

```
public byte[] loadRawData (String key) throws  
SDMPersistenceException
```



**Usage**

Deprecated

***loadSDMCache(ISDMCache) method [deprecated]***

Deprecated.

**Syntax**

```
public boolean loadSDMCache ( ISDMCache cache ) throws  
SDMPersistenceException
```

**Usage**

Deprecated

***loadSDMCache(String, ISDMCache) method [deprecated]***

Deprecated.

**Syntax**

```
public boolean loadSDMCache ( String key , ISDMCache cache ) throws  
SDMPersistenceException
```

**Usage**

Deprecated

***onPreferenceChanged(String, Object) method [deprecated]***

Deprecated.

**Syntax**

```
public void onPreferenceChanged ( String key , Object value )
```

**Usage**

Deprecated

***removeData(String) method [deprecated]***

Deprecated.

**Syntax**

```
public boolean removeData ( String key ) throws  
SDMPersistenceException
```

**Usage**

Deprecated

*removeSDMCache() method [deprecated]*

Deprecated.

*Syntax*

```
public boolean removeSDMCache () throws SDMPersistenceException
```

*Usage*

Deprecated

*removeSDMCache(String) method [deprecated]*

Deprecated.

*Syntax*

```
public boolean removeSDMCache (String key) throws  
SDMPersistenceException
```

*Usage*

Deprecated

*setEncryptionKey(byte[], String) method [deprecated]*

Deprecated.

*Syntax*

```
public void setEncryptionKey (byte[] secretKey, String  
secretKeyAlgorithm) throws SDMPersistenceException
```

*Usage*

Deprecated

*storeDataStream(String, InputStream) method [deprecated]*

Deprecated.

*Syntax*

```
public void storeDataStream (String key, InputStream inputStream)  
throws SDMPersistenceException
```

*Usage*

Deprecated

*storeObject(String, ISDMPersistable) method [deprecated]*

Deprecated.

#### *Syntax*

```
public void storeObject (String key , ISDMPersistable object )
throws SDMPersistenceException
```

#### *Usage*

Deprecated

*storeRawData(String, byte[]) method [deprecated]*

Deprecated.

#### *Syntax*

```
public void storeRawData (String key , byte[] data ) throws
SDMPersistenceException
```

#### *Usage*

Deprecated

*storeSDMCache(ISDMLCache) method [deprecated]*

Deprecated.

#### *Syntax*

```
public void storeSDMCache ( ISDMLCache cache ) throws
SDMPersistenceException
```

#### *Usage*

Deprecated

*storeSDMCache(String, ISDMLCache) method [deprecated]*

Deprecated.

#### *Syntax*

```
public void storeSDMCache (String key , ISDMLCache cache ) throws
SDMPersistenceException
```

#### *Usage*

Deprecated

### *activityManager variable*

#### *Syntax*

```
protected ActivityManager activityManager
```

### *bufferSize variable*

#### *Syntax*

```
protected int bufferSize
```

### *CACHE\_KEY variable*

#### *Syntax*

```
protected static final String CACHE_KEY
```

### *defaultFolder variable*

#### *Syntax*

```
protected File defaultFolder
```

### *encDec variable*

#### *Syntax*

```
protected SDMEncryptDecrypt encDec
```

### *lockObject variable*

#### *Syntax*

```
static Object lockObject
```

### *logger variable*

#### *Syntax*

```
protected ISDMLogger logger
```

### *mCipherTransformation variable*

#### *Syntax*

```
protected String mCipherTransformation
```

*mLogLevel* variable*Syntax*

```
protected Integer mLogLevel
```

*mLogTag* variable*Syntax*

```
protected static final String mLogTag
```

*SECURE\_POSTFIX* variable*Syntax*

```
protected static final String SECURE_POSTFIX
```

*secureMode* variable*Syntax*

```
protected Boolean secureMode
```

*SDMPersistenceException* class

Deprecated. since 3.0, Use com.sap.mobile.lib.persistence.PersistenceException

*Syntax*

```
public class SDMPersistenceException extends Exception
```

*Members*

All members of SDMPersistenceException, including inherited members. **Constructors**

Modifier and Type	Constructor	Description
public	<i>SDMPersistenceException()</i> on page 1970	
public	<i>SDMPersistenceException(String)</i> on page 1970	
public	<i>SDMPersistenceException(Throwable)</i> on page 1970	
public	<i>SDMPersistenceException(String, Throwable)</i> on page 1970	

Modifier and Type	Constructor	Description
public	<i>SDMPersistenceException(int, String, Throwable)</i> on page 1970	
public	<i>SDMPersistenceException(int, String)</i> on page 1971	

**Methods**

Modifier and Type	Method	Description
public int	<i>getErrorCode()</i> on page 1971	

*SDMPersistenceException()* constructor*Syntax*

```
public SDMPersistenceException ()
```

*SDMPersistenceException(String)* constructor*Syntax*

```
public SDMPersistenceException ( String detailMessage )
```

*SDMPersistenceException(Throwable)* constructor*Syntax*

```
public SDMPersistenceException ( Throwable throwable )
```

*SDMPersistenceException(String, Throwable)* constructor*Syntax*

```
public SDMPersistenceException ( String detailMessage , Throwable throwable )
```

*SDMPersistenceException(int, String, Throwable)* constructor*Syntax*

```
public SDMPersistenceException ( int iErrorCode , String detailMessage , Throwable throwable )
```

*SDMPersistenceException(int, String) constructor***Syntax**

```
public SDMPersistenceException ( int iErrorCode , String
detailMessage )
```

*getErrorCode() method***Syntax**

```
public int getErrorCode ()
```

*SDMPreferences class*

Deprecated. since 3.0, Use com.sap.mobile.lib.configuration.Preferences

**Syntax**

```
public class SDMPreferences extends ISDMPreferences,
SDMConstants, OnSharedPreferenceChangeListener
```

**Members**

All members of SDMPreferences, including inherited members. **Variables**

Modifier and Type	Variable	Description
public static String	<i>DEFAULT_PARSER_STRING_SUBFOLDER_NAME</i> on page 1984	Default subfolder for SDMParser.
public static String	<i>DEFAULT_PERSISTENCE_STRING_SUBFOLDER_NAME</i> on page 1984	Default subfolder for SDMPersistence.
protected Hashtable< String, Object >	<i>defaultPreferences</i> on page 1984	Store for default Preferences.
protected ISDMLogger	<i>logger</i> on page 1985	
protected int	<i>logLevel</i> on page 1985	
protected Hashtable< String, Set< ISDMPreferenceChangeListener > >	<i>preferenceChangeListeners</i> on page 1985	Listeners for Preference changes.
protected static final String	<i>SDMPREFERENCES</i> on page 1985	

**Constructors**

Modifier and Type	Constructor	Description
public	<i>SDMPreferences(Context, ISDMLogger)</i> on page 1977	Public constructor.

### Methods

Modifier and Type	Method	Description
protected void	<i>addDefaultPreferences()</i> on page 1978	Can be used to add application specific default preferences.
protected Object	<i>confirmPreference(String)</i> on page 1978	Validates changed preference if it can be changed.
public boolean	<i>containsPreference(String)</i> on page 1978	Checks the existence of the given preference.
public Boolean	<i>getBooleanPreference(String)</i> on page 1978	Returns the value of the given preference or null if there is no preference with the given key.
public Float	<i>getFloatPreference(String)</i> on page 1979	Returns the value of the given preference or null if there is no preference with the given key.
public Integer	<i>getIntPreference(String)</i> on page 1979	Returns the value of the given preference or null if there is no preference with the given key.
public Long	<i>getLongPreference(String)</i> on page 1980	Returns the value of the given preference or null if there is no preference with the given key.
private< T > T	<i>getPreference(String)</i> on page 1980	
public String	<i>getStringPreference(String)</i> on page 1980	Returns the value of the given preference or null if there is no preference with the given key.
public void	<i>onSharedPreference-Changed(SharedPreferences, final String)</i> on page 1981	



Modifier and Type	Method	Description
public synchronized void	<i>registerPreferenceChangeListener(String, ISDMPreferenceChangeListener)</i> on page 1981	You can register a class implementing the ISDMPreferenceChangeListener interface for the change of a preference with the given key.
public void	<i>removePreference(String)</i> on page 1981	Removes the preferences with the given key.
public void	<i>resetPreference(String)</i> on page 1982	Resets the preference's value to its default value or to null if there is no default value for the given preference.
public void	<i>setBooleanPreference(String, boolean)</i> on page 1982	Sets and validates and persists the value of the preferences with the given type.
public void	<i>setFloatPreference(String, float)</i> on page 1982	Sets and validates and persists the value of the preferences with the given type.
public void	<i>setIntPreference(String, int)</i> on page 1983	Sets and validates and persists the value of the preferences with the given type.
public void	<i>setLongPreference(String, long)</i> on page 1983	Sets and validates and persists the value of the preferences with the given type.
public void	<i>setStringPreference(String, String)</i> on page 1983	Sets and validates and persists the value of the preferences with the given type.
public synchronized void	<i>unRegisterPreferenceChangeListener(String, ISDMPreferenceChangeListener)</i> on page 1984	You can unregister a change listener.

#### Inherited members from ISDMPreferences

Modifier and Type	Member	Description
public static final String	<i>BUSINESSSTRANSAC-TION_ENABLED</i> on page 1350	Preference for the indicator to decide if SAP passport should be enabled or not.

Modifier and Type	Member	Description
public static final String	<i>BYPASS_PROXY</i> on page 1350	Preference for the indicator to decide which URLs need the proxy bypassed.
public static final String	<i>SAP_APPLICATION_ID_HEADER_VALUE</i> on page 1350	Preference for application ID (used in request headers)
public static final String	<i>SAPPASSPORT_ENABLED</i> on page 1351	Preference for the indicator to decide if SAP passport should be enabled or not.
public static final String	<i>SDM_CACHE_CAPACITY</i> on page 1351	Preference for the maximum number of documents can be stored in cache.
public static final String	<i>SDM_CACHE_MAX_SEARCH_RESULTS</i> on page 1351	Preference for the maximum entries that can be returned as a result of a search.
public static final String	<i>SDM_CACHE_PARSER_SEARCH_ATTRIBUTE</i> on page 1351	Preference for the name of the XML attribute that should be used to decide if a property is searchable.
public static final String	<i>SDM_CACHE_SEARCH_ATTRIBUTE_XMLNS</i> on page 1351	Preference for the XML namespace URI of the XML attribute that should be used to decide if a property is searchable.
public static final String	<i>SDM_CONNECTIVITY_CONNTIMEOUT</i> on page 1351	Preference for connection time out.
public static final String	<i>SDM_CONNECTIVITY_HANDLER_CLASS_NAME</i> on page 1352	Preference for full name (including package) of the class that should be initialized as connectivity handler.
public static final String	<i>SDM_CONNECTIVITY_HTTP_PORT</i> on page 1352	Preference for default HTTP port.
public static final String	<i>SDM_CONNECTIVITY_HTTPS_PORT</i> on page 1352	Preference for default HTTPS port.

Modifier and Type	Member	Description
public static final String	<i>SDM_CONNECTIVITY_PROXY_HOST</i> on page 1352	Preference for proxy host if there is a proxy should be used.
public static final String	<i>SDM_CONNECTIVITY_PROXY_PORT</i> on page 1352	Preference for proxy port if there is a proxy should be used.
public static final String	<i>SDM_CONNECTIVITY_SCONNTIMEOUT</i> on page 1352	Preference for socket connection time out.
public static final String	<i>SDM_LOG_LEVEL</i> on page 1352	Preference for the current log severity.
public static final String	<i>SDM_PARSER_FOLDER_PATH</i> on page 1353	Preference for the default folder where Parser related information can be persisted Should not point to a folder that can be removed outside of the application.
public static final String	<i>SDM_PERSISTENCE_BYTE_BUFFER_SIZE</i> on page 1353	Preference for the size of the buffer that is used during persistence Should be changed only in case of low memory available.
public static final String	<i>SDM_PERSISTENCE_CIPHER_TRANSFORMATION</i> on page 1353	Preference for the default cipher transformation algorithm Should be matched with algorithm of the Secure Key generation used for data encryption.
public static final String	<i>SDM_PERSISTENCE_FOLDER_PATH</i> on page 1353	Preference for the default folder where data should be persisted.
public static final String	<i>SDM_PERSISTENCE_SECUREMODE</i> on page 1353	Preference for indicator if persisted data should be encrypted.

### Inherited members from SDMConstants

Modifier and Type	Member	Description
public static final boolean	<i>DEFAULT_BUSINESS_TRANSACTION_ENABLED</i> on page 1410	SAP Business Transaction XML enablement default setting.
public static final String	<i>DEFAULT_CIPHER_TRANSFORMATION</i> on page 1410	Default cipher transformation.
public static final int	<i>DEFAULT_CONNECTION_TIMEOUT</i> on page 1410	Default connection timeout.
public static final String	<i>DEFAULT_HANDLER_CLASS_NAME</i> on page 1410	Default handler class.
public static final int	<i>DEFAULT_HTTP_PORT</i> on page 1410	Default HTTP port.
public static final int	<i>DEFAULT_HTTPS_PORT</i> on page 1410	Default HTTPS port.
public static final int	<i>DEFAULT_LOG_LEVEL</i> on page 1410	Default log level.
public static final boolean	<i>DEFAULT_PERSISTENCE_BOOLEAN_SECUREMODE</i> on page 1411	Default security mode.
public static final int	<i>DEFAULT_PERSISTENCE_BYTE_BUFFER_SIZE</i> on page 1411	Default buffer size.
public static final String	<i>DEFAULT_PROXY_HOST</i> on page 1411	Default proxy host.
public static final int	<i>DEFAULT_PROXY_PORT</i> on page 1411	Default proxy port.
public static final String	<i>DEFAULT_SAP_APPLICATIONID_HEADER_VALUE</i> on page 1411	Default application ID.
public static final boolean	<i>DEFAULT_SAPPASSPORT_ENABLED</i> on page 1411	SAP Passport enablement default setting.

Modifier and Type	Member	Description
public static final int	<i>DEFAULT_SEARCH_LIMIT</i> on page 1411	Default for maximum search results retrieved from cache.
public static final int	<i>DEFAULT_SOCKET_CONNECTION_TIMEOUT</i> on page 1412	Default socket connection timeout.
public static final int	<i>DEFAULT_STORE_CAPACITY</i> on page 1412	Default cache capacity.
public static final int	<i>MAX_PERSISTENCE_BYTE_BUFFER_SIZE</i> on page 1412	Maximum buffer size.
public static final int	<i>MAXIMUM_STORE_CAPACITY</i> on page 1412	Maximum cache capacity.
public static final int	<i>MIN_PERSISTENCE_BYTE_BUFFER_SIZE</i> on page 1412	Minimum buffer size.
public static final String	<i>SDM_HTTP_HANDLER_CLASS</i> on page 1412	Socket Connection handler class.
public static final String	<i>SDM_IMO_HANDLER_CLASS</i> on page 1412	IMO Connection handler class.
public static final String	<i>SDM_SHARED_PREFERENCES</i> on page 1413	Shared preferences.

### *SDMPreferences(Context, ISDMLogger) constructor*

Public constructor.

#### *Syntax*

```
public SDMPreferences ( Context context , ISDMLogger logger )
```

#### *Parameters*

- **context** – Context object
- **logger** – Logger object

#### *Exceptions*

- **IllegalArgumentException** – if context is null

### *addDefaultPreferences()* method

Can be used to add application specific default preferences.

#### *Syntax*

```
protected void addDefaultPreferences ()
```

### *confirmPreference(String)* method

Validates changed preference if it can be changed.

#### *Syntax*

```
protected Object confirmPreference (String key)
```

#### *Parameters*

- **key** – The key of the preferences

#### *Returns*

The changed value

### *containsPreference(String)* method

Checks the existence of the given preference.

#### *Syntax*

```
public boolean containsPreference (String key)
```

#### *Parameters*

- **key** – The key of the preference

#### *Returns*

true if SDMPreference contains the given key or false otherwise

### *getBooleanPreference(String)* method

Returns the value of the given preference or null if there is no preference with the given key.

#### *Syntax*

```
public Boolean getBooleanPreference (String key) throws  
SDMPPreferencesException
```

#### *Parameters*

- **key** – The key of the preference

#### *Returns*

the boolean type preference with the given key

*Exceptions*

- **SDMPreferencesException class** – if preference exists with the given key but with value of different type

*getFloatPreference(String) method*

Returns the value of the given preference or null if there is no preference with the given key.

*Syntax*

```
public Float getFloatPreference (String key) throws
SDMPreferencesException
```

*Parameters*

- **key** – The key of the preference

*Returns*

the float type preference with the given key

*Exceptions*

- **SDMPreferencesException class** – if preference exists with the given key but with value of different type

*getIntPreference(String) method*

Returns the value of the given preference or null if there is no preference with the given key.

*Syntax*

```
public Integer getIntPreference (String key) throws
SDMPreferencesException
```

*Parameters*

- **key** – The key of the preference

*Returns*

the integer type preference with the given key

*Exceptions*

- **SDMPreferencesException class** – if preference exists with the given key but with value of different type

### *getLongPreference(String) method*

Returns the value of the given preference or null if there is no preference with the given key.

#### *Syntax*

```
public Long getLongPreference ( String key ) throws  
SDMPreferencesException
```

#### *Parameters*

- **key** – The key of the preference

#### *Returns*

the long type preference with the given key

#### *Exceptions*

- **SDMPreferencesException class** – if preference exists with the given key but with value of different type

### *getPreference(String) method*

#### *Syntax*

```
private< T > T getPreference ( String key )
```

### *getStringPreference(String) method*

Returns the value of the given preference or null if there is no preference with the given key.

#### *Syntax*

```
public String getStringPreference ( String key ) throws  
SDMPreferencesException
```

#### *Parameters*

- **key** – The key of the preference

#### *Returns*

the String type preference with the given key

#### *Exceptions*

- **SDMPreferencesException class** – if preference exists with the given key but with value of different type



*onSharedPreferenceChanged(SharedPreferences, final String) method***Syntax**

```
public void onSharedPreferenceChanged ( SharedPreferences
sharedPreferences , final String key )
```

*registerPreferenceChangeListener(String, ISDMPreferenceChangeListener) method*

You can register a class implementing the ISDMPreferenceChangeListener interface for the change of a preference with the given key.

**Syntax**

```
public synchronized void registerPreferenceChangeListener
( String key , ISDMPreferenceChangeListener changeListener )
```

**Parameters**

- **key** – key of the preference
- **changeListener** – listener object to be registered

**Exceptions**

- **IllegalArgumentException** – if the argument is null.

**Usage**

If any of the arguments are null, an IllegalArgumentException is thrown.

*removePreference(String) method*

Removes the preferences with the given key.

**Syntax**

```
public void removePreference ( String key ) throws
SDMPreferencesException
```

**Parameters**

- **key** – The key of the preference

**Exceptions**

- **SDMPreferencesException class** – If the preference does not exist or it can not be removed( e.g. an SDM preference )

### *resetPreference(String) method*

Resets the preference's value to its default value or to null if there is no default value for the given preference.

#### *Syntax*

```
public void resetPreference ( String key )
```

#### *Parameters*

- **key** – The key of the preference

### *setBooleanPreference(String, boolean) method*

Sets and validates and persists the value of the preferences with the given type.

#### *Syntax*

```
public void setBooleanPreference ( String key , boolean value )  
throws SDMPreferencesException
```

#### *Parameters*

- **key** – The key of the preference
- **value** – The new value of the preference

#### *Exceptions*

- **SDMPreferencesException class** – if the new value of the preference is invalid for any reasons

### *setFloatPreference(String, float) method*

Sets and validates and persists the value of the preferences with the given type.

#### *Syntax*

```
public void setFloatPreference ( String key , float value ) throws  
SDMPreferencesException
```

#### *Parameters*

- **key** – The key of the preference
- **value** – The new value of the preference

#### *Exceptions*

- **SDMPreferencesException class** – if the new value of the preference is invalid for any reasons

*setIntPreference(String, int) method*

Sets and validates and persists the value of the preferences with the given type.

*Syntax*

```
public void setIntPreference ( String key , int value ) throws  
SDMPreferencesException
```

*Parameters*

- **key** – The key of the preference
- **value** – The new value of the preference

*Exceptions*

- **SDMPreferencesException class** – if the new value of the preference is invalid for any reasons

*setLongPreference(String, long) method*

Sets and validates and persists the value of the preferences with the given type.

*Syntax*

```
public void setLongPreference ( String key , long value ) throws  
SDMPreferencesException
```

*Parameters*

- **key** – The key of the preference
- **value** – The new value of the preference

*Exceptions*

- **SDMPreferencesException class** – if the new value of the preference is invalid for any reasons

*setStringPreference(String, String) method*

Sets and validates and persists the value of the preferences with the given type.

*Syntax*

```
public void setStringPreference ( String key , String value ) throws  
SDMPreferencesException
```

*Parameters*

- **key** – The key of the preference

- **value** – The new value of the preference

### *Exceptions*

- **SDMPreferencesException class** – if the new value of the preference is invalid for any reasons

*unRegisterPreferenceChangeListener(String, ISDMPreferenceChangeListener)*  
*method*

You can unregister a change listener.

### *Syntax*

```
public synchronized void unRegisterPreferenceChangeListener (
String key , ISDMPreferenceChangeListener changeListener )
```

### *Parameters*

- **key** – key of the preference
- **changeListener** – listener object to be unregistered

### *Exceptions*

- **IllegalArgumentException** – if the argument is null.

### *Usage*

If any of the arguments are null, an IllegalArgumentException is thrown.

*DEFAULT\_PARSER\_STRING\_SUBFOLDER\_NAME variable*

Default subfolder for SDMParser.

### *Syntax*

```
public static String DEFAULT_PARSER_STRING_SUBFOLDER_NAME
```

*DEFAULT\_PERSISTENCE\_STRING\_SUBFOLDER\_NAME variable*

Default subfolder for SDMPersistence.

### *Syntax*

```
public static String
DEFAULT_PERSISTENCE_STRING_SUBFOLDER_NAME
```

*defaultPreferences variable*

Store for default Preferences.

### *Syntax*

```
protected Hashtable< String, Object > defaultPreferences
```

*logger variable**Syntax*

```
protected ISDMLogger logger
```

*logLevel variable**Syntax*

```
protected int logLevel
```

*preferenceChangeListeners variable*

Listeners for Preference changes.

*Syntax*

```
protected Hashtable< String, Set<
ISDMPreferenceChangeListener > > preferenceChangeListeners
```

*SDMPREFERENCES variable**Syntax*

```
protected static final String SDMPREFERENCES
```

*SDMPreferencesException class*

Deprecated. since 3.0, Use com.sap.mobile.lib.configuration.PreferencesException

*Syntax*

```
public class SDMPreferencesException extends Exception
```

*Members*

All members of SDMPreferencesException, including inherited members. **Constructors**

Modifier and Type	Constructor	Description
public	<i>SDMPreferencesException()</i> on page 1986	
public	<i>SDMPreferencesException(String)</i> on page 1986	
public	<i>SDMPreferencesException(Throwable)</i> on page 1986	

Modifier and Type	Constructor	Description
public	<i>SDMPreferencesException(String, Throwable)</i> on page 1986	
public	<i>SDMPreferencesException(int, String, Throwable)</i> on page 1986	
public	<i>SDMPreferencesException(int, String)</i> on page 1987	

**Methods**

Modifier and Type	Method	Description
public int	<i>getErrorCode()</i> on page 1987	

*SDMPreferencesException()* constructor

**Syntax**

```
public SDMPreferencesException ()
```

*SDMPreferencesException(String)* constructor

**Syntax**

```
public SDMPreferencesException ( String detailMessage )
```

*SDMPreferencesException(Throwable)* constructor

**Syntax**

```
public SDMPreferencesException ( Throwable throwable )
```

*SDMPreferencesException(String, Throwable)* constructor

**Syntax**

```
public SDMPreferencesException ( String detailMessage , Throwable throwable )
```

*SDMPreferencesException(int, String, Throwable)* constructor

**Syntax**

```
public SDMPreferencesException ( int iErrorCode , String detailMessage , Throwable throwable )
```

*SDMPreferencesException(int, String) constructor**Syntax*

```
public SDMPreferencesException ( int iErrorCode , String
detailMessage )
```

*getErrorCode() method**Syntax*

```
public int getErrorCode ()
```

*SDMPushRequest class*

Deprecated. since 3.0, Use com.sap.mobile.lib.request.PushRequest Only an ISDMNetListener property is stored, who will receive the push messages. AbstractConnectionHandler implementation should store and use this listener for delivering push messages. This class represents the need for receiving push messages.

*Syntax*

```
public class SDMPushRequest extends ISDMRequest
```

*Members*

All members of SDMPushRequest, including inherited members. **Methods**

Modifier and Type	Method	Description
public byte[]	<i>getData()</i> on page 1990	If the request method is POST, this method is called from the network library.
public InputStream	<i>getDataStream()</i> on page 1990	If the request method is POST, this method is called from the network library.
public Request	<i>getE2eRequest()</i> on page 1990	Get the iRequest object from the ISDMRequest.
public Map< String, String >	<i>getHeaders()</i> on page 1990	Returns the request headers set.
public ISDMNetListener	<i>getListener()</i> on page 1991	Returns the listener to be used by the connectivity library to notify the registered listener about a successful or failed request operation.
public String	<i>getPassport()</i> on page 1991	

Modifier and Type	Method	Description
public int	<i>getPriority()</i> on page 1991	Returns the priority of the request.
public int	<i>getRequestMethod()</i> on page 1991	Returns the request method.
public String	<i>getRequestUrl()</i> on page 1992	Returns the URL where the request must be done.
public String	<i>getTransId()</i> on page 1992	
public boolean	<i>isStreamEnabled()</i> on page 1992	
public void	<i>setData(byte[])</i> on page 1992	Set the request data in case of POST request.
public void	<i>setDataStream(InputStream)</i> on page 1992	Set the request data stream in case of POST request.
public void	<i>setE2eRequest(Object)</i> on page 1992	Set the iRequest object into the ISDMRequest.
public void	<i>setHeaders(Map&lt;String, String&gt;)</i> on page 1993	Set the request headers.
public void	<i>setListener(ISDMNetListener)</i> on page 1993	
public void	<i>setPassport(String)</i> on page 1993	
public void	<i>setPriority(int)</i> on page 1993	
public void	<i>setRequestMethod(int)</i> on page 1993	
public void	<i>setRequestUrl(String)</i> on page 1993	
public void	<i>setStreamEnabled(boolean)</i> on page 1993	Used to enable streaming of data when the size of the data to be fetched is greater than 200KB.
public void	<i>setTransId(String)</i> on page 1994	



Modifier and Type	Method	Description
public boolean	<i>useCookies()</i> on page 1994	This method is used by the network library to check whether it has to send cookies to the server when the current request is performed.

### Inherited members from ISDMRequest

Modifier and Type	Member	Description
public static final int	<i>ETAG_IF_MATCH</i> on page 1361	etag "if-match"
public static final int	<i>ETAG_IF_NONE_MATCH</i> on page 1361	etag "if-none-match"
public static final int	<i>ETAG_IF_RANGE</i> on page 1362	etag "if-range"
public static final int	<i>PRIORITY_HIGH</i> on page 1362	High priority.
public static final int	<i>PRIORITY_NORMAL</i> on page 1362	Normal priority.
public static final int	<i>REQUEST_METHOD_DELETE</i> on page 1362	HTTP DELETE method.
public static final int	<i>REQUEST_METHOD_GET</i> on page 1362	HTTP GET method.
public static final int	<i>REQUEST_METHOD_POST</i> on page 1362	HTTP POST method.
public static final int	<i>REQUEST_METHOD_PUT</i> on page 1363	HTTP PUT method.
public void	<i>setListener(final ISDMNetListener)</i> on page 1359	Client can register listeners to be used by the connectivity layer to notify the implementation about the result of the request.
public void	<i>setPriority(final int)</i> on page 1360	Sets the priority of the request.
public void	<i>setRequestMethod(final int)</i> on page 1360	Sets the request method.

Modifier and Type	Member	Description
public void	<i>setRequestUrl(<i>final String</i>)</i> on page 1360	Sets the URL for the request.

***getData()* method**

If the request method is POST, this method is called from the network library.

***Syntax***

```
public byte[] getData ()
```

***Returns***

the content data.

***Usage***

This method must return with the content to be sent to the server.

***getDataStream()* method**

If the request method is POST, this method is called from the network library.

***Syntax***

```
public InputStream getDataStream ()
```

***Returns***

the content data stream.

***Usage***

This method must return with the content stream to be sent to the server.

***getE2eRequest()* method**

Get the iRequest object from the ISDMRequest.

***Syntax***

```
public Request getE2eRequest ()
```

***Usage***

Used for E2E tracing.

***getHeaders()* method**

Returns the request headers set.

***Syntax***

```
public Map< String, String > getHeaders ()
```

**Returns**

the request headers

***getListener() method***

Returns the listener to be used by the connectivity library to notify the registered listener about a successful or failed request operation.

**Syntax**

```
public ISDMNetListener getListener ()
```

**Returns**

the listener or null.

**Usage**

Method will return null if there is no registered listener.

***getPassport() method*****Syntax**

```
public String getPassport ()
```

***getPriority() method***

Returns the priority of the request.

**Syntax**

```
public int getPriority ()
```

**Returns**

the priority.

***getRequestMethod() method***

Returns the request method.

**Syntax**

```
public int getRequestMethod ()
```

**Returns**

the request method, with a value of ISDMRequest.REQUEST\_METHOD\_\* constants.

### *getRequestUrl() method*

Returns the URL where the request must be done.

#### *Syntax*

```
public String getRequestUrl ()
```

#### *Returns*

the URL.

### *getTransId() method*

#### *Syntax*

```
public String getTransId ()
```

### *isStreamEnabled() method*

#### *Syntax*

```
public boolean isStreamEnabled ()
```

### *setData(byte[]) method*

Set the request data in case of POST request.

#### *Syntax*

```
public void setData (byte[] data)
```

#### *Parameters*

- **data** – the request data to set

### *setDataStream(InputStream) method*

Set the request data stream in case of POST request.

#### *Syntax*

```
public void setDataStream (InputStream iStream)
```

#### *Parameters*

- **data** – the request data stream to set

### *setE2eRequest(Object) method*

Set the iRequest object into the ISDMRequest.

#### *Syntax*

```
public void setE2eRequest (Object iRequest)
```

*Parameters*

- **iRequest** –

*setHeaders(Map< String, String >) method*

Set the request headers.

*Syntax*

```
public void setHeaders (Map< String, String > headers)
```

*Parameters*

- **headers** – the request headers to set

*setListener(ISDMNetListener) method**Syntax*

```
public void setListener ( ISDMNetListener aListener)
```

*setPassport(String) method**Syntax*

```
public void setPassport ( String passport)
```

*setPriority(int) method**Syntax*

```
public void setPriority ( int aPriority)
```

*setRequestMethod(int) method**Syntax*

```
public void setRequestMethod ( int aRequestMethod)
```

*setRequestUrl(String) method**Syntax*

```
public void setRequestUrl ( String aUrl)
```

*setStreamEnabled(boolean) method*

Used to enable streaming of data when the size of the data to be fetched is greater than 200KB.

*Syntax*

```
public void setStreamEnabled ( boolean streamEnabled)
```

*Parameters*

- **streamEnabled** –

*setTransId(String) method*

*Syntax*

```
public void setTransId ( String transId )
```

*useCookies() method*

This method is used by the network library to check whether it has to send cookies to the server when the current request is performed.

*Syntax*

```
public boolean useCookies ( )
```

*Returns*

the use of cookies in the network library.

*Usage*

Some requests may deny sending any cookies to the server, in this case this method can be used by the request to signal to the network library. The default value for this is false in the SDMBaseRequest implementation.

*SDMRequestManager class*

Deprecated. since 3.0, Use com.sap.mobile.lib.request.RequestManager

*Syntax*

```
public class SDMRequestManager extends ISDMRequestManager,
ISDMPreferenceChangeListener
```

*Members*

All members of SDMRequestManager, including inherited members. **Variables**

Modifier and Type	Variable	Description
public static Authentication-ChallengeListener	<i>authenticationListener</i> on page 2001	
public static final int	<i>MAX_THREADS</i> on page 2001	
protected Vector< ISDMRequest >	<i>mHQueue</i> on page 2001	

Modifier and Type	Variable	Description
protected ISDMLogger	<i>mLogger</i> on page 2001	
protected ISDMConnection-Handler[]	<i>mMainHandler</i> on page 2001	
protected String	<i>mMainHandlerClassName</i> on page 2002	
protected boolean	<i>mPassportEnabled</i> on page 2002	
protected Vector< Object >	<i>mQueue</i> on page 2002	
MutualSSLChallengeListener	<i>msslListener</i> on page 2002	
int	<i>prevThreadSelected</i> on page 2002	
SSLChallengeListener	<i>sslListener</i> on page 2002	
protected SuccessThread	<i>successNotifier</i> on page 2002	Success notification worker instance.
protected static final String	<i>TAG</i> on page 2002	

### Constructors

Modifier and Type	Constructor	Description
public	<i>SDMRequestManager(ISDMLogger, ISDMPreferences, ISDMConnectivityParameters, int)</i> on page 1997	Instantiates the SDMRequest-Manager.

### Methods

Modifier and Type	Method	Description
public void	<i>addPassport(ISDMRequest)</i> on page 1997	
public synchronized Vector< ISDMRequest >	<i>getAllRequests()</i> on page 1997	Returns all requests from the connectivity component which are in the queue.
public ISDMConnectivity-Parameters	<i>getConnectivityParameters()</i> on page 1998	Returns the ConnectivityParameters object containing the settings used by the library.

Modifier and Type	Method	Description
public ISDMLogger	<i>getLogger()</i> on page 1998	
public synchronized PassportAndCorrId	<i>getNetPassport(ISDMRequest)</i> on page 1998	
public ISDMPreferences	<i>getPreferences()</i> on page 1998	
public int	<i>getQueueSize()</i> on page 1998	Returns the number of requests from the connectivity component which are in the queue.
public synchronized Object	<i>getRequest()</i> on page 1998	Returns an ISDMRequest from the queue(s)
public synchronized boolean	<i>hasRequests()</i> on page 1999	Returns a boolean indicating the queue has requests or doesn't.
public void	<i>makeRequest(final ISDMRequest)</i> on page 1999	Put a request object into the SDMRequestManager.
public void	<i>makeRequest(final ISDMBundleRequest)</i> on page 1999	
public void	<i>onPreferenceChanged(String, Object)</i> on page 1999	Callback method for preference change event.
public void	<i>sendLog(final String)</i> on page 1999	
public void	<i>sendOnSuccess(final ISDMNetListener, final ISDMRequest, final ISDMResponse)</i> on page 2000	Used to notify the ISDMNetListener implementation about successful request, without blocking ISDMConnectivity threads and reducing the concurrency on the application.
public static void	<i>setAuthenticationChallengeListener(IAuthenticationChallengeListener)</i> on page 2000	
public final void	<i>setMainHandlerClassName(final String)</i> on page 2000	Sets the name (w.
public void	<i>setMutualSSLChallengeListener(IMutualSSLChallengeListener)</i> on page 2000	



Modifier and Type	Method	Description
public void	<i>setSSLChallengeListener(ISSSLChallengeListener)</i> on page 2001	Error notification worker.
public synchronized void	<i>terminate()</i> on page 2001	Terminates all the requests in the queue.

*SDMRequestManager(ISDMLogger, ISDMPreferences, ISDMConnectivityParameters, int)* constructor  
Instantiates the SDMRequestManager.

#### Syntax

```
public SDMRequestManager ( ISDMLogger aLogger , ISDMPreferences
aPreferences , ISDMConnectivityParameters aParameters , int aThreads )
```

#### Parameters

- **aLogger** – an ISDMLogger implementation
- **aPreferences** – an ISDMPreferences implementation
- **aParameters** – the ConnectivityParameters.
- **aThreads** – the number of parallel threads.

#### Usage

The application must set an object which contains all the properties needed by the connectivity layer to work properly (such as the user, password, logging settings, and so on). The number of threads is maximized by the connectivity layer at 4. If the client initializes the layer with more than four threads, the implementation of the connectivity layer will decrease the thread number to 4.

#### *addPassport(ISDMRequest) method*

##### Syntax

```
public void addPassport ( ISDMRequest request )
```

#### *getAllRequests() method*

Returns all requests from the connectivity component which are in the queue.

##### Syntax

```
public synchronized Vector< ISDMRequest > getAllRequests ( )
```

##### Returns

all the requests currently in the queue.

### *getConnectivityParameters() method*

Returns the ConnectivityParameters object containing the settings used by the library.

#### *Syntax*

```
public ISDMConnectivityParameters getConnectivityParameters  
( )
```

### *getLogger() method*

#### *Syntax*

```
public ISDMLogger getLogger ( )
```

### *getNetPassport(ISDMRequest) method*

#### *Syntax*

```
public synchronized PassportAndCorrId getNetPassport  
( ISDMRequest request )
```

### *getPreferences() method*

#### *Syntax*

```
public ISDMPreferences getPreferences ( )
```

### *getQueueSize() method*

Returns the number of requests from the connectivity component which are in the queue.

#### *Syntax*

```
public int getQueueSize ( )
```

#### *Returns*

the number of requests currently in the queue.

### *getRequest() method*

Returns an ISDMRequest from the queue(s)

#### *Syntax*

```
public synchronized Object getRequest ( )
```

#### *Returns*

an ISDMRequest implementation

*hasRequests()* method

Returns a boolean indicating the queue has requests or doesn't.

*Syntax*

```
public synchronized boolean hasRequests ()
```

*Returns*

whether the queue has requests or it doesn't

*makeRequest(final ISDMRequest) method*

Put a request object into the SDMRequestManager.

*Syntax*

```
public void makeRequest ( final ISDMRequest aRequest )
```

*Parameters*

- **aRequest** – the request.

*makeRequest(final ISDMBundleRequest) method**Syntax*

```
public void makeRequest ( final ISDMBundleRequest  
aBundleRequest )
```

*onPreferenceChanged(String, Object) method*

Callback method for preference change event.

*Syntax*

```
public void onPreferenceChanged ( String key , Object value )
```

*Parameters*

- **key** – key of the preference
- **value** – value of the preference

*sendLog(final String) method**Syntax*

```
public void sendLog ( final String url )
```

*sendOnSuccess(final ISDMNetListener, final ISDMRequest, final ISDMResponse) method*

Used to notify the ISDMNetListener implementation about successful request, without blocking ISDMConnectivity threads and reducing the concurrency on the application.

### *Syntax*

```
public void sendOnSuccess (final ISDMNetListener listener , final ISDMRequest request , final ISDMResponse response )
```

### *Parameters*

- **listener** – ISDMNetListener instance
- **request** – ISDMRequest instance
- **response** – HttpResponse instance

*setAuthenticationChallengeListener(IAAuthenticationChallengeListner) method*

### *Syntax*

```
public static void setAuthenticationChallengeListener ( IAAuthenticationChallengeListner olistener )
```

*setMainHandlerClassName(final String) method*

Sets the name (w.

### *Syntax*

```
public final void setMainHandlerClassName ( final String mainHandlerClassName )
```

### *Parameters*

- **mainHandlerClassName** – the mMainHandlerClassName to set

### *Usage*

package) of the ISDMConnectiobHandler implementation that is intended to use by SDMRequestManager.

*setMutualSSLChallengeListener(IMutualSSLChallengeListener) method*

### *Syntax*

```
public void setMutualSSLChallengeListener ( IMutualSSLChallengeListener olistener )
```

*setSSLChallengeListener(ISSLChallengeListener) method*

Error notification worker.

*Syntax*

```
public void setSSLChallengeListener ( ISSLChallengeListener  
oIstener )
```

*terminate() method*

Terminates all the requests in the queue.

*Syntax*

```
public synchronized void terminate ()
```

*authenticationListener variable**Syntax*

```
public static AuthenticationChallengeListener  
authenticationListener
```

*MAX\_THREADS variable**Syntax*

```
public static final int MAX_THREADS
```

*mHQueue variable**Syntax*

```
protected Vector< ISDMRequest > mHQueue
```

*mLogger variable**Syntax*

```
protected ISDMLogger mLogger
```

*mMainHandler variable**Syntax*

```
protected ISDMConnectionHandler[] mMainHandler
```

### *mMainHandlerClassName variable*

#### *Syntax*

```
protected String mMainHandlerClassName
```

### *mPassportEnabled variable*

#### *Syntax*

```
protected boolean mPassportEnabled
```

### *mQueue variable*

#### *Syntax*

```
protected Vector< Object > mQueue
```

### *msslListener variable*

#### *Syntax*

```
MutualSSLChallengeListener msslListener
```

### *prevThreadSelected variable*

#### *Syntax*

```
int prevThreadSelected
```

### *sslListener variable*

#### *Syntax*

```
SSLChallengeListener sslListener
```

### *successNotifier variable*

Success notification worker instance.

#### *Syntax*

```
protected SuccessThread successNotifier
```

### *TAG variable*

#### *Syntax*

```
protected static final String TAG
```

*SDMRequestManager.AuthenticationChallengeListener class*

Deprecated. since 3.0, Use

com.sap.mobile.lib.request.RequestManager.AuthenticationChallengeListener

**Syntax**

```
public class AuthenticationChallengeListener extends
IAAuthenticationChallengeListner
```

**Members**All members of AuthenticationChallengeListener, including inherited members. **Methods**

Modifier and Type	Method	Description
public ICredential	<i>OnAuthenticationFailed(Authenticationschema, HttpResponse)</i> on page 2003	

*OnAuthenticationFailed(Authenticationschema, HttpResponse) method***Syntax**

```
public ICredential OnAuthenticationFailed
( Authenticationschema authScheme , HttpResponse response )
```

*SDMRequestManager.InvalidHandlerClassException class*

Deprecated. since 3.0, Use

com.sap.mobile.lib.request.RequestManager.InvalidHandlerClassException

**Syntax**

```
class InvalidHandlerClassException extends Exception
```

**Members**All members of InvalidHandlerClassException, including inherited members. **Constructors**

Modifier and Type	Constructor	Description
public	<i>InvalidHandlerClassException()</i> on page 2004	
public	<i>InvalidHandlerClassException(String)</i> on page 2004	
public	<i>InvalidHandlerClassException(Throwable)</i> on page 2004	

Modifier and Type	Constructor	Description
public	<i>InvalidHandlerClassException(String, Throwable)</i> on page 2004	

*InvalidHandlerClassException()* constructor**Syntax**

```
public InvalidHandlerClassException ()
```

*InvalidHandlerClassException(String)* constructor**Syntax**

```
public InvalidHandlerClassException ( String message )
```

*InvalidHandlerClassException(Throwable)* constructor**Syntax**

```
public InvalidHandlerClassException ( Throwable exception )
```

*InvalidHandlerClassException(String, Throwable)* constructor**Syntax**

```
public InvalidHandlerClassException ( String message , Throwable exception )
```

*SDMRequestManager.MutualSSLChallengeListener* class

Deprecated. since 3.0, Use

```
com.sap.mobile.lib.request.RequestManager.MutualSSLChallengeListener
```

**Syntax**

```
public class MutualSSLChallengeListener extends
com.sap.mobile.lib.sdmconnectivity.HttpsTrustManager.ClientCertificateListener
```

**Members**

All members of MutualSSLChallengeListener, including inherited members. **Methods**

Modifier and Type	Method	Description
public HttpClientCertInfo	<i>getClientCertificate(String)</i> on page 2005	



*getClientCertificate(String) method***Syntax**

```
public HttpClientCertInfo getClientCertificate ( String
certAlias )
```

*SDMRequestManager.SSLChallengeListener class*

Deprecated. since 3.0, Use

```
com.sap.mobile.lib.request.RequestManager.SSLChallengeListener
```

**Syntax**

```
public class SSLChallengeListener extends
com.sap.mobile.lib.sdmconnectivity.HttpsTrustManager.TrustMa
nagerListener
```

**Members**

All members of SSLChallengeListener, including inherited members. **Methods**

Modifier and Type	Method	Description
public boolean	<i>checkServerTrusted(X509Certificate[])</i> on page 2005	

*checkServerTrusted(X509Certificate[]) method***Syntax**

```
public boolean checkServerTrusted ( X509Certificate[]
paramArrayOfX509Certificate )
```

*SDMRequestManager.SuccessThread class*

Deprecated. since 3.0, Use com.sap.mobile.lib.request.RequestManager.SuccessThread  
Success notification worker.

**Syntax**

```
protected class SuccessThread extends Thread
```

**Members**

All members of SuccessThread, including inherited members. **Methods**

Modifier and Type	Method	Description
public void	<i>die()</i> on page 2006	Stops the thread.:

Modifier and Type	Method	Description
public void	<i>notify</i> (final <i>SuccessObject</i> ) on page 2006	
public void	<i>run</i> () on page 2006	

***die()* method**

Stops the thread;.

***Syntax***

```
public void die ()
```

***notify*(final *SuccessObject*) method*****Syntax***

```
public void notify ( final SuccessObject so )
```

***run()* method*****Syntax***

```
public void run ()
```

***SDMRequestStateElement* class**

Deprecated. since 3.0, Use com.sap.mobile.lib.request.IRequestStateElement The SDMRequestStateElement implementation stores the data of an exception.

***Syntax***

```
public class SDMRequestStateElement extends  
ISDMRequestStateElement
```

***Members***

All members of SDMRequestStateElement, including inherited members. **Variables**

Modifier and Type	Variable	Description
protected int	<i>mErrorCode</i> on page 2011	Stores the error type.
protected Exception	<i>mException</i> on page 2011	Stores the exception if available.
protected int	<i>mHttpStatus</i> on page 2011	Stores the HTTP status if available.
protected HttpResponse	<i>mResponse</i> on page 2012	

**Constructors**

Modifier and Type	Constructor	Description
public	<i>SDMRequestStateElement()</i> on page 2008	
public	<i>SDMRequestStateElement(final int)</i> on page 2008	
public	<i>SDMRequestStateElement(final int, HttpResponse)</i> on page 2009	
public	<i>SDMRequestStateElement(final int, HttpResponse, Exception)</i> on page 2009	
public	<i>SDMRequestStateElement(final int, final int)</i> on page 2009	
public	<i>SDMRequestStateElement(final int, final int, final Exception)</i> on page 2009	
public	<i>SDMRequestStateElement(final int, final Exception)</i> on page 2009	

### Methods

Modifier and Type	Method	Description
public int	<i>getErrorCode()</i> on page 2009	Returns the error code.
public Exception	<i>getException()</i> on page 2010	Returns the Exception if it was set.
public HttpResponse	<i>getHttpResponse()</i> on page 2010	Returns the HttpResponse.
public int	<i>getHttpStatusCode()</i> on page 2010	Returns the HTTP status if it was set.
public void	<i>setErrorCode(final int)</i> on page 2010	Sets the error code.
public void	<i>setException(final Exception)</i> on page 2011	Sets the Exception.
public void	<i>setHttpResponse(HttpResponse)</i> on page 2011	Sets the HttpResponse.

Modifier and Type	Method	Description
public void	<i>setHttpStatusCode(int)</i> on page 2011	

**Inherited members from ISDMRequestStateElement**

Modifier and Type	Member	Description
public static final int	<i>AUTHENTICATION_ERROR</i> on page 1369	Authentication error.
public static final int	<i>CLIENT_ERROR</i> on page 1369	Client error.
public static final int	<i>HTTP_ERROR</i> on page 1370	Server response status > 302.
public static final int	<i>NETWORK_ERROR</i> on page 1370	There was a network error during a read/write to/from stream.
public static final int	<i>NO_ERROR</i> on page 1370	
public static final int	<i>PARSE_ERROR</i> on page 1370	Problem with parsing the response xml.
public static final int	<i>REQUEST_ERROR</i> on page 1370	Problem with parsing the request.
public abstract void	<i>setHttpStatusCode(final int)</i> on page 1369	Sets the HTTP status.

*Usage*

Whenever there is an exception in the network layer, or there is an exception during the data parsing, this class is sent by the net layer to the registered classes.

*SDMRequestStateElement()* constructor*Syntax*

```
public SDMRequestStateElement ()
```

*SDMRequestStateElement(final int)* constructor*Syntax*

```
public SDMRequestStateElement ( final int errorCode )
```

*SDMRequestStateElement(final int, HttpResponse) constructor**Syntax*

```
public SDMRequestStateElement ( final int errorCode ,
    HttpResponse response )
```

*SDMRequestStateElement(final int, HttpResponse, Exception) constructor**Syntax*

```
public SDMRequestStateElement ( final int errorCode ,
    HttpResponse response , Exception exception )
```

*SDMRequestStateElement(final int, final int) constructor**Syntax*

```
public SDMRequestStateElement ( final int errorCode , final int
    httpStatus )
```

*SDMRequestStateElement(final int, final int, final Exception) constructor**Syntax*

```
public SDMRequestStateElement ( final int errorCode , final int
    httpStatus , final Exception exception )
```

*SDMRequestStateElement(final int, final Exception) constructor**Syntax*

```
public SDMRequestStateElement ( final int errorCode , final
    Exception exception )
```

*getErrorCode() method*

Returns the error code.

*Syntax*

```
public int getErrorCode ()
```

*Usage*

The error code can be the following:

- HTTP\_ERROR
- PARSE\_ERROR
- NETWORK\_ERROR

- AUTHENTICATION\_ERROR

### *getException() method*

Returns the Exception if it was set.

### *Syntax*

```
public Exception getException ()
```

### *Returns*

the Exception stored in SDMRequestStateElement.

### *Usage*

If not, the returned value will be null.

### *getHttpResponse() method*

Returns the HttpResponse.

### *Syntax*

```
public HttpResponse getHttpResponse ()
```

### *Returns*

The HttpResponse

### *getHttpStatusCode() method*

Returns the HTTP status if it was set.

### *Syntax*

```
public int getHttpStatusCode ()
```

### *Returns*

the HTTP status code, if available.

### *Usage*

If there was no http status set, the value is -1.

### *setErrorCode(final int) method*

Sets the error code.

### *Syntax*

```
public void setErrorCode ( final int code )
```

### *Parameters*

- **code** –

*setException(final Exception) method*

Sets the Exception.

*Syntax*

```
public void setException ( final Exception aException )
```

*Parameters*

- **aException** – the Exception to set.

*setHttpResponse(HttpResponse) method*

Sets the HttpResponse.

*Syntax*

```
public void setHttpResponse ( HttpResponse aResponse )
```

*Parameters*

- **aResponse** – The HttpResponse

*setHttpStatusCode(int) method**Syntax*

```
public void setHttpStatusCode ( int httpStatus )
```

*mErrorCode variable*

Stores the error type.

*Syntax*

```
protected int mErrorCode
```

*mException variable*

Stores the exception if available.

*Syntax*

```
protected Exception mException
```

*mHttpStatus variable*

Stores the HTTP status if available.

*Syntax*

```
protected int mHttpStatus
```

*mResponse* variable**Syntax**

```
protected HttpResponseMessage mResponse
```

**SDMResponseImpl** class

Deprecated. since 3.0, Use com.sap.mobile.lib.request.ResponseImpl

**Syntax**

```
public class SDMResponseImpl extends BasicHttpResponse,
ISDMResponse
```

**Members**

All members of SDMResponseImpl, including inherited members. **Variables**

Modifier and Type	Variable	Description
HashMap< ISDMRequest, HttpResponseMessage >	<i>batchResponseMap</i> on page 2014	
ArrayList< HttpResponseMessage >	<i>batchResponses</i> on page 2014	

**Constructors**

Modifier and Type	Constructor	Description
public	<i>SDMResponseImpl(BasicStatusLine)</i> on page 2013	

**Methods**

Modifier and Type	Method	Description
public String	<i>getCookie()</i> on page 2013	
public String	<i>getCorelationId()</i> on page 2013	
public int	<i>getCurrentOffset()</i> on page 2013	
public int	<i>getDataStream(byte[], int)</i> on page 2013	Used to obtain the data in stream.
public int	<i>getDataStream(byte[], int, int, String)</i> on page 2014	



Modifier and Type	Method	Description
public Map< String, String >	<i>getHeadersMap()</i> on page 2014	
public boolean	<i>isDataAvailable()</i> on page 2014	To check whether the response object is available or it needs to be streamed in chunks.
public void	<i>setCorelationId(String)</i> on page 2014	

### *SDMResponseImpl(BasicStatusLine) constructor*

#### *Syntax*

```
public SDMResponseImpl ( BasicStatusLine basicStatusLine )
```

#### *getCookie() method*

#### *Syntax*

```
public String getCookie ()
```

#### *getCorelationId() method*

#### *Syntax*

```
public String getCorelationId ()
```

#### *getCurrentOffset() method*

#### *Syntax*

```
public int getCurrentOffset ()
```

#### *getDataStream(byte[], int) method*

Used to obtain the data in stream.

#### *Syntax*

```
public int getDataStream ( byte[] chunk , int chunkSize )
```

#### *Parameters*

- **chunk** –
- **offset** –

#### *Usage*

Returns the chunk of data of size 'chunkSize' from the given offset.

### *getDataStream(byte[], int, int, String) method*

#### *Syntax*

```
public int getDataStream (byte[] chunk , int chunkSize , int offset ,  
String cookie )
```

### *getHeadersMap() method*

#### *Syntax*

```
public Map< String, String > getHeadersMap ()
```

### *isDataAvailable() method*

To check whether the response object is available or it needs to be streamed in chunks.

#### *Syntax*

```
public boolean isDataAvailable ()
```

### *setCorelationId(String) method*

#### *Syntax*

```
public void setCorelationId (String coRelationId )
```

### *batchResponseMap variable*

#### *Syntax*

```
HashMap< ISDMRequest, HttpResponse > batchResponseMap
```

### *batchResponses variable*

#### *Syntax*

```
ArrayList< HttpResponse > batchResponses
```

### *SDMSemantics class*

Deprecated. since 3.0, Use Semantics Constant class with possible values of 'semantics' (SAP name-space) SDMOData attribute collected from vCard 2.1 specification.

#### *Syntax*

```
public class SDMSemantics
```

### *Members*

All members of SDMSemantics, including inherited members. **Variables**

<b>Modifier and Type</b>	<b>Variable</b>	<b>Description</b>
public static final String	<i>DELIMITER_GROUPING</i> on page 2024	
public static final String	<i>DELIMITER_PARAMETER</i> on page 2024	
public static final String	<i>DELIMITER_VALUE</i> on page 2024	
public static final String	<i>PARAMETER_CHARSET_DEFAULT</i> on page 2024	
public static final String	<i>PARAMETER_ENCODING_7BIT</i> on page 2025	
public static final String	<i>PARAMETER_ENCODING_8BIT</i> on page 2025	
public static final String	<i>PARAMETER_ENCODING_BASE64</i> on page 2025	
public static final String	<i>PARAMETER_ENCODING_DEFAULT</i> on page 2025	
public static final String	<i>PARAMETER_ENCODING_QUOTED_PRINTABLE</i> on page 2025	
public static final String	<i>PARAMETER_LANGUAGE_DEFAULT</i> on page 2025	
public static final String	<i>PARAMETER_VALUELOCATION_CONTENT_ID</i> on page 2025	
public static final String	<i>PARAMETER_VALUELOCATION_DEFAULT</i> on page 2025	
public static final String	<i>PARAMETER_VALUELOCATION_URL</i> on page 2026	
public static final String	<i>PROPERTY_PARAMETER_CHARSET</i> on page 2026	

Modifier and Type	Variable	Description
public static final String	<i>PROPERTY_PARAMETER_ENCODING</i> on page 2026	
public static final String	<i>PROPERTY_PARAMETER_LANGUAGE</i> on page 2026	
public static final String	<i>PROPERTY_PARAMETER_TYPE</i> on page 2026	
public static final String	<i>PROPERTY_PARAMETER_VALUELOCATION</i> on page 2026	
public static final String	<i>PROPERTY_SEMANTIC_ADDRESS</i> on page 2026	
public static final String	<i>PROPERTY_SEMANTIC_ADDRESS_TYPE_DOMESTIC</i> on page 2026	
public static final String	<i>PROPERTY_SEMANTIC_ADDRESS_TYPE_HOME</i> on page 2027	
public static final String	<i>PROPERTY_SEMANTIC_ADDRESS_TYPE_INTERNATIONAL</i> on page 2027	Default.
public static final String	<i>PROPERTY_SEMANTIC_ADDRESS_TYPE_PARCEL</i> on page 2027	Default.
public static final String	<i>PROPERTY_SEMANTIC_ADDRESS_TYPE_POSTAL</i> on page 2027	Default.
public static final String	<i>PROPERTY_SEMANTIC_ADDRESS_TYPE_WORK</i> on page 2027	Default.

<b>Modifier and Type</b>	<b>Variable</b>	<b>Description</b>
public static final String	<i>PROPERTY_SEMANTIC_AGENT</i> on page 2027	
public static final String	<i>PROPERTY_SEMANTIC_BIRTHDAY</i> on page 2027	
public static final String	<i>PROPERTY_SEMANTIC_EMAIL</i> on page 2028	
public static final String	<i>PROPERTY_SEMANTIC_EMAIL_TYPE_AOL</i> on page 2028	
public static final String	<i>PROPERTY_SEMANTIC_EMAIL_TYPE_APPLE_LINK</i> on page 2028	
public static final String	<i>PROPERTY_SEMANTIC_EMAIL_TYPE_ATTMAIL</i> on page 2028	
public static final String	<i>PROPERTY_SEMANTIC_EMAIL_TYPE_CIS</i> on page 2028	
public static final String	<i>PROPERTY_SEMANTIC_EMAIL_TYPE_EWORD</i> on page 2028	
public static final String	<i>PROPERTY_SEMANTIC_EMAIL_TYPE_IBMAIL</i> on page 2028	
public static final String	<i>PROPERTY_SEMANTIC_EMAIL_TYPE_INTERNET</i> on page 2029	Default.
public static final String	<i>PROPERTY_SEMANTIC_EMAIL_TYPE_MCI_MAIL</i> on page 2029	
public static final String	<i>PROPERTY_SEMANTIC_EMAIL_TYPE_POWERSHARE</i> on page 2029	

Modifier and Type	Variable	Description
public static final String	<i>PROPERTY_SEMANTIC_EMAIL_TYPE_PRODIGY</i> on page 2029	
public static final String	<i>PROPERTY_SEMANTIC_EMAIL_TYPE_TLX</i> on page 2029	
public static final String	<i>PROPERTY_SEMANTIC_EMAIL_TYPE_X400</i> on page 2029	
public static final String	<i>PROPERTY_SEMANTIC_FORMATTED_NAME</i> on page 2029	
public static final String	<i>PROPERTY_SEMANTIC_GEOLOCATION</i> on page 2030	
public static final String	<i>PROPERTY_SEMANTIC_KEY</i> on page 2030	
public static final String	<i>PROPERTY_SEMANTIC_KEY_TYPE_PGP</i> on page 2030	
public static final String	<i>PROPERTY_SEMANTIC_KEY_TYPE_X509</i> on page 2030	
public static final String	<i>PROPERTY_SEMANTIC_LABEL</i> on page 2030	
public static final String	<i>PROPERTY_SEMANTIC_LABEL_TYPE_DOMESTIC</i> on page 2030	
public static final String	<i>PROPERTY_SEMANTIC_LABEL_TYPE_INTERNATIONAL</i> on page 2030	Default.
public static final String	<i>PROPERTY_SEMANTIC_LABEL_TYPE_PARCEL</i> on page 2031	Default.

Modifier and Type	Variable	Description
public static final String	<i>PROPERTY_SEMANTIC_LABEL_TYPE_POSTAL</i> on page 2031	Default.
public static final String	<i>PROPERTY_SEMANTIC_LOGO</i> on page 2031	
public static final String	<i>PROPERTY_SEMANTIC_LOGO_TYPE_AVI</i> on page 2031	
public static final String	<i>PROPERTY_SEMANTIC_LOGO_TYPE_BMP</i> on page 2031	
public static final String	<i>PROPERTY_SEMANTIC_LOGO_TYPE_CGM</i> on page 2031	
public static final String	<i>PROPERTY_SEMANTIC_LOGO_TYPE_DIB</i> on page 2031	
public static final String	<i>PROPERTY_SEMANTIC_LOGO_TYPE_GIF</i> on page 2031	
public static final String	<i>PROPERTY_SEMANTIC_LOGO_TYPE_JPEG</i> on page 2032	
public static final String	<i>PROPERTY_SEMANTIC_LOGO_TYPE_MET</i> on page 2032	
public static final String	<i>PROPERTY_SEMANTIC_LOGO_TYPE_MPEG</i> on page 2032	
public static final String	<i>PROPERTY_SEMANTIC_LOGO_TYPE_MPEG2</i> on page 2032	
public static final String	<i>PROPERTY_SEMANTIC_LOGO_TYPE_PDF</i> on page 2032	

Modifier and Type	Variable	Description
public static final String	<i>PROPERTY_SEMANTIC_LOGO_TYPE_PICT</i> on page 2032	
public static final String	<i>PROPERTY_SEMANTIC_LOGO_TYPE_PS</i> on page 2032	
public static final String	<i>PROPERTY_SEMANTIC_LOGO_TYPE_QTIME</i> on page 2032	
public static final String	<i>PROPERTY_SEMANTIC_LOGO_TYPE_TIFF</i> on page 2033	
public static final String	<i>PROPERTY_SEMANTIC_LOGO_TYPE_WMF</i> on page 2033	
public static final String	<i>PROPERTY_SEMANTIC_MAILER</i> on page 2033	
public static final String	<i>PROPERTY_SEMANTIC_NAME</i> on page 2033	
public static final String	<i>PROPERTY_SEMANTIC_NICKNAME</i> on page 2033	
public static final String	<i>PROPERTY_SEMANTIC_NOTE</i> on page 2033	
public static final String	<i>PROPERTY_SEMANTIC_ORG</i> on page 2033	
public static final String	<i>PROPERTY_SEMANTIC_PHOTO</i> on page 2033	
public static final String	<i>PROPERTY_SEMANTIC_PHOTO_TYPE_AVI</i> on page 2034	
public static final String	<i>PROPERTY_SEMANTIC_PHOTO_TYPE_BMP</i> on page 2034	



<b>Modifier and Type</b>	<b>Variable</b>	<b>Description</b>
public static final String	<i>PROPERTY_SEMANTIC_PHOTO_TYPE_CGM</i> on page 2034	
public static final String	<i>PROPERTY_SEMANTIC_PHOTO_TYPE_DIB</i> on page 2034	
public static final String	<i>PROPERTY_SEMANTIC_PHOTO_TYPE_GIF</i> on page 2034	
public static final String	<i>PROPERTY_SEMANTIC_PHOTO_TYPE_JPEG</i> on page 2034	
public static final String	<i>PROPERTY_SEMANTIC_PHOTO_TYPE_MET</i> on page 2034	
public static final String	<i>PROPERTY_SEMANTIC_PHOTO_TYPE_MPEG</i> on page 2034	
public static final String	<i>PROPERTY_SEMANTIC_PHOTO_TYPE_MPEG2</i> on page 2035	
public static final String	<i>PROPERTY_SEMANTIC_PHOTO_TYPE_PDF</i> on page 2035	
public static final String	<i>PROPERTY_SEMANTIC_PHOTO_TYPE_PICT</i> on page 2035	
public static final String	<i>PROPERTY_SEMANTIC_PHOTO_TYPE_PS</i> on page 2035	
public static final String	<i>PROPERTY_SEMANTIC_PHOTO_TYPE_QTIME</i> on page 2035	

Modifier and Type	Variable	Description
public static final String	<i>PROPERTY_SEMANTIC_PHOTO_TYPE_TIFF</i> on page 2035	
public static final String	<i>PROPERTY_SEMANTIC_PHOTO_TYPE_WMF</i> on page 2035	
public static final String	<i>PROPERTY_SEMANTIC_REVISION</i> on page 2035	
public static final String	<i>PROPERTY_SEMANTIC_ROLE</i> on page 2036	
public static final String	<i>PROPERTY_SEMANTIC_SAP_EXTENSION_ACTION</i> on page 2036	
public static final String	<i>PROPERTY_SEMANTIC_SOUND</i> on page 2036	
public static final String	<i>PROPERTY_SEMANTIC_SOUND_TYPE_AIFF</i> on page 2036	
public static final String	<i>PROPERTY_SEMANTIC_SOUND_TYPE_PCM</i> on page 2036	
public static final String	<i>PROPERTY_SEMANTIC_SOUND_TYPE_WAVE</i> on page 2036	
public static final String	<i>PROPERTY_SEMANTIC_TEL</i> on page 2036	
public static final String	<i>PROPERTY_SEMANTIC_TEL_TYPE_BBS</i> on page 2036	
public static final String	<i>PROPERTY_SEMANTIC_TEL_TYPE_CAR</i> on page 2037	

Modifier and Type	Variable	Description
public static final String	<i>PROPERTY_SEMANTIC_TEL_TYPE_CELL</i> on page 2037	
public static final String	<i>PROPERTY_SEMANTIC_TEL_TYPE_FAX</i> on page 2037	
public static final String	<i>PROPERTY_SEMANTIC_TEL_TYPE_HOME</i> on page 2037	
public static final String	<i>PROPERTY_SEMANTIC_TEL_TYPE_ISDN</i> on page 2037	
public static final String	<i>PROPERTY_SEMANTIC_TEL_TYPE_MODEM</i> on page 2037	
public static final String	<i>PROPERTY_SEMANTIC_TEL_TYPE_MSG</i> on page 2037	
public static final String	<i>PROPERTY_SEMANTIC_TEL_TYPE_PAGER</i> on page 2037	
public static final String	<i>PROPERTY_SEMANTIC_TEL_TYPE_PREF</i> on page 2038	
public static final String	<i>PROPERTY_SEMANTIC_TEL_TYPE_VIDEO</i> on page 2038	
public static final String	<i>PROPERTY_SEMANTIC_TEL_TYPE_VOICE</i> on page 2038	Default.
public static final String	<i>PROPERTY_SEMANTIC_TEL_TYPE_WORK</i> on page 2038	

Modifier and Type	Variable	Description
public static final String	<i>PROPERTY_SEMANTIC_TIMEZONE</i> on page 2038	
public static final String	<i>PROPERTY_SEMANTIC_TITLE</i> on page 2038	
public static final String	<i>PROPERTY_SEMANTIC_TYPE_HOME</i> on page 2038	
public static final String	<i>PROPERTY_SEMANTIC_TYPE_WORK</i> on page 2038	Default.
public static final String	<i>PROPERTY_SEMANTIC_UID</i> on page 2039	
public static final String	<i>PROPERTY_SEMANTIC_URL</i> on page 2039	
public static final String	<i>PROPERTY_SEMANTIC_VERSION</i> on page 2039	

*DELIMITER\_GROUPING* variable*Syntax*

```
public static final String DELIMITER_GROUPING
```

*DELIMITER\_PARAMETER* variable*Syntax*

```
public static final String DELIMITER_PARAMETER
```

*DELIMITER\_VALUE* variable*Syntax*

```
public static final String DELIMITER_VALUE
```

*PARAMETER\_CHARSET\_DEFAULT* variable*Syntax*

```
public static final String PARAMETER_CHARSET_DEFAULT
```

*PARAMETER\_ENCODING\_7BIT variable**Syntax*

```
public static final String PARAMETER_ENCODING_7BIT
```

*PARAMETER\_ENCODING\_8BIT variable**Syntax*

```
public static final String PARAMETER_ENCODING_8BIT
```

*PARAMETER\_ENCODING\_BASE64 variable**Syntax*

```
public static final String PARAMETER_ENCODING_BASE64
```

*PARAMETER\_ENCODING\_DEFAULT variable**Syntax*

```
public static final String PARAMETER_ENCODING_DEFAULT
```

*PARAMETER\_ENCODING\_QUOTED\_PRINTABLE variable**Syntax*

```
public static final String  
PARAMETER_ENCODING_QUOTED_PRINTABLE
```

*PARAMETER\_LANGUAGE\_DEFAULT variable**Syntax*

```
public static final String PARAMETER_LANGUAGE_DEFAULT
```

*PARAMETER\_VALUELOCATION\_CONTENT\_ID variable**Syntax*

```
public static final String  
PARAMETER_VALUELOCATION_CONTENT_ID
```

*PARAMETER\_VALUELOCATION\_DEFAULT variable**Syntax*

```
public static final String PARAMETER_VALUELOCATION_DEFAULT
```

*PARAMETER\_VALUELOCATION\_URL variable*

*Syntax*

```
public static final String PARAMETER_VALUELOCATION_URL
```

*PROPERTY\_PARAMETER\_CHARSET variable*

*Syntax*

```
public static final String PROPERTY_PARAMETER_CHARSET
```

*PROPERTY\_PARAMETER\_ENCODING variable*

*Syntax*

```
public static final String PROPERTY_PARAMETER_ENCODING
```

*PROPERTY\_PARAMETER\_LANGUAGE variable*

*Syntax*

```
public static final String PROPERTY_PARAMETER_LANGUAGE
```

*PROPERTY\_PARAMETER\_TYPE variable*

*Syntax*

```
public static final String PROPERTY_PARAMETER_TYPE
```

*PROPERTY\_PARAMETER\_VALUELOCATION variable*

*Syntax*

```
public static final String PROPERTY_PARAMETER_VALUELOCATION
```

*PROPERTY\_SEMANTIC\_ADDRESS variable*

*Syntax*

```
public static final String PROPERTY_SEMANTIC_ADDRESS
```

*PROPERTY\_SEMANTIC\_ADDRESS\_TYPE\_DOMESTIC variable*

*Syntax*

```
public static final String  
PROPERTY_SEMANTIC_ADDRESS_TYPE_DOMESTIC
```

*PROPERTY\_SEMANTIC\_ADDRESS\_TYPE\_HOME variable***Syntax**

```
public static final String
PROPERTY_SEMANTIC_ADDRESS_TYPE_HOME
```

*PROPERTY\_SEMANTIC\_ADDRESS\_TYPE\_INTERNATIONAL variable*

Default.

**Syntax**

```
public static final String
PROPERTY_SEMANTIC_ADDRESS_TYPE_INTERNATIONAL
```

*PROPERTY\_SEMANTIC\_ADDRESS\_TYPE\_PARCEL variable*

Default.

**Syntax**

```
public static final String
PROPERTY_SEMANTIC_ADDRESS_TYPE_PARCEL
```

*PROPERTY\_SEMANTIC\_ADDRESS\_TYPE\_POSTAL variable*

Default.

**Syntax**

```
public static final String
PROPERTY_SEMANTIC_ADDRESS_TYPE_POSTAL
```

*PROPERTY\_SEMANTIC\_ADDRESS\_TYPE\_WORK variable*

Default.

**Syntax**

```
public static final String
PROPERTY_SEMANTIC_ADDRESS_TYPE_WORK
```

*PROPERTY\_SEMANTIC\_AGENT variable***Syntax**

```
public static final String PROPERTY_SEMANTIC_AGENT
```

*PROPERTY\_SEMANTIC\_BIRTHDAY variable***Syntax**

```
public static final String PROPERTY_SEMANTIC_BIRTHDAY
```

*PROPERTY\_SEMANTIC\_EMAIL variable*

*Syntax*

```
public static final String PROPERTY_SEMANTIC_EMAIL
```

*PROPERTY\_SEMANTIC\_EMAIL\_TYPE\_AOL variable*

*Syntax*

```
public static final String PROPERTY_SEMANTIC_EMAIL_TYPE_AOL
```

*PROPERTY\_SEMANTIC\_EMAIL\_TYPE\_APPLELINK variable*

*Syntax*

```
public static final String  
PROPERTY_SEMANTIC_EMAIL_TYPE_APPLELINK
```

*PROPERTY\_SEMANTIC\_EMAIL\_TYPE\_ATTMAIL variable*

*Syntax*

```
public static final String  
PROPERTY_SEMANTIC_EMAIL_TYPE_ATTMAIL
```

*PROPERTY\_SEMANTIC\_EMAIL\_TYPE\_CIS variable*

*Syntax*

```
public static final String PROPERTY_SEMANTIC_EMAIL_TYPE_CIS
```

*PROPERTY\_SEMANTIC\_EMAIL\_TYPE\_EWORLD variable*

*Syntax*

```
public static final String  
PROPERTY_SEMANTIC_EMAIL_TYPE_EWORLD
```

*PROPERTY\_SEMANTIC\_EMAIL\_TYPE\_IBMMAIL variable*

*Syntax*

```
public static final String  
PROPERTY_SEMANTIC_EMAIL_TYPE_IBMMAIL
```



*PROPERTY\_SEMANTIC\_EMAIL\_TYPE\_INTERNET* variable  
Default.

**Syntax**

```
public static final String
PROPERTY_SEMANTIC_EMAIL_TYPE_INTERNET
```

*PROPERTY\_SEMANTIC\_EMAIL\_TYPE\_MCIMAIL* variable

**Syntax**

```
public static final String
PROPERTY_SEMANTIC_EMAIL_TYPE_MCIMAIL
```

*PROPERTY\_SEMANTIC\_EMAIL\_TYPE\_POWERSHARE* variable

**Syntax**

```
public static final String
PROPERTY_SEMANTIC_EMAIL_TYPE_POWERSHARE
```

*PROPERTY\_SEMANTIC\_EMAIL\_TYPE\_PRODIGY* variable

**Syntax**

```
public static final String
PROPERTY_SEMANTIC_EMAIL_TYPE_PRODIGY
```

*PROPERTY\_SEMANTIC\_EMAIL\_TYPE\_TLX* variable

**Syntax**

```
public static final String PROPERTY_SEMANTIC_EMAIL_TYPE_TLX
```

*PROPERTY\_SEMANTIC\_EMAIL\_TYPE\_X400* variable

**Syntax**

```
public static final String PROPERTY_SEMANTIC_EMAIL_TYPE_X400
```

*PROPERTY\_SEMANTIC\_FORMATTED\_NAME* variable

**Syntax**

```
public static final String PROPERTY_SEMANTIC_FORMATTED_NAME
```

*PROPERTY\_SEMANTIC\_GEOLOCATION variable*

*Syntax*

```
public static final String PROPERTY_SEMANTIC_GEOLOCATION
```

*PROPERTY\_SEMANTIC\_KEY variable*

*Syntax*

```
public static final String PROPERTY_SEMANTIC_KEY
```

*PROPERTY\_SEMANTIC\_KEY\_TYPE\_PGP variable*

*Syntax*

```
public static final String PROPERTY_SEMANTIC_KEY_TYPE_PGP
```

*PROPERTY\_SEMANTIC\_KEY\_TYPE\_X509 variable*

*Syntax*

```
public static final String PROPERTY_SEMANTIC_KEY_TYPE_X509
```

*PROPERTY\_SEMANTIC\_LABEL variable*

*Syntax*

```
public static final String PROPERTY_SEMANTIC_LABEL
```

*PROPERTY\_SEMANTIC\_LABEL\_TYPE\_DOMESTIC variable*

*Syntax*

```
public static final String  
PROPERTY_SEMANTIC_LABEL_TYPE_DOMESTIC
```

*PROPERTY\_SEMANTIC\_LABEL\_TYPE\_INTERNATIONAL variable*

Default.

*Syntax*

```
public static final String  
PROPERTY_SEMANTIC_LABEL_TYPE_INTERNATIONAL
```

*PROPERTY\_SEMANTIC\_LABEL\_TYPE\_PARCEL* variable  
Default.

**Syntax**

```
public static final String
PROPERTY_SEMANTIC_LABEL_TYPE_PARCEL
```

*PROPERTY\_SEMANTIC\_LABEL\_TYPE\_POSTAL* variable  
Default.

**Syntax**

```
public static final String
PROPERTY_SEMANTIC_LABEL_TYPE_POSTAL
```

*PROPERTY\_SEMANTIC\_LOGO* variable

**Syntax**

```
public static final String PROPERTY_SEMANTIC_LOGO
```

*PROPERTY\_SEMANTIC\_LOGO\_TYPE\_AVI* variable

**Syntax**

```
public static final String PROPERTY_SEMANTIC_LOGO_TYPE_AVI
```

*PROPERTY\_SEMANTIC\_LOGO\_TYPE\_BMP* variable

**Syntax**

```
public static final String PROPERTY_SEMANTIC_LOGO_TYPE_BMP
```

*PROPERTY\_SEMANTIC\_LOGO\_TYPE\_CGM* variable

**Syntax**

```
public static final String PROPERTY_SEMANTIC_LOGO_TYPE_CGM
```

*PROPERTY\_SEMANTIC\_LOGO\_TYPE\_DIB* variable

**Syntax**

```
public static final String PROPERTY_SEMANTIC_LOGO_TYPE_DIB
```

*PROPERTY\_SEMANTIC\_LOGO\_TYPE\_GIF* variable

**Syntax**

```
public static final String PROPERTY_SEMANTIC_LOGO_TYPE_GIF
```

*PROPERTY\_SEMANTIC\_LOGO\_TYPE\_JPEG variable*

*Syntax*

```
public static final String PROPERTY_SEMANTIC_LOGO_TYPE_JPEG
```

*PROPERTY\_SEMANTIC\_LOGO\_TYPE\_MET variable*

*Syntax*

```
public static final String PROPERTY_SEMANTIC_LOGO_TYPE_MET
```

*PROPERTY\_SEMANTIC\_LOGO\_TYPE\_MPEG variable*

*Syntax*

```
public static final String PROPERTY_SEMANTIC_LOGO_TYPE_MPEG
```

*PROPERTY\_SEMANTIC\_LOGO\_TYPE\_MPEG2 variable*

*Syntax*

```
public static final String PROPERTY_SEMANTIC_LOGO_TYPE_MPEG2
```

*PROPERTY\_SEMANTIC\_LOGO\_TYPE\_PDF variable*

*Syntax*

```
public static final String PROPERTY_SEMANTIC_LOGO_TYPE_PDF
```

*PROPERTY\_SEMANTIC\_LOGO\_TYPE\_PICT variable*

*Syntax*

```
public static final String PROPERTY_SEMANTIC_LOGO_TYPE_PICT
```

*PROPERTY\_SEMANTIC\_LOGO\_TYPE\_PS variable*

*Syntax*

```
public static final String PROPERTY_SEMANTIC_LOGO_TYPE_PS
```

*PROPERTY\_SEMANTIC\_LOGO\_TYPE\_QTIME variable*

*Syntax*

```
public static final String PROPERTY_SEMANTIC_LOGO_TYPE_QTIME
```

*PROPERTY\_SEMANTIC\_LOGO\_TYPE\_TIFF variable*

*Syntax*

```
public static final String PROPERTY_SEMANTIC_LOGO_TYPE_TIFF
```

*PROPERTY\_SEMANTIC\_LOGO\_TYPE\_WMF variable*

*Syntax*

```
public static final String PROPERTY_SEMANTIC_LOGO_TYPE_WMF
```

*PROPERTY\_SEMANTIC\_MAILER variable*

*Syntax*

```
public static final String PROPERTY_SEMANTIC_MAILER
```

*PROPERTY\_SEMANTIC\_NAME variable*

*Syntax*

```
public static final String PROPERTY_SEMANTIC_NAME
```

*PROPERTY\_SEMANTIC\_NICKNAME variable*

*Syntax*

```
public static final String PROPERTY_SEMANTIC_NICKNAME
```

*PROPERTY\_SEMANTIC\_NOTE variable*

*Syntax*

```
public static final String PROPERTY_SEMANTIC_NOTE
```

*PROPERTY\_SEMANTIC\_ORG variable*

*Syntax*

```
public static final String PROPERTY_SEMANTIC_ORG
```

*PROPERTY\_SEMANTIC\_PHOTO variable*

*Syntax*

```
public static final String PROPERTY_SEMANTIC_PHOTO
```

*PROPERTY\_SEMANTIC\_PHOTO\_TYPE\_AVI variable*

*Syntax*

```
public static final String PROPERTY_SEMANTIC_PHOTO_TYPE_AVI
```

*PROPERTY\_SEMANTIC\_PHOTO\_TYPE\_BMP variable*

*Syntax*

```
public static final String PROPERTY_SEMANTIC_PHOTO_TYPE_BMP
```

*PROPERTY\_SEMANTIC\_PHOTO\_TYPE\_CGM variable*

*Syntax*

```
public static final String PROPERTY_SEMANTIC_PHOTO_TYPE_CGM
```

*PROPERTY\_SEMANTIC\_PHOTO\_TYPE\_DIB variable*

*Syntax*

```
public static final String PROPERTY_SEMANTIC_PHOTO_TYPE_DIB
```

*PROPERTY\_SEMANTIC\_PHOTO\_TYPE\_GIF variable*

*Syntax*

```
public static final String PROPERTY_SEMANTIC_PHOTO_TYPE_GIF
```

*PROPERTY\_SEMANTIC\_PHOTO\_TYPE\_JPEG variable*

*Syntax*

```
public static final String PROPERTY_SEMANTIC_PHOTO_TYPE_JPEG
```

*PROPERTY\_SEMANTIC\_PHOTO\_TYPE\_MET variable*

*Syntax*

```
public static final String PROPERTY_SEMANTIC_PHOTO_TYPE_MET
```

*PROPERTY\_SEMANTIC\_PHOTO\_TYPE\_MPEG variable*

*Syntax*

```
public static final String PROPERTY_SEMANTIC_PHOTO_TYPE_MPEG
```

*PROPERTY\_SEMANTIC\_PHOTO\_TYPE\_MPEG2 variable**Syntax*

```
public static final String  
PROPERTY_SEMANTIC_PHOTO_TYPE_MPEG2
```

*PROPERTY\_SEMANTIC\_PHOTO\_TYPE\_PDF variable**Syntax*

```
public static final String PROPERTY_SEMANTIC_PHOTO_TYPE_PDF
```

*PROPERTY\_SEMANTIC\_PHOTO\_TYPE\_PICT variable**Syntax*

```
public static final String PROPERTY_SEMANTIC_PHOTO_TYPE_PICT
```

*PROPERTY\_SEMANTIC\_PHOTO\_TYPE\_PS variable**Syntax*

```
public static final String PROPERTY_SEMANTIC_PHOTO_TYPE_PS
```

*PROPERTY\_SEMANTIC\_PHOTO\_TYPE\_QTIME variable**Syntax*

```
public static final String  
PROPERTY_SEMANTIC_PHOTO_TYPE_QTIME
```

*PROPERTY\_SEMANTIC\_PHOTO\_TYPE\_TIFF variable**Syntax*

```
public static final String PROPERTY_SEMANTIC_PHOTO_TYPE_TIFF
```

*PROPERTY\_SEMANTIC\_PHOTO\_TYPE\_WMF variable**Syntax*

```
public static final String PROPERTY_SEMANTIC_PHOTO_TYPE_WMF
```

*PROPERTY\_SEMANTIC\_REVISION variable**Syntax*

```
public static final String PROPERTY_SEMANTIC_REVISION
```

*PROPERTY\_SEMANTIC\_ROLE variable*

*Syntax*

```
public static final String PROPERTY_SEMANTIC_ROLE
```

*PROPERTY\_SEMANTIC\_SAP\_EXTENSION\_ACTION variable*

*Syntax*

```
public static final String  
PROPERTY_SEMANTIC_SAP_EXTENSION_ACTION
```

*PROPERTY\_SEMANTIC\_SOUND variable*

*Syntax*

```
public static final String PROPERTY_SEMANTIC_SOUND
```

*PROPERTY\_SEMANTIC\_SOUND\_TYPE\_AIFF variable*

*Syntax*

```
public static final String PROPERTY_SEMANTIC_SOUND_TYPE_AIFF
```

*PROPERTY\_SEMANTIC\_SOUND\_TYPE\_PCM variable*

*Syntax*

```
public static final String PROPERTY_SEMANTIC_SOUND_TYPE_PCM
```

*PROPERTY\_SEMANTIC\_SOUND\_TYPE\_WAVE variable*

*Syntax*

```
public static final String PROPERTY_SEMANTIC_SOUND_TYPE_WAVE
```

*PROPERTY\_SEMANTIC\_TEL variable*

*Syntax*

```
public static final String PROPERTY_SEMANTIC_TEL
```

*PROPERTY\_SEMANTIC\_TEL\_TYPE\_BBS variable*

*Syntax*

```
public static final String PROPERTY_SEMANTIC_TEL_TYPE_BBS
```



*PROPERTY\_SEMANTIC\_TEL\_TYPE\_CAR variable*

*Syntax*

```
public static final String PROPERTY_SEMANTIC_TEL_TYPE_CAR
```

*PROPERTY\_SEMANTIC\_TEL\_TYPE\_CELL variable*

*Syntax*

```
public static final String PROPERTY_SEMANTIC_TEL_TYPE_CELL
```

*PROPERTY\_SEMANTIC\_TEL\_TYPE\_FAX variable*

*Syntax*

```
public static final String PROPERTY_SEMANTIC_TEL_TYPE_FAX
```

*PROPERTY\_SEMANTIC\_TEL\_TYPE\_HOME variable*

*Syntax*

```
public static final String PROPERTY_SEMANTIC_TEL_TYPE_HOME
```

*PROPERTY\_SEMANTIC\_TEL\_TYPE\_ISDN variable*

*Syntax*

```
public static final String PROPERTY_SEMANTIC_TEL_TYPE_ISDN
```

*PROPERTY\_SEMANTIC\_TEL\_TYPE\_MODEM variable*

*Syntax*

```
public static final String PROPERTY_SEMANTIC_TEL_TYPE_MODEM
```

*PROPERTY\_SEMANTIC\_TEL\_TYPE\_MSG variable*

*Syntax*

```
public static final String PROPERTY_SEMANTIC_TEL_TYPE_MSG
```

*PROPERTY\_SEMANTIC\_TEL\_TYPE\_PAGER variable*

*Syntax*

```
public static final String PROPERTY_SEMANTIC_TEL_TYPE_PAGER
```

*PROPERTY\_SEMANTIC\_TEL\_TYPE\_PREF variable*

*Syntax*

```
public static final String PROPERTY_SEMANTIC_TEL_TYPE_PREF
```

*PROPERTY\_SEMANTIC\_TEL\_TYPE\_VIDEO variable*

*Syntax*

```
public static final String PROPERTY_SEMANTIC_TEL_TYPE_VIDEO
```

*PROPERTY\_SEMANTIC\_TEL\_TYPE\_VOICE variable*

Default.

*Syntax*

```
public static final String PROPERTY_SEMANTIC_TEL_TYPE_VOICE
```

*PROPERTY\_SEMANTIC\_TEL\_TYPE\_WORK variable*

*Syntax*

```
public static final String PROPERTY_SEMANTIC_TEL_TYPE_WORK
```

*PROPERTY\_SEMANTIC\_TIMEZONE variable*

*Syntax*

```
public static final String PROPERTY_SEMANTIC_TIMEZONE
```

*PROPERTY\_SEMANTIC\_TITLE variable*

*Syntax*

```
public static final String PROPERTY_SEMANTIC_TITLE
```

*PROPERTY\_SEMANTIC\_TYPE\_HOME variable*

*Syntax*

```
public static final String PROPERTY_SEMANTIC_TYPE_HOME
```

*PROPERTY\_SEMANTIC\_TYPE\_WORK variable*

Default.

*Syntax*

```
public static final String PROPERTY_SEMANTIC_TYPE_WORK
```

*PROPERTY\_SEMANTIC\_UID variable**Syntax*

```
public static final String PROPERTY_SEMANTIC_UID
```

*PROPERTY\_SEMANTIC\_URL variable**Syntax*

```
public static final String PROPERTY_SEMANTIC_URL
```

*PROPERTY\_SEMANTIC\_VERSION variable**Syntax*

```
public static final String PROPERTY_SEMANTIC_VERSION
```

*SocketConnectionHandler class*

Deprecated. since 3.0, Use com.sap.mobile.lib.request.SocketConnectionHandler

*Syntax*

```
class SocketConnectionHandler extends
AbstractConnectionHandler
```

*Members*

All members of SocketConnectionHandler, including inherited members. **Variables**

Modifier and Type	Variable	Description
public static final int	<i>HOST</i> on page 2043	
protected static int	<i>instanceNr</i> on page 2043	
protected boolean	<i>isStarted</i> on page 2043	
String	<i>m_realm</i> on page 2043	
String	<i>m_schemaName</i> on page 2043	
protected ConnectionFactory	<i>mConnectionFactory</i> on page 2044	
public static final int	<i>PATH</i> on page 2044	
boolean	<i>sendAuthenticaFailed</i> on page 2044	
public static final int	<i>SSL</i> on page 2044	

**Constructors**

Modifier and Type	Constructor	Description
public	<i>SocketConnectionHandler</i> ( <i>final ISDMRequestManager</i> , <i>ISDMLogger</i> , <i>ISDMPreferences</i> ) on page 2042	

### Methods

Modifier and Type	Method	Description
public void	<i>finishCurrentRequest</i> () on page 2042	
public synchronized int	<i>makeHttpRequest</i> () on page 2042	
public void	<i>run</i> () on page 2042	
public void	<i>setLetThreadTimeOut</i> ( <i>boolean</i> ) on page 2043	
public void	<i>terminate</i> () on page 2043	
public boolean	<i>wasCancelled</i> () on page 2043	

### Inherited members from AbstractConnectionHandler

Modifier and Type	Member	Description
public	<i>AbstractConnectionHandler</i> ( <i>final ISDMRequestManager</i> , <i>final ISDMLogger</i> , <i>final ISDMPreferences</i> ) on page 1033	The default constructor.
protected String	<i>addBackendLanguageToUrl</i> ( <i>String</i> ) on page 1033	Adds backend language URL parameter to the parameter.
protected int	<i>codeArray</i> on page 1035	
protected String	<i>getBasicAuthHeader</i> () on page 1033	Calculates the http basic authentication header value.
protected String	<i>getHost</i> ( <i>String</i> ) on page 1034	Extracts the host part from URL string.
protected static String	<i>getIMEI</i> () on page 1034	
public static String	<i>getRequestTypeById</i> ( <i>int</i> ) on page 1034	

Modifier and Type	Member	Description
public boolean	<i>isSuccessful()</i> on page 1034	Do we have error?
protected static final int	<i>MAX_TIMEOUT_COUNT</i> on page 1036	
protected boolean	<i>mCleanupRequestsOnError</i> on page 1036	
protected boolean	<i>mError</i> on page 1036	
protected ISDMLogger	<i>mLogger</i> on page 1036	
protected ISDMPreferences	<i>mPreferences</i> on page 1036	
protected ISDMRequest	<i>mRequest</i> on page 1036	
protected ISDMRequestManager	<i>mRequestManager</i> on page 1036	
protected boolean	<i>mStop</i> on page 1036	
protected TrustManager[]	<i>mTrustManagers</i> on page 1037	
protected boolean	<i>mUpdateListener</i> on page 1037	
protected ISDMConnectivityParameters	<i>params</i> on page 1037	
public void	<i>processRequestsFromQueue()</i> on page 1035	Pick a request/bundle from the queue and process it/them.
protected String	<i>processUrl(String)</i> on page 1035	
public void	<i>setCleanupRequestsOnError(boolean)</i> on page 1035	Sets whether the thread should clean up the request queue in case of errors.
protected static final String	<i>TAG</i> on page 1037	

#### Inherited members from ISDMConnectionHandler

Modifier and Type	Member	Description
public static final int	<i>AUTHENTICATION_ERROR</i> on page 1065	
public static final int	<i>BAD_COVERAGE</i> on page 1065	

Modifier and Type	Member	Description
public static final String	<i>CRLF</i> on page 1065	
public static final int	<i>ERROR</i> on page 1065	
public static final int	<i>FAILED_LOGIN</i> on page 1065	
public static final int	<i>FAILED_LOGOUT</i> on page 1065	
public static final int	<i>FAILURE</i> on page 1065	
public static final int	<i>LOG</i> on page 1066	
public static final int	<i>NO_ERROR</i> on page 1066	
public static final int	<i>RETRY</i> on page 1066	
public static final int	<i>SUCCESS</i> on page 1066	
public static final int	<i>TIMEOUT</i> on page 1066	

*SocketConnectionHandler*(final *ISDMRequestManager*, *ISDMLogger*, *ISDMPreferences*) constructor

**Syntax**

```
public SocketConnectionHandler ( final ISDMRequestManager
requestManager , ISDMLogger aLogger , ISDMPreferences aPreferences )
```

*finishCurrentRequest()* method

**Syntax**

```
public void finishCurrentRequest ()
```

*makeHttpRequest()* method

**Syntax**

```
public synchronized int makeHttpRequest ()
```

*run()* method

**Syntax**

```
public void run ()
```

*setLetThreadTimeOut(boolean) method***Syntax**

```
public void setLetThreadTimeOut (boolean value )
```

*terminate() method***Syntax**

```
public void terminate ()
```

*wasCancelled() method***Syntax**

```
public boolean wasCancelled ()
```

*HOST variable***Syntax**

```
public static final int HOST
```

*instanceNr variable***Syntax**

```
protected static int instanceNr
```

*isStarted variable***Syntax**

```
protected boolean isStarted
```

*m\_realm variable***Syntax**

```
String m_realm
```

*m\_schemaName variable***Syntax**

```
String m_schemaName
```

*mConnectionFactory* variable

*Syntax*

```
protected ConnectionFactory mConnectionFactory
```

*PATH* variable

*Syntax*

```
public static final int PATH
```

*sendAuthenticataFailed* variable

*Syntax*

```
boolean sendAuthenticataFailed
```

*SSL* variable

*Syntax*

```
public static final int SSL
```

*SUPRoute* class

Deprecated. since 3.0, Use com.sap.mobile.lib.request.SUPRoute

*Syntax*

```
public class SUPRoute
```

*Members*

All members of SUPRoute, including inherited members. **Variables**

Modifier and Type	Variable	Description
public CookieJar	<i>cookieJar</i> on page 2045	
public Map< String, Object >	<i>supRoute</i> on page 2045	

**Constructors**

Modifier and Type	Constructor	Description
public	<i>SUPRoute()</i> on page 2045	

**Methods**



Modifier and Type	Method	Description
public void	<i>removeHeader(String)</i> on page 2045	
public void	<i>setheaders(String, String)</i> on page 2045	
public void	<i>storeCookie(List&lt; Cookie &gt;)</i> on page 2045	

***SUPRoute()* constructor****Syntax**

```
public SUPRoute ()
```

***removeHeader(String)* method****Syntax**

```
public void removeHeader (String Key)
```

***setheaders(String, String)* method****Syntax**

```
public void setheaders (String key, String Value)
```

***storeCookie(List< Cookie >)* method****Syntax**

```
public void storeCookie (List< Cookie > httpCookie)
```

***cookieJar* variable****Syntax**

```
public CookieJar cookieJar
```

***supRoute* variable****Syntax**

```
public Map< String, Object > supRoute
```

*TrustSAPSSLSocketFactory* class

Deprecated. since 3.0, Use `com.sap.mobile.lib.request.TrustSAPSSLSocketFactory`

**Syntax**

```
public class TrustSAPSSLSocketFactory extends
SSLSocketFactory
```

**Members**

All members of `TrustSAPSSLSocketFactory`, including inherited members. **Variables**

Modifier and Type	Variable	Description
ISDMLogger	<i>mLogger</i> on page 2048	
ISDMPreferences	<i>mPreferences</i> on page 2048	
public static final String	<i>TLS_SSL_CONTEXT</i> on page 2048	

**Constructors**

Modifier and Type	Constructor	Description
public	<i>TrustSAPSSLSocketFactory(KeyStore, String, final ISDMRequestManager)</i> on page 2047	

**Methods**

Modifier and Type	Method	Description
public Socket	<i>createSocket()</i> on page 2047	
public Socket	<i>createSocket(Socket, String, int, boolean)</i> on page 2047	
public Socket	<i>createSocket(InetAddress, int, InetAddress, int)</i> on page 2047	
public Socket	<i>createSocket(InetAddress, int)</i> on page 2047	
public Socket	<i>createSocket(String, int, InetAddress, int)</i> on page 2048	

Modifier and Type	Method	Description
public Socket	<i>createSocket(String, int)</i> on page 2048	
public String[]	<i>getDefaultCipherSuites()</i> on page 2048	
public String[]	<i>getSupportedCipherSuites()</i> on page 2048	

*TrustSAPSSLSocketFactory(KeyStore, String, final ISDMRequestManager)*  
*constructor*

**Syntax**

```
public TrustSAPSSLSocketFactory (KeyStore keyStore , String
keyStorePassword , final ISDMRequestManager aRequestManager) throws
Exception
```

*createSocket()* *method*

**Syntax**

```
public Socket createSocket () throws IOException
```

*createSocket(Socket, String, int, boolean)* *method*

**Syntax**

```
public Socket createSocket (Socket socket , String s , int i ,
boolean flag) throws IOException
```

*createSocket(InetAddress, int, InetAddress, int)* *method*

**Syntax**

```
public Socket createSocket (InetAddress inaddr , int i ,
InetAddress inaddr1 , int j) throws IOException
```

*createSocket(InetAddress, int)* *method*

**Syntax**

```
public Socket createSocket (InetAddress inaddr , int i) throws
IOException
```

*createSocket(String, int, InetAddress, int) method*

*Syntax*

```
public Socket createSocket (String s, int i, InetAddress inaddr,
int j) throws IOException
```

*createSocket(String, int) method*

*Syntax*

```
public Socket createSocket (String s, int i) throws IOException
```

*getDefaultCipherSuites() method*

*Syntax*

```
public String[] getDefaultCipherSuites ()
```

*getSupportedCipherSuites() method*

*Syntax*

```
public String[] getSupportedCipherSuites ()
```

*mLogger variable*

*Syntax*

```
ISDMLogger mLogger
```

*mPreferences variable*

*Syntax*

```
ISDMPreferences mPreferences
```

*TLS\_SSL\_CONTEXT variable*

*Syntax*

```
public static final String TLS_SSL_CONTEXT
```

### **Developing with MAF Logon for Android**

MAF logon components include MAF Logon UI and MAF Logon Manager, and support user onboarding.

Use MAF logon components to:

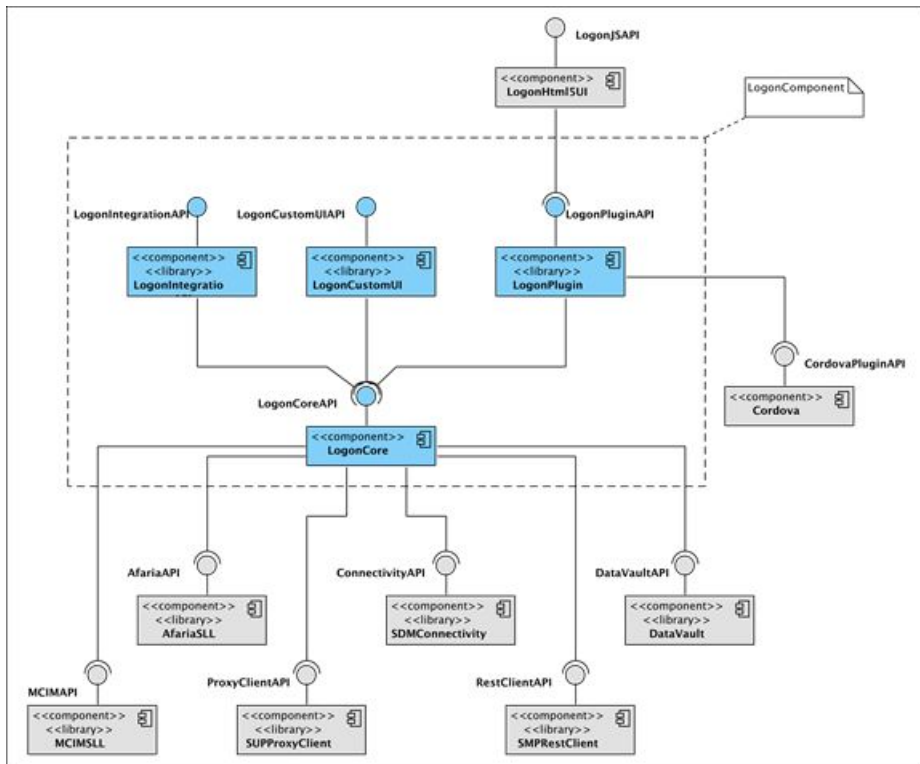
- Create user-initiated registration requests to a specified security infrastructure.

- Lock and unlock the secure store to protect sensitive information.
- Change secure store and back-end passwords to enhance security in an enterprise environment.
- Implement various customization options.

MAF Logon UI presents logon screens on the device, providing easy integration for applications that use default logon UI behavior. MAF Logon Manager constructs UI contexts (which are, in turn, presented to the Logon UI) and executes logon operations. The Logon UI constructs a dynamic UI from the context elements presented by Logon Manager. Thus, MAF Logon Manager handles all UI-related configurations.

### Architectural Overview

MAF includes a configurable, multipurpose onboarding component. The Logon Core is separate from the Logon UI, to support the creation of custom Logon UIs. This layer contains code to execute logon operations. The component builds on SAP Mobile Platform libraries, such as OData Connectivity, Afaria client libraries, and Client Hub libraries.



Based on user input, the Logon Core determines which type of registration to execute. After registration, the Logon Core:

1. Checks if any scenario is configured to be forced.

2. Triggers a test HTTP(S) request to the host, and the port specified by the user.
3. Analyzes the response to this request based on:
  - HTTP response code
  - Cookies
  - Response headers

The Logon Core then determines which communicator to use. If it cannot be determined, the logon falls back to HTTP Rest. If the decision flow can find a suitable communication setup, it report a success, otherwise the logon process stops with a failure message.

The default Logon UI supports customization of headers and footers and includes a fully skinnable UI. This component builds on the MAF Logon Core, and provides a higher-level integration API. These logon operations are supported by the integration API:

- Logon – register or unlock the secure store so that the app has access to server information and credentials to initiate requests.
- Change back-end password – update the backend password stored in the secure store of the client.
- Change secure store password (App Passcode) – change the password of the secure store.
- Lock secure store – force the secure store to lock itself while the application is still in the foreground.
- Delete user – unregister and delete all locally stored content from the secure store.
- Registration information – present information provided by the user during logon.
- Update application settings – get server settings from SAP Mobile Platform.
- Registration data – used by the application to get all registration data from MAF logon.

### MAF Logon Task Flow

Create a new project or check if your existing project is configured correctly.

#### *Creating Android Starter Project*

Create a new project.

1. Install Eclipse. See *SAP Note 1890477* for version information.
2. Install Google Eclipse plug-ins (Android, ADB, DDMS).
3. Install Google Android SDK.
4. Create an Android emulator (API level 8 or later).
5. Create a new project by selecting **File > New > Project**.
6. Select **Android Application > Android Project**.
7. Fill in the appropriate fields of the new project wizard:

**New Android Application**  
Creates a new Android Application

Application Name:

Project Name:

Package Name:

Minimum Required SDK:

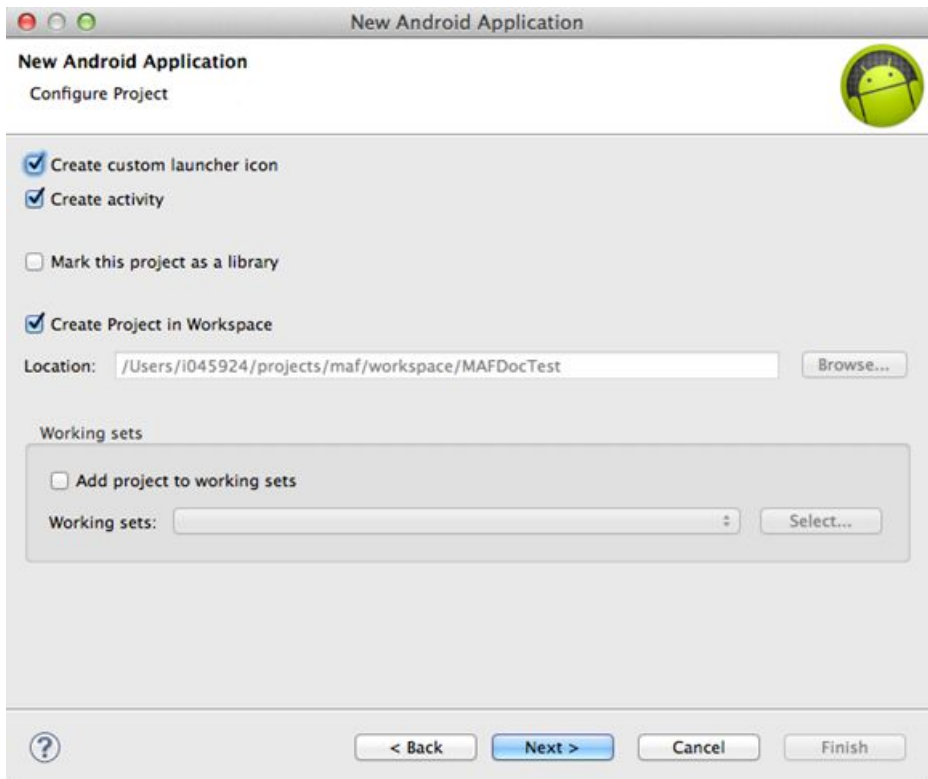
Target SDK:

Compile With:

Theme:

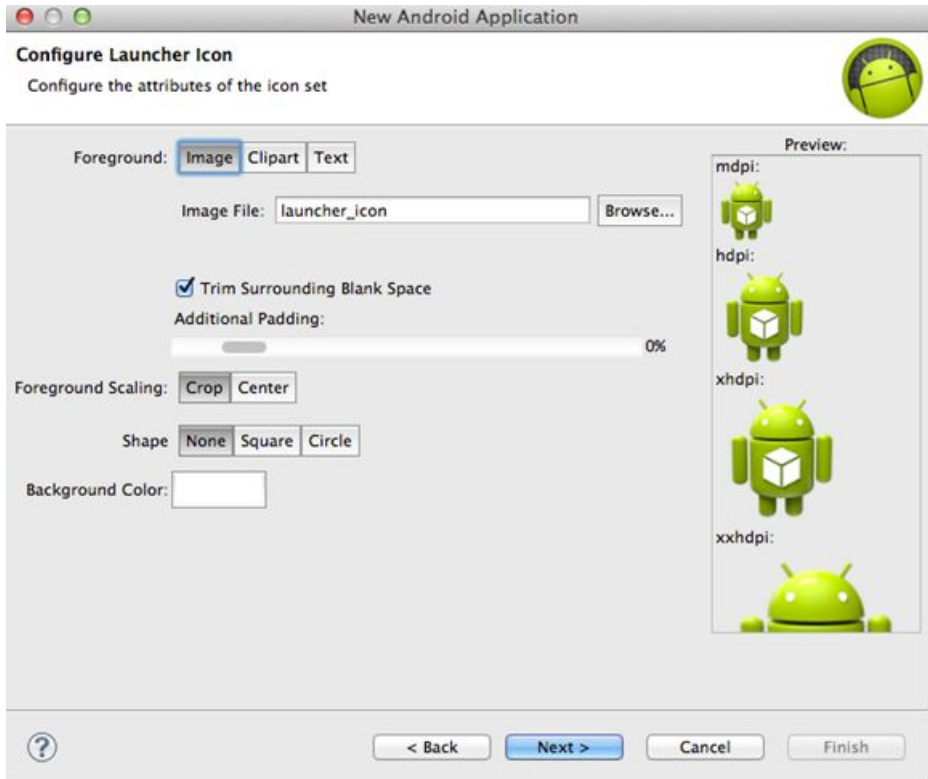
The package name must be a unique identifier for your application. It is typically not shown to users, but it *must* stay the same for the lifetime of your application; it is how multiple versions of the same application are considered the "same app". This is typically the reverse domain name of your organization plus one or more application identifiers, and it must be a valid Java package name.

8. Click **Next**.
9. Configure the project, and click **Next**:



10. Configure the launcher icon, and click **Next**:





11. Select the **Create Activity**, select **Blank Activity** from the list, and click **Next**.
12. On the next screen, fill in the Activity Name and Layout Name fields, and click **Finish**.
13. The application compiles, and you can run it in the emulator:

## Native OData App Development



### *Integrating MAF Logon*

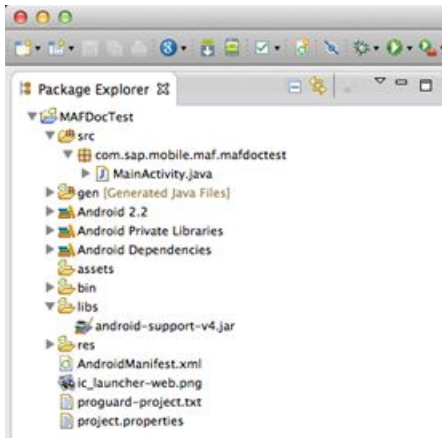
Integrate MAF logon with your application.

Prerequisites:

- Eclipse
- Android Eclipse Plugin (latest)
- Android Platform Tools (latest)
- An Android application created in your eclipse workspace

See <http://service.sap.com/pam> for version information.

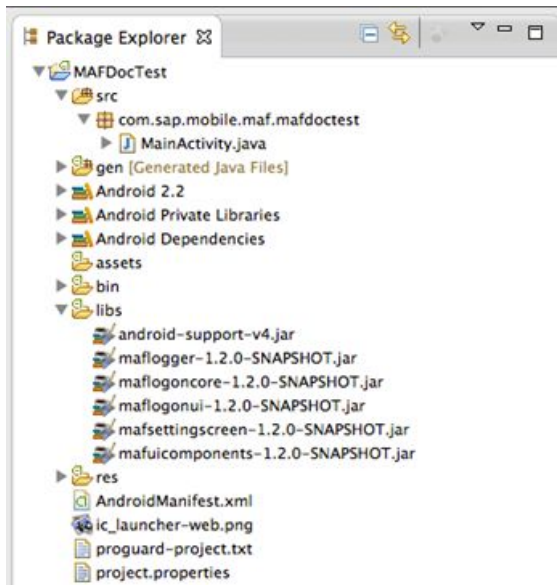
If you have followed the Create Android Starter Project Task Flow, you should have similar project structure:



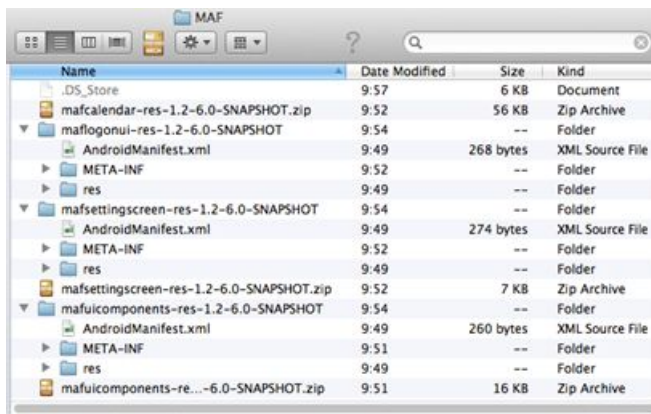
### Setting Up Dependencies

Set up project dependencies.

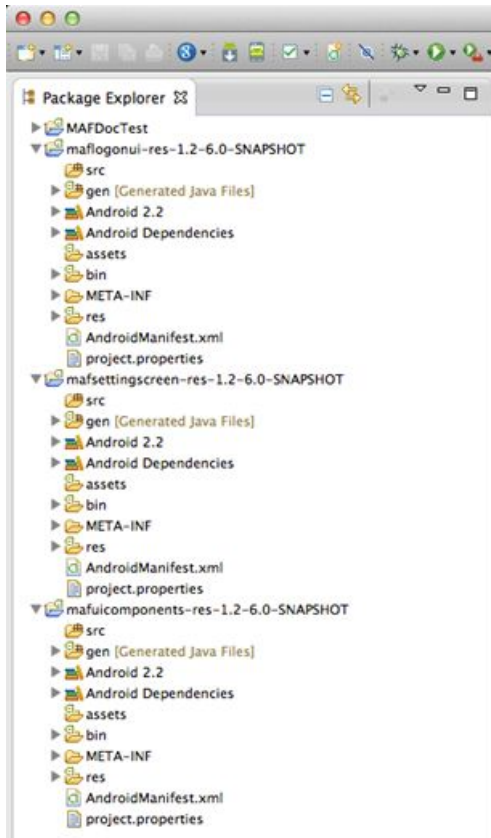
1. Locate the MAF libraries, which are installed with SAP Mobile Platform Client SDK installer into the folder you specified during installation.
2. Add the following MAF libraries to your Android project build path in the `libs` folder.
  - MAF Android libraries (HTTP REST):
    - `maflogger.jar` `maflogoncore.jar`
    - `maflogonui.jar` `mafsettingscreen.jar`
    - `mafuicomponents.jar`



3. Locate MAF resources, which are installed, by default, in the SAP Mobile Platform installation folder:
  - maflogonui.apklib
  - mafsettingscreen.apklib
  - mafuicomponents.apklib
4. Change the extension of the apklib archives to ".zip". Unzip the files, which contain Android apklib Eclipse projects:
  - maflogonui-res
  - mafsettingscreen-res
  - mafuicomponents-res
5. To add the resources to your workspace, copy the extracted folders to your workspace. Your folder structure is now similar to this:



6. To import the resources to the Eclipse project, open Eclipse and select **File > New > Project**.
7. In the New Project wizard, select **Android > Existing Android Code Into Workspace**, and click **Next**.
8. Click **Browse** to select the folder where you extracted the resource projects.
9. Select all projects, select **Copy projects into workspace**, then click **Finish**.  
Three are now three new Android projects in your Eclipse workspace:



These projects do not include any source code, but do include these Android resource files:

- Images
- Layouts
- Localization
- XMLs

**10.** Mark the resource projects as Android library projects:

- a. Select a project.
- b. Open the project properties.
- c. Select **Android** and mark the project as library by selecting **Is Library**.
- d. Repeat steps a-c for all the resource projects.

**11.** Set up dependencies:

- a. Your Android project must reference the Android library projects from your workspace. Open the project properties of your Android project and select **Android**.
- b. In the Library section, click **Add**.
- c. Select one of the listed projects, and click **OK**.

- d. Repeat steps a-c for the rest of the Android library projects. As a result, the referenced Android libraries get listed in your project properties window.
        - e. Click **OK** to save the changes.
12. Find and add SAP Mobile Platform client libraries to your project: SAP Mobile Platform libraries are installed with SAP Mobile Platform Client SDK installer into the folder you specified during installation. Add the following .jar files to your Android project build path in the `libs` folder:
  - SAP Mobile Platform libraries
    - `Common.jar`
    - `Connectivity.jar`
    - `CoreServices.jar`
    - `Request.jar`If you use HTTP REST based communication channel, add these libraries:
  - `DataVaultLib.jar`
  - `perflib.jar`
  - `sap-e2etrace.jar`
13. Locate and add Afaria client libraries to your project: Afaria libraries are installed with SAP Mobile Platform Client SDK installer into the folder you specified. Add the `AfariaSSL.jar` to your Android project build path in the `libs` folder.
14. Locate and add Client Hub libraries to your project, which are installed with SAP Mobile Platform Client SDK installer into the folder you specified. Add the `ClientHubSSL.jar` to your Android project build path in the `libs` folder.

### *Implementing MAF Logon Code*

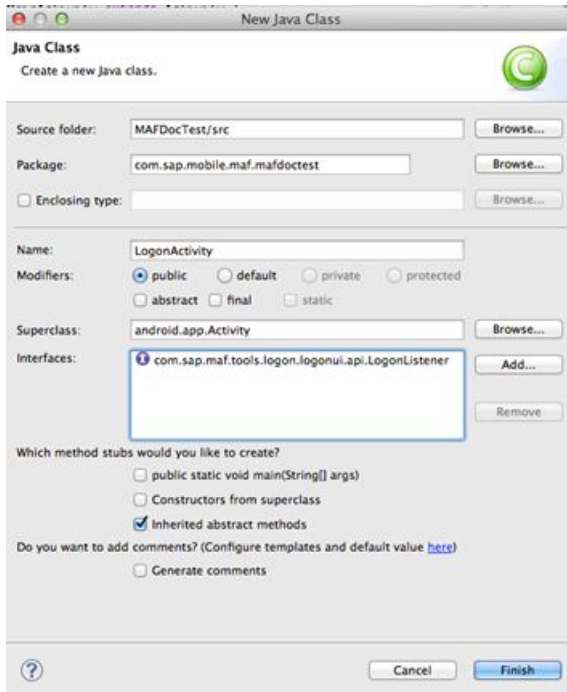
Implement MAF Logon Code.

1. Set required permissions in your Android manifest file. MAF Logon uses these Android device functions:
  - Network and Internet communication
  - Phone state reading
  - External storage

To give access to these Android resources, add these lines to your `AndroidManifest.xml`:

```
<uses-permission android:name="android.permission.INTERNET"/>
<uses-permission
android:name="android.permission.READ_PHONE_STATE"/>
<uses-permission
android:name="android.permission.ACCESS_NETWORK_STATE"/>
<uses-permission
android:name="android.permission.WRITE_EXTERNAL_STORAGE" />
```

2. Create `LogonActivity`. To present logon screens, create a new Android activity and implement the `LogonListener` interface. Use the New Java Class wizard:



Select `android.app.Activity` as the superclass, and add `com.sap.maf.tools.logon.logonui.api.LogonListener` to the implemented interfaces.

3. Click **Finish** to create the activity, and stub methods, for the `LogonListener`. The MAF Logon component calls back these methods on various events.
4. Add the activity to your project's `AndroidManifest.xml`:

```
<activity
android:name="com.sap.mobile.maf.mafdoctest.LogonActivity"/>
```

5. Add these fields to the class:

```
private final String LOG TAG = "MAFLogon";
private final String APPLICATIONID =
"com.sap.maf.test.adr.logonapp";
private LogonUIFacade logonUIFacade;
private Activity act;
private Context ctx;
```

To automatically resolve all the necessary imports needed for the fields, click the **Source** menu, and select **Organize Imports**.

6. Override the `onCreate` methods of the superclass with this implementation:

```
@Override
protected void onCreate(Bundle savedInstanceState) {
    super.onCreate(savedInstanceState);
    //get an instance of the LogonUIFacade
    logonUIFacade = LogonUIFacade.getInstance();
    //set activity reference
    act = this;
```

```
//set context reference
ctx = this;
//init LogonUIFacade
logonUIFacade.init(this, ctx, APPLICATIONID);
//ask LogonUIFacade to present the logon screen
//set the resulting view as the content view for this activity
setContentView(logonUIFacade.logon());
}
```

7. In the MainActivity.java file, send an Intent to present the LogonActivity:

```
@Override
protected void onCreate(Bundle savedInstanceState) {
    super.onCreate(savedInstanceState);
    setContentView(R.layout.activity_main);
    //present MAF Logon Screen
    Intent i = new Intent(this, LogonActivity.class);
    startActivity(i);
}
```

8. In the LogonActivity.java file, implement the onLogonFinished method from the LogonListener:

```
@Override
public void onLogonFinished(String arg0, boolean arg1,
LogonContext arg2) {
    //hides MAFLogonUI when logon finished and returns to main
    activity
    finish();
}
```

9. Run your application in Android emulator. Now you can present the MAFLogonUI and register successfully.

### Executing Logon Operations

After you initialize the LogonUIFacade, present the MAF Logon UI screens. The LogonUIFacade interacts with MAFLogonCore components.

To present a particular screen, call the corresponding method on the LogonUIFacade. If any user input is required for the started operation, the LogonUIFacade presents a corresponding screen. The LogonUIFacade generates input screens. You must set the generated view to a presented activity, in this example, the LogonActivity. The user fills in the input screen fields with valid data and triggers the execution of the next step of the requested operation.

In all of the following examples, the application must construct an activity, which implements the LogonListener interface:

```
public class LogonActivity extends Activity implements LogonListener
{
    //helper fields to keep the code cleaner
    private final String LOG_TAG = "LogonActivity";
    private final String APPLICATIONID =
"com.sap.maf.test.adr.logonapp";
    private Activity act;
    private Context ctx;
    private LogonUIFacade logonUIFacade;
```



```

@Override
protected void onCreate(Bundle savedInstanceState) {
    super.onCreate(savedInstanceState);
    act = this;
    ctx = this;

    //prepare styling
    MAFSkinManager.getInstance(this).loadStyle("green",
        getResources().openRawResource(R.raw.styles_def));
    MAFSkinManager.getInstance(this).loadStyle("red",
        getResources().openRawResource(R.raw.styles_red));

    //get instance of LogonUIFacade Singleton
    logonUIFacade = LogonUIFacade.getInstance();

    //reset MAFLogger
    MAFLogger.clearLogData();
    MAFLogger.logToAndroid(true);

    //Initialize LogonUIFacade
    logonUIFacade.init(this, act, ctx, APPLICATIONID);

    //call the actual LogonUIFacade method that corresponds to
    //the Operation you would like to execute.
    ...

    //Once presented reskin the UI
    MAFUIFactory.getInstance().reskinUI(this);
}

//LogonListener interface methods implemented!
}

```

### *Logon*

To present the logon screen from your activity:

```

@Override
protected void onCreate(Bundle savedInstanceState) {
    super.onCreate(savedInstanceState);
    ...
    //call Logon method of LogonUIFacade and set the resulting
    //view as content view of this Acvitivity.
    setContentView(logonUIFacade.logon());
    ...
}

```

### *Delete Registration*

You can present a button for the user to delete the registration. To trigger the delete user operation, write a similar action callback method in your Activity:

```

private void onDeleteUserButtonClicked() {
    ...
    logonUIFacade.deleteUser();
    ...
}

```

### *Lock Secure Store*

To lock the secure store when the application is running and is in foreground, write a method similar to this in your Activity:

```
private void onLockButtonClicked() {
    ...
    logonUIFacade.lockSecureStore();
    ...
}
```

This locks the secure store but does not present the logon screen. To present the logon screen after the secure store is locked, call the logon method of LogonUIFacade. This shows the unlock screen if the user has already been registered:

```
private void onLockButtonClicked() {
    ...
    logonUIFacade.lockSecureStore();
    //call Logon method of LogonUIFacade and set the resulting
    //view as content view of this Acvitivity.
    setContentView(logonUIFacade.logon());
    ...
}
```

### *Change App Passcode*

You can provide a button to change the App Passcode. To trigger the change operation, write a method similar to this in your activity:

```
private void onChangeAppPasscodeButtonClicked() {
    ...
    this.ctx = this;

    ...
    logonUIFacade.changeSecureStorePassword(ctx, true);
    ...
}
```

### *Update Back-End Password*

You can provide a button to update the stored back-end password. To trigger the change operation, write a method similar to this in your activity:

```
private void onChangeBackendPassowordButtonClicked() {
    ...
    this.ctx = this;
    ...
    logonUIFacade.changeBackendPassword(ctx);
    ...
}
```

### *Review Login Data*

You can provide a dialog to review the registration information. Create a button on the UI and write a method similar to this in your activity:

```
private void onShowRegInfoButtonClicked() {
    ...
    this.ctx = this;
    ...
    logonUIFacade.getRegistrationInfo(ctx);
    ...
}
```

### Data Requests

After you complete the registration and initialize the secure store, you can request data from the back end.

Copy this code in any activity to execute a service document request. This example places the code in the main Activity class, which also implements the `INetListener` interface:

```
private final String LOG_TAG = "MAIN_ACTIVITY";

private void downloadServiceDocument() throws
PreferencesException {
    ILogger logger = new Logger();

    LogonCore lcCore = LogonCore.getInstance();

    Channel channel = lcCore.getLogonContext().getChannel();

    boolean isHttpsConnection =
lcCore.getLogonContext().isHttps();
    String host = lcCore.getLogonContext().getHost();
    int port = lcCore.getLogonContext().getPort();
    String suffix = lcCore.getLogonContext().getResourcePath();
    String appID = lcCore.getLogonContext().getAppId();
    String addr;

    IPreferences pref = new Preferences(this, logger);
    ConnectivityParameters param = new ConnectivityParameters();
    BaseRequest getServiceDoc = new BaseRequest();
    RequestManager reqMan = null;
    try {

        LogonContext lgContext =
LogonManager.getInstance().getLogonContext(this);
        param.setUsername(lgContext.getEndPointUser());
        param.setPassword(lgContext.getEndPointPassword());
        reqMan = new RequestManager(logger, pref, param, 1);
        MySSLChallengeListener mscl = new
MySSLChallengeListener();
        reqMan.setSSLChallengeListener(mscl);

        if (channel == Channel.REST) {

            if (isHttpsConnection) {
                addr = "https://" + host + ":" + port + suffix + "/"
                    + appID;
```

```

        MAFLogger.i(LOG_TAG, "REST getServiceDoc request
sent to: "
                + addr);
    } else {
        addr = "http://" + host + ":" + port + suffix + "/" +
appID
                + "/";
        MAFLogger.i(LOG_TAG, "REST getServiceDoc request
sent to: "
                + addr);
    }
    getServiceDoc.setRequestUrl(addr);

    } else if (channel == Channel.GATEWAY) {

        addr = "http://<GW_HOST>:<PORT>/<GW_CONTENT_URL>/";
        MAFLogger.i(LOG_TAG, "GATEWAY getServiceDoc request
sent to: "
                + addr);
        getServiceDoc.setRequestUrl(addr);

    } catch (LogonManagerException e) {
        e.printStackTrace();
        runOnUiThread(new Runnable() {
            @Override
            public void run() {
                MAFToast.makeText(act, "Failed to download service
document", MAFToast.LENGTH_SHORT).show();
            }
        });
    }

    getServiceDoc.setRequestMethod(BaseRequest.REQUEST_METHOD_GET);
    getServiceDoc.setListener(this);

    reqMan.makeRequest(getServiceDoc);
}

final class MySSLChallengeListener implements
com.sap.mobile.lib.request.HttpChannelListeners.ISSLChallengeListen
er {

    @Override
    public boolean
isServerTrusted(java.security.cert.X509Certificate[] arg0) {
        return true;
    }

    @Override
    public void onError(IRequest arg0, IResponse arg1,
IRequestStateElement arg2) {
        // TODO Auto-generated method stub

```

```

    }

    @Override
    public void onSuccess(IRequest arg0, IResponse arg1) {
        // TODO Auto-generated method stub
    }

```

First, get an `MAFLogonCore` instance in the `downloadServiceDocument` method:

```

...
LogonCore lcCore = LogonCore.getInstance();
...

```

Then, you can get additional information about the earlier registration:

```

...
Channel channel = lcCore.getLogonContext().getChannel();
boolean isHttpsConnection = lcCore.getLogonContext().isHttps();
String host = lcCore.getLogonContext().getHost();
int port = lcCore.getLogonContext().getPort();
String suffix = lcCore.getLogonContext().getResourcePath();
String appID = lcCore.getLogonContext().getAppId();
...

```

The `Channel` class contains information about the registration type:

```

/**
 * Logon channel identifiers
 *
 */
public enum Channel {
    REST, GATEWAY
};

```

Based on the information, you can construct a request address:

```

...
String addr;
...
pref = new Preferences(this, logger);
param = new ConnectivityParameters();
getServiceDoc = new BaseRequest();
...
if(channel == Channel.REST){
    if (isHttpsConnection) {
        addr = "https://" + host + ":" + port + suffix + "/" +
appID;
        MAFLogger.i(TAG, "REST getServiceDoc request sent to: " +
addr);
    } else {
        addr = "http://" + host + ":" + port + suffix + "/" +
appID+"/";
        MAFLogger.i(TAG, "REST getServiceDoc request sent to: " +
addr);
    }
    getServiceDoc.setRequestUrl(addr);
} else if(channel == Channel.GATEWAY){

```

```
        addr = "http://<GW_HOST>:<PORT>/<GW_CONTENT_URL>/" ;
        MAFLogger.i(TAG, "GATEWAY getServiceDoc request sent to: " +
addr);
        getServiceDoc.setRequestUrl(addr);
    } else if(channel == Channel.IMO){
        getServiceDoc.setRequestUrl(lgContext.getEndPointUrl());
    }
}
```

This way you can prepare for all Channel types. `getServiceDoc` is an instance of the `BaseRequest` class, for which you can set the constructed service address.

You can now start your requests:

```
getServiceDoc.setRequestMethod(SDMBaseRequest.REQUEST_METHOD_GET);
getServiceDoc.setListener(this);

reqMan.makeRequest(getServiceDoc);
```

You must handle exceptions as well.

### *Mutual Certificate Handling*

MAF supports mutual certificate-based data requests. To execute requests with certificates, set an identity into the SAP Mobile Platform RequestManager:

```
reqMan = new RequestManager(logger, pref, param, 1);
MySSLChallengeListener mscl = new MySSLChallengeListener();

if(lgcCtx.getUserCreationPolicy().equals(UserCreationPolicy.certifi
cate)){
    HttpClientCertInfo certInfo =
LogonUIFacade.getClientCertInfo(appID);
    if(certInfo != null){
        MutualCertificateHandler mch = new
MutualCertificateHandler(certInfo);
        reqMan.setMutualSSLChallengeListener(mch);
    }
}

reqMan.setSSLChallengeListener(mscl);
```

In this code, the `MySSLChallengeListener` is the class that the application must implement. MAF calls this listener when the user creation policy is set to certificate and SAP Mobile Platform server-side security configuration used during registration is set to support mutual certificate handling.

A sample implementation of the listener:

```
final class MySSLChallengeListener implements ISSLChallengeListener
{

    @Override
    public boolean isServerTrusted(X509Certificate[] cer) {

        return true;
    }
}
```

```

    }
}

```

### Handling Delegate Calls

To get callbacks from MAF logon operations, implement the `LogonListener` interface in your logon activity.

To see which callback method is called, implement:

```

@Override
public void objectFromSecureStoreForKey() {
    Log.i(LOG_TAG, "objectFromSecureStoreForKey() called");
}

@Override
public void onApplicationSettingsUpdated() {
    Log.i(LOG_TAG, "onApplicationSettingsUpdated() called");
}

@Override
public void onBackendPasswordChanged(boolean arg0) {
    Log.i(LOG_TAG, "onBackendPasswordChanged() called");
}

@Override
public void onLogonFinished(String error, boolean
isUserRegistered, LogonContext context) {
    Log.i(LOG_TAG, "onLogonFinished() called");
}

@Override
public void onSecureStorePasswordChanged(boolean arg0, String
arg1) {
    Log.i(LOG_TAG, "onSecureStorePasswordChanged() called");
}

@Override
public void onUserDeleted() {
    Log.i(LOG_TAG, "onUserDeleted() called");
}

@Override
public void registrationInfo() {
    Log.i(LOG_TAG, "registrationInfo() called");
}

```

### Error Handling

You can handle errors of MAF logon operations in two ways.

- Through localized error messages that are received when the `LogonListener` callback happens:

```

@Override
public void onLogonFinished(String error, boolean
isUserRegistered, LogonContext context) {
    Log.i(LOG_TAG, "onLogonFinished:[error]=" + error

```

```
        + " [isUserRegistered]="+ isUserRegistered
        + " [context]="+context);
    //makes hides MAFLogonUI when logon finished
    finish();
}
```

- Through standard Java exceptions:

```
/**
 * Application logic with logout button.
 *
 * @param logonContext
 * @throws LogonManagerException
 */
private void doApplicationLogic() throws LogonCoreException
{...}
```

### Logon Configuration Options

MAF Logon provides a default value-based configuration through the LogonUIFacade.

```
private void setDefaultFieldValues() {
    // -----vemausup220 -
    direct-----
        logonUIFacade.setDefaultValue(
SharedPreferenceKeys.PREFERENCE_ID_SUPSERVERPORT.toString(),
        "<HTTP_PORT>");
        logonUIFacade.setDefaultValue(
SharedPreferenceKeys.PREFERENCE_ID_SUPSERVERHTTPSPORT.toString(),
        "<HTTPS_PORT>");
        logonUIFacade.setDefaultValue(
SharedPreferenceKeys.PREFERENCE_ID_SUPSERVERURL.toString(),
        "<HOSTNAME>");
        logonUIFacade.setDefaultValue(
SharedPreferenceKeys.PREFERENCE_ID_SUPSERVERFARMID.toString(),
        "<FAR_ID>");
        logonUIFacade.setDefaultValue(
        SharedPreferenceKeys.PREFERENCE_ID_URLSUFFIX.toString(),
        "<REVERSE_PROXY_SUFFIX>");
        logonUIFacade.setDefaultValue(
SharedPreferenceKeys.PREFERENCE_ID_SECCONFIG.toString(),
"<SECURITY_CONFIGURATION>");
}
```

### *MAF Onboarding Scenarios*

The MAF logon manager supports multiple onboarding scenarios, based on the most common infrastructure setups supported by enterprise mobile applications.

For example, an enterprise might have SAP Mobile Platform installed and use reverse proxy to route Internet requests to intranet-hosted Gateway systems. An alternate scenario also uses SAP Mobile Platform, but does not use reverse proxy, and only allows intranet access to the Gateway.



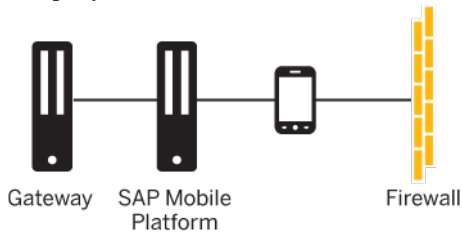
---

**Note:** You can test HTTPS connections only by using actual iOS devices. Additionally, the root CA certificate and all intermediate CA certificates that are used to sign the SAP Mobile Platform or reverse proxy certificates must be installed on the device. The iOS simulator does not contain the full implementation of the iOS Security Framework, and the server's SSL certificate cannot be validated by the iOS CFNetwork Framework.

---

### *Direct SAP Mobile Platform*

The direct SAP Mobile Platform landscape contains an SAP NetWeaver Gateway (subsequently referred to as Gateway) server. SAP Mobile Platform server is installed and configured to connect to the Gateway server. Connections are accepted only from the company intranet.



This table shows the information that users must provide, in the MAF logon UI, to use this type of connection. The parameter values depend on the configuration the administrators set.

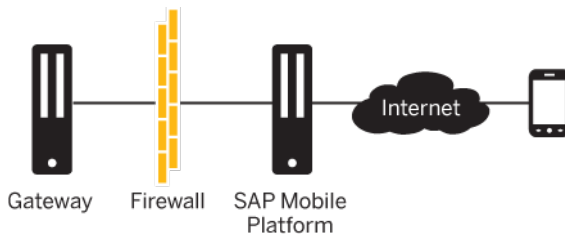
Parameter Name	Example Value
Server Host	<SMP_HOST_NAME>
User Name	<USERNAME>
Password	<PASSWORD>
Server Port	<SMP_SERVER_HTTP(S)_PORT>
Secured Connection	ON - DEFAULT
Security Configuration	EMPTY - DEFAULT <SMP_SECURITY_CONFIG_NAME>

By default, the secured connection (HTTPS) is ON, so also by default, the connection type is HTTPS.

### *Cloud-Based SAP Mobile Platform*

The cloud-based SAP Mobile Platform landscape is similar to the direct SAP Mobile Platform scenario; however, the SAP Mobile Platform server is installed in the cloud.

## Native OData App Development



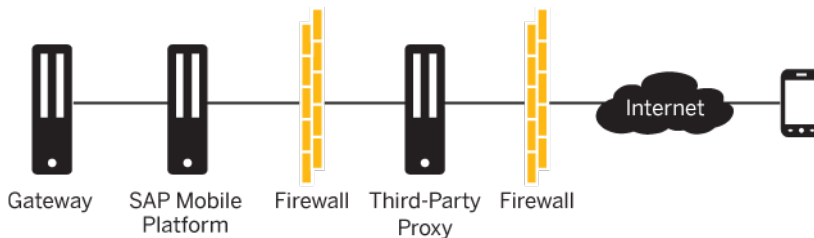
This table shows the information that users must provide, in the MAF logon UI, to use this type of connection. The parameter values depend on the configuration the administrators set.

Parameter Name	Example Value
Server Host	< SMP_SERVER_HOST_NAME>
User Name	<USERNAME>
Password	<PASSWORD>
Server Port	< SMP_SERVER_HTTPS_PORT>
Secured Connection	ON - DEFAULT
Security Configuration	EMPTY - DEFAULT <SMP_SERVER_SECURITY_CONFIG_NAME>

By default, the secured connection (HTTPS) is ON, so also by default, the connection type is HTTPS.

### *SAP Mobile Platform with Third-Party Proxy*

The SAP Mobile Platform with third party proxy landscape is similar to the direct SAP Mobile Platform scenario, but you can access the SAP Mobile Platform server from both the Internet and intranet. The reverse proxy enables the mobile device to access the landscape from the Internet.



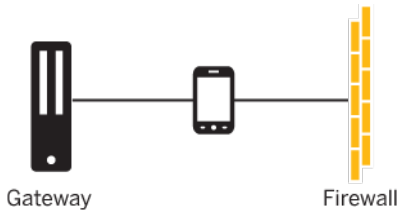
This table shows the information that users must provide, in the MAF logon UI, to use this type of connection. The parameter values depend on the configuration the administrators set.

Parameter Name	Example Value
Server Host	<PROXY_HOST_NAME>
User Name	<USERNAME>
Password	<PASSWORD>
Server Port	<PROXY_HTTP(S)_PORT>
Secured Connection	ON
Security Configuration	EMPTY - DEFAULT <SMP_SERVER_SECURITY_CONFIG_NAME>

By default, the secured connection (HTTPS) is ON, and is set to port 443. When the secured connection is OFF, the default port used is 80.

### Direct Gateway

The direct Gateway landscape contains only the Gateway system, and restricts access to the intranet. The mobile device must connect to the intranet via internal Wi-Fi or through VPN.



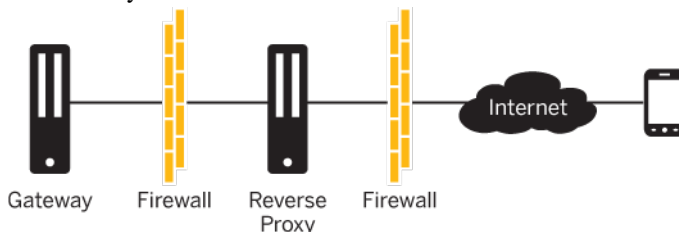
This table shows the information that users must provide, in the MAF logon UI, to use this type of connection. The parameter values depend on the configuration the administrators set.

Parameter Name	Example Value
Server Host	<GATEWAY_HOST_NAME>
User Name	<GATEWAY_USERNAME>
Password	<GATEWAY_PASSWORD>
Path	<PATH_TO_GATEWAY_CONTENT>
Server Port	<GATEWAY_HTTP(S)_PORT_NUMBER>
Secured Connection	ON - DEFAULT

The default value of the path is the ping URL of the Gateway server (*https://gwhost:gwport/sap/bc/ping*). You can customize the path by modifying the MAFLogonManagerNG.bundle/MAFLogonOperationsDefaultValues.plist default value of keyMAFLogonOperationContextResourcePath. If you modify this file in the application's IPA file, you must resign the file with a valid signing key before you can distribute it.

### Gateway with Third-Party Proxy

The Gateway with third-party proxy landscape contains a Gateway server that resides inside the company intranet, and a third-party reverse proxy that enables the mobile device to access the Gateway from the Internet.



This table shows the information that users must provide, in the MAF logon UI, to use this type of connection. The parameter values depend on the configuration the administrators set.

Parameter Name	Example Value
Server Host	<GATEWAY_HOST_NAME>
User Name	<GATEWAY_USERNAME>
Password	<GATEWAY_PASSWORD>
Server Port	<GATEWAY_HTTPS_PORT_NUMBER>
Secured Connection	ON - DEFAULT

The default value of the path is the ping URL of the Gateway server (*https://gwhost:gwport/sap/bc/ping*). You can customize the path by modifying the MAFLogonManagerNG.bundle/MAFLogonOperationsDefaultValues.plist default value of keyMAFLogonOperationContextResourcePath. If you modify this file in the application's IPA file, you must resign the file with a valid signing key before you can distribute it.

### Other Configuration Prerequisites for Onboarding Scenarios

You must properly configure the Gateway system so the MAF logon UI component can detect the direct Gateway setup.

- Back-end users must have authorization to access the Gateway systems ping URL.
- The `is/HTTP/show_server_header` property must be enabled in SMICM transaction (ICM@SAPNetweaver). See [http://help.sap.com/saphelp\\_nw73ehp1/helpdata/en/48/49e4dd2e3131c3e10000000a42189d/frameset.htm](http://help.sap.com/saphelp_nw73ehp1/helpdata/en/48/49e4dd2e3131c3e10000000a42189d/frameset.htm).

All requests in all onboarding scenarios go through the default sap-client (client 100). To change that, adjust your ICF configuration for the server (SICF transaction in Gateway System). See [http://help.sap.com/saphelp\\_nw73ehp1/helpdata/en/48/cae5cc356c3254e10000000a42189b/frameset.htm](http://help.sap.com/saphelp_nw73ehp1/helpdata/en/48/cae5cc356c3254e10000000a42189b/frameset.htm).

### *Afaria Configuration*

MAF Logon fully supports Afaria-based configuration management, which is built into the library.

By default, Afaria support is enabled. The MAF Logon library checks whether there is an Afaria client application installed on the device. If there is, MAF Logon attempts to get the provisioned content for the application.

### **Developing with Android Reusable UI Components**

MAF reusable controls allow you to use native Android UI controls (such as buttons and labels) that display a default SAP style, from a prebuilt library. You can skin these components at runtime to match customer branding, without recompiling the source code. MAF also contains a set of complex controls, such as the calendar, the tree view, and locale-aware controls. These complex controls, which provide additional runtime skinning capabilities, are built from the simple MAF controls.

### **MAF Skinning**

The Mobile Application Framework delivers native UI controls. These controls can apply metadata-driven styles, or skins. Component skinning occurs at runtime, without requiring you to recompile or re-sign the application. The end result is company-branded mobile UIs for MAF-enabled enterprise application users.

### *Dependencies and Project Setup*

To use MAF skinning feature in your applications, add the `com/sap/mobile/maf/ui/android/MAFUIComponents` (`maf uicomponents .jar`) library, and the `mafuicomponents -res android` library project file, to your project.

The android library project includes the default SAP style XML, which holds SAP style information for all the basic controls. Also add `sap/mobile/maf/tools/android/MAFLogger` (`maflogger.jar`) to your Android project, as MAFUIComponents rely on this logging facility.

### *The MAF Skinning Mechanism*

MAF controls inherit the standard behavior from the native controls. MAF modifies only the appearance of the controls. The MAF skinning mechanism uses a simple text-based configuration that lets you rebrand or reskin applications without requiring source code modifications.

You can easily define the configuration without extensive technical knowledge. Style configurations are simple XML files where you can specify properties for the MAF UI controls. The styling XML also includes inheritance logic which lets you reuse and extend existing components.

All MAF controls come with a default SAP style that is defined in a styling XML file, which you can find in the MAFUIComponents-Res Android library. The default SAP style satisfies

the SAP product standards for the look of the UI elements. There is also a hard-coded default skin for all the controls.

To use the MAF skinning feature, configure the appearance of the UI elements in the styling XML and load the file when you launch the application. To use the runtime skinnability capabilities of MAF, you must publish the styling XML file on a remote server. The mobile application must implement logic that calls style-loading code each time it downloads a new version of the configuration bundle.

### *Creating and Defining a Configuration*

The style configuration defines the look of simple MAF controls. Each simple MAF UI control has a matching `TargetType` in the configuration file. Any properties you set for a `TargetType` are valid for all the UI elements of that type.

For example, the `Button` `TargetType` represents the `android.widget.Button` UI control.

Skinning based on control type is often too generic, so the style configuration also uses keys to define unique skins for each instance of a `TargetType`.

### *Loading the Configuration in Code and Applying the Style*

To load XML-based style definitions from the configuration files, copy this code to the application source:

```
import com.sap.maf.uicontrols.MAFSkinManager;
...
MAFSkinManager.getInstance(this).loadStyle("customSkin",
getResources().openRawResource(R.raw.styles_green));
try {
    MAFSkinManager.getInstance(this).setActiveStyle("customSkin");
} catch (IllegalArgumentException e) {}
```

To load the default SAP style, use:

```
MAFSkinManager sMan = MAFSkinManager.getInstance(activity);
sMan.setDefaultStyle();
```

Configuration files are loaded incrementally. This means that if you load a new configuration file, it changes the appearance of only the controls that are redefined in the file, and updates only the properties that are explicitly described in the file. This way, you need not copy the entire `SAPDefaultStyle.xml` to change the appearance of a few controls. Create a new XML file and include only the styles you want to override.

### *Style Inheritance*

Style inheritance lets you reuse existing components while extending them with additional capabilities. The `TargetType`'s `key` attribute is used in the inheritance. The inherited style uses the `BasedOn` attribute to define its root-style by specifying the same value as that of the `Key` attribute of the rootstyle. The substyle inherits all attributes of the rootstyle, but you can overwrite any of these attributes. This is an example of style inheritance:

```
<Style TargetType="Label" Key="DefLabel" platform="android">
    <Setter Property="Foreground" Value="#ff333333" />
```

```

        <!-- text color -->
        <Setter Property="FontFamily" Value="sans_serif" />
        <!-- font size -->
        <Setter Property="FontSize" Value="18" />
        <!-- font style -->
    </Style>

<Style TargetType="Label" Key="LargeLabel" BasedOn="DefLabel"
platform="android">
    <Setter Property="FontSize" Value="22" />
    <Setter Property="Foreground" Value="#ff003333" />
</Style>

```

The first `<Style>` element defines the skinning properties for the Label target type, using the Key attribute so the substyle can refer to it. The second `<Style>` element is also defined for the Label target type, but inherits its values from the root style—defined in the BasedOn attribute, where the first style Key attribute value is used. The second `<Style>` element overwrites the FontSize and the ForeGround properties. Thus it becomes a large label flavor.

### Using Flavors

The Key attribute of the sub-style is called a flavor. Every UI component has a constructor in which you can define a flavor. Alternatively, you can define the flavor attribute in the layout XML, and when that component is inflated, the MAF skinning engine applies the skinning properties according to the flavor definition.

To create UI components at runtime, pass a flavor parameter at the constructor. This creates a custom component that uses the specified flavor in the substyle, instead of the default skinning based on the target type. To create a TextView using the LargeLabel flavor from code:

```

...
MAFTextView lLabel = new MAFTextView(this, "LargeLabel");
...

```

If the screen is defined at the XML level, you can also use the MAF UI component from the layout XML. Use the attribute flavor from the SAP namespace to define the flavor for that component. This is an example of using flavor from the layout XML:

```

<LinearLayout xmlns:android="http://schemas.android.com/apk/res/
android"
    xmlns:x="http://schemas.sap.com/maf/2011/ux"
    android:layout_width="fill_parent"
    android:layout_height="fill_parent"
    android:background="#ffffffff"
    android:orientation="vertical" >

<com.sap.maf.uicontrols.view.MAFTextView
android:id="@+id/phone_numbers_text"
android:layout_width="fill_parent"
android:layout_height="wrap_content"
android:layout_height="wrap_content"
x:flavor= "LargeLabel"
/>
</LinearLayout

```

### *Styling Different Visual States*

Visual states are implemented by native controls. MAF cannot add new visual states; it can style only those states that are already supported. Visual states are declared in the styling XML file:

```
<Style TargetType="Button" Key="DefButton" platform="android">
  <VisualStates>
    <VisualState Name="Unfocused_Enabled">
      <Setter Property="Background" Value="#FFDDDDDD" />
      <!-- background color -->
      <Setter Property="Foreground" Value="#FF333333" />
      <!-- text color -->
      <Setter Property="Bg_Bottom_Shadow"
Value="#80DDDDDD" />
      <!-- background bottom shadow color -->
      <Setter Property="Bg_Dark_Bottom_Shadow"
Value="#FF999999" />
      <!-- background bottom dark shadow color -->
      <Setter Property="Bg_Top_Shadow" Value="#FFEBEBEB" />
      <!-- background top shadow color -->
    </VisualState>
    <VisualState Name="Unfocused_Disabled">
      <Setter Property="Background" Value="#80DDDDDD" />
      <!-- background color -->
      <Setter Property="Foreground" Value="#33333333" />
      <!-- text color -->
      <Setter Property="Bg_Bottom_Shadow"
Value="#25DDDDDD" />
      <!-- background bottom shadow color -->
      <Setter Property="Bg_Dark_Bottom_Shadow"
Value="#80999999" />
      <!-- background bottom dark shadow color -->
      <Setter Property="Bg_Top_Shadow" Value="#80EBEBEB" />
      <!-- background top shadow color -->
    </VisualState>
    .....
  </VisualStates>
</Style>
```

The styling XML file uses the VisualState XML tag to declare a group of properties that belong to a specific visual state. The states are identified by the Name property of the VisualState XML tag. A style XML entry can have many VisualState tags, but they must all be declared inside the VisualStates XML tag. When you provide visual states, the MAF skinning engine checks the state of the control and selects the matching visual state style from the style of the control.

### MAF Simple Controls

The Android SDK provides many simple controls, which you can skin at runtime via the Mobile Application Framework. MAF ships a wrapper class for most native UI controls, which you can use to create easily adaptable UI controls. MAF controls support automatic styling at initialization.



### *MAFLogViewer*

The MAFLogViewer component provides a standard UI to show log entries in an application. MAFLogViewer uses SDMLogger or MAFLogger as a source, and shows the entries from these loggers. It can also send the log entries to a predefined recipient. MAFLogViewer is built from skinnable components.

### *Dependencies and Project Setup*

MAFLogViewer is a complex reusable control, which means that it is built on top of simple controls, such as MAFActionBar and MAFListView. MAFLogViewer depends on the MAFUIControls library and the MAFLogger.

These MAF libraries are required:

- com.sap.mobile.maf.ui.android/MAFUIComponents
- com.sap.mobile.maf.tools.android/MAFLogger

Required android libraries containing the resources for MAFUIcomponents:  
mafuicomponents-res.

### *Presenting a View*

MAFLogViewer is an extension of a simple LinearLayout. This layout contains MAFActionBar and a ListView that shows the log entries. To show this layout in an activity, use:

```
MAFLogViewer logViewer = new MAFLogViewer( this, logger );
    setContentView(logViewer);
```

To initialize the MAFLogViewer from a layout XML, use:

```
<com.sap.maf.uicontrols.logviewer.MAFLogViewer
xmlns:x="http://schemas.sap.com/maf/2011/ux"
    android:id="@+id/logviewer"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    x:email = "sap@sap.com"
    x:subject = "Test LogViewer"
    x:title = "Log Test title">
```

### *Setting the Source for MAFLogViewer*

MAFLogViewer can show log entries from SDMLogger, which is the standard SAP Mobile Platform logger. To set the source for MAFLogViewer, use:

- The constructor where you can set an SDMLogger instance – public MAFLogViewer(Context context, SDMLogger logger)
- The setter API – public void setLogger(SDMLogger logger)
- SDMLogger – to show (??) log entries from MAFLogger:

If you initialize the logger from a layout XML, set SDMLogger as a source logger explicitly in code after the inflation:

```
setContentView(R.layout.logviewer); MAFLogViewer logViewer =  
(MAFLogViewer)  
    findViewById(R.id.logviewer); logViewer.setLogger(logger)
```

If there is a source set, but you call the `setLogger()` API with a new `SDMLogger` instance, the new instance is used, and the old entries are dropped.

If you present the `MAFLogViewer` without an `SDMLogger` instance, it creates an instance and enters one log entry with error severity: No logger was set.

### Customization of the MAFLogViewer

Customization options for `MAFLogViewer` include skinning, setting the title and the navigation icon, and defining the email recipient and subject for sending log entries.

- `MAFLogViewer` uses skinning from the `ActionBar` and `ListView TargetTypes`, which you can use to create new flavors with.
- You can set a predefined e-mail recipient for log entries in two ways:
  - Programmatically, using the *public void setEmail(String email)* API.
  - If `MAFLogViewer` is inflated from a layout XML, set the e-mail recipient with the `x:email = sap@sap.com` attribute, where `x` is the following SAP namespace:  
`xmlns:x=http://schemas.sap.com/maf/2011/ux`
- You can set a predefined e-mail subject for log entries in two ways:
  - Programmatically, using the *public void setSubject(String subject)* API.
  - If `MAFLogViewer` is inflated from a layout XML, set the e-mail subject with the `x:subject = "Test Log Viewer"` attribute, where `x` is the following SAP namespace:  
`xmlns:x=http://schemas.sap.com/maf/2011/ux`  
The default subject is Log Entries, which is localized for supported languages.
- You can set a title for `MAFLogViewer` that appears on the `ActionBar` in two ways:
  - Programmatically, using the *public void setTitle(String title)* API
  - If `MAFLogViewer` is inflated from a layout XML, set the title with the `x:title = "Log Test title"` attribute, where `x` is the following SAP namespace: `xmlns:x=http://schemas.sap.com/maf/2011/ux`  
The default title for the log viewer is Log Viewer, which is localized for supported languages.
- The default navigation icon on `MAFLogViewer` is the application icon. To change the icon, use the *public MAFLogViewer(Context context, SDMLogger logger, String flavor, Bitmap bitmap)* constructor.

### Sending Logs

`MAFLogViewer` supports sending log entries to a predefined e-mail address. If there is no e-mail set, the user must use an e-mail application.

To send the logs, tap the action button on the right side of the action bar. This triggers a sending intent, where the content's MIME type is `message/rfc822`. A list of apps that can handle these messages, such as Gmail or Exchange, is presented.

After an app is selected, MAFLogViewer passes the predefined e-mail address, subject, and content to the application, which, if configured properly, opens a new e-mail message that contains the sent content.

### *MAFActionBar*

The MAFActionBar control, which is compatible with Android 2.2 and later, provides the same functionalities as the native `android.app.ActionBar`, which is available only in Android 4.0 and later. This class implements the main action bar, which has two child action bars, a default and a contextual one. Only one action bar can be visible at any given time, and the one that appears depends on the focused view, however, only one can be visible at one time.

To create and present a default SAP style instance of MAFActionBar, use the following code. If you provide a valid menu XML resource ID, the action bar can show the overflow menu for devices without a hardware menu button.

```
MAFActionBar aBar = new MAFActionBar(this, R.menu.default_menu);
root_layout.addView(aBar, 0);
```

To create MAFActionBar in the Android layout XML, use:

```
<com.sap.maf.uicontrols.view.MAFActionBar
    android:id="@+id/dateTimeActionBar"
    android:layout_width="fill_parent"
    android:layout_height="wrap_content" />
```

MAFActionBarItem is an add-on component that represents action buttons on the right side of MAFActionBar. ActionBarItem shows a text and an icon, or only the icon, depending on the available space on the action bar.

This ActionBarItem opens another activity:

```
class SettingsActionBarItem extends MAFActionBarItem {
    public SettingsActionBarItem(int id, int iconId, int
textId) {
        super(id, iconId, textId);
    }
    @Override
    public void performAction() {
        Intent prefs = new Intent(ColorApp.this,
Preferences.class);
        startActivityForResult(prefs, 100);
    }
}
```

To add the ActionBarItem to the ActionBar, use:

```
SettingsActionBarItem setABI = new SettingsActionBarItem(1001,
R.drawable.settings, R.string.action_settings);
aBar.addAction(setABI);
```

Use the contextual action bar to register to an editable component, such as editable text. The contextual action bar appears when the edit operation starts, for example, when the user taps into (??) editable text.

To register a contextual action bar, use:

```
private MAFActionBar aBar;
aBar = new MAFActionBar(this, R.menu.default_menu);
MAFEditText customText =
MAFUIFactory.getInstance().getMandatoryEditText(this);
aBar.registerForCAB(customText);
aBar.addAction(customText, new DoneContextBarItem(1,
R.drawable.done,
R.string.done_action));
```

The MAF skinning engine customizes the action bar. To apply SAP style, set the custom style in the XML file for background, foreground, shadow, font family, and font size.

This is the XAML content for the default style of ActionBar TargetType:

```
<Style TargetType="ActionBar" Key="DefActionBar" platform="android">
    <VisualStates>
        <VisualState Name="Pressed">
            <Setter Property="Background"
Value="#fffdb919" />
            <!-- background color -->
        </VisualState>
    </VisualStates>
    <Setter Property="Background" Value="#ff000000" />
    <!-- background color -->
    <Setter Property="Bg_Bottom_Shadow"
Value="#ff999999" />
    <!-- background shadow color -->
    <Setter Property="Separator" Value="#44ffffff" />
    <!-- background separator color -->
    <Setter Property="Foreground" Value="#88ffffff" />
    <!-- text color -->
    <Setter Property="FontFamily" Value="sans_serif" />
    <!-- font type -->
    <Setter Property="FontSize" Value="22" />
    <!-- font size -->
</ Style >
```

This example shows how to inherit the style definition from the standard action bar and create a flavored one:

```
<Style TargetType="ActionBar" Key="CalendarDayView"
BasedOn="DefActionBar"
platform="android">
    <VisualStates>
        <VisualState Name="Pressed">
            <Setter Property="Background"
Value="#ff0075aa" />
            <!-- background color -->
        </VisualState>
```

```
</VisualStates>
</ Style >
```

You can change these properties in the skinning XML:

Background	Color of the MAFActionBar's background; can also be a freestyle gradient. Colors are defined as RGBA (red, green, blue, alpha).
Bg_Bottom_Shadow	Background shadow color
Separator	Background separator color
Foreground	Text color
FontFamily	Font type
FontSize	Font size

### *MAFButton*

The *MAFButton* control extends the capabilities of the `android.widget.Button` native button. MAF adds styling capabilities to the Button UI component, and provides predefined variations, such as small and normal buttons.

To create and present a default SAP style instance of *MAFButton*, use this code:

```
LinearLayout row1 = new LinearLayout(this);
MAFButton btn = MAFUIFactory.getInstance().getButton(this,
MAFButton.NORMAL_BUTTON);
    btn.setText("Button");
    btn.setOnClickListener(new OnClickListener() {

        @Override
        public void onClick(View v) {
            // progress dialog is shown

            MAFDialogWithProgressBar dialog = new
MAFDialogWithProgressBar(ColorApp.this);
            dialog.setMessage("Message");

            dialog.show();
        }
    }); row1.addView(btn);
```

To create an *MAFButton* in the Android layout XML, use:

```
<com.sap.maf.uicontrols.view.MAFButton
    android:id="@+id/mafbutton"
    android:layout_width="wrap_content"
    android:layout_height="50dip"
    android:text="skinned button" />
```

The MAF skinning engine customizes the buttons. To apply SAP style, set the custom style in the XML file for background, foreground, shadow, font family, and font size.

This is the XAML content for the default style of the Button TargetType:

```

<Style TargetType="Button" Key="DefButton" platform="android">
    <VisualStates>
        <VisualState Name="Unfocused_Enabled">
            <Setter Property="Background"
Value="#FFDDDDDD" />
            <!-- background color -->
            <Setter Property="Foreground"
Value="#FF333333" />
            <!-- text color -->
            <Setter Property="Bg_Bottom_Shadow"
Value="#80DDDDDD" />
            <!-- background bottom shadow color -->
            <Setter Property="Bg_Dark_Bottom_Shadow"
Value="#FF999999" />
            <!-- background bottom dark shadow color -->
            <Setter Property="Bg_Top_Shadow"
Value="#FFEBEBEB" />
            <!-- background top shadow color -->
        </VisualState >

```

MAF supports skinning of tapped/untapped, and enabled/disabled visual states:

To set visual states, use the `<VisualStates></VisualStates>` tag:

```

<VisualState Name="Unfocused_Enabled">
    <Setter Property="Background" Value="#FFDDDDDD" />
    <!-- background color -->
    <Setter Property="Foreground" Value="#FF333333" />
    <!-- text color -->
    <Setter Property="Bg_Bottom_Shadow"
Value="#80DDDDDD" />
    <!-- background bottom shadow color -->
    <Setter Property="Bg_Dark_Bottom_Shadow"
Value="#FF999999" />
    <!-- background bottom dark shadow color -->
    <Setter Property="Bg_Top_Shadow" Value="#FFEBEBEB" />
    <!-- background top shadow color -->
</VisualState>
<VisualState Name="Unfocused_Disabled">
...
</VisualState>
<VisualState Name="Focused_Disabled">
...
</VisualState>
<VisualState Name="Focused_Enabled">
...
</VisualState>

```

```
<VisualState Name="Pressed">
...
</ VisualState >
```

You can set different sizes for the MAFButton programmatically. To create a normal-sized standard button, use:

```
MAFButton btn = MAFUIFactory.getInstance().getButton(this,
MAFButton.NORMAL_BUTTON);
```

To create a small standard button, use:

```
MAFButton smallBtn = MAFUIFactory.getInstance().getButton(this,
MAFButton.SMALL_BUTTON);
```

You can also inherit the style definition from the standard button and create a flavored button. Here is an example for a red styled button flavor:

```
<Style TargetType="Button" Key="RedButton" BasedOn="DefButton"
platform="android">
    <VisualStates>
        <VisualState Name="Unfocused_Enabled">
            <Setter Property="Background"
Value="#FFFAEB9" />
            <Setter Property="Foreground"
Value="#B0171F" />
            <Setter Property="Bg_Bottom_Shadow"
Value="#ffe466B9" />
        </VisualState>
    </VisualStates>
    <Setter Property="SolidColorBrush"
Value="#ff999999" />
    <!-- group button separator line color -->
</ Style >
```

To create an MAFButton from code, use:

```
MAFButton btn11 = MAFUIFactory.getInstance().getButton(this,
MAFButton.NORMAL_BUTTON, "RedButton");
```

You can change the following properties in the skinning XML:

Background	Color of the MAFButton's background; can also be a freestyle gradient. Colors are defined as RGBA (red, green, blue, alpha).
Foreground	The control's text color.
FontFamily	The control's font family.
BorderBrush	The border attribute of the MAFButton.

Shadow	<p>The shadow attributes of the MAFButton:</p> <ul style="list-style-type: none"> <li>• Bg_Bottom_Shadow – background bottom shadow color.</li> <li>• Bg_Dark_Bottom_Shadow – background bottom dark shadow color.</li> <li>• Bg_Top_Shadow – background top shadow color.</li> </ul>
--------	---

### *MAFCheckBox*

The MAFCheckBox control extends the capabilities of the android.widget.CheckBox native button. MAF adds styling capabilities to the CheckBox UI component.

To create and present a default SAP style instance of the MAFCheckBox, use:

```
// Create a new native CheckBox instance
CheckBox cb0 = new CheckBox(this);
cb0.setChecked(true);
cb0.setText("Enable it.");
// Customize the native CheckBox with the actual skin setting
cb0 = MAFUIFactory.getInstance().customizeCheckBox(cb0);
cb0.setContentDescription("Enable it checkbox");
// Create a new MAF skinnable CheckBox instance using style
// informations
MAFCheckBox cb3 = MAFUIFactory.getInstance().getCheckBox(this);
cb3.setChecked(true);
cb3.setEnabled(false);
cb3.setText("On");
```

To create an MAFCheckBox in the Android layout XML, use:

```
<com.sap.maf.uicontrols.view.MAFCheckBox
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:checked="true"
    android:text="CheckBox" />
```

The MAF skinning engine customizes the buttons. To apply SAP style, set the custom style in the XML file for background, foreground, shadow, font family, and font size.

This is the XAML content for the default style of the CheckBox TargetType:

```
<Style TargetType="CheckBox" Key="DefCheckBox" platform="android">
    <VisualStates>
        <VisualState Name="Checked_Unfocused_Enabled">
            <Setter Property="DetailsForeground"
                Value="#FF0090D5" />
            <!-- checked state center color -->
            <Setter Property="SolidColorBrush"
                Value="#FF999999" />
            <!-- checked state center border color -->
            <Setter Property="Bg_Top_Shadow"
                Value="#FF0062A9" />
        </VisualState>
    </VisualStates>
</Style>
```



```

        <!-- checkmark lo color -->
    </VisualStyle>
        <Setter Property="Foreground"
Value="#FF333333" />
        <Setter Property="FontFamily"
Value="sans_serif" />
        < Setter Property="FontSize"
Value="14" />

```

MAFCheckBox supports different skins for different visual states of the CheckBox. To set visual states, use the `<VisualStates></VisualStates>` tag.

```

<Style TargetType="CheckBox" Key="DefCheckBox" platform="android">
    <VisualStates>
        <VisualStyle Name="Checked_Unfocused_Enabled">
            <Setter Property="DetailsForeground"
Value="#FF0090D5" />
            <!-- checked state center color -->
            <Setter Property="SolidColorBrush"
Value="#FF999999" />
            <!-- checked state center border color -->
            <Setter Property="Bg_Top_Shadow"
Value="#FF0062A9" />
            <!-- checkmark lo color -->
        </VisualStyle>
        <VisualStyle Name="Checked_Unfocused_Disabled">
            ...
        </VisualStyle>
        <VisualStyle Name="Checked_Focused_Disabled">
            ...
        </VisualStyle>
        <VisualStyle Name="Unchecked_Focused_Disabled">
            ...
        </VisualStyle>
        <VisualStyle Name="Checked_Focused_Enabled">
            ...
        </VisualStyle>
        <VisualStyle Name="Unchecked_Focused_Enabled">
            ...
        </VisualStyle>
        <VisualStyle Name="Checked_Pressed">
            ...
        </VisualStyle>
        <VisualStyle Name="Unchecked_Pressed">
            ...
        </VisualStyle>
    </VisualStates>
</Style>

```

```

        ...
    </VisualStyle>
    <VisualStyle Name="Disabled">
        ...
    </ VisualState >

```

You can also inherit the style definition from the standard `CheckBox` and create a flavored one. This is the style definition of a red styled `CheckBox` flavor:

```

<Style TargetType="CheckBox" Key="BlueCheckBox"
BasedOn="DefCheckBox"
platform="android">
    <Setter Property="Foreground" Value="#0000ff" />
    <Setter Property="Background" Value="#000099" />
    <Setter Property="BorderBrush" Value="#0000ff" />
    <Setter Property="FontSize" Value="18" />
</ Style >

```

To create a `CheckBox` from code, use:

```

MAFCheckBox cb3 = MAFUIFactory.getInstance().getCheckBox( this,
"BlueCheckBox" );

```

You can change the following properties in the skinning XML:

Background	Base line color
DetailsForeground	Checked state center color
SolidColorBrush	Checked state center border color
Bg_Top_Shadow	Checkmark low color
BorderBrush	Selection border color
Foreground	Font color of the check box's label
FontFamily	Font family of the check box's label
FontSize	Font size for the text of the check box's label

### *MAFDialog and MAFDialogWithProgressBar*

The `MAFDialog` control extends the capabilities of the `android.app.Dialog` native control. MAF adds styling capabilities to the `Dialog` UI component.

To create and present a default SAP style instance of `MAFDialog`, use:

```

OnClickListener listener = new OnClickListener() {
    @Override
    public void onClick(View v)
    {
        ...
    }
};

```

```
MAFDialog d = new MAFDialog(this);
    d.setPositiveButton("Yes", listener);
    d.setTitle("A very long dialog");
    d.show();
```

The MAF skinning engine customizes the dialog.

This is the XAML content for the default style of the Dialog TargetType:

```
Style TargetType="Dialog" Key="DefDialog" platform="android">
    <Setter Property="Background" Value="#ffffff" />
    <!-- dialog background color -->
    <Setter Property="Foreground" Value="#ff00000" />
    <!-- dialog text color -->
    <Setter Property="Separator" Value="#ff00a3d7" />
    <!-- dialog separator line color -->
</ Style >
```

You can define three buttons on the MAFDialog: a positive button (Save, OK, Yes), a neutral button (Cancel, Ignore), and a negative button (Do not save, No). Use the setter methods to set the display text and a callback listener for the onclick event for each button. The listener is a standard android.view.View.OnClickListener. This example sets all three buttons:

```
d.setPositiveButton("Yes", positiveListener);
d.setNegativeButton("No", negativeListener);
d.setNeutralButton("Cancel", neutralListener);
```

MAFDialogWithProgressBar is an extension to MAFDialog that shows a progress dialog with an optional text. It does not extend the standard progress dialog class, but provides an analogous API. To create MAFDialogWithProgressBar, use:

```
MAFDialogWithProgressBar dialog = new
MAFDialogWithProgressBar (ColorApp.this);
    dialog.setMessage ("Dialog Text");
    dialog.show();
```

You can inherit the style definition from the standard dialog and create a flavored one:

```
<Style TargetType="Dialog" Key="FilterDialog" BasedOn="DefDialog"
platform="android">
    <Setter Property="Separator" Value="0" />
    <!-- dialog separator line color -->
</Style>
```

Create button from code:

```
MAFDialog d = new MAFDialog(this, "flavorName");
MAFDialogWithProgressBar dialog = new
MAFDialogWithProgressBar (ColorApp. this, "flavorName" );
```

You can change these properties in the skinning XML:

Background	Dialog background color. Colors are defined as RGBA (red, green, blue, alpha).
Foreground	Dialog text color.

Separator	Dialog separator line color.
-----------	------------------------------

### *MAFEditText*

The MAFEditText control extends the capabilities of the android.widget.EditText native button. MAF adds styling capabilities to the EditText UI component. Use MAFEditText for password input fields or mandatory input fields.

To create and present a default SAP style instance of MAFEditText, use:

```
MAFEditText customText = new MAFEditText(this);
```

To create MAFEditText through the Android layout XML:

```
<com.sap.maf.uicontrols.view.MAFEditText
    android:layout_width="wrap_content"
    android:layout_height="40dp"
    android:hint="@string/hint_edit_text" />
```

To create MAFEditText for a password field, use:

```
MAFEditText passwordText =
MAFUIFactory.getInstance().getPasswordEditText(this, false, true);
```

To create MAFEditText for a mandatory field, use:

```
MAFEditText customText =
MAFUIFactory.getInstance().getMandatoryEditText(this);
```

MAFMandatoryEditText is an extension of MAFEditText: it adds an indicator that shows that the field requires an entry from the user. Use its API to set an error message that you can present on the screen. The component does not perform any validation; however, it shows an error if the setError API is called.

The MAF skinning engine customizes the MAFEditText. This is the XAML content for the default style of the TextBox TargetType:

```
<Style TargetType="TextBox" Key="DefTextBox" platform="android">
    <VisualStates>
        <VisualState Name="Unfocused_Enabled">
            <Setter Property="Background"
Value="#ff999999" />
            <!-- base line color -->
            <Setter Property="Foreground"
Value="#ff333333" />
            <!-- text color -->
            <Setter Property="DetailsForeground"
Value="#ff333333" />
            <!-- hint color -->
            <Setter Property="FontFamily"
Value="sans_serif" />
            <!-- font type -->
            <Setter Property="FontSize" Value="14" />
        </VisualState>
    </VisualStates>
</Style>
```

```

        <!-- font size -->
    </ VisualState >

```

MAFEditText supports skinning of different visual states. To set visual states, use the <VisualStates></VisualStates> tag:

```

<Style TargetType="TextBox" Key="DefTextBox" platform="android">
    <VisualStates>
        <VisualState Name="Unfocused_Enabled">
            <Setter Property="Background"
Value="#ff999999" />
            <!-- base line color -->
            <Setter Property="Foreground"
Value="#ff333333" />
            <!-- text color -->
            <Setter Property="DetailsForeground"
Value="#ff333333" />
            <!-- hint color -->
        </VisualState>
        <VisualState Name="Unfocused_Disabled">
            ...
        </VisualState>
        <VisualState Name="Focused_Disabled">
            ...
        </VisualState>
        <VisualState Name="Focused_Enabled">
            ...
        </VisualState>
        <VisualState Name="Pressed">
            ...
        </VisualState>
    </VisualStates>
</ Style >

```

You can also inherit the style definition from the standard MAFEditText and create a flavored button. Here is an example for a red styled MAFEditText flavor:

```

<Style TargetType="TextBox" Key="RedTextBox" BasedOn="DefTextBox"
platform="android">
    <VisualStates>
        <VisualState Name="Unfocused_Enabled">
            <Setter Property="Background"
Value="#0091E0" />
            <!-- base line color -->
            <Setter Property="Foreground"
Value="#ff0000" />
            <!-- text color -->
            <Setter Property="DetailsForeground"

```

```

Value="#F50742" />
                <!-- hint color -->
            </VisualStyle>
        </VisualStates>

                <Setter Property="FontFamily"
Value="sans_serif" />
                <!-- font type -->
            <Setter Property="FontSize" Value="14" />
                <!-- font size -->
        </ Style >
    
```

To create flavored EditText from code, use:

```
MAFEditText customText = new MAFEditText(this, "RedTextBox");
```

You can change the following properties in the skinning XML:

Background	Base line color
Foreground	Text color
FontFamily	Font type
DetailsForeground	Hint color
FontSize	Font size

### *MAFFilterDialog*

MAFFilterDialog extends the MAFDialog control with filter functionalities, and extends the skinning attributes of MAFDialog with the FilterDialog flavor.

To create and present a default SAP style instance of MAFFilterDialog, use:

```

private static List<String> c_names_list;

MAFFilterDialog fDialog = new MAFFilterDialog(ctx, "Header");

fDialog.setList(c_names_list);
fDialog.setSelected(selected);
fDialog.setResultListener(new ResultListener() {

@Override
public void selectedResult(int position) {
    String name = c_names_list.get(position);
    selected = position;
}

});
    
```

The MAF skinning engine customizes the dialog.

This is the XAML content for the default style of the Dialog TargetType, using the FilterDialog flavor:

```

<Style TargetType="Dialog" Key="DefDialog" platform="android">
    <Setter Property="Background" Value="#ffffff" />
    
```

```

        <!-- dialog background color -->
        <Setter Property="Foreground" Value="#ff000000" />
        <!-- dialog text color -->
        <Setter Property="Separator" Value="#ff00a3d7" />
        <!-- dialog separator line color -->
    </Style>
    <Style TargetType="Dialog" Key="FilterDialog" BasedOn="DefDialog"
    platform="android">
        <Setter Property="Separator" Value="0" />
        <!-- dialog separator line color -->
    </ Style >

```

To set the list that appears, use `setList(List<String> strings)`, from which you must pass a list of strings to be shown on the dialog.

To check the result of the selection, register a `MAFFilterDialog.ResultListener`, which has a `selectedResult(int position)` method that is called after the dialog is dismissed, and returns the position of the selected item in the list.

To preselect items, use the `setSelected(int index)` API.

You can change these properties in the skinning XML:

Background	Dialog background color. Colors are defined as RGBA (red, green, blue, alpha).
Foreground	Dialog text color.
Separator	Dialog separator line color.

### *MAFImageView*

`MAFImageView` control extends the capabilities of the `android.widget.ImageView` native button.

To create and present a default SAP style instance of `MAFImageView`, use:

```

try {
    MAFImageView iv =
MAFUIFactory.getInstance().getImageView(this, "test",
dir);
    root_layout.addView(iv);
} catch (IllegalArgumentException iae) {
    MAFLogger.e(LOG_TAG, iae.getMessage());
}

```

The MAF skinning engine lets you define the source of an image view runtime. Define the URL from where the component downloads the image. This lets you change images at runtime, without editing the code. The component stores the image in the directory defined in the constructor call by the application developer.

This is the XAML content for the default style of the `Image TargetType`:

```

<Style TargetType="Image" id="test" width="200" height="200"
platform="android">
    <URL url="http://cdn.gottabemobile.com/wp-

```

```
content/uploads/android.jpg" proxyhost="10.55.188.10"
    proxyport="8080" />
</ Style >
```

In the image style definition, add a URL element that defines the source of the image. You can also add a proxy host and port that is used for proxy settings during download.

You can also initialize a `MAFImageView` using a bitmap with this constructor:

```
public MAFImageView(Context context, Bitmap bitmap)
```

You can change these properties in the skinning XML:

id	The ID that you refer to when you create the image view
width / height	Image size
<URL></URL>	URL element that defines the source of the image
proxyhost / proxyport	Proxy definition

### *MAFListActivity*

`MAFListActivity` extends the capabilities of the `android.app.ListActivity` native button. `MAF` adds styling capabilities to the `ListActivity` UI component.

To create and present a default SAP style instance of `MAFListActivity`, create an Android activity and inherit its style from `MAFListActivity`.

```
public class MyMAFListActivity extends MAFListActivity {
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);

        // sample data
        String[] values = new String[] { "Android", "iPhone",
            "WindowsMobile", "Blackberry", "WebOS", "Ubuntu", "Windows7", "Max OS
            X", "Linux", "OS/2", "Ubuntu", "Windows7", "Max OS X", "Linux",
            "OS/2", "Ubuntu", "Windows7", "Max OS X", "Linux", "OS/2",
            "Android", "iPhone", "WindowsMobile" };

        final ArrayList<String> list = new ArrayList<String>();
        for (int i = 0; i < values.length; ++i) {
            list.add(values[i]);
        }

        // set adapter
        final MAFArrayAdapter<String> adapter = new
MAFArrayAdapter<String>(this, android.R.layout.simple_list_item_1,
list);
        setListAdapter(adapter);

        // set a flavor
        setFlavor("RedListView");

        // add action handler
```



```

        listView.setOnItemClickListener(new
AdapterView.OnItemClickListener() {
            public void onItemClick(AdapterView<?> parent, final View
view, int position, long id) {
                String item = (String)
parent.getItemAtPosition(position);
                // alert do something with item
            }
        });

        // reskin UI
        MAFUIFactory.getInstance().reskinUI(this);
    }

    // ...
}

```

The MAF skinning engine customizes the list separator color and height of ListActivity. MAFListActivity uses the list view style definition from the default style XML.

This is the XAML content for the default style of the ListView TargetType:

```

<Style TargetType="ListView" platform="android">
    <Setter Property="Separator" Value="#ffff0000" />
    <!-- separator color -->
    <Setter Property="BorderBrush" Value="2" />
    <!-- separator height -->
</Style>

```

You can also inherit the style definition from the standard list view and create a flavored list definition. Here is an example for a red styled list view flavor:

```

<Style TargetType="ListView" platform="android"
BasedOn="DefListView" key="RedListView">
    <Setter Property="Separator" Value="#ffff0000" />
    <!-- separator color -->
    <Setter Property="BorderBrush" Value="3" />
    <!-- separator height -->
</Style>

```

While the activity is called by the Android system, set the flavor when overwriting the onCreate callback. To achieve this, explicitly call the public void setFlavor(final String flavor) API on the activity.

You can change these properties in the skinning XML:

Separator	Separator line color
BorderBrush	Separator height

### *MAFOptionMenu*

The MAFOptionMenu control extends the capabilities of the optionmenu native Android control. MAF adds styling capabilities to the Optionmenu UI component. MAF supports skinning of tapped/untapped, and enabled/disabled visual states.

To create and present a default SAP style instance of MAFOptionMenu, use:

```
@Override
public boolean onCreateOptionsMenu(Menu menu) {
    MenuInflater inflater = getMenuInflater();
    inflater.inflate(R.menu.default_menu, menu);
    // Customize existing option menu. Must be called in
    onCreateOptionsMenu
    // method.
    MAFUIFactory.getInstance().customizeOptionMenu(this,
getResources());
    return true;
}
```

The MAF skinning engine customizes the optionmenus. To apply SAP style, set the custom style for background and foreground in the XML file.

This is the XAML content for the default style of the Optionmenu TargetType:

```
<Style TargetType="OptionMenu" platform="android">
    <VisualStates>
        <VisualState Name="Unfocused_Enabled">
            <Setter Property="Background"
Value="#ff1b1b1b" />
            <!-- background color -->
        </VisualState>
        <Setter Property="Foreground" Value="#ffa5a5a5" />
        <!-- text color -->
    </Style >
```

MAFOptionMenu supports skinning of tapped/untapped, and enabled/disabled visual states. To set visual states, use the <VisualStates></VisualStates> tag:

```
<VisualState Name="Unfocused_Disabled">
    <Setter Property="Background" Value="fff0f0f0" />
    <!-- background color -->
</VisualState>
<VisualState Name="Focused_Disabled">
    <Setter Property="Background" Value="#fff0f0f0" />
    <!-- background color -->
</VisualState>
<VisualState Name="Focused_Enabled">
    <Setter Property="Background" Value="#ffb2e3f3" />
    <!-- background color -->
</VisualState>
<VisualState Name="Pressed">
```

```

    <Setter Property="Background" Value="#ff0062a9" />
    <!-- background color -->
</ VisualState >

```

You can change these properties in the skinning XML:

Background	Color of the MAFOptionMenu's background; can also be a freestyle gradient. Colors are defined as RGBA (red, green, blue, alpha).
Foreground	Control's text color.

### *MAFProgressBar*

The MAFProgressBar control extends the capabilities of the android.widget.ProgressBar native component. MAF adds styling capabilities to the ProgressBar UI component, and provides predefined size variations, such as small and normal.

To create and present a default SAP style instance of MAFProgressBar, use:

```

ProgressBar pb = MAFUIFactory.getInstance().getProgressBar(this,
    android.R.attr.progressBarStyleHorizontal);
    pb.setSecondaryProgress(40);
    pb.setProgress(10);

```

To create an MAFProgressBar in the Android layout XML, use:

```

<com.sap.maf.uicontrols.view.MAFProgressBar
    android:id="@+id/MAFProgressBar"
    android:layout_width="wrap_content"
    android:layout_height="50dip"/>

```

The MAF skinning engine customizes the ProgressBar. To apply SAP style, set the custom style for background, foreground, and solid color brush in the XML file.

This is the XAML content for the default style of the ProgressBar TargetType:

```

<Style TargetType="ProgressBar" Key="DefProgressBar"
platform="android">
    <Setter Property="Background" Value="#80DDDDDD" />
    <!-- background color -->
    <Setter Property="Foreground" Value="#ff0062a9" />
    <!-- progress color -->
    <Setter Property="SolidColorBrush"
Value="#8000a3d7" />
    <!-- secondary progress color -->
</ Style >

```

You can also inherit the style definition from the standard ProgressBar and create a flavored ProgressBar. Here is an example for a red styled ProgressBar flavor:

```

<Style TargetType="ProgressBar" Key="RedProgressBar"
BasedOn="DefProgressBar"
platform="android">
    <Setter Property="Background" Value="#000099" />
    <!-- background color -->
    <Setter Property="Foreground" Value="#ff0000" />

```

```

        <!-- progress color -->
        <Setter Property="SolidColorBrush" Value="#003333" />
        <!-- secondary progress color -->
    </ Style >

```

To create a `ProgressBar` from code, use:

```

MAFProgressBar pb = new MAFProgressBar(context,
    android.R.attr.progressBarStyle,
    "RedProgressBar");

```

You can change these properties in the skinning XML:

Background	Color of the <code>MAFProgressBar</code> 's background; Colors are defined as RGBA (red, green, blue, alpha).
Foreground	Control's progress color.
SolidColorBrush	Control's secondary progress color.

### *MAFProgressDialog*

The `MAFProgressDialog` control extends the capabilities of the `android.widget.Button` native control. MAF adds styling capabilities for the `Button` UI component, and provides predefined size variations, such as small and normal. MAF supports skinning of tapped/untapped, and enabled/disabled visual states.

To create and present a default SAP style instance of `MAFProgressDialog`, use:

```

LinearLayout row1 = new LinearLayout(this);

MAFProgressDialog btn = MAFUIFactory.getInstance().getButton(this,
    MAFProgressDialog.NORMAL_BUTTON);
    btn.setText("Button");
    btn.setOnClickListener(new OnClickListener() {

        @Override
        public void onClick(View v) {
            // progress dialog is shown

            MAFDialogWithProgressBar dialog = new
MAFDialogWithProgressBar(ColorApp.this);
            dialog.setMessage("Message");

            dialog.show();
        }
    });
row1.addView(btn);

```

To create an `MAFProgressDialog` in the Android layout XML, use:

```

<com.sap.maf.uicontrols.view.MAFProgressDialog
    android:id="@+id/MAFProgressDialog"
    android:layout_width="wrap_content"
    android:layout_height="50dip"
    android:text="skinned button" />

```

The MAF skinning engine customizes the buttons. To apply SAP style, set the custom style for background, foreground, shadow, font family, and font size in the XML file.

This is the XAML content for the default style of the Button TargetType:

```
<Style TargetType="Button" Key="DefButton" platform="android">
  <VisualStates>
    <VisualState Name="Unfocused_Enabled">
      <Setter Property="Background"
Value="#FFDDDDDD" />
      <!-- background color -->
      <Setter Property="Foreground"
Value="#FF333333" />
      <!-- text color -->
      <Setter Property="Bg_Bottom_Shadow"
Value="#80DDDDDD" />
      <!-- background bottom shadow color -->
      <Setter Property="Bg_Dark_Bottom_Shadow"
Value="#FF999999" />
      <!-- background bottom dark shadow color
-->
      <Setter Property="Bg_Top_Shadow"
Value="#FFEFEFEF" />
      <!-- background top shadow color -->
    </VisualState >
```

MAFProgressDialog supports skinning of tapped/untapped, and enabled/disabled visual states.

To set visual states, use the <VisualStates></VisualStates> tag:

```
<VisualState Name="Unfocused_Enabled">
  <Setter Property="Background" Value="#FFDDDDDD" />
  <!-- background color -->
  <Setter Property="Foreground" Value="#FF333333" />
  <!-- text color -->
  <Setter Property="Bg_Bottom_Shadow" Value="#80DDDDDD" />
  <!-- background bottom shadow color -->
  <Setter Property="Bg_Dark_Bottom_Shadow" Value="#FF999999" /
>
  <!-- background bottom dark shadow color -->
  <Setter Property="Bg_Top_Shadow" Value="#FFEFEFEF" />
  <!-- background top shadow color -->
</VisualState>
<VisualState Name="Unfocused_Disabled">
  ...
</VisualState>
```

```
<VisualState Name="Focused_Disabled">
    ...
</VisualState>
<VisualState Name="Focused_Enabled">
    ...
</VisualState>
<VisualState Name="Pressed">
    ...
</ VisualState >
```

You can set different sizes for the `MAFProgressDialog` programmatically. To create a normalized standard button, use:

```
MAFProgressDialog btn =
MAFUIFactory.getInstance().getButton(this,MAFProgressDialog.NORMAL_
BUTTON);
```

To create a small standard button, use:

```
MAFProgressDialog smallBtn =
MAFUIFactory.getInstance().getButton(this,
MAFProgressDialog.SMALL_BUTTON);
```

You can also inherit the style definition from the standard button and create a flavored button. This is an example for a red styled button flavor:

```
<Style TargetType="Button" Key="RedButton" BasedOn="DefButton"
platform="android">
    <VisualStates>
        <VisualState Name="Unfocused_Enabled">
            <Setter Property="Background"
Value="#FFAEB9" />
            <Setter Property="Foreground"
Value="#B0171F" />
            <Setter Property="Bg_Bottom_Shadow"
Value="#ffE466B9" />
        </VisualState>
    </VisualStates>
    <Setter Property="SolidColorBrush"
Value="#ff999999" />
    <!-- group button separator line color -->
</ Style >
```

To create an `MAFProgressDialog` from code, use:

```
MAFProgressDialog btn11 = MAFUIFactory.getInstance().getButton this,
MAFProgressDialog.NORMAL_BUTTON, "RedButton");
```

You can change these properties in the skinning XML:

Background	Color of the <code>MAFProgressDialog</code> 's background; can also be a free-style gradient. Colors are defined as RGBA (red, green, blue, alpha).
Foreground	The control's text color.
FontFamily	The control's font family.

BorderBrush	The border attribute of the MAFProgressDialog .
Shadow	The shadow attributes of the MAFProgressDialog : <ul style="list-style-type: none"> <li>• Bg_Bottom_Shadow – background bottom shadow color.</li> <li>• Bg_Dark_Bottom_Shadow – background bottom dark shadow color.</li> <li>• Bg_Top_Shadow – background top shadow color.</li> </ul>

### *MAFRadioButton*

MAFRadioButton extends the capabilities of the android.widget.RadioButton native button. MAF adds styling capabilities to the Button UI component, and provides predefined size variations, such as small and normal. MAF supports skinning of selected/unselected and enabled/disabled visual states.

To create and present a default SAP style instance of MAFRadioButton, use:

```

        LinearLayout rowRB = new LinearLayout(this);

        RadioButton customRB =
MAFUIFactory.getInstance().getRadioButton(this);
        customRB.setContentDescription("Hello choice radio
button");
        customRB.setText("Hello");
        customRB.setSingleLine();
        rowRB.addView(customRB);

```

To create MAFRadioButton in the Android layout XML, use:

```

<com.sap.maf.uicontrols.view.MAFRadioButton
    android:id="@+id/MAFRadioButton"
    android:layout_width="wrap_content"
    android:layout_height="50dip"
    android:text="skinned button" />

```

The MAF skinning engine customizes the buttons. To apply SAP style, set the custom style for background, foreground, shadow, font family, and font size in the XML file.

This is the XAML content for the default style of the Button TargetType:

```

<Style TargetType="RadioButton" Key="DefRadioButton"
platform="android">
    <VisualStates>
        <VisualState Name="Checked_Unfocused_Enabled">
            <Setter Property="Background"
Value="#ff999999" />
            <!-- base line color -->
            <Setter Property="BorderBrush"
Value="0" />
            <!-- selection border color -->

```

```

Value="#ff0062a9" />           <Setter Property="DetailsForeground"
                                <!-- checked state center color -->
                                <Setter Property="SolidColorBrush"
Value="#8000a3d7" />           <!-- checked state center border color -->
                                <Setter Property="Bg_Top_Shadow"
Value="#ff00a3d7" />           <!-- background top shadow color -->
                                </ VisualState >

```

MAF supports skinning of selected/unselected and enabled/disabled visual states. To set visual states, use the `<VisualStates></VisualStates>` tag:

```

<VisualState Name="Checked_Unfocused_Enabled">
    <Setter Property="Background" Value="#fff999999" />
    <!-- base line color -->
    <Setter Property="BorderBrush" Value="0" />
    <!-- selection border color -->
    <Setter Property="DetailsForeground" Value="#ff0062a9" />
    <!-- checked state center color -->
    <Setter Property="SolidColorBrush" Value="#8000a3d7" />
    <!-- checked state center border color -->
    <Setter Property="Bg_Top_Shadow" Value="#ff00a3d7" />
    <!-- background top shadow color -->
</VisualState>
<VisualState Name="Unchecked_Unfocused_Enabled">
    ...
</VisualState>
<VisualState Name="Checked_Unfocused_Disabled">
    ...
</VisualState>
<VisualState Name="Unchecked_Unfocused_Disabled">
    ...
</VisualState>
<VisualState Name="Checked_Focused_Disabled">
    ...
</VisualState>
<VisualState Name="Unchecked_Focused_Disabled">
    ...
</VisualState>
<VisualState Name="Checked_Focused_Enabled">
    ...
</VisualState>

```



```

...
</VisualState>
<VisualState Name="Unchecked_Focused_Enabled">
    ...
</VisualState>
<VisualState Name="Checked_Pressed">
    ...
</VisualState>
<VisualState Name="Unchecked_Pressed">
    ...
</ VisualState >

```

You can also inherit the style definition from the standard button and create a flavored button. This is an example for a red styled button flavor:

```

    <Style TargetType="RadioButton" Key="RedRadioButton"
BasedOn="DefRadioButton" platform="android">
        <VisualStates>
            <VisualState Name="Checked_Unfocused_Enabled">
                <Setter Property="Background"
Value="#00ff00" />
                <!-- base line color -->
                <Setter Property="DetailsForeground"
Value="#ff0000" />
                <!-- checked state center color -->
                <Setter Property="BorderBrush"
Value="#0000ff" />
                <!-- selection border color -->
                <Setter Property="SolidColorBrush"
Value="#00bbcc" />
                <!-- checked state center border color -->
            </VisualState>
        </VisualStates>
        <Setter Property="Foreground" Value="#ddff0000" />
        <Setter Property="FontFamily" Value="monospace" />
        <Setter Property="FontSize" Value="18" />
    </ Style >

```

To create MAFRadioButton from code, use:

```

RadioButton customRB =
MAFUIFactory.getInstance().getRadioButton(this, "RedRadioButton");

```

You can change these properties in the skinning XML:

Background	Color of the MAFRadioButton's background base line
Foreground	Control's text color
FontFamily	Control's font family

FontSize	Control's font size
BorderBrush	Border attribute of the MAFRadioButton
Shadow	The shadow attributes of the MAFRadioButton (Bg_Top_Shadow): background top shadow color.

### *MAFSearchBox*

The MAFSearchBox control extends the capabilities of the android.widget.EditText native control. MAF adds styling capabilities to the EditText UI component. You can also use MAFSearchBox as a password input field, or a mandatory input field.

To create and present a default SAP style instance of MAFSearchBox, use:

```
MAFSearchBox searchBox = new MAFSearchBox(this);
searchBox.setOnSearchListener(mafOnSearchListener)
```

Use mafOnSearchListener to obtain the entered search term.

To create an MAFSearchBox in the Android layout XML, use:

```
<com.sap.maf.uicontrols.view.MAFSearchBox
    android:layout_width="wrap_content"
    android:layout_height="40dp"
    android:hint="@string/hint_search_box" />
```

The MAF skinning engine customizes the edit text. This is the XAML content for the default style of the TextBox TargetType:

```
<Style TargetType="TextBox" Key="DefTextBox" platform="android">
    <VisualStates>
        <VisualState Name="Unfocused_Enabled">
            <Setter Property="Background" Value="#ff999999" />
            <!-- base line color -->
            <Setter Property="Foreground" Value="#ff333333" />
            <!-- text color -->
            <Setter Property="DetailsForeground"
Value="#ff333333" />
            <!-- hint color -->
            <Setter Property="FontFamily" Value="sans_serif" />
            <!-- font type -->
            <Setter Property="FontSize" Value="14" />
            <!-- font size -->
        </VisualState>
    </VisualStates>
```

MAFSearchBox supports skinning of different visual states of the EditText. To set visual states, use the <VisualStates></VisualStates> tag:

```
<Style TargetType="TextBox" Key="DefTextBox" platform="android">
    <VisualStates>
        <VisualState Name="Unfocused_Enabled">
            <Setter Property="Background" Value="#ff999999" />
            <!-- base line color -->
            <Setter Property="Foreground" Value="#ff333333" />
            <!-- text color -->
```

```

        <Setter Property="DetailsForeground"
Value="#ff333333" />
        <!-- hint color -->
    </VisualState>
    <VisualState Name="Unfocused_Disabled">
        ...
    </VisualState>
    <VisualState Name="Focused_Disabled">
        ...
    </VisualState>
    <VisualState Name="Focused_Enabled">
        ...
    </VisualState>
    <VisualState Name="Pressed">
        ...
    </VisualState>
    </VisualStates>
</Style>

```

You can also inherit the style definition from the standard `EditText` and create a flavored `EditText`. This is an example for a red styled `EditText` flavor:

```

<Style TargetType="TextBox" Key="RedTextBox" BasedOn="DefTextBox"
platform="android">
    <VisualStates>
        <VisualState Name="Unfocused_Enabled">
            <Setter Property="Background" Value="#0091E0" />
            <!-- base line color -->
            <Setter Property="Foreground" Value="#ff0000" />
            <!-- text color -->
            <Setter Property="DetailsForeground"
Value="#F50742" />
            <!-- hint color -->
        </VisualState>
    </VisualStates>
    <Setter Property="FontFamily" Value="sans_serif" />
    <!-- font type -->
    <Setter Property="FontSize" Value="14" />
    <!-- font size -->
</Style>

```

To create this flavor of `MAFSearchBox` in the layout XML, use:

```

<com.sap.maf.uicontrols.view.MAFSearchBox
    android:layout_width="wrap_content"
    android:layout_height="40dp"
    x:flavor="RedTextBox"
    android:hint="@string/hint" />

```

You can change these properties in the skinning XML:

Background	Base line color
Foreground	Text color
FontFamily	Control's font type

DetailsForeground	Hint color
FontSize	Font size

### *MAFSectionHeader*

The `MAFSectionHeader` control is a section header bar that contains a string label in the center, similar to the default action bar. It can also contain an action, which is aligned to the right of the header. MAF adds styling capabilities to the Header UI component, and provides predefined size variations, such as small and normal. MAF supports skinning of tapped/untapped, and enabled/disabled visual states.

To create and present a default SAP style instance of `MAFSectionHeader`, use:

```
LinearLayout ll = new LinearLayout(this);
MAFSectionHeader headerTop = new MAFSectionHeader(this, "Address
Input View");
    ll.addView(headerTop);
```

`MAFSectionHeader` also supports creating components in the Android layout XML:

```
<com.sap.maf.uicontrols.view.MAFSectionHeader
    android:id="@+id/address_section_header"
    android:layout_width="fill_parent"
    android:layout_height="wrap_content"
    x:text="@string/address_button_header"
    x:text_alignment="CENTER" />
```

The MAF skinning engine customizes the headers. To apply SAP style, set the custom style for background, foreground, shadow, font family, and font size in the XML file.

This is the XAML content for the default style of the Header `TargetType`:

```
<Style TargetType="ActionBar" Key="DefActionBar" platform="android">
    <VisualStates>
        <VisualState Name="Pressed">
            <Setter Property="Background" Value="#fffdb919" />
            <!-- background color -->
        </VisualState>
    </VisualStates>
    <Setter Property="Background" Value="#ff000000" />
    <!-- background color -->
    <Setter Property="Bg_Bottom_Shadow" Value="#ff999999" />
    <!-- background shadow color -->
    <Setter Property="Separator" Value="#44ffffff" />
    <!-- background separator color -->
    <Setter Property="Foreground" Value="#88ffffff" />
    <!-- text color -->
    <Setter Property="FontFamily" Value="sans_serif" />
    <!-- font type -->
    <Setter Property="FontSize" Value="22" />
    <!-- font size -->
</Style>
```

MAFSectionHeader supports skinning of tapped/untapped, and enabled/disabled visual states.

To set visual states, use the `<VisualStates></VisualStates>` tag.

You can also inherit the style definition from the standard header and create a flavored header.

Here is an example for a red styled header flavor:

```
<Style TargetType="ActionBar" Key="RedSectionHeader"
BasedOn="DefActionBar" platform="android">
  <VisualStates>
    <VisualState Name="Pressed">
      <Setter Property="Background" Value="#ffff0000" />
      <!-- background color -->
    </VisualState>
  </VisualStates>
</Style>
```

To create a header from code, use:

```
header = new MAFSectionHeader(context, title,
MAFSectionHeader.TEXT_ALIGNMENT.LEFT,
"RedSectionHeader");
```

To create an MAFSectionHeader in the Android layout XML, use:

```
<com.sap.maf.uicontrols.view.MAFSectionHeader
  android:id="@+id/address_section_header"
  android:layout_width="fill_parent"
  android:layout_height="wrap_content"
  x:text="@string/address_button_header"
  x:text_alignment="CENTER"
  x:flavor="RedSectionHeader" />
```

You can change these properties in the skinning XML:

Background	Color of the MAFSectionHeader's background; can also be a free-style gradient. Colors are defined as RGBA (red, green, blue, alpha).
Foreground	Control's text color.
FontFamily	Control's font family.
BorderBrush	Border attribute of the MAFSectionHeader.
Shadow	The shadow attributes of the MAFSectionHeader (Bg_Top_Shadow): background top shadow color.

### *MAFSpinner*

MAFSpinner extends the capabilities of the `android.widget.Spinner` native spinner. MAF adds styling capabilities to the Spinner UI component, and provides predefined size variations, such as small and normal. MAF supports skinning of tapped/untapped, and enabled/disabled visual states.

To create and present a default SAP style instance of MAFSpinner, use:

```
LinearLayout row1 = new LinearLayout(this);
MAFSpinner mss = new MAFSpinner(this);
    ArrayAdapter<CharSequence> a =
ArrayAdapter.createFromResource(this, R.array.Days123,
    android.R.layout.simple_spinner_item);
    // Specify the layout to use when the list of choices appears

a.setDropDownViewResource(android.R.layout.simple_spinner_dropdown_
item);
    mss.setAdapter(a);
```

To create an MAFSpinner in the Android layout XML, use:

```
<com.sap.maf.uicontrols.view.MAFSpinner
    android:id="@+id/MAFSpinner"
    android:layout_width="wrap_content"
    android:layout_height="50dip"
    android:text="skinned spinner" />
```

The MAF skinning engine customizes the spinners. To apply SAP style, set the custom style for background, foreground, shadow, font family, and font size in the XML file.

This is the XAML content for the default style of the Spinner TargetType:

```
<Style TargetType="ComboBox" Key="SpinnerDef"
platform="android">
    <VisualStates>
        <VisualState Name="Unfocused_Enabled">
            <Setter Property="Background" Value="#ff999999" />
            <!-- base line color -->
            <Setter Property="SolidColorBrush"
Value="#ff666666" />
            <!-- triangle color -->
            <Setter Property="Foreground" Value="#ff333333" />
            <!-- text color -->
        </VisualState>
```

MAF supports skinning of tapped/untapped, and enabled/disabled visual states. To set visual states, use the <VisualStates></VisualStates> tag:

```
    <VisualState Name="Unfocused_Disabled">
...
    </VisualState>
    <VisualState Name="Focused_Disabled">
...
    </VisualState>
    <VisualState Name="Focused_Enabled">
...
    </VisualState>
    <VisualState Name="Pressed">
...
    </VisualState>
```

You can also inherit the style definition from the standard spinner and create a flavored spinner. This is an example for a red styled spinner flavor:

```

<Style TargetType="ComboBox" Key="SpinnerRed"
BasedOn="SpinnerDef" platform="android">
  <VisualStates>
    <VisualState Name="Unfocused_Enabled">
      <Setter Property="Background" Value="#B60000" />
      <!-- base line color -->
      <Setter Property="SolidColorBrush" Value="#0abb00" />
      <!-- triangle color -->
    </VisualState>
    <VisualState Name="Unfocused_Disabled">
      <Setter Property="Background" Value="#B60000" />
      <!-- base line color -->
      <Setter Property="SolidColorBrush" Value="#0abb00" />
      <!-- triangle color -->
    </VisualState>
    <VisualState Name="Focused_Disabled">
      <Setter Property="Background" Value="#B00400" />
      <!-- base line color -->
      <Setter Property="SolidColorBrush" Value="#0abb00" />
      <!-- triangle color -->
      <Setter Property="BorderBrush" Value="#00F300" />
      <!-- selection border color -->
    </VisualState>
    <VisualState Name="Focused_Enabled">
      <Setter Property="Background" Value="#0AC200" />
      <!-- base line color -->
      <Setter Property="SolidColorBrush" Value="#aabb00" />
      <!-- triangle color -->
      <Setter Property="BorderBrush" Value="#FAF300" />
      <!-- selection border color -->
    </VisualState>
    <VisualState Name="Pressed">
      <Setter Property="Background" Value="#D00400" />
      <!-- base line color -->
      <Setter Property="SolidColorBrush" Value="#a0bb00" />
      <!-- triangle color -->
      <Setter Property="BorderBrush" Value="#0AF300" />
      <!-- selection border color -->
    </VisualState>
  </VisualStates>
</Style>

```

To create an MAFSpinner from code, use:

```
MAFSpinner mafspinner = new MAFSpinner(context, "SpinnerRed");
```

You can change these properties in the skinning XML:

Background	Color of the MAFSpinner's background; can also be a freestyle gradient. Colors are defined as RGBA (red, green, blue, alpha).
Foreground	Control's text color.
SolidColorBrush	Control's triangle color.
BorderBrush	Border attribute of the MAFSpinner.

### *MAFSpinnerButton*

The MAFSpinnerButton control extends the capabilities of the android.widget.Button native button. MAF adds styling capabilities to the Button UI component and supports skinning of tapped/untapped, and enabled/disabled visual states.

To create and present a default SAP style instance of MAFSpinnerButton, use:

```
button = new MAFSpinnerButton(context);
```

The MAF skinning engine customizes the buttons. To apply SAP style, set the custom style for background, foreground, shadow, font family, and font size in the XML file.

This is the XAML content for the default style of the MAFSpinnerButton:

```
<Style TargetType="ComboBox" Key="SpinnerDef"
platform="android">
  <VisualStates>
    <VisualState Name="Unfocused_Enabled">
      <Setter Property="Background" Value="#ff999999" />
      <!-- base line color -->
      <Setter Property="SolidColorBrush"
Value="#ff666666" />
      <!-- triangle color -->
      <Setter Property="Foreground" Value="#ff333333" />
      <!-- text color -->
    </VisualState>
```

MAF supports skinning of tapped/untapped, and enabled/disabled visual states.

To set visual states, use the <VisualStates></VisualStates> tag:

```
<VisualState Name="Unfocused_Disabled">
...
</VisualState>
<VisualState Name="Focused_Disabled">
...
</VisualState>
<VisualState Name="Focused_Enabled">
...
</VisualState>
<VisualState Name="Pressed">
...
</VisualState>
```

You can also inherit the style definition from the standard spinner, and create a flavored spinner. This is an example of the style definition for a red styled spinner flavor:

```
<Style TargetType="ComboBox" Key="SpinnerButtonRed"
BasedOn="SpinnerDef" platform="android">
  <VisualStates>
    <VisualState Name="Unfocused_Enabled">
      <Setter Property="Background" Value="#B60000" />
      <!-- base line color -->
      <Setter Property="SolidColorBrush" Value="#0abb00" />
      <!-- triangle color -->
```



```

</VisualState>
<VisualState Name="Unfocused_Disabled">
  <Setter Property="Background" Value="#B60000" />
  <!-- base line color -->
  <Setter Property="SolidColorBrush" Value="#0abb00" />
  <!-- triangle color -->
</VisualState>
<VisualState Name="Focused_Disabled">
  <Setter Property="Background" Value="#B00400" />
  <!-- base line color -->
  <Setter Property="SolidColorBrush" Value="#0abb00" />
  <!-- triangle color -->
  <Setter Property="BorderBrush" Value="#00F300" />
  <!-- selection border color -->
</VisualState>
<VisualState Name="Focused_Enabled">
  <Setter Property="Background" Value="#0AC200" />
  <!-- base line color -->
  <Setter Property="SolidColorBrush" Value="#aabb00" />
  <!-- triangle color -->
  <Setter Property="BorderBrush" Value="#FAF300" />
  <!-- selection border color -->
</VisualState>
<VisualState Name="Pressed">
  <Setter Property="Background" Value="#D00400" />
  <!-- base line color -->
  <Setter Property="SolidColorBrush" Value="#a0bb00" />
  <!-- triangle color -->
  <Setter Property="BorderBrush" Value="#0AF300" />
  <!-- selection border color -->
</VisualState>
</VisualStates>
</Style>

```

To create an `MAFSpinnerButton` from code, use:

```

MAFSpinner mafspinner = new
MAFSpinnerButton(context, "SpinnerButtonRed");

```

You can change these properties in the skinning XML:

Background	Color of the <code>MAFSpinner</code> 's background; can also be a freestyle gradient. Colors are defined as RGBA (red, green, blue, alpha).
Foreground	Control's text color.
SolidColorBrush	Control's triangle color.
BorderBrush	Border attribute of the <code>MAFSpinner</code> .

### *MAFTextView*

The `MAFTextView` control extends the capabilities of the `android.widget.TextView` native control. MAF adds styling capabilities to the `TextView` UI component, and provides predefined size variations, such as small and normal labels.

To create and present a default SAP style instance of `MAFTextView`, use:

```
// normal label
MAFTextView nLabel = new MAFTextView(this);
LinearLayout.LayoutParams nl_lps = new
LinearLayout.LayoutParams(0,
LinearLayout.LayoutParams.WRAP_CONTENT, 1f);
nLabel.setLayoutParams(nl_lps);
nLabel.setText("NORMAL");
nLabel.setFocusable(true);
labelRow.addView(nLabel);
```

To create an `MAFTextView` in the Android layout XML, use:

```
<com.sap.maf.uicontrols.view.MAFTextView
    android:id="@+id/maflabel"
    android:layout_width="wrap_content"
    android:layout_height="50dip"
    android:text="skinned label" />
```

The MAF skinning engine customizes the text views. To apply SAP style, set the custom style for background, foreground, shadow, font family, and font size in the XML file.

This is the XAML content for the default style of the `Label` `TargetType`:

```
<Style TargetType="Label" Key="DefLabel" platform="android">
    <Setter Property="Foreground" Value="#ff333333" />
    <!-- text color -->
    <Setter Property="FontFamily" Value="sans_serif" />
    <!-- font size -->
    <Setter Property="FontSize" Value="18" />
    <!-- font style -->
</Style>
```

You can set different sizes for the `MAFTextView` programmatically. To create a small-sized standard text view, use:

```
MAFTextView sLabel = new MAFTextView(this, "SmallLabel");
```

You can also inherit the style definition from the standard `TextView` and create a flavored `TextView`. This is an example for a large text view:

```
<Style TargetType="Label" Key="LargeLabel" BasedOn="DefLabel"
platform="android">
    <Setter Property="FontSize" Value="22" />
    <Setter Property="Foreground" Value="#ff333333" />
</Style>
```

To create a text view from code, use:

```
MAFTextView Label = new MAFTextView(this, "LargeLabel");
```

You can change these properties in the skinning XML:

Foreground	Control's text color.
FontFamily	Control's font family.
FontSize	Control's font size.

### MAF Setting Screen

The MAF Setting Screen component provides extensions to the Android standard preferences. Native preference controls can only handle string and Boolean values. MAF controls extend the native preferences by adding float, long, and integer datatype handling, and skinnability functionality.

### *Dependencies and Project Setup*

The MAF Setting Screen control is a complex reusable control, which means it builds on top of simple controls, such as the MAF Dialog and MAF Edit Text. The required MAF libraries include:

- com.sap.mobile.maf.ui.android/MAFSettingScreen
- com.sap.mobile.maf.ui.android/MAFUIComponents
- com.sap.mobile.maf.tools.android/MAFLogger

The required MAF resource library projects include:

- mafsettingscreen-res
- mafuicomponents-res

### *Supported Types in MAF Setting Screens*

MAF Setting Screen controls are an extension of android.preference.DialogPreference. MAF adds skinnability functionality to the native controls and stores input values in SharedPreferences based on the component type. MAF also supports string and Boolean types but with skinnability functions. These are the Setting Screen components:

- com.sap.maf.uicontrols.settingscreen.MAFFloatPreference – shows a dialog with an input field. You can only enter numbers and the . (dot) character. Stores the input value as a float in SharedPreferences.
- com.sap.maf.uicontrols.settingscreen.MAFIntegerPreference – shows a dialog with an input field. You can only enter numbers. Stores the input value as an integer in SharedPreferences.
- com.sap.maf.uicontrols.settingscreen.MAFLongPreference – shows a dialog with an input field. You can only enter numbers. Stores the input value as an integer in SharedPreferences.
- com.sap.maf.uicontrols.settingscreen.MAFStringPreference – shows a dialog with an input field. You can enter any characters. Stores the input value as a string in SharedPreferences.

- `com.sap.maf.uicontrols.settingscreen.MAFBooleanPreference` – shows an item in the preference list with a label and a check box. Stores the state of the check box in `SharedPreferences` as a Boolean value (selected = true, unselected = false).
- `com.sap.maf.uicontrols.settingscreen.MAFListPreference` – shows a dialog with a choice list, and stores the selected item in `SharedPreferences`.
- `com.sap.maf.uicontrols.settingscreen.MAFSecurePreference` – shows a dialog with an input field, and stores the input text in the `DataVault` if the user is registered and connected. If the `DataVault` is unavailable, the input text is disabled.

### *Usage of MAF Setting Screen*

Use the MAF Setting Screen components in the standard Android preference XML file. This is an example of a preference XML file that uses all Setting Screen components:

```
<?xml version="1.0" encoding="utf-8"?>
<PreferenceScreen xmlns:android="http://schemas.android.com/apk/res/android" xmlns:sap="http://sap.com/" >

    <PreferenceCategory android:title = "Sample Preferences">

        <com.sap.maf.uicontrols.settingscreen.MAFIntegerPreference
            android:key = "TestIntegerPref"
            android:title = "Test Integer Preferences"
            android:defaultValue = "100"
        />

        <com.sap.maf.uicontrols.settingscreen.MAFFloatPreference
            android:key = "TestFloatPref"
            android:title = "Test Float Preferences"
            android:defaultValue = "1.2"
        />

        <com.sap.maf.uicontrols.settingscreen.MAFLongPreference
            android:key = "TestLongPref"
            android:title = "Test Long Preferences"
            android:defaultValue = "123456"
        />

        <com.sap.maf.uicontrols.settingscreen.MAFStringPreference
            android:key = "TestStringPref"
            android:title = "Test String Preferences"
            android:defaultValue = "test"
        />

        <com.sap.maf.uicontrols.settingscreen.MAFPreference
            android:key = "TestSimplePref"
            android:title = "Test Simple
Preferences"
        />
    </PreferenceCategory>
</PreferenceScreen>
```

```

        <com.sap.maf.uicontrols.settingscreen.MAFListPreference
            android:key = "TestListPref"
            android:title = "Test List Preferences"
            android:entries = "@array/listpref"
            android:entryValues="@array/
listprefvalues"
        />

    </PreferenceCategory>

    <PreferenceCategory android:title = "Sample Preferences
Section2">

        <com.sap.maf.uicontrols.settingscreen.MAFBooleanPreference
            android:key = "TestBoolPref"
            android:title = "Test Boolean Preferences"
            android:defaultValue = "false"
        />

    </PreferenceCategory>
</PreferenceScreen>

```

To use the native Android preference activity programmatically, enter:

```

public class SamplePreferenceActivity extends PreferenceActivity {

    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        addPreferencesFromResource(R.xml.preferences);
    }
}

```

### *Skining of MAF Setting Screen*

The MAF Setting Screen is built from basic skinnable components; therefore you can skin them via the basic components.

- The preference screen uses the Window target type background color attribute.
- The dialog-based preferences use the Dialog target type attributes.
- The input fields use the TextBox target type attributes.
- The Boolean preference uses the CheckBox target type attributes.

### MAF Calendar

The MAF Calendar component is a skinnable component that provides basic calendar functionalities. You can present predefined appointments in different views, such as month and day detailed views. You can also use this component to provide to device users the ability to select dates and times. Users can also create, delete, or modify appointments through the MAF Calendar user interfaces.

The MAF Calendar provides:

- A structure for defining and creating appointment objects, as well as ways to feed the MAF Calendar with a list of appointments data to show and work with.
- A variety of ways (month/day/hour details, grid/list views) in which to present scheduled appointments by time. The common goal of each view is to enable users to visualize appointments created by the application or by any other third-party service.
- Color-coding that identifies appointments from different calendars, allowing you to easily create team calendar applications, or combine multiple calendars for an individual (for example, personal, home, and work) into a single view.
- User interaction handling: you can display detailed information about selected days or appointments. The different views provide different types of callbacks to handle user events such as tap or selection.
- Dynamic, runtime customization of UI elements and subviews.

### *Dependencies and Project Setup*

Set up these MAF and SDM libraries in your development environment:

- com.sap.mobile.maf.tools.android/MAFFormatters (mafformatters.jar)
- com.sap.mobile.maf.tools.android/MAFLogger (maflogger.jar)
- com.sap.mobile.maf.ui.android/MAFLocaleAwareControls (maflocaleawarecontrols.jar)
- com.sap.mobile.maf.ui.android/MAFUIComponents (mafuicomponents.jar)
- com.sap.mobile.maf.ui.android/MAFCalendar (mafcalendar.jar)
- com.sap.mobile.sdmodata.android.sdk/SDMCommon (SDMCommon.jar)

### *Creating Appointments and Implementing MAF Calendar Data Provider*

The MAF Calendar component does not store any data about the appointments that it presents. Your application has to store the data.

The MAF Calendar component defines the structure of a valid appointment via the `IMAFAppointment` interface. It provides the `IMAFCalendarDataProvider` interface, which the application needs to implement to feed the calendar controls with data. To make multiple calendar handling possible (appointments from different types of calendars are colored differently), each appointment object must refer to a parent calendar instance that is defined by `IMAFCalendar` interface.

To provide appointments data for the MAF Calendar component, implement first the `IMAFCalendarDataProvider` interface. MAF Calendar queries the list of available appointments through this interface, using the various `getAppointments(...)` methods.

To implement this data provider, use one of the already existing data model classes, or create a new one, as shown in this code:

```
class MyAppointmentDataProvider implements IMAFCalendarDataProvider
{
    ArrayList<IMAFAppointment> appointments =
    new ArrayList<IMAFAppointment>();
}
```

```

public List<IMAFAppointment> getAppointments(Date start, Date end) {
    List<IMAFAppointment> filteredAppointments; // = new Ar...
    // filter 'appointments' here to return only appointments
    // in the proper time frame, between 'start' and 'end'
    return filteredAppointments;
}

// rest of implementation

// Eclipse warns you to implement the other getAppointments methods
as
// well, so please do so. The most important one is the above one,
shown // in this sample, so you might leave those implementations
blank
}

```

Next, add appointment objects to the appointments data list. The framework provides you with default implementations for creating calendar and appointment objects:

DefaultMAFCalendar and DefaultMAFAppointment classes are compatible with the IMAFCalendar and IMAFAppointment definitions, respectively. This code shows how to create a private calendar and a private appointment:

```

// create a calendar instance
IMAFCalendar privateCalendar = new DefaultMAFCalendar(
    "private",
        "id1",
Color.GREEN);

// specify start/end dates
Date startDate, endDate;
// you might use =>
// MAFDateHelper.createDateFromString("12.09.2012 10:00.00");

// create an appointment instance
IMAFAppointment aPrivateAppointment = new DefaultMAFAppointment(
    privateCalendar,
    startDate,
    endDate,
    "Visiting home",
    "Budapest");

```

To construct dates, use the MAFDateHelper utility class, which is part of the MAFCalendar component and holds methods for date creations and localizations. To see the MAF Calendar component working with appointments, bind the MyAppointmentDataProvider object to the MAF Calendar UI controls.

For the complete list of data provider an appointment related interface methods, see the API documentation.

### *Using the MAF Calendar UI Controls*

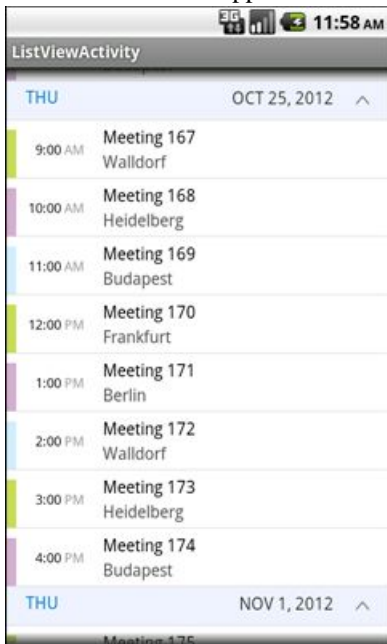
There are six different views defined for the MAF Calendar component to present, select, and handle appointments.

The views differ in the time detail level (for example, appointments shown by month, day, hour), and in the way of interacting with the views (for example, list view, grid view).

### *List View*

The MAFCalendarListView shows appointments day by day in a segmented list.

The list includes only days that have appointments, and only the starting times of the appointments. A segmentation header separates the days. Each appointment appears as a cell in one of the list view sections. By default, the cell shows description, location, and starting time. The list view can show appointments of multiple calendars at the same time. The calendar color code appears at the left side of each appointment cell:



The following examples use the ListViewActivity Android activity. The content view of this activity is defined in the `the_view_embedding_the_list_view.xml` layout XML.

### *Creating the Control*

To embed a MAFCalendarListView in the ListViewActivity's custom content view, place the `com.sap.maf.uicontrols.calendar.MAFCalendarListView` control tag into the `the_view_embedding_the_list_view.xml` file, similar to adding a subview to a custom content view:



```

<LinearLayout xmlns:android="http://schemas.android.com/apk/res/
android"
    xmlns:tools="http://schemas.android.com/tools"
    android:layout_width="fill_parent"
    android:layout_height="fill_parent">

    <com.sap.maf.uicontrols.calendar.listview.MAFCalendarListView
        android:id="@+id/listview"
        android:layout_width="fill_parent"
        android:layout_height="fill_parent"
    />

</LinearLayout>

```

### *Initializing the Control*

After obtaining reference to the list view instance, set the appointment data provider in the code in the `onCreate(...)` method of the `ListViewActivity`. Set, for example, the `MyAppointmentDataProvider` object, which was defined in the first code example of this topic, for the list view instance:

```

public void onCreate(...) {
    super.onCreate(...);

    // inflate the view that embedded the segmented list view
    setContentView(R.layout.the_view_embedding_the_list_view);

    // obtain reference to the list view
    MAFCalendarListView listView = (MAFCalendarListView)
    findViewById(R.id.listview);

    // set the data provider
    IMAFCalendarDataProvider dataProvider = new
    MyAppointmentDataProvider();
    listView.setDataProvider(dataProvider);

    // set the time frame to show appointments in.
    Date start = MAFDateHelper.createDateFromString("01.01.2012
00:00.00");
    Date end = MAFDateHelper.createDateFromString("31.12.2012
00:00.00");
    listView.setDateRange(start, end);

    // hook up MAF skinning mechanism, this is a mandatory step
    MAFSkinManager.getInstance(this);
}

```

You can also set a time/date range to filter the appointments and show only those between the start and end dates.

To be able to skin the UI elements, also hook up the MAF skinning manager.

### *Interacting with the MAFCalendarListView Instance*

To get notifications about user selections (by short or long tap) on the control, set a listener object for the list view by implementing the `IMAFCalendarListViewSelectionListener` interface. This interface is defined for the calendar list view control. Choose the activity that controls the list view to be the listener object. In this example, the `ListActivityView` is the activity holding and controlling the calendar list view. To create the interface implementer object, use:

```
class ListViewActivity extends Activity
    implements IMAFCalendarListViewSelectionListener {

public void onAppointmentSelected(IMAFAppointment app) {
    Toast.makeText(this, app.getTitle(),
    Toast.LENGTH_SHORT).show();
}

    public void onAppointmentLongPressed(IMAFAppointment app) {
    Toast.makeText(this, app.getTitle(),
    Toast.LENGTH_SHORT).show();    }

    public void onCreate(...) {
        super.onCreate(...);

        // inflate the view that embedded the segmented list view
        setContentView(R.layout.the_view_embedding_the_list_view);

        // obtain reference to the list view
        MAFCalendarListView listView =
            (MAFCalendarListView)
    findViewById(R.id.listview);
        // set the data provider
        // ...

        // set the time frame to show appointments in.
        // ...

        // set action listener
        listView.setSelectionListener(this);
    }
}
```

For the complete list of public API setter, getter, and modifier methods for the `MAFCalendarListView` class, see the API reference.

### *Month View*

The `MAFCalendarMonthView` displays appointments in a grid view, where each cell represents a day with its appointments, if any.

There is a header for each day of the week, the current month and year, and a column for the number of weeks separated from the day cells. You can change the month by tapping the

arrows. Upon a month change the calendar control updates its days/dates corresponding to the selected month and year.

The embedding application is notified (IMAFCalendarMonthViewSelectionListener) when the month is changed and when the user picks a day. Day cells with appointments indicate the color of the MAFCalendar instances the appointments belong to. This figure shows the default month view control, but you can reskin it or customize some of its views.



### *Initializing the Control*

To create the control, embed this code into the layout XML:

```
<com.sap.maf.uicontrols.calendar.monthview.MAFCalendarMonthView
android:id="@+id/monthview"
android:layout_width="fill_parent"
android:layout_height="wrap_content"
/>
```

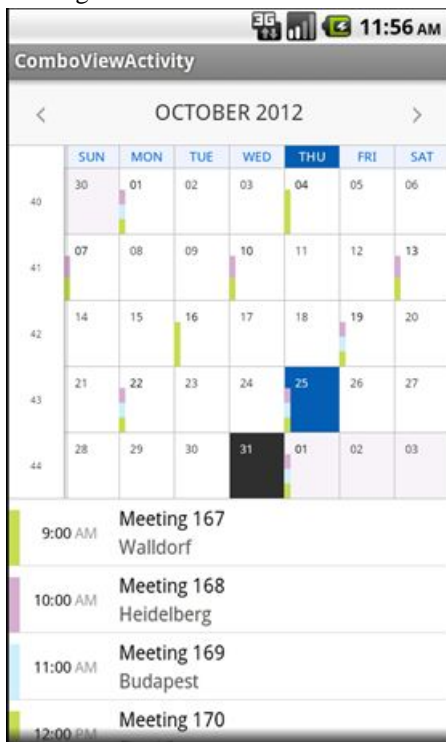
To get notifications about user interaction, implement the IMAFCalendarMonthViewSelectionListener interface.

For the complete list of public API setter, getter, and modifier methods for the MAFCalendarMonthView class, see the API reference.

### Combo View

The MAFCalendarComboView control combines a month view and a list view.

The two subviews are bound together—that is, if you tap on a day with appointments on the month view, appointments for the selected day are listed. This list is similar to the regular list view, but shows the scheduled appointments only for the selected day, so day headings are not shown. Appointments are indicated in the same way as in the respective individual controls. This figure shows the default look of the control:



To create the control, embed this code into the layout XML:

```
<com.sap.maf.uicontrols.calendar.monthview.MAFCalendarMonthComboView
android:id="@+id/comboview"
android:layout_width="fill_parent"
        android:layout_height="fill_parent"
/>
```

Implement the IMAFCalendarMonthViewSelectionListener and IMAFCalendarListViewSelectionListener interfaces to listen to actions for both subviews.

For the complete list of public API setter, getter, and modifier methods for the MAFCalendarComboView class, see the API reference.

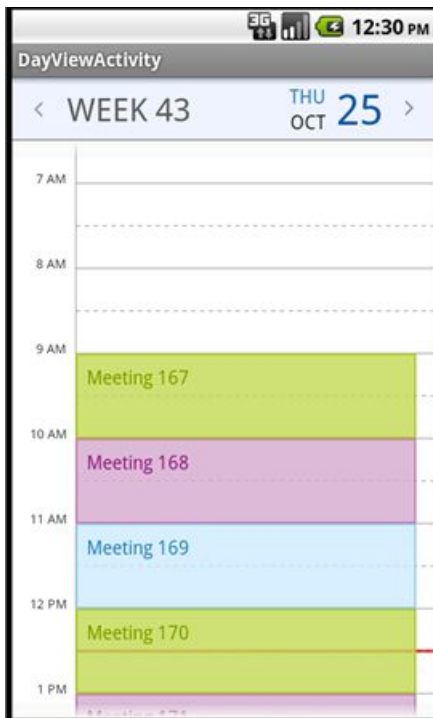
### Day View

The `MAFAAppointmentView` displays appointments scheduled in a day in a panel style. Each appointment appears as a colored panel (`MAFAAppointmentView`), which shows the appointment title and the location.

This is the only calendar view with editorial interface where you can modify, delete, or create appointments:

- You can select an appointment by tapping it once (red border appears around the panel).
- You can select an appointment and move it up and down using a tap and hold gesture.
- You can resize an appointment by selecting it, then dragging the upper and lower edges of the panel.

The `IMAFAppointmentListener` communicates the changes to the application. This figure shows the default look of the control:



To create the control, embed this code into the layout XML:

```
<com.sap.maf.uicontrols.calendar.dayview.MAFCalendarDayView
  android:id="@+id/dayview"
    android:layout_width="fill_parent"
    android:layout_height="fill_parent"
/>
```

Implement the `IMAFAppointmentListener` interface to modify appointments.

Implement the `IMAFCalendarDayViewListener` interface to subscribe to user selections.

For the complete list of public API setter, getter, and modifier methods for the `MAFCalendarDayView` class, see the API reference.

### Week View

`MAFCalendarWeekView` is skinnable UI component with backward and forward navigation buttons for previous and next weeks, respectively.

To create and present a default SAP style instance of `MAFCalendarWeekView`, use this code:

```
MAFCalendarWeekView weekView = new MAFCalendarWeekView(this, null);
```

To create an `MAFCalendarWeekView` in the Android layout XML, use:

```
<com.sap.maf.uicontrols.calendar.weekview.MAFCalendarWeekView
    android:id="@+id/weekview"
    android:layout_width="fill_parent"
    android:layout_height="fill_parent"
/>
```

The MAF skinning engine customizes `MAFCalendarWeekView`. To apply SAP style, set the custom style in the XML file for background, foreground, shadow, font family, and font size. This is the XAML content for the default style of the `CalendarWeekView` `TargetType`:

```
<Style TargetType="CalendarDayView" Key="CalendarWeekView"
BasedOn="DefCalendarDayView" platform="android">
    <Setter Property="Panel_Background" Value="#ffffffff" />
    <Setter Property="Header_Background" Value="#ffebf2f8" />
    <Setter Property="Week_Label_Color" Value="#ff595959" />
    <Setter Property="Day_Label_Color" Value="#ff0059a3" />
    <Setter Property="Month_Label_Color" Value="#ff161210" />
    <Setter Property="DOW_Label_Color" Value="#ff267cb7" />
    <Setter Property="Def_Appo_Color" Value="#ff55ff55" />
    <Setter Property="Def_Appo_Bg_Color" Value="#ff55ff55" />
    <Setter Property="Panel_Line_Color" Value="#ff888888" />
    <Setter Property="Panel_Text_Color" Value="#ff333333" />
    <Setter Property="Current_Time_Line_Color"
Value="#ffff0000" />
</Style>
```

You can also inherit the style definition from the standard week view and create a flavored version. Here is an example for a red week view flavor:

```
<Style TargetType="CalendarDayView" Key="RedWeekView"
BasedOn="DefCalendarDayView" platform="android">
    <Setter Property="Panel_Background" Value="#ffff0000" />
    <Setter Property="Header_Background" Value="#ffeb0000" />
    <Setter Property="Week_Label_Color" Value="#ff595959" />
    <Setter Property="Day_Label_Color" Value="#ff0059a3" />
    <Setter Property="Month_Label_Color" Value="#ff161210" />
    <Setter Property="DOW_Label_Color" Value="#ff267cb7" />
    <Setter Property="Def_Appo_Color" Value="#ff55ff55" />
    <Setter Property="Def_Appo_Bg_Color" Value="#ff55ff55" />
    <Setter Property="Panel_Line_Color" Value="#ff888888" />
    <Setter Property="Panel_Text_Color" Value="#ff333333" />
```

```
<Setter Property="Current_Time_Line_Color"
Value="#ff00ff00" />
</Style>
```

To create a flavored week view from code, use:

```
MAFCalendarWeekView weekView = new MAFCalendarWeekView(this, null);
```

To create a flavored week view in the layout XML, use:

```
<com.sap.maf.uicontrols.calendar.weekview.MAFCalendarWeekView
    android:id="@+id/weekview"
    android:layout_width="fill_parent"
    android:layout_height="fill_parent"
    x:flavor="RedWeekView"
/>
```

You can change these properties in the skinning XML:

Panel_Background	Color of the MAFCalendarWeekView's daypanel background; can also be a freestyle gradient. Colors are defined as RGBA (red, green, blue, alpha).
Header_Background	The color of the control's header background.
Week_Label_Color	The color of the control's week label.
Day_Label_Color	The color of the day label.
Month_Label_Color	The color of the month label.
DOW_Label_Color	Day of week label color.
Def_Appo_Color	Default appointment color.
Def_Appo_Bg_Color	Default appointment background color.

### *Month Tablet View*

The MAFCalendarMonthTableView class displays appointments in a month view (in a grid-like arrangement of the days). Users can navigate across the months using a navigation bar at the top of the screen.

To create and present a default SAP style instance of MAFCalendarMonthTableView, use:

```
MAFCalendarMonthView mv = new MAFCalendarMonthView(context,
dataProvider, viewProvider,
null, weekSelectable, true)
```

To create an MAFCalendarMonthTableView in the Android layout XML, use:

```
<com.sap.maf.uicontrols.calendar.monthview.MAFCalendarMonthView
    android:id="@+id/monthviewtablet"
    android:layout_width="fill_parent"
    android:layout_height="fill_parent"
    x:week_selection="true"
    x:tablet="true" />
```

The MAF skinning engine customizes the UI elements. To apply SAP style, set the custom style in the XML file for the properties indicated in the following XAML content example (which represents the default style of the CalendarMonthView TargetType):

```

<Style TargetType="CalendarMonthView" Key="DefCalendarMonthView"
platform="android">
  <VisualStates>
    <VisualState Name="Selected">
      <!-- OK -->
      <Setter Property="DayTile_Background"
Value="#ff0062A9" />
      <!-- OK -->
      <Setter Property="DayTile_Day_Label_Color"
Value="#ffffffff" />
      <!-- OK -->
      <Setter Property="DayTile_DayWithApp_Label_Color"
Value="#ffffffff" />
      <!-- OK -->
      <Setter Property="WeekDayHeader_Label_Background"
Value="#ff0062A9" />
      <!-- OK -->
      <Setter Property="WeekDayHeader_Label_Color"
Value="#ffffffff" />
    </VisualState>
  </VisualStates>
  <!-- OK -->
  <Setter Property="DayTileExtra_Background"
Value="#fff2f2f2" />
  <!-- OK -->
  <Setter Property="Background" Value="#ffffffff" />
  <!-- OK -->
  <Setter Property="Navigation_Background" Value="#fff7f7f7" />
  <!-- OK -->
  <Setter Property="Navigation_Month_Label_Color"
Value="#ff333333" />
  <!-- OK -->
  <Setter Property="Navigation_Arrow_Color"
Value="#ffB8B8B9" />
  <!-- OK -->
  <Setter Property="DayTile_Day_Label_Color"
Value="#ff333333" />
  <!-- OK -->
  <Setter Property="DayTile_DayWithApp_Label_Color"
Value="#ff000000" />
  <Setter Property="DayTile_Day_Label_Background"
Value="#ff00ffcc" />
  <!-- OK -->
  <Setter Property="WeekDayHeader_Label_Color"
Value="#ff0069ca" />
  <!-- OK -->
  <Setter Property="WeekDayHeader_Label_Background"
Value="#ffe9f3f8" />
  <!-- OK -->
  <Setter Property="WeekNumber_Label_Color"
Value="#ff333333" />

```



```

<!-- OK -->
<Setter Property="Separator_Color" Value="#ffB8B8B9" />

</Style>

```

MAF supports skinning of visual states. To set visual states, use the `<VisualStates></VisualStates>` tag:

```

<VisualStates>
  <VisualState Name="Selected">
    <!-- OK -->
    <Setter Property="DayTile_Background"
Value="#ff0062A9" />
    <!-- OK -->
    <Setter Property="DayTile_Day_Label_Color"
Value="#ffffffff" />
    <!-- OK -->
    <Setter Property="DayTile_DayWithApp_Label_Color"
Value="#ffffffff" />
    <!-- OK -->
    <Setter Property="WeekDayHeader_Label_Background"
Value="#ff0062A9" />
    <!-- OK -->
    <Setter Property="WeekDayHeader_Label_Color"
Value="#ffffffff" />
  </VisualState>
</VisualStates>

```

You can also inherit the style definition from the standard `MonthView` and create a flavored version. This is an example for a red-styled `MonthView` flavor:

```

<Style TargetType="CalendarMonthView" Key="RedCalendarMonthView"
BasedOn="DefCalendarMonthView" platform="android">
  <VisualStates>
    <VisualState Name="Selected">
      <!-- OK -->
      <Setter Property="DayTile_Background"
Value="#ff0062A9" />
      <!-- OK -->
      <Setter Property="DayTile_Day_Label_Color"
Value="#ffffffff" />
      <!-- OK -->
      <Setter Property="DayTile_DayWithApp_Label_Color"
Value="#ffffffff" />
      <!-- OK -->
      <Setter Property="WeekDayHeader_Label_Background"
Value="#ff0062A9" />
      <!-- OK -->
      <Setter Property="WeekDayHeader_Label_Color"
Value="#ffffffff" />
    </VisualState>
  </VisualStates>
  <!-- OK -->
  <Setter Property="DayTileExtra_Background"
Value="#fff20000" />
  <!-- OK -->

```

```

        <Setter Property="Background" Value="#ffff0000" />
        <!-- OK -->
        <Setter Property="Navigation_Background" Value="#fff7f7f7" />
        <!-- OK -->
        <Setter Property="Navigation_Month_Label_Color"
Value="#ff333333" />
        <!-- OK -->
        <Setter Property="Navigation_Arrow_Color"
Value="#ffB8B8B9" />
        <!-- OK -->
        <Setter Property="DayTile_Day_Label_Color"
Value="#ff333333" />
        <!-- OK -->
        <Setter Property="DayTile_DayWithApp_Label_Color"
Value="#ff000000" />
        <Setter Property="DayTile_Day_Label_Background"
Value="#ffff0000" />
        <!-- OK -->
        <Setter Property="WeekDayHeader_Label_Color"
Value="#ff0069ca" />
        <!-- OK -->
        <Setter Property="WeekDayHeader_Label_Background"
Value="#ffe90000" />
        <!-- OK -->
        <Setter Property="WeekNumber_Label_Color"
Value="#ff333333" />
        <!-- OK -->
        <Setter Property="Separator_Color" Value="#ffB8B8B9" />

</Style>

```

To create an `MAFCalendarMonthTableView` from code, use:

```

MAFCalendarMonthView mv = new MAFCalendarMonthView(context,
dataProvider,
viewProvider, „RedCalendarMonthView“, weekSelectable, true)

```

To create a flavored month view in the layout XML, use:

```

<com.sap.maf.uicontrols.calendar.monthview.MAFCalendarMonthView
android:id="@+id/monthviewtablet"
android:layout_width="fill_parent"
android:layout_height="fill_parent"
x:week_selection="true"
x:flavor="RedCalendarMonthView"
x:tablet="true" />

```

You can change these properties in the skinning XML:

Background	Color of the <code>MAFCalendarMonthTableView</code> 's background; can also be a freestyle gradient. Colors are defined as RGBA (red, green, blue, alpha).
Navigation_Background	Navigation button's background color.

Navigation_Month_Label_Color	Color of the month label.
Navigation_Arrow_Color	Color of the navigation arrow.
DayTile_Day_Label_Color	Color of the daytile day label.
DayTile_DayWithApp_Label_Color	Color of the label of daytile days with appointment.

See the style XML file for additional properties.

### *Skining Calendar Views*

You can add a custom look and feel to the calendar views either by defining custom subviews, or by using the Skin Manager.

### *Defining Custom Subviews*

You can replace subviews with code level modifications. This example shows how to add an icon to day cells that indicate a holiday in the month view. After you have obtained a reference to the MAF Calendar month view, set a custom view provider for your calendar control view:

```
public void onCreate(...) {
    super.onCreate(...);

    // inflate the view that embedded the segmented list view
    setContentView(R.layout.the_view_embedding_the_month_view);

    // obtain reference to the list view
    MAFCalendarMonthView monthView = (MAFCalendarMonthView)
    findViewById(R.id. monthView);

    // set a custom view provider
    monthView.setViewProvider(new MyViewProvider);

    // set the data provider
    IMAFCalendarDataProvider dataProvider = new
    MyAppointmentDataProvider();
    listView.setDataProvider(dataProvider);

    // set the time frame to show appointments in.
    // ...
}
```

Set a `MyViewProvider` instance as the custom view provider. This class implements the `MAFCalendarMonthViewProvider` interface, which can provide a `MAFCalendarMonthViewTile` typed object for each days via the `getMonthTileView(Day dayInfo)` method. If the interface method returns null, MAF uses the default tile for drawing the cell view for that day.

The following sample returns a custom tile, the `MyMAFCalendarMonthViewTile` object instance, for Christmas holidays, that is, for the 24th , 25th , 26th of December each year:

```
class MyViewProvider implements IMAFCalendarMonthViewProvider {
    @Override
    public MAFCalendarMonthViewTile getMonthTileView(Date dayInfo) {
        Calendar calendar = new GregorianCalendar();
        calendar.setTime(dayInfo);
        int year = calendar.get(Calendar.YEAR);
        int month = calendar.get(Calendar.MONTH);
        int day = calendar.get(Calendar.DAY_OF_MONTH);

        MAFCalendarMonthViewTile retView = null;
        if (month == 11 && (day == 24 || day == 25 || day == 26)) {
            // custom view is created for the selected days
            retView =
new MyMAFCalendarMonthViewTile(MonthViewActivity.this);
        }
        return retView;
    }

    @Override
    public MAFCalendarMonthViewTile getMonthTileView(MAFDayInfo
dayInfo) {
        // TODO Auto-generated method stub
        return null;
    }
}

class MyMAFCalendarMonthViewTile extends MAFCalendarMonthViewTile {
    public MyMAFCalendarMonthViewTile(Context context) {
        super(context);
    }

    @Override
    public void draw(Canvas canvas) {
        super.draw(canvas);

        InputStream is =
this.getResources().openRawResource(R.drawable.ic_holiday);
        Bitmap myBitmap = BitmapFactory.decodeStream(is);

        Bitmap myScaledBitmap = Bitmap.createScaledBitmap(myBitmap,
getWidth()-15, getHeight()-10, false);
        canvas.drawBitmap(myScaledBitmap, 20, 15, null);
    }
}
```

In the above code there are two class definitions.

The first one is the view provider class that specifies what tile to use for what days. The numbering of months begins with zero, and the day of month returns the number of the day in the given month.

The second class is the view tile class definition that represents a cell of the month view, and it describes what to draw and how to position the holiday icon bitmap. This is the result for the example:



To customize the MAF Calendar list view and day view, implement the `IMAFCalendarListViewProvider` and `IMAFCalendarDayViewProvider` interfaces, and extend the `MAFCalendarListCellView/MAFCalendarListHeaderView`, `MAFAppointmentView` classes to define your own, custom appearance.

### *Using the Skin Manager*

Use the MAF Skinning MEchanism to modify the appearance of the Calendar without changing the source code. You can change colors, font sizes, add borders and paddings, and so on.

You can skin UI elements and their subviews (for example, list cells) with `MAFSkinManager/MAFColorPalette` facilities based on a list of accessible parameters.

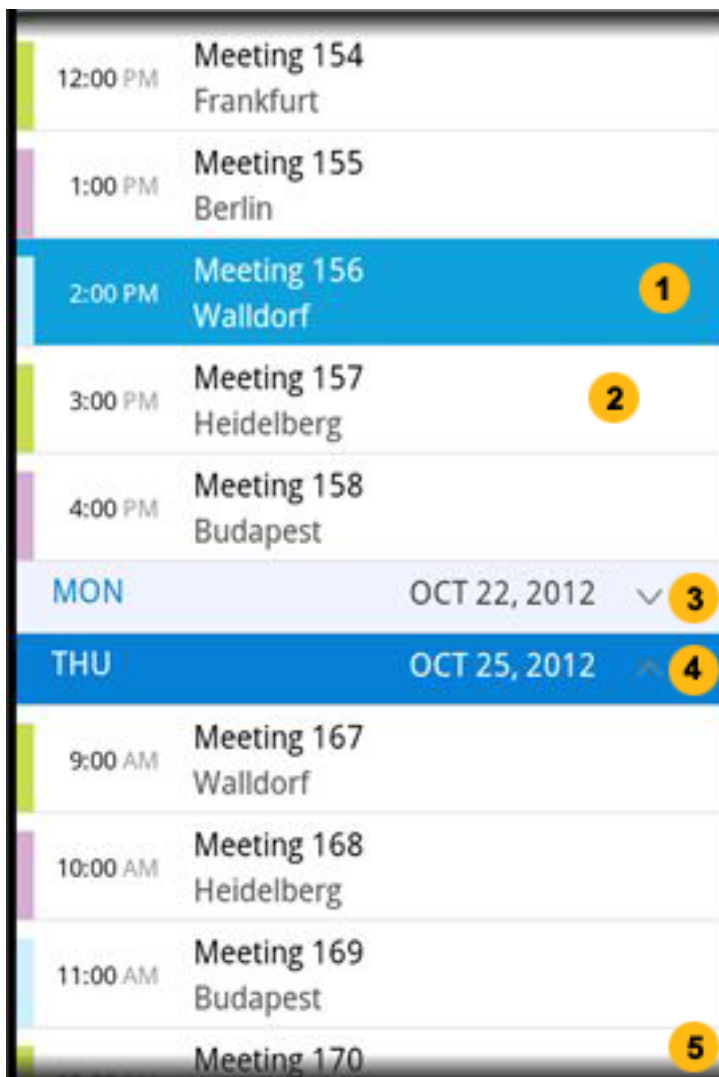
These are the skinnable properties of the controls that you can adjust in the styles XML:

### **List View**

Header_Background	Header cell (day)
Header_Day_Label_Color	Header cell (day)

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Header_Date_Label_Color	Header cell (day)
Header_Expander_Color	Header cell (day)
HeaderCurrentDay_Background	Header cell (current day)
HeaderCurrentDay_Day_Label_Color	Header cell (current day)
HeaderCurrentDay_Date_Label_Color	Header cell (current day)
HeaderCurrentDay_Expander_Color	Header cell (current day)
Cell_Background	Appointment Cell
Cell_Hour_Label_Color	Appointment Cell
Cell_Period_Label_Color	Appointment Cell
Cell_Title_Label_Color	Appointment Cell
Cell_Location_Label_Color	Appointment Cell
Fading_Color	
Cell_Selection_Color	Selected cell

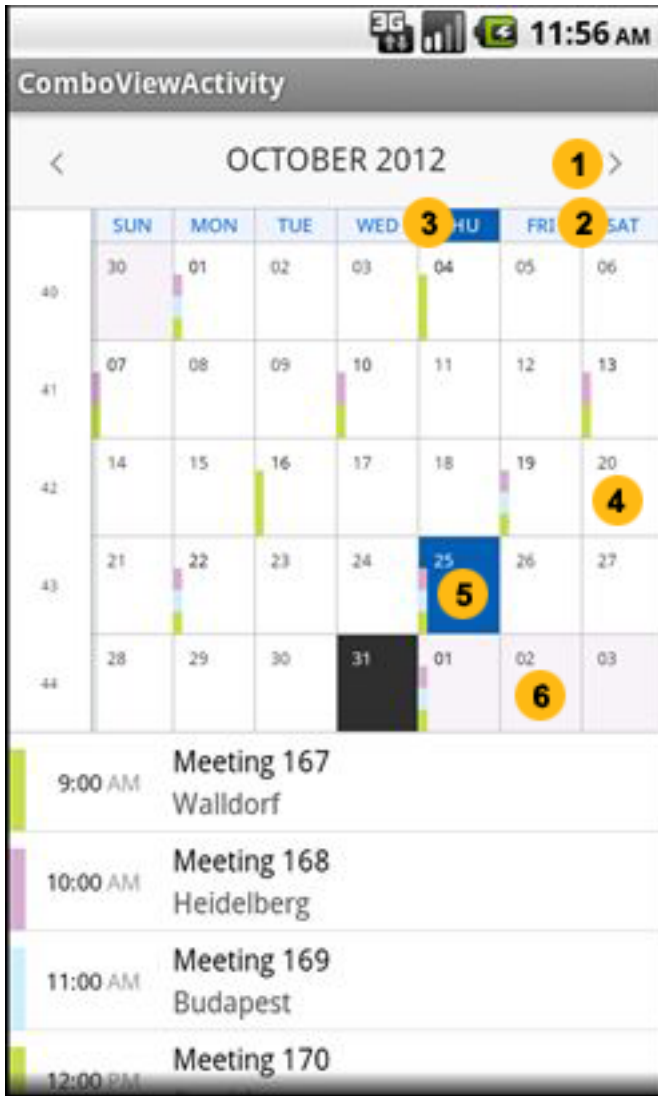


Number on Figure	Element
1	Cell (selected)
2	Appointment cell
3	Header cell (day)
4	Header cell (current day)
5	Fading color

**Month View**

DayTileExtra_Background	DayTileExtra
Background	
Navigation_Background	Navigation
Navigation_Month_Label_Color	Navigation
Navigation_Arrow_Color	Navigation
DayTile_Day_Label_Color	DayTile
DayTile_DayWithApp_Label_Color	DayTile
DayTile_Day_Label_Background	DayTile
WeekDayHeader_Label_Color	WeekDayHeader
WeekDayHeader_Label_Background	WeekDayHeader
WeekNumber_Label_Color	WeekNumber
Separator_Color	
DayTile_Background	DayTile (selected)
DayTile_Day_Label_Color	DayTile (selected)
DayTile_DayWithApp_Label_Color	DayTile (selected)
WeekDayHeader_Label_Background	WeekDayHeader (selected)
WeekDayHeader_Label_Color	WeekDayHeader (selected)





1	Navigation
2	WeekDayHeader
3	WeekDayHeader (selected)
4	DayTile
5	DayTile (selected)
6	DayTileExtra

### MAF Formatters

MAF formatters are non-UI components that convert text values and numbers into phone numbers, dates, times, and currencies according to locale and country code settings. You can also format addresses by querying the order of the address fields based on locale settings and country codes.

Custom formatting options let you select short or long date and time formats, and whether to show date and time fields separately or together.

Use MAF formatters to create applications that present country- and locale-specific information. You can build your own UI components and input fields on MAF formatters, but you can also use prepackaged MAF locale-aware UI controls that use MAF skinning and MAF formatting capabilities.

### *Dependencies and Project Setup*

To build MAF formatting-capable applications, add the `com/sap/mobile/maf/tools/android/MAFFormatters` (`mafformatters.jar`) library, and the `mafformatters-res` android library project file, to your project.

The android library includes:

- `CountryFormats.xml`, which contains all the country and locale information for address and phone number formats.
- Language files for the address fields, for example, the translations of “street”, “city”, “postal code”, and so on.

Also add `sap/mobile/maf/tools/android/MAFLogger` (`maflogger.jar`) to your Android project, as MAFFormatters rely on this logging facility.

### *MAF Formatter Types*

Formatter types include: `MAFAddressFormatter` class for phone numbers and address field layout information, `MAFDateTimeFormatter` for date times, and `MAFCurrencyFormatter` for currencies.

High-level steps for using the formatters:

1. Instantiate the classes by MAF, either by using factory objects or by directly allocating and initializing them.
2. Specify settings and parameters for the formatter instances.
3. Format your data.

### *Metadata*

All three types of formatters use metadata to format input values according to the predefined locale, country, and custom settings.

For `MAFDateTimeFormatter`, the metadata comes from and is handled completely by the Android frameworks. The formatter uses the `java.text.DateFormat` class to format date and time values according to locale and country settings.

For `MAFAddressFormatter` and `MAFCurrencyFormatter`, the metadata is loaded from the default XML.

### *Currency Formatter Specific Metadata*

`MAFCurrencyFormatter` uses metadata (an XML file) to build up an internal runtime data store to determine the currency names and alphabetic codes for countries. This runtime currency data store is not available via the MAF API; it is used only by the formatters. This sample shows the currency-related information for Hungary:

```
<ISO_CURRENCY>
  <ENTITY>HUNGARY</ENTITY>
  <CURRENCY>Forint</CURRENCY>
  <ALPHABETIC_CODE>HUF</ALPHABETIC_CODE>
  <NUMERIC_CODE>348</NUMERIC_CODE>
  <MINOR_UNIT>2</MINOR_UNIT>
</ISO_CURRENCY>
```

### *Address and Phone Number Formatters Specific Metadata*

The XML metadata that `MAFAddressFormatter` uses contains country-code-specific information that describes:

- The address layout: types and order of address fields to show, and the number of lines to display the address in.
- Local and international phone number formats.

This information is also available in the low- and high-level public MAF APIs of the `MAFAddressFormatter` class. See the public API in the corresponding javadoc, and the *MAFAddressFormatter* section.

This sample shows the XML metadata for Hungary:

```
<!-- Hungary -->
<format country="hu">

  <addresses>
    <address format="POSTL_COD1 CITY\nSTREET HOUSE_NO\nLOCATION\nCOUNTRY" />
  </addresses>

  <addressfields>
    <line>
      <field id="POSTL_COD1" keyboard="NUMERIC"
label="{POSTAL_CODE}" />
      <field id="CITY" label="{CITY}" />
    </line>
    <line>
      <field id="STREET" width="65%" label="{STREET}" />
      <field id="HOUSE_NO" keyboard="NUMERIC" width="35%"
label="No." />
    </line>
  </addressfields>
</format>
```

```
</line>
<line>
  <field id="LOCATION" label="{STREET} 4" />
</line>
<line>
  <field id="COUNTRY" label="{COUNTRY}" />
</line>
</addressfields>

<phonenumbers localprefix="06" internationalprefix="36 "
outboundcode="00">
  <phonenumber format="06 1 xxx-xxxx" />
  <phonenumber format="06 xx xxx-xxx" />
  <phonenumber format="06 xx xxx-xxxx" />
</phonenumbers>
</format>
```

### *MAFDateTimeFormatter*

The `MAFDateTimeFormatter` formats date and time values into a format that is either explicitly specified with a string value, or, a preset locale and custom styles (long, short, medium, no style). These options are mutually exclusive, and specifying a string value takes priority: if you explicitly specify a date format, your locale and custom style settings are ignored.

The formatter has static methods so you can use the formatter by calling directly the class level methods on it. For example:

```
String formattedDate = MAFDateTimeFormatter.formatDate(String
dateTime, Locale locale, TimeZone timeZone, int style)
String formattedTime = MAFDateTimeFormatter.formatTime(String
dateTime, Locale locale, TimeZone timeZone, int style)
```

For the method details of the `MAFDateTimeFormatter`, see its API documentation.

### *MAFCurrencyFormatter*

`MAFCurrencyFormatter` formats currency values according to country ISO code.

It is the combination of a numeric (amount) and a textual (currency code) element. Formatted numerical values are delimited by colons or periods, depending on the ISO code, and the currency symbol (if any); or its alphabetical code is prefixed to the digits.

Formatting rules are defined in a `currencyformats.xml` file. Supported currencies are defined in this file in this format:

```
.....
<ISO_CURRENCY>
  <ENTITY>UNITED STATES</ENTITY>
  <CURRENCY>{US_Dollar}</CURRENCY>
  <ALPHABETIC_CODE>USD</ALPHABETIC_CODE>
  <NUMERIC_CODE>840</NUMERIC_CODE>
  <MINOR_UNIT>2</MINOR_UNIT>
</ISO_CURRENCY>
.....
```

To use the `MAFCurrencyFormatter` with predefined currencies, implement this code:

```
MAFCurrencyFormatter currencyFormatter;
currencyFormatter = MAFCurrencyFormatter.getInstance(context);
currencyFormatter.initWithSAPXML();
To use custom currency formatting with a custom XML file, call this
method:
currencyFormatter.initWithCustomXML(InputStream iStream);
```

For the method details of the `MAFCurrencyFormatter`, see its API documentation.

### *MAFAddressFormatter*

The `MAFAddressFormatter` formats phone numbers and addresses, and translates the names of the address fields.

Phone number formatting is handled as part of address formatting, as the metadata for both types of formatting is in one common XML descriptor file. To get a reference and initialize the `MAFAddressFormatter`, use this code:

```
private MAFAddressFormatter formatter = null;
formatter = MAFAddressFormatter.getInstance(this);
formatter.initWithSAPXML();
```

This is a code snippet from `country_formats.xml`. Use this format to add your country to the XML configuration file, if it does not contain your country:

```
<!-- United States -->
<format country="us">

    <addresses>
        <address format="HOUSE_NO STREET\nLOCATION\nCITY REGION
POSTL_COD1\nCOUNTRY" />
    </addresses>

    <addressfields>
        <line>
            <field id="HOUSE_NO" keyboard="NUMERIC" width="35%"
label="{No.}" />
            <field id="STREET" width="65%" label="{STREET}" />
        </line>
        <line>
            <field id="LOCATION" label="{STREET} 4" />
        </line>
        <line>
            <field id="CITY" label="{CITY}" />
            <field id="REGION" keyboard="ALLCAPS"
label="{State}" />
        </line>
        <line>
            <field id="POSTL_COD1" keyboard="NUMERIC"
label="{ZIP}" />
            <field id="COUNTRY" label="{COUNTRY}" />
        </line>
    </addressfields>
```

```
<phonenumbers internationalprefix="1" outboundcode="011">
  <phonenumber format="(xxx) xxx-xxxx" />
  <phonenumber format="(415) xxx-xxxx" />
  <phonenumber format="(xxx) xxx-xx8x" />
</phonenumbers>

</format>
```

You can also use your own `country_formats.xml`. To set it, use:

```
InputStream iStream = activity.getResources().openRawResource(
    R.raw.countryformats_patch);
formatter.initWithCustomXML(iStream);
```

For the method details of the `MAFAddressFormatter`, see its API documentation.

### MAF Tree View

The `MAF Tree View` component provides a UI representation of a hierarchical list. It can show list items, which can in turn contain child-node list items. `MAF Tree View` has two modes: a browsing mode, and an editing mode. `MAF Tree View` supports skinnability via the `MAF` skinning engine.

### *Dependencies and Project Setup*

The `MAF Tree View` control is a complex reusable control, which means that it is built on top of simple controls, such as `MAFActionBar` and `MAFListView`. The `Tree Viewer` control depends on the `MAFUIControls` library and the `MAFLogger`.

These `MAF` libraries are required:

- `com.sap.mobile.maf.ui.android/MAFUIComponents`
- `com.sap.mobile.maf.tools.android/MAFLogger`

### *Presenting a Tree View*

`MAF Tree View` is an extension of a simple `RelativeLayout`. This layout contains the `MAFActionBar` and a `ListView` to show the hierarchical list entries, and a footer, which is visible only in editing mode. You can show this layout in an activity in this way:

```
MAFTreeView tView = new MAFTreeView(this, root, inEditMode);
aLayout.addView(tView);
```

You can also initialize the `Tree View` from layout XML:

```
<com.sap.maf.uicontrols.view.MAFTreeView xmlns:x="http://
schemas.sap.com/maf/2011/ux"
  android:id="@+id/treeview"
  android:layout_width="match_parent"
  android:layout_height="match_parent"
>
```

### *Adding and Deleting Node Items*

`MAF Tree View` nodes are represented with the `MAFTreeNode` interface, which is located in the `com.sap.maf.uicontrols.data` package. `MAF` provides a default implementation for the `MAFTreeNode` in the `MAFTreeNodeImpl` class in the same package. Use the default

implementation both for node elements containing child elements, and for leaf elements that have no child elements.

To add an element to the Tree View:

- Use one of these constructors to initialize the Tree View with a root node:

```
public MAFTreeView(Context context, MAFTreeNode root)
public MAFTreeView(Context context, MAFTreeNode root, boolean
inEditMode)
public MAFTreeView(Context context, MAFTreeNode root, String
flavor, boolean inEditMode)
```

- Use the public void `addItem(MAFTreeNode newChild)` API to add node items. If the new child item contains a reference to its parent, it is added to the parent; if not, it is added as a root element.

To remove an element from the Tree View, use the public void `removeItem(MAFTreeNode node)` API.

### *Adding Actions in Editing Mode*

In editing mode, you can select leaf items and perform different actions on the selected items. To switch to editing mode, tap the Edit button on the UI. To set the default to editing mode, set it in the proper constructor. To check whether the Tree View is in editing mode, call the public boolean `inEditMode()` API, which returns the state of the Tree View.

To perform actions on the selected items, use the public void `addTreeViewActionItem(MAFActionBarItem action)` API. Because the footer is an extension of `MAFActionBar`, the API waits for `MAFActionBarItem` instances, where you can implement the logic in the public void `performAction` function.

This example shows how to add actions to the Tree View footer:

```
MAFActionBarItem hello_action = new MAFActionBarItem(1,
R.drawable.hello,
    R.string.Hello_Action) {
    @Override
    public void performAction() {
        List<MAFTreeNode> sel_nodes =
tView.getSelectedNodes();
        ...
    }
};
tView.addTreeViewActionItem(hello_action);
```

### *Skimming the MAF Tree View*

Tree View is built from basic skinnable components; therefore, you can skin them via the basic components.

- Use the `ListView` target type attributes to skin the node element.
- Use the `CheckBox` target type attributes to skin the check box in edit mode.

- Use the ActionBar target type attributes to skin the header and footer in edit mode.

### MAF Locale-Aware Controls

MAF locale-aware controls are complex graphical components for presenting and editing currency, phone numbers, and address information in localized input fields.

Use these controls to request user inputs in the language and locale set for the phone. You can also read the localized user input and use it for later data processing (for example, for sending it to the back end). MAF locale-aware controls let you:

- Present and obtain user information in a localized way for currencies, phone numbers, and address fields.
- Allow users to select values for input fields from a predefined list of a finite number of values, for example, selecting country names or currencies per countries.
- Allow users to select the label and type of input fields from a list of options, such as home, work, or private settings for phone types, or work, home, or other settings for addresses.
- Allow users to enter free text information, such as amounts and phone numbers, and properly format it using MAF formatters.
- Easily and dynamically customize the component's UI elements and subviews, even at application runtime. The controls are skinnable, as they all build on MAF simple controls.
- Configure value helper list entries with your custom set.

### *Dependencies and Project Setup*

MAF locale-aware controls are built on top of MAF simple controls, such as MAFTextView and MAFEditText. The controls use the skinning infrastructure of MAF Skin Manager and the formatting capabilities of MAFFormatters, so the controls depend on both the MAFUIComponents and MAFFormatters library.

Required MAF libraries:

- com.sap.mobile.maf.ui.android/MAFUIComponents
- com.sap.mobile.maf.ui.android/MAFLocaleAwareControls
- com.sap.mobile.maf.tools.android/MAFFormatters
- com.sap.mobile.maf.tools.android/MAFLogger

MAF locale-aware controls provide a default skin. To get the default custom skin and to apply skinning that differs from the hard-coded skin, add the resource android libraries to your project. The android libraries are also required for the components to find the necessary resource files, for example, to format metadata for address field layout.

Required Android libraries containing the resources:

- mafformatters-res
- maflocaleawarecontrols-res
- mafuicomponents-res



### *The Controls*

Locale-aware controls include: currency, phone number, and address.

The controls are implemented as extensions of the Android View component. To use them, add the controls to an Android activity. Each control has an edit mode and a read-only mode. Use the proper boolean flag in the construction call to determine the mode.

### *Currency Control*

Use the currency control to present and enter money amounts and currency information. The currency value control presents the currency with the amount, and a title.

In edit mode the user can:

- Tap the amount to show the input, where you can enter the amount.
- Tap the currency to show a value help in a dialog view that contains the default values of all the currencies known by the locale framework.

### *MAFCurrencyView*

MAFCurrencyView is a complex control, which means that it builds on top of these simple controls: MAFTextView, MAFEditText, MAFSpinnerButton, MAFFilterDialog, MAFSectionHeader, and MAFListView . It extends the capabilities of these native Android simple UI controls and adds styling capabilities to the Currency UI component.

There are one-line and two-line currency views: oneline edit (input) mode, readonly (display) mode, or twoline edit (input) mode, and readonly (display) mode.

To create and present these views in default SAP style, use:

```
private MAFCurrencyView oneLineEditView;
private MAFCurrencyView oneLineReadOnlyView;

oneLineEditView = new MAFCurrencyView(this, "Currency", true, true,
    "");
oneLineReadOnlyView = new MAFCurrencyView(this, "Currency", false,
    true, "");

MAFCurrencyView twoLineEditView = new MAFCurrencyView(this,
    "Currency", true,
    false, "");
MAFCurrencyView twoLineReadView = new MAFCurrencyView( this,
    "Currency", false,
    false, "");
```

The MAF skinning engine customizes the MAFCurrencyView. To apply SAP style, set the custom style for background, foreground, shadow, font family, and font size in the XML file. Because this complex control consists of six simple controls, you must set all six TargetTypes.

See these topics for the XAML contents, for the TargetTypes MAFCurrencyView uses, and for the properties you can set in the skinning XML for MAFCurrencyView:

```
MAFTextView  
MAFEditText  
MAFSpinnerButton  
MAFFilterDialog  
MAFSectionHeader  
MAFListView
```

You can also inherit the style definition from the standard Currency and create a flavored version. This is an example for a red currency flavor:

```
<Style TargetType="Label" Key="RedCurrency" BasedOn="DefLabel"  
platform="android">  
...  
</Style>  
<Style TargetType="TextBox" Key="RedCurrency" BasedOn="DefTextBox"  
platform="android">  
...  
</Style>  
<Style TargetType="ComboBox" Key="RedCurrency" BasedOn="SpinnerDef"  
platform="android">  
...  
</ Style >
```

After creating custom styles, you can create flavored Currency input from code:

```
oneLineEditView = new MAFCurrencyView(this, "Currency", true, true,  
"RedCurrency");
```

### *Phone Number Control*

Use the phone number control to present and edit phone numbers that are formatted according to the locale settings of your phone.

In edit mode the user can:

- Tap the number to show the numerical keypad, where you can enter the phone number. The phone number is formatted as you enter each number.
- Tap the cell title to select the phone type from a predefined list, which you can customize.
- In multi-line mode, add more than one line by tapping the “Add new” label. Each line has a cancel icon to discard that line.

### *MAFPhoneNumberInputView*

`MAFPhoneNumberInputView` is a complex control, which means that it builds on top of simple controls, such as `MAFUITextView`, `MAFEditText`, and `MAFSpinner`. It extends the capabilities of these native Android simple UI controls and adds styling capabilities to the phone number input UI component.

This class represents a line on the phone number input UI. It includes an edit field for the number, a number type selector, and, when more than one input line appears, a cancel button that you can use to remove those lines.

To create and present these views in default SAP style, use:

```
private MAFPhoneNumberInputView phoneInputView;
```

```
phoneInputView = new MAFPhoneNumberInputView(Context context, String
title,
String opc, boolean isEditable, boolean isSingleLine);
```

To create `MAFPhoneNumberInputView` in the Android layout XML, use:

```
<com.sap.maf.localeawarecontrols.MAFPhoneNumberInputView
    android:id="@+id/phone_input_sl"
    android:layout_width="fill_parent"
    android:layout_height="wrap_content"
    android:layout_marginLeft="6dp"
    android:layout_marginRight="6dp"
    android:hint="@string/phone_input_hint"
    x:single_line="true"
    x:text="@string/phone_number"
    android:visibility="visible" />
```

Add the add the SAP XML namespace (<http://sap.com/>) to the layout file's root tag:

```
<LinearLayout xmlns:android="http://schemas.android.com/apk/res/
android"
    xmlns:x="http://sap.com/"
```

The MAF skinning engine customizes the phone number input. To apply SAP style, set the custom style for background, foreground, shadow, font family, and font size in the XML file. Because this complex control consists of three simple controls, you must set all three `TargetTypes`:

This is the XAML content for the default style of the `TextBox` `TargetType`:

```
<Style TargetType="TextBox" Key="DefTextBox" platform="android">
    <VisualStates>
        <VisualState Name="Unfocused_Enabled">
            <Setter Property="Background"
Value="#ff999999" />
            <!-- base line color -->
            <Setter Property="Foreground"
Value="#ff333333" />
            <!-- text color -->
            <Setter Property="DetailsForeground"
Value="#ff333333" />
            <!-- hint color -->
            <Setter Property="FontFamily"
Value="sans_serif" />
            <!-- font type -->
            <Setter Property="FontSize" Value="14" />
            <!-- font size -->
        </ VisualState >
```

This is the XAML content for the default style of the `Spinner` `TargetType`:

```
<Style TargetType="ComboBox" Key="SpinnerDef" platform="android">
    <VisualStates>
        <VisualState Name="Unfocused_Enabled">
```

```

Value="#ff999999" />
                                <Setter Property="Background"
                                <!-- base line color -->
Value="#ff666666" />
                                <Setter Property="SolidColorBrush"
                                <!-- triangle color -->
Value="#ff333333" />
                                <Setter Property="Foreground"
                                <!-- text color -->
</ VisualState >

```

This is the XAML content for the default style of the Label TargetType:

```

<Style TargetType="Label" Key="DefLabel" platform="android">
    <Setter Property="Foreground" Value="#ff333333" />
    <!-- text color -->
    <Setter Property="FontFamily" Value="sans_serif" />
    <!-- font size -->
    <Setter Property="FontSize" Value="18" />
    <!-- font style -->
</ Style >

```

You can also inherit the style definition from the standard phone number input and create a flavored phone number input. Here is an example for a red styled phone number input flavor:

```

<Style TargetType="Label" Key="RedPhoneNumberInputView"
BasedOn="DefLabel"
platform="android">
    ...
</Style>

<Style TargetType="TextBox" Key="RedPhoneNumberInputView"
BasedOn="DefTextBox"
platform="android">
    ...
</Style>

<Style TargetType="ComboBox" Key="RedPhoneNumberInputView"
BasedOn="SpinnerDef"
platform="android">
    ...
</ Style >

```

After creating custom styles, you can create flavored phone number input using:

```

phoneInputView = new MAFPhoneNumberInputView(Context context, String
title,
String opc, boolean isEditable, boolean
isSingleLine, "RedPhoneNumberInputView");

```

You can change these properties for the MAFEditText control in the skinning XML:

Background	Base line color
------------	-----------------

Foreground	Text color
FontFamily	The control's font type
DetailsForeground	Hint color
FontSize	Font size

You can change these properties for the MAFSpinner control in the skinning XML:

Background	Color of the MAFSpinner's background; can also be a freestyle gradient. Colors are defined as RGBA (red, green, blue, alpha).
Foreground	The control's text color.
SolidColorBrush	The control's triangle color.
BorderBrush	The border attribute of the MASFSpinner.

You can change these properties for the MAUITextView control in the skinning XML:

Foreground	Control's text color
FontFamily	Control's font family
FontSize	Control's font size

### *Address Control*

Use the address control to present and edit address information. It is implemented as single view that contains many fields. The field layout is determined by the country selected in the address.

In edit mode the user can:

- Tap the street number or zip code fields to show the numerical keypad.
- Tap the street name or city name to show an alphanumerical keypad.
- Tap the country to show a value help in a dialog view that contains the default values of all the countries known by the locale framework.

### *MAFAddressView*

The MAFAddressView control is a complex reusable control, which means that is built on top of the MAFTextView, MAFEditText, MAFSpinnerButton, and MAFFilterDialog simple controls, extends their capabilities, and adds styling capabilities to the Address UI component.

MAFAddressView has two modes: a display (read only) mode, and an editing (input) mode.

To create and present these views in default SAP style, use this code:

```
private MAFAddressView inputAddressView;
private MAFAddressView displayAddressView;
inputAddressView = new MAFAddressView(this, "ADDRESS", true);
displayAddressView = new MAFAddressView(this, "ADDRESS", false);
```

To create an `MAFAddressView` in the Android layout XML in input mode, use:

```
<com.sap.maf.localeawarecontrols.MAFAddressView
    android:id="@+id/address_view"
    android:layout_width="fill_parent"
    android:layout_height="wrap_content"
    x:text="@string/address"
    android:visibility="visible" />
```

You cannot create `MAFAddressView` in the XML in display mode.

The MAF skinning engine customizes the address. To apply SAP style, set the custom style in the XML file for background, foreground, shadow, font family, and font size. Because this is a complex control which consists of four simple controls, you have to set all four `TargetTypes`.

See these topics for the XAML contents, for the `TargetTypes` `MAFCurrencyView` uses, and for the properties you can set in the skinning XML for `MAFCurrencyView`: `MAFTextView`, `MAFEditText`, `MAFSpinnerButton`, and `MAFFilterDialog`.

You can also inherit the style definition from the standard `Address` and create a flavored version. Here is an example for a red address flavor:

```
<Style TargetType="Label" Key="RedAddressView" BasedOn="DefLabel"
platform="android">
...
</Style>
<Style TargetType="TextBox" Key="RedAddressView"
BasedOn="DefTextBox" platform="android">
...
</Style>
<Style TargetType="ComboBox" Key="RedAddressView"
BasedOn="SpinnerDef" platform="android">
...
</Style>
```

After creating the custom styles, you can create a flavored address from code:

```
inputAddressView = new MAFAddressView(this, "ADDRESS", true,
"RedAddressView");
```

### **Developing with the Android Extensibility Framework**

The Extensibility Framework is an SDK for Android applications, providing to developers the ability to add or replace screens or subviews, change navigation patterns, update the data model, add custom actions, and so on. You can use it when developing new applications, but you can also extend existing applications with little effort; you need not recompile and redistribute the apps.

The main features of the Extensibility Framework include:

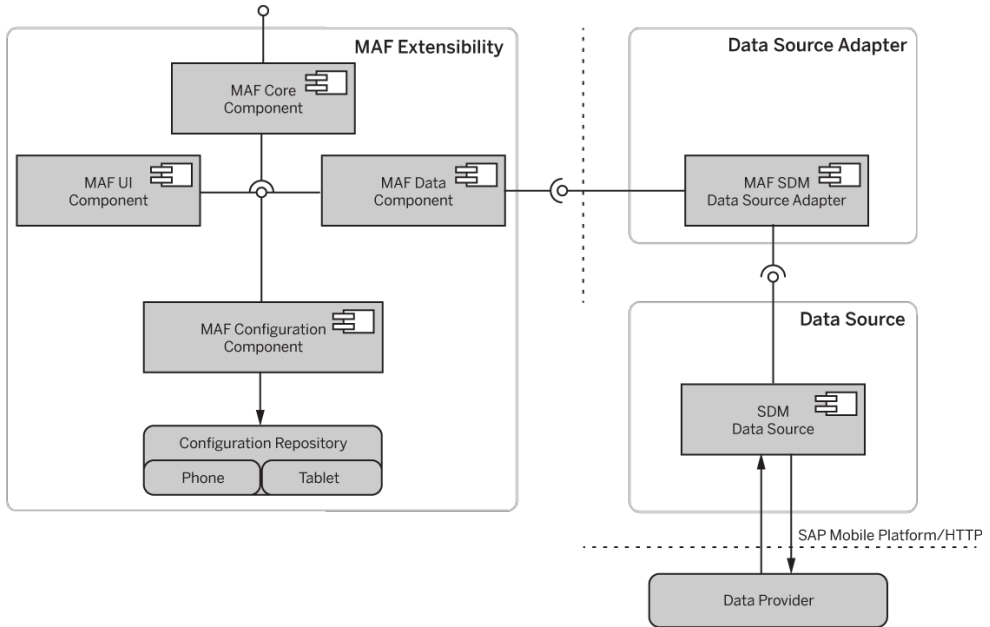
- **Declarative structural extensibility** – define the UI layout, navigation patterns, data bindings, event handling, context passing, value formatting, undo behavior, and so on via configuration.
- **Adaptive data management** – the framework is independent of the data model, because the data is abstracted. It provides a ready-to-use datasource adapter, which manages

conversions between OData and the generic data format, but you can also implement custom data source adapters for other data formats.

- **Integrated OData facade** – The `SDMDataSource` library is a wrapper that you can use on top of the SAP Mobile Platform Connectivity and OData management libraries. A set of simple APIs replace the usual coding required to manage network requests, parse and cache OData feeds, and to perform additional tasks that are related to online and offline OData handling.
- **Extension Points** – the framework exposes a set of protocols and delegates, so you can replace or decorate the default behavior based on your project's needs. For example, you can implement delegates to create a view or a custom control, fix data validation issues, intercept actions fired by controls, modify the look and feel of UI elements, and so on. You can take over the full creation mechanism of the elements, but it is also possible to only decorate the elements created by the framework.
- **Support for localizable demo data** – the framework provides support for localized demo data, which allows apps to start in offline mode, lets customers look at an app without requiring a connection.
- **Skinnable UI elements (via MAF Reusable Components)** – Mobile Application Framework (MAF) includes reusable components that fulfill the product standards of globalization, usability, and accessibility.
- **Value, currency, date, time, and address formatting (via MAF Reusable Components)** – define the data to be formatted in the configuration XML to format and localize them based on different criteria, such as the device locale, the country code, or international prefixes for phone numbers.
- **Advanced logging and error handling** – the framework includes meaningful log messages that precisely indicate the root cause of any problems, for example, by identifying any inappropriate values or parameters in the layout configuration XML file.

Architectural Overview

The framework consists of a set of loosely coupled components presented in the form of static libraries.



*Core Extensibility Library*

The MAF Core Extensibility library is required for building, arranging, and displaying configuration-based UIs and subviews.

The MAF Core Extensibility library includes:

- **MAF Core component** – exposes APIs that initialize the framework and access additional functionality provided by internal components.
- **MAF Configuration component** – reads and parses all metadata required by the app, such as UI definitions, data bindings, UI elements and controls, events, and actions (built-in and custom).
- **MAF UI component** – encapsulates the metadata-driven view, controller, and data binding generation functionalities.
- **MAF Logic component** – following the MVC pattern in internal implementation, the UI and its controlling logic are separated. “MAF UI Component” is a high level term referring to both the UI and its logic. MAF Logic Component refers to the controller logic of the UI elements, such as view controllers for the views
- **MAF Data component** – provides a single access point for the framework to the underlying data layer and the Data Source Adapter.



### *DataSource Adapter*

The DataSource Adapter provides unified access to business objects, independent of the data model. This layer also converts between generic business objects and specific model objects. MAFSDMDataSourceAdapter is the default implementation provided for OData, but you can replace this with a custom DataSourceAdapter.

### *DataSource*

The DataSource component is a wrapper on top of a specific data model. The default MAFSDMDataSourceAdapter uses the SDMDataSource library, which is included with SAP Mobile Platform, and acts as a facade on top of the platform connectivity library and the OData parser library.

Although this document includes detailed descriptions of the framework, SAP recommends that you refer to the API descriptions (see the public headers) for complete descriptions of functionality. All APIs are thoroughly documented, including usage examples and further instructions.

### *Implementing an Extensible Application*

Set up your development environment to build and run applications that rely on extensibility features.

### *Prerequisites*

To effectively build and extend Android applications using the MAF Extensibility and MAF Reusable Components, you need

- Basic UML knowledge
- Advanced understanding of Java and XML syntax
- Eclipse IDE (see *SAP Note 1901994* for version information.)
- Latest Android SDK
- Before you create an application, identify the screens you want customers to customize, or extend by configuration.

### *Sample Applications*

MAF includes several sample apps that demonstrate the capabilities of the Extensibility Framework:

Sample Application	Description
Accessibility Demo	Sample app with accessibility labels and text defined in the Extensibility configuration.

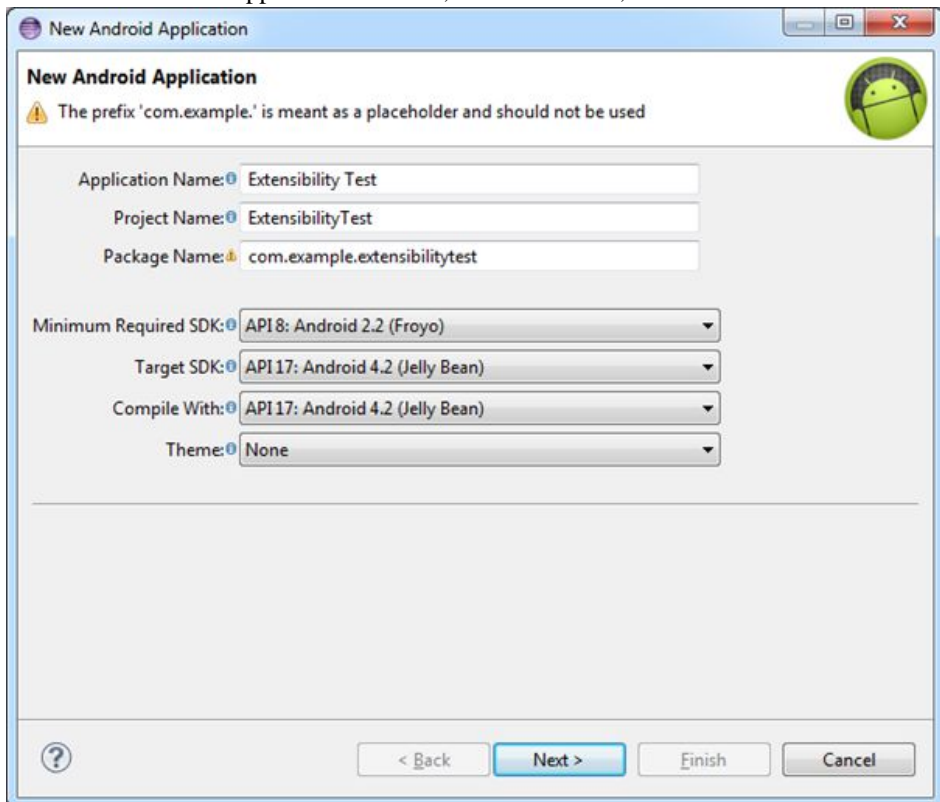
Sample Application	Description
CustomAppWithExtensibility	A simple version of the mixing coded and metadata-driven tiles. This demo is a starting point and reference application when you are creating a custom-code application with custom data support that uses Extensibility-generated tiles.
LeaveRequestDemo	A sample of the fully metadata-driven apps and embedding a custom control in a metadata-driven tile.
MAFExtensibilityUIControlsSample	Demonstrates the various UI controls supported by the framework.
MAFExtProvisioningSample	Demonstrates app configuration profile management on the client side. See also <i>Extensibility Configuration XSD</i> , <i>The Data Source Adapter</i> and <i>Feeding the Tile with Custom Data</i> .
Extensible in Native (SampleApp_1_ExtensibleInNative)	Uses a mix of metadata-driven tiles and native view controllers.
Context Passing (SampleApp_2_ContextPassing)	Shows how to pass context between tiles.
Custom Action (SampleApp_3_CustomAction)	Demonstrates how to handle custom actions defined for UI controls embedded in a tile.
Offline Demo Data Support (SampleApp_4_DemoDataSource)	Runs without an online connection, relying exclusively on offline data.
Composite Tiles (SampleApp_5_CompositeTiles)	Demonstrates how to create complex tiles that embed additional tiles.
Custom Control (SampleApp_6_CustomControl)	Shows how to integrate custom UI controls in a metadata-driven screen.
Related Data (SampleApp_8_RelatedData)	Demonstrates OData-specific data handling.
Logging (SampleApp_9_Logging)	Shows how to retrieve and visualize the logs produced by the framework.
Custom Data Source Adapter (SampleApp_10_CustomDataSource)	Presents how to replace the default data source adapter and data source implementation with a custom one.
Blocking UI (SampleApp_11_Block_UI)	Shows how to control the behavior of long-running background tasks (with or without blocking the UI) by using the blockUI parameter.

Sample Application	Description
List Group (SampleApp_13_ListGroup)	Demonstrates how to group table cells based on a business object attribute.
Formatters (SampleApp_14_Formatters)	Demonstrates the usage of value, address, and currency formatters. See <i>Formatters</i> .
Field Visibility (SampleApp_15_HideAField)	Shows how to change the visibility of a UI element based on a business object (BO) attribute.
UI Access (SampleApp_16_UIAccess)	Uses framework APIs to access UI elements (views and controls) that belong to a tile.

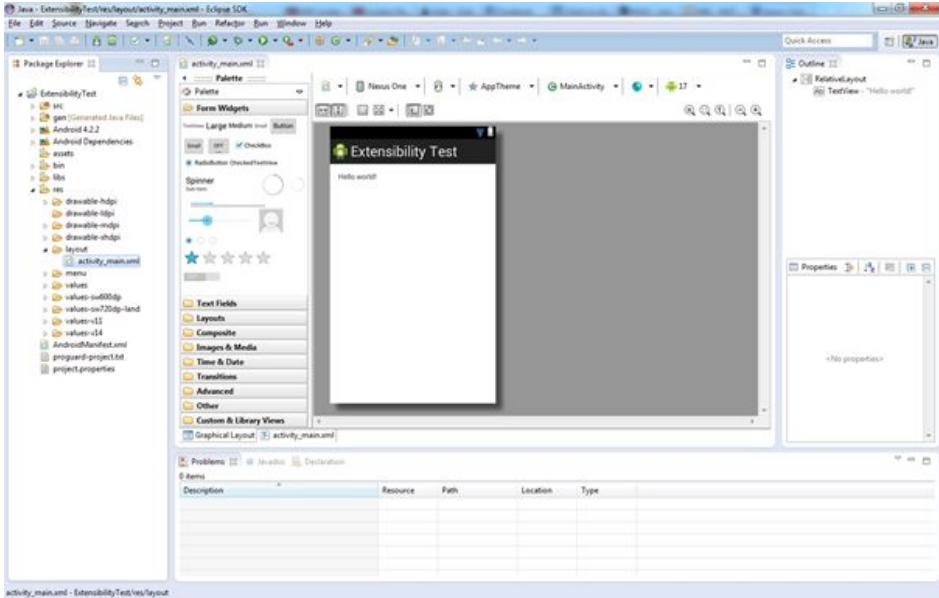
### Creating a New Project

Start Eclipse and create a new Android application project.

1. In Eclipse, select **File > New > Android Application Project**
2. In the New Android Application window, fill in the fields, and click **Next**.



3. Create a blank activity. In the next window, select the **Create Activity** checkbox, select **Blank Activity** from the list, and click **Next**. The following screen appears:



### Adding Dependencies

Import these jar files into the project's lib folder:

- mafextensibility-1.2.0.jar
- mafformatters-1.2.0.jar
- maflogger-1.2.0.jar
- mafuicomponents-1.2.0.jar

### Defining the Extensibility XML

The Extensibility Framework relies on metadata stored in an XML file to build its UIs and perform data bindings at runtime.

The XML file must be named according to the app type, either `layout_phone.xml` or `layout_tablet.xml`.

Extensibility XML files are stored in the `res/raw` folder, which you need to create. Right-click the folder, select **New > Other** and choose **XML > XML file** in the wizard. Name the file `layout_phone.xml` and copy these lines into it:

```
<?xml version="1.0" encoding="UTF-8"?>
<MAF xmlns="http://schemas.sap.com/maf/2012/cfg">

  <!-- Define a "tile" - it translates to UIViewController -->
  <Tile tileId="First Extensible Screen">

    <!-- This is our root view -->
```

```

        <P pid="isRoot" value="true" />
    </Tile>
</MAF>

```

### Initializing Logging and the MAF Core

To initialize logging and the MAFCore, insert these lines into your activity's onCreate method:

```

MAFLogger.logToAndroid(true);
MAFLogger.setLogLevel(IMAFLogger.INFO);
// Sets the default (built-in) layout and styling configuration.
MAFCoreBuilder.setDefaultConfiguration(this, R.raw.layout_phone,
R.raw.styles_def);
MAFCoreBuilder mafCoreBuilder = new MAFCoreBuilder(this, false);
mafCore = mafCoreBuilder.build();
mafCore.switchScreen(this);

```

When you save the activity's class file, You get this error: „MAFCore cannot be resolved to a variable”. To resolve this, define and add mafCore as a class member field with the type of MAFCore to the activity. The R.was.styles\_def value refers to the class that is generated from an XML file located in the resource library in the mafuicomponents. This XML specifies default styling for the UI elements.

Comment or remove the setContentView method invocation from the onCreate method, as the screen is now constructed by MAF Extensibility and initialized by the mafCore.switchScreen method invocation.

Android extensibility implements its own Activity class. Insert this class in the project's AndroidManifest.xml. Insert this line between the application tags:

```

<activity android:name="com.sap.maf.ext.MAFTileActivity"/>

```

You can now run the application, which shows a blank white screen.

### Displaying Text

Add text to the app by enhancing the layout\_phone.xml:

```

<?xml version="1.0" encoding="UTF-8"?>
<MAF xmlns="http://schemas.sap.com/maf/2012/cfg">
    <!-- Define a "tile" - it translates to UIViewController -->
    <Tile tileId="First Extensible Screen">
        <!-- This is our root view -->
        <P pid="isRoot" value="true" />
        <!-- Define the layout container. All UI elements included in
a layout container will be auto-arranged -->
        <LinearLayout layout="vertical">
            <!-- Define our label -->
            <UIElement type="label">
                <!-- Assign the text to be displayed -->
                <P pid="text" value="Hello World! This is
Extensibility!"></P>
            <!-- Default styling is automatically applied (see

```

## Native OData App Development

```
MAFUIComponents.bundle -> SAPDefaultStyle.xml) -->
    </UIElement>
  </LinearContainer>
</Tile>
</MAF>
```

This code first adds a linear container, which arranges the content to be shown based on several criteria. It does not specify additional layout parameters for brevity, therefore the defaults apply. It then adds a label type UI element, a `TextView`, and assigns a static text to it. You can localize texts, but doing so is outside the scope of this sample.



By inserting the code above, you have added the label with the text by editing the layout XML, without performing any code changes. You can change the position and dimensions of the label - centering it horizontally on the screen, and adjusting it vertically 20 points below the toolbar - by inserting these lines in the `UIElement` section:

```
<P pid="halign" value="center"></P>
<P pid="margin_top" value="20pt"></P>
```

To move the text to the center of the screen, comment out the line with `"margin_top"`, and add this line:

```
<P pid="valign" value="center"></P>
```

There are several settings allowing you to fine-tune the position and dimensions of the tiles and UI elements. See the metadata XML for all possible values.

### Adding Custom Code

The Extensibility Framework does not impose any restrictions on developers: you can mix custom code with extensibility features.

This example adds custom code to pop up a Toast once the extensibility engine is started. Insert the following line at the end of the `onCreate` method:

```
Toast.makeText( this , "Extensibility is initialized" , Toast.
LENGTH_LONG ).show();
```

### Adding Custom Styling

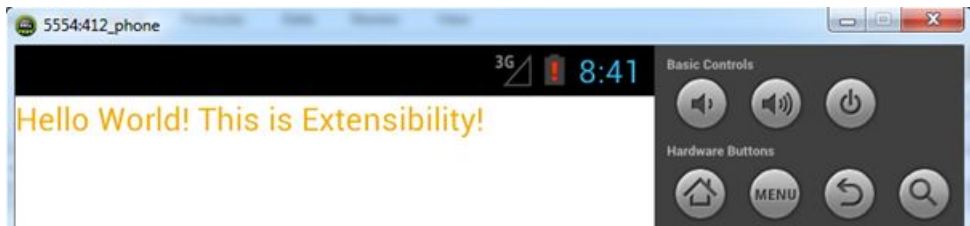
The UI you have now automatically applies the default style that is defined in the `styles_def.xml` file, which is located in the `res/raw` folder. You can override this with custom settings in the `styles_def.xml`.

Paste this snippet between the `<styles>` tags:

```
<Style TargetType="Label" Key="CustomStyle" BasedOn="DefLabel"
platform="android">
  <Setter Property="Foreground" Value="#F0AB00" />
  <Setter Property="FontFamily" Value="sans_serif" />
  <Setter Property="FontSize" Value="16" />
</Style>
```

This is a standard SAP style XML, which defines a custom label. To apply the custom style to your label, edit the `config_phone.xml` and set the style for the label:

```
<UIElement type="label">
  <!-- Assign the text to be displayed -->
  <P pid="text" value="Hello World! This is Extensibility!" />
  <P pid="style" value="CustomStyle" />
</UIElement>
```



### Working with Data

Feed the label with data from an OData stream.

So far you have assigned a static text to the label. This task feeds the label with data coming from an OData stream, fetched via the Internet from a server.

Add these libraries, which provide connectivity, OData parsing and caching, user authentication, and so on:

- MAF

## Native OData App Development

- mafsdmdatasourceadapter-1.2.0.jar
- sdmdatasource-1.2.0.jar
- SAP Mobile Platform/SDM
  - SDMCommon-3.0.0.jar
  - SDMConnectivity-3.0.0.jar
  - SDMParser-3.0.0.jar

The Extensibility Framework includes two libraries for working with OData:

- MAFSDMDataSourceAdapter – a data source adapter that converts between generic data format and OData.
- SDMDatasource – a facade on top of the SAP Mobile Platform/SDM libraries that acts as a wrapper, simplifying the sequence of fetch and parse calls, and providing additional features, such as caching and demo data support.

This example uses the LeaveRequest endpoint:

<http://vmw3815.wdf.sap.corp:50009/sap/opu/sdata/GBHCM/LEAVEREQUEST/>

The OData feed contains a set of collections; this example uses the ApproverCollection. Add a binding definition at the beginning of the layout\_phone.xml. The binding describes the business objects that feed data to the tile's UI. The boType must match the collection name for OData:

```
<?xml version="1.0" encoding="UTF-8"?>
<MAF xmlns="http://schemas.sap.com/maf/2012/cfg">

  <Binding bindingId="Approvers" type="collection">
    <P pid="boType" value="ApproverCollection"></P>
  </Binding>

  <!-- Define a "tile" - it translates to UIViewController -->
  <Tile tileId="First Extensible Screen">
...

```

This example displays the approver name from the OData entry identified by the ApproverEmployeeName property, which is part of the ApproverCollection collection. Next, add the binding reference to the tile:

```
<!-- Define a "tile" - it translates to UIViewController -->
<Tile tileId="First Extensible Screen">

  <!-- This is our root view -->
  <P pid="isRoot" value="true" />

  <!-- Reference to the data binding which provides data for this
tile -->
  <BindingRef ref="Approvers"/>

```

Defining a new label is similar to the previous one, but the label's text is fed with data coming from the binding:

```
<!-- Define 2nd label -->
<UIElement type="label">

```



```

<!-- The label text is showing real data coming from the OData
feed -->
<P pid="text" value="Approved By:
{$Approvers.ApproverEmployeeName}"></P>
<P pid="halign" value="center"></P>
<P pid="margin_top" value="20pt"></P>
<P pid="style" value="CustomLabel"></P>
</UIElement>

```

The `{$Approvers.ApproverEmployeeName}` syntax refers to the employee name. Curly brackets indicate that the content must be evaluated by the Extensibility Framework. The `$` sign denotes a binding (or expression), followed by the collection and the entry name separated by a period.

Create and initialize the datasource in `MainActivity`'s `onCreate` method by inserting the following code snippet immediately after building `MAFCore`:

```

new Thread(new Runnable() {
    @Override
    public void run() {
        try {
            SDMSource source = null;
            SDMConnectivityParameters connectivityParameters = new
SDMConnectivityParameters();

            connectivityParameters.setBaseUrl(BACKEND_BASE_URL_FOR_DIRECT_CONNE
CTION);

            connectivityParameters.setUsername(USER_NAME_FOR_DIRECT_CONNECTION);
            ;

            connectivityParameters.setUserPassword(PASSWORD_FOR_DIRECT_CONNECTI
ON);

            synchronized (SDMSource.class) {
                source = new
SDMSource(MainActivity.this.getApplicationContext(),
connectivityParameters,
"com.sap.mobile.lib.sdmconnectivity.SocketConnectionHandler");
                source.loadModel();
            }
            MAFDataSourceAdapter dataSourceAdapter = new
MAFSMDDataSourceAdapter(source);
            mafCore.setDataSourceAdapter(dataSourceAdapter);

        } catch (Exception e) {
            MAFLogger.e("HelloWorld", "SDM data source exception
during logon", e);
        }
        mafCore.switchScreen(MainActivity.this);
    }
}).start();

```

This approach allows passing in a custom data source adapter, but the default implementation works correctly for OData. This setup is all you need to build an extensible app that does not require custom hooks or mixing native UIs with UIs that are defined via metadata.

From this point on, you only have to enhance the `layout_phone.xml` to define new tiles, UI elements, bindings and so on.

### *Adding and Accessing Localized Text*

Adding localized texts to your app using MAF is the same as for any native device application development environment.

Adding MAF Extensibility or Reusable components to your projects does not interfere with managing native localizable strings on Android. Rather, it makes it possible to manage all, or a subset of the localizable strings, without recompiling the app.

To localize string resources, use native localization files by maintaining your `Localizable.strings` files. Add your keys and the corresponding translatable strings. MAF Extensibility supports keys that contain spaces. Include all translated files in your application project.

### *Using Localization Key in Configuration*

When you create Extensibility-specific localizable files, you must use a naming convention.

Name the files according to the `localization.<language code>.xml` pattern, and place them in the strings directory in the ACP (See the *Mobile Application Workbench* documentation for the structure of the Application Configuration Profile).

Here are several examples of localized Extensibility XMLs:

```
localization.en.xml
```

```
<?xml version="1.0" encoding="utf-8"?>
<Texts>
  <Text id="PRG_NAME" value="SAP Leave Request Demo" />
  <Text id="WELCOME" value="Welcome Demo" />
  <Text id="DEMO_DESCRIPTION" value="Try out the app without
logging in." />
  <Text id="ACTIVATE_AND_LOGON" value="Activate and Logon" />
  <Text id="DEMO_MODE" value="View Sample Data" />
</Texts>
```

```
localization.de.xml
```

```
<?xml version="1.0" encoding="utf-8"?>
<Texts>
  <Text id="PRG_NAME" value="SAP Leave Request Demo" />
  <Text id="WELCOME" value="Willkommen Demo" />
  <Text id="DEMO_DESCRIPTION" value="App mit Demo-Server
ausprobieren" />
  <Text id="ACTIVATE_AND_LOGON" value="Bitte loggen Sie sich
ein" />
  <Text id="DEMO_MODE" value=" Demo-Modus starten" />
</Texts>
```

In the layout configuration, you can refer to a localized string using `$_i18n.<key>` syntax:

```
<Tile tileId="LeaveRequestList">
<P pid="title" value="{$_i18n.PRG_NAME}" />
```

Keys in the Extensibility localization file override any matching keys that are defined in the native `Localizable.strings` resource. This allows you to customize native localized strings.

For example, if the `strings.xml` contains:

```
<string name="PRG_NAME">SAP Leave Request</string>
```

and the Extensibility-specific *localization.<language\_code>.xml* has this entry:

```
<Texts>
  <Text id="PRG_NAME" value="Vodafone Leave Request " />
  ...
</Texts>
```

at runtime, the framework uses "Vodafone Leave Request".

You can use the `MAFCore.getLocalizedText` API to access localized texts from both the native and the extensibility-localized string resources.

### Implementation and Coding

Once you have appropriately set up the environment, you can start coding apps.

#### *Building MAF Core*

To interact with the Extensibility framework, build an implementer of the `MAFCore` interface, which acts as a mediator between the application and the various components of the framework.

Use the `MAFCoreBuilder` class to build a `MAFCore` object. `MAFCoreBuilder` offers setter methods to inject your own code to replace or override the framework's default behavior in different scenarios.

Most use cases require only one `MAFCore` instance, however, you can have several instances. Each `MAFCore` instance has its own lifecycle, and its own context, but they share the same space in the file system, which also means that they share the same MAF Extensibility framework configuration.

Building a `MAFCore` instance is always the first step of using the Extensibility features. If the opening screen of your app is extensible, there are two options for displaying the first MAF driven screen:

- Create your own application object to build `MAFCore` and use one of its `switchScreen()` methods to navigate to the first screen of your application.
- Define a subclass of the `MAFTileActivity` as a launcher activity in your `AndroidManifest.xml`. In this subclass, implement a template method (`onBeforeMAFCreate()`) where you can build your `MAFCore` object and provide it for the activity instance, so that it can use the framework feature set.

If your opening screen is not driven by the Extensibility Framework, build your application in the usual way, creating a MAFCore object only when you need it either to navigate to a framework driven screen, or to ask for a view created by the MAF Extensibility Framework. That view is based on the predefined layout configuration XML and you can use it in your application similar to any native Android view.

If you override the appropriate creation mechanism, the framework can work without any layout configuration. However, to use the framework to get its configuration-driven layouts, you must provide a valid configuration file. Use the appropriate static methods of MAFCoreBuilder class to provide a configuration. To avoid setting the default configuration at each application start, first retrieve the current configuration state. This way you can also decide which available configuration the framework should use.

If you do not want to use MAF Extensibility Framework features in your application, use the release() method to release all your MAFCore objects to free resources.

```
public class MAFExtensibilityBlockUISampleActivity extends
MAFTileActivity {

    private MAFCore mafCore;

    //Data DataSourceAdapter used to provide data from the underlying
database
    private MAFDBDataSourceAdapter appDataSourceAdapter;

    // Method onBeforeMAFCreate is a call-back that is called by MAF
Extensibility
    // to let the application to build MAFCore if not yet built.
    // This can help to let the application the use MAF Extensibility
features even
    // for the first activity initializing the MAFCore within this
call back back method.
    @Override
    protected MAFCore onBeforeMAFCreate() {

//if its already created return it
        if (mafCore != null) return mafCore;

        // Setting log behavior
        // Logging to default Android log should not be turned on in
productive
// mode
        MAFLogger.logToAndroid(true);
        // Change log level for more log messages. Low level logging can
reduce
// performance
        MAFLogger.setLogLevel(IMAFLogger.INFO);

        //Check if default configuration and styling already set for MAF
Extensibility
        MAFConfigurationState state =
MAFCoreBuilder.getConfigurationState(this);
        if (!state.isValidDefaultConfiguration()) {
```

```

        // Sets the default (built-in) layout and styling
        configuration.
        MAFCoreBuilder.setDefaultConfiguration(this,
R.raw.layout_phone,
            R.raw.styles);
    }

    // MAFCore is the main object to deal with MAF Extensibility
    // MAFCore should be built before MAF Extensibility feature can be
    used
    MAFCoreBuilder mafCoreBuilder = new MAFCoreBuilder(this,
false);

    // Initialization of a DataSource that uses built in SQLite
    database for handling data requests.
    // Initialization of a DB Adapter is not a long-running
    process so it can be done in the UI thread
    appDataSourceAdapter = new MAFDBDataSourceAdapter(this);
    // add demo data to the DB DataSource
    addTestData(appDataSourceAdapter);
    // let MAF Extensibility to use this DB DataSource Adapter
mafCoreBuilder.setApplicationDataSourceAdapter(appDataSourceAdapter
);

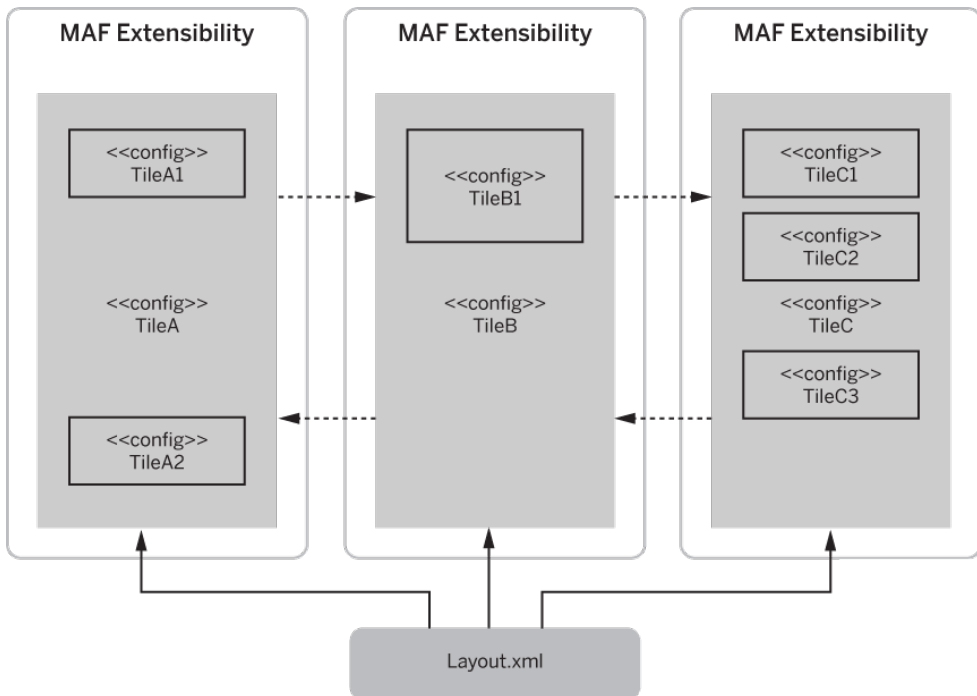
    //Building MAFCore
    mafCore = mafCoreBuilder.build();
    return mafCore;
}

```

### *Fully Metadata-Driven Apps*

You can develop applications that rely purely on configuration. You can develop a fully metadata-driven app by describing the UIs, data bindings, screen transitions, and actions in the layout XML.

The Extensibility Framework resolves the bindings, creates the UIs and inserts them into the navigation chain, and manages the default actions when the device user interacts with the controls.

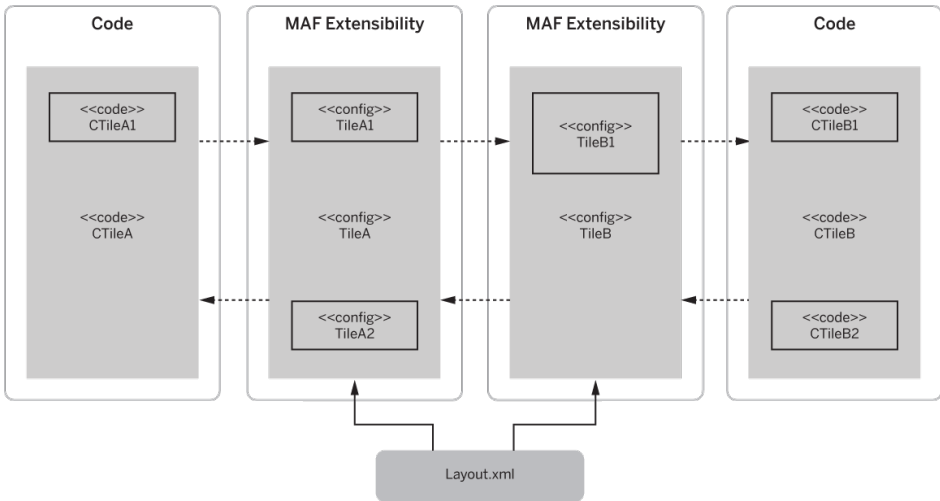


After you set up the layout XML and build the MAF Core, the app is ready to display static data. To use dynamic data in your application, set up a data provider and data source.

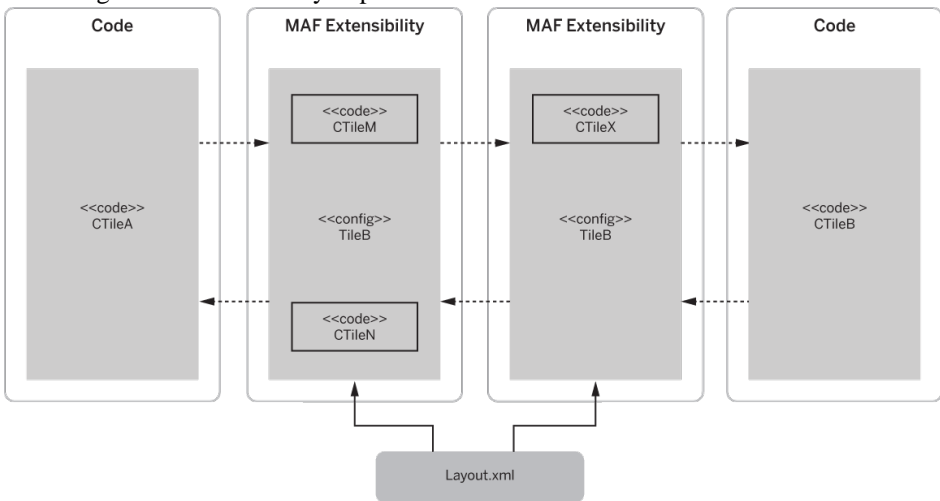
### *Mixing Coded and Metadata-Driven Tiles*

With the Extensibility Framework, you can freely combine metadata-driven tiles and native iOS view controllers (also views and controls).

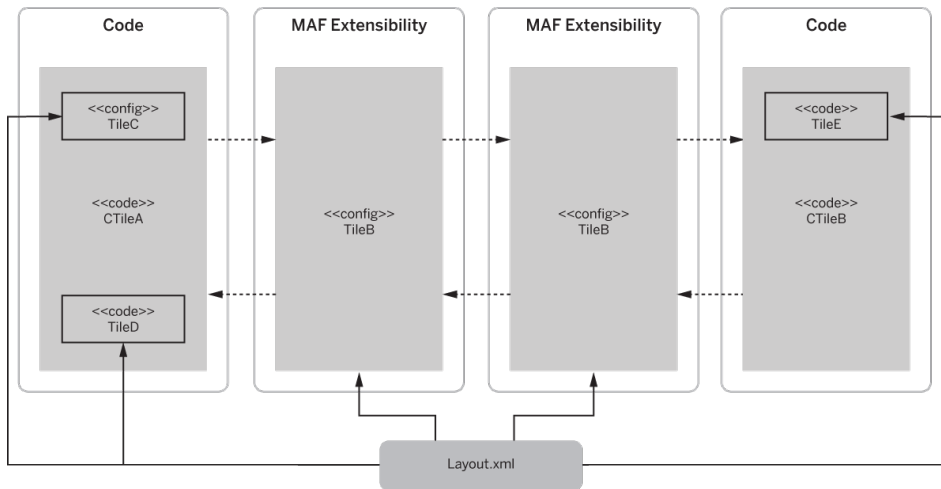
- You can insert coded UIs, and UIs from the layout XML, in the same navigation chain. The root tile itself (the app's initial UI) can also be metadata driven.



- You can add a manually coded view to a metadata-driven tile. The subview is positioned according to the coordinates you provide.



- You can add a metadata-driven subview to a programmatically built UI.



- You can combine configuration-based tiles and subviews, which is a freestyle combination of the above scenarios.
- You can create custom tiles by taking over the creation of specific tiles or tile controllers. If you register your own MAFApplicationTileCreator, it is notified each time a tile is to be created. At this point, you can take over the full creation task or let the framework create the tile and you only need to decorate it.
- To customize controller logic, take over the creation of a controller of a specific tile. If you register your own MAFApplicationTileControllerCreator, it is notified each time a tile is to be created. At this point, you can take over the full creation task or let the framework create the Tile Controller and you only need to decorate it afterwards.

### *Collaborating with MAF Extensibility Framework*

You can interact with the MAF Extensibility Framework on different levels: You can create only a few tiles without any action or data handling, or you can run part of or the entire application using the framework and injecting your application-specific code parts where necessary.

### *Passive and Active Mode of the Framework*

You can use the framework in passive (on-demand) and active (callback-based) modes, that is, with passive and active APIs.

Most use-cases mix both passive and active modes, which allows developers to decide which features of the framework to use.

A passive mode example is when the application creates a new screen, and uses the Extensibility Framework to extend it. The application performs the task and the framework supports it in a passive mode.

An active mode example is when the framework builds a metadata-driven UI, and the application can replace or modify parts, or all of the default execution logic. The framework



actively builds the screen, while the application supports it with its injected code parts. However, the application can always take over the entire process as well.

### *Using the MAF Extensibility Framework in Passive Mode*

When an application uses the framework in passive mode, it can interact with the framework via the MAFCore object.

There are several methods for passively using the MAFCore interface and its successor interfaces. For example, use one of the createTile() methods of MAFCore to have the framework create a metadata driven tile that the application can use in its own view hierarchy. Provide the controller to the tile in your application, or have the framework create it together with the tile.

Tiles in the configuration can refer to several predefined parameters. You can set these parameters programmatically by passing a MAFTileContext object during the creation. When the tile is created, you can get its native UI representation by calling its getView() method.

To have the framework take over the control and switch to a new fully metadata-driven screen, use one of the MAFCore switchScreen() methods.

The scenarios described demonstrate transitions between active and passive mode. The MAF Extensibility Framework can invoke the creator methods of one your injected objects (registered during building the MAFCore object) to let the application interact with the framework to accomplish the requested task.

With MAFCore, you can also retrieve localized texts or display different meta-data driven dialogs. For the full feature set, see the API documentation of these interfaces:

- MAFCore
- MAFCoreScreenManager
- MAFTileFactory

The MAFCore object built with MAFCoreBuilder implements all of these interfaces.

```

        List<MAFParameter> parameterList = new
ArrayList<MAFParameter>();
        parameterList.add(new MAFDefaultParameter("MyParameter",
"ValueOfMyParameter"));

        final MAFTileContext myTileContext = new
MAFDefaultTileContext(parameterList);

        mafCore.switchScreen(this, "myTileIdFromLayoutConfig",
myTileContext);
...
        MAFTileController myTileController = new MAFTileController()
{
    @Override
    public MAFDataResult getData(List<MAFBinding> bindings,

```

```
boolean reloadData,
        boolean updateContext, MAFDataProgressListener
listener) {
    return new MAFDataResult() {
        @Override
        public MAFTileContext getTileContext() {
            return myTileContext;
        }
    };
}

...

};

...

};

mafCore.createTile(this, "myTileIdFromLayoutConfig2Create",
myTileController);
```

### *Using the MAF Extensibility Framework in Active Mode*

Active mode examples include when the framework switches to a new screen or creates a new tile.

However, the application still has the option to interact with the framework and override or modify its default behavior. The interaction between the application and the framework happens via the call-back methods of registered creators, where the application has the following options:

- Let the framework create a new object (such as tiles, controllers, views, and so on).
- Take over the creation process from the framework.
- Modify (decorate) the ready-to-use objects created by the framework.

### *Collaborating with MAF Extensibility Components*

MAF Extensibility Framework follows the MVC (Model-View-Controller) pattern and offers extension points for applications, where they can interact with, decorate, or override the logic behind the components. On top of this, MAF Extensibility Framework has a separate data layer that is responsible for connecting the extensibility framework with the data.

### *Data Layer*

MAF Extensibility Framework provides a data adapter interface called `MAFDataSourceAdapter`. This interface allows the framework to be completely independent from the data provider.

Applications can provide an adapter on top of any kind of data source to map the stored information to objects that the MAF Extensibility Framework can recognize. These objects are known as MAF Generic Business Objects and are interpreted by the `MAFGenericBO` interface.

Once you have built an `MAFCore` object with the `MAFCoreBuilder`, you can set your data source adapter using the `setDataSourceAdapter()` method of `MAFCore`.

A data source adapter and a data source library is shipped with the MAF Extensibility Framework. `SDMDataSource` library is a façade that is built on the standard `SDM` libraries, which helps consume the APIs of the `SDM` libraries. `SDMDataSourceAdapter` converts between `SDMDataEntries` and `MAFGenericBOs`.

For a sample data source adapter implementation, see `SampleApp_10_CustomDataSource`, which uses the Android built in `SQLite` database as its data source.

To use the `SDM Data Source` library as your data provider, instantiate the `SDMSource` class of the library. With the new instance, you can create an `MAFSDMDataSourceAdapter` instance that you can set to `MAFCore` as the `MAFDataSourceAdapter`.

After you set any one of these adapters, or your own implementation of `MAFDataSourceAdapter` interface for `MAFCore`, `MAFExtensibility Framework` is ready to receive and work with the provided data.

```

...
    // Initialization of a DataSource that uses built in SQLite
database for handling data requests.
    // Initialization of a DB Adapter is not a long-running
process so it can be done in the UI thread
    appDataSourceAdapter = new MAFDBDataSourceAdapter(this);
    // add demo data to the DB DataSource
    addTestData(appDataSourceAdapter);
    // let MAF Extensibility to use this DB DataSource Adapter
mafCoreBuilder.setApplicationDataSourceAdapter(appDataSourceAdapter
);
...
    public static void addTestData(MAFDBDataSource dbSource) {
        //Clear all data from the DB created by previous run of this
sample
        dbSource.removeData();

        //Use Database source in Synchron mode (no asynchron
simulation is needed)
        dbSource.setDefaultCommunicationMode(CommunicationModeEnum.SYNCHRON
);

        //Add demo data to the DataSource
        Map<String, String> values = new HashMap<String, String>();

        //Setting the relation (foreign key column name)
        dbSource.addRelation(TITLES_COLLECTION,
GENRE_TITLE_RELATION_ID, GENRES_COLLECTION);

        //...for 'Titles' collection...

```

```
        values.put(NAME_ATTR, "The Shawshank Redemption");
        values.put(RELEASEYEAR_ATTR, "1994");
        dbSource.addDBBO(TITLES_COLLECTION, "shawshank", values);

        ...

        values.clear();

        //...and for 'Genres' collection with setting the appropriate
        relation (foreign key)

        values.put(GENRENAME_ATTR, "Drama");
        values.put(GENRE_TITLE_RELATION_ID, "shawshank");
        dbSource.addDBBO(GENRES_COLLECTION, values);

        ...
    }
```

### *Data Component*

The data component of MAF Extensibility Framework communicates with the data source via the `MAFDataSourceAdapter` interface.

This communication includes create, read, update, delete, and `MAFGenericBO` related operations.

The data component handles and forwards metadata-driven requests to the data source adapter as `MAFBusinessRequest` objects. Use the `MAFGenericBOManager` interface to communicate directly with the data component. Reference the `MAFGenericBOManager` instance via the `MAFCore`.

If you create your own controller for each metadata-driven tile, you can ignore the data component of the framework and implement yours, or you can communicate directly with the data provider. However, to override or modify the behavior of the data component, SAP recommends that you instead register an `MAFApplicationBOListener`. This listener is notified each time the `MAFGenericBOManager` object is about to execute an operation that is related to the `MAF Generic Business Object`, and you can override it, decorate it, or let the framework execute its default logic.

```
// MAFCore is the main object to deal with MAF Extensibility
// MAFCore should be built before MAF Extensibility feature can be
used
    MAFCoreBuilder mafCoreBuilder = new MAFCoreBuilder(this,
false);

    //Registering application Generic BO Listener
    mafCoreBuilder.setApplicationGenericBOListener(new
MyGBOLListener());

...

    private class MyGBOLListener implements
MAFApplicationGenericBOListener {
```

```

        @Override
        public void afterGetGenericBOList(MAFBusinessQuery query,
            MAFGenericBOResultListener listener, MAFBOResult
result) {
            MAFGenericBOList resultList = result.getResultData();
            for (MAFGenericBO resultBO : resultList) {
                String calculatedValue =
resultBO.getValue("originalAttr1") +
resultBO.getValue("originalAttr2");
                resultBO.setValue("MyAttribute", calculatedValue);
            }
        }
        ...
    }

```

### *Logic Component*

The logic component provides data for the UI component and executes actions that are triggered by UI events.

Each Tile has its own controller, represented by the `MAFTileController` interface, to accomplish these tasks. Data for tiles can come directly from the data component, or from a local or global tile context. Tile contexts objects hold temporary references to the Business Objects and UI, or to logic component related parameters. You can group and reference Business Objects by `MAFBinding` objects, which contain the information needed to retrieve Business Objects from the back-end.

`MAFParameters` that are set in `MAFTileContext` or `MAFGlobalContext` objects can hold any objects as a parameter value, including `MAFBusinessObjects`. An example of this is when you pass the selected Business Object while you navigate from a list screen to a detail screen.

To browse the contents of tile and global context objects, get a copy of them from a `MAFTileController`, however, these copies cannot be modified. To change the tile and global context, use the `setContextParameter()` or `setGlobalParameter()` setter methods of the controller objects.

`MAFTileControllers` keep the proper states of the Tile and Global Context, and ensure the proper timing of data retrieval and action execution. As screen tiles can be nest, tile controllers must also cooperate with their parent controller.

The framework provides ways to interact with `MAFTileControllers`, to decorate them or to override them. To use or modify tile controllers, each application must register its own `MAFApplicationTileControllerCreator` object during the creation of `MAFCore`. This creator object is notified each time a `TileController` is to be created. At this point, you can:

- Let the framework create the `TileController`.
- Replace the `TileController` with your own implementation.
- Decorate the created `TileController` with additional or modified functionality.

MAFTileController provides two methods for action execution: performActions() and performAction(). Timing the execution of a set of actions is complex, because of the different execution methods (long-running and instant actions), and because you can override the behavior of any single action.

The performActions() method handles action execution, ensuring that actions in the execution chain wait for previous actions to finish, even if they run in the background. The performActions() method uses the performAction() method as a call-back to execute a single action. If you do not need a different execution mechanism, in a decorator class you can decorate only the performAction() method, not the threading.

However, a decorated object is unaware of the decorator object, so it cannot invoke the performAction() method of the decorator controller. To avoid implementing a complex action execution mechanism, MAFExtensibility provides a predefined action execution class, the MAFDefaultActionExecutor class:

```
// MAFCore is the main object to deal with MAF Extensibility
// MAFCore should be built before MAF Extensibility features can
be used
    MAFCoreBuilder mafCoreBuilder = new MAFCoreBuilder(this,
false);

    //Registering application Tile Controller Creator
    mafCoreBuilder.setApplicationTileControllerCreator(new
MyControllerCreator());

    ...

    private class MyControllerCreator implements
MAFApplicationTileControllerCreator {

        @Override
        public boolean beforeCreateTileController(String tileId,
            MAFTileContext mafTileContext,
            MAFGenericBOManager mafBoManager, MAFGlobalContext
globalContext) {
            //Let the framework to do the controller creation
            return false;
        }

        @Override
        public MAFTileController createTileController(String tileId,
            MAFTileContext mafTileContext,
            MAFGenericBOManager mafBoManager, MAFGlobalContext
globalContext) {
            //Will be never invoked as beforeCreateTileController
return false always
            return null;
        }

        @Override
        public MAFTileController afterCreateTileController(
            MAFTileController tileController, String tileId,
            MAFTileContext mafTileContext,
```

```

        MAFGenericBOManager mafBoManager, MAFGlobalContext
globalContext) {
    //Return a new Decorator object
    return new MyController(tileController);
}

}

private class MyController implements MAFTileController {

    private MAFTileController decoratedController;

    //Create a new actionExecutor that can handle the default
action execution taking care of the proper timing and
synchronization
    private MAFActionExecutor actionExecutor = new
MAFDefaultActionExecutor(this);

    public MyController(MAFTileController decoratedController) {
        this.decoratedController = decoratedController;
    }

    @Override
    public MAFDataResult getData(List<MAFBinding> bindings,
        boolean reloadData, boolean updateContext,
        MAFDataProgressListener listener) {
        //use the default bahviour
        return decoratedController.getData(bindings, reloadData,
updateContext, listener);
    }

    @Override
    public MAFPerformResult performActions(MAFActivityState
activityState,
        List<MAFAction> actions, String eventId,
        String sourceElementId, Object sourceElement, MAFTile
tile,
        MAFPerformProgressListener listener) {
        //use the actionExecutor to handle the default action
execution taking care of the proper timing and synchronization
        //Note: we can not use the decorated controller's same
method here as it is not aware of this class so it would not be ablte
to call back
        //the getActionInfo() and the performAction() method of
this object
        return actionExecutor.performActions(activityState,
actions, eventId, sourceElementId, sourceElement, tile, listener);
    }

    @Override
    public MAFActionInfo getActionInfo(MAFAction action,
        MAFActivityState activityState, String eventId,
        String sourceElementId, Object sourceElement, MAFTile
tile) {
        if ("MyActionId".equals(action.getId())) {

```

```
        //set our action as an instant action that should not be
        delegated to the parent controller
            return new MAFActionInfo(false, false);
        }
        return decoratedController.getActionInfo(action,
activityState, eventId, sourceElementId, sourceElement, tile);
    }

    @Override
    public void performAction(MAFAction action,
        MAFActivityState activityState, String eventId,
        String sourceElementId, Object sourceElement, MAFTile
tile) {
        //If the current action is our action, execute it...
        if ("MyActionId".equals(action.getId())) {
        }
        //... otherwise let the decorated controller to do its job
        decoratedController.performAction(action, activityState,
eventId, sourceElementId, sourceElement, tile);
    }

    ...
}
```

### *UI Component*

The UI Component handles interaction with the user and displays tiles according to the MAF Extensibility layout configuration.

Similarly to the other components, applications can override, decorate, or replace default behavior. Applications can register their own MAFApplicationTileCreator to take over tile creation or to decorate a tile created by the framework.

UIElements can also be created with application code. By registering a MAFUIElementCreator, applications can build their own UIElements, and replace or modify the default UIElement creation of the framework.

Applications can also change the native views of the tiles by getting reference of the tile's view with the `findView(s)` or `getChildViews()` methods. To call these methods, use the view identifiers specified in the default extensibility layout configuration.

```
    // MAFCore is the main object to deal with MAF Extensibility
    // MAFCore should be built before MAF Extensibility features can
be used
    MAFCoreBuilder mafCoreBuilder = new MAFCoreBuilder(this,
false);

    //Registering application Tile Controller Creator
    mafCoreBuilder.setApplicationTileCreator(new
MyTileCreator());

    ...

    private class MyTileCreator implements MAFApplicationTileCreator
```



```

{
    @Override
    public boolean beforeCreateTile(String tileId,
        MAFTileController mafTileController) {
        //Let the framework to do the tile creation
        return false;
    }

    @Override
    public MAFTile createTile(String tileId,
        MAFTileController mafTileController) {
always
        //Will be never invoked as beforeCreateTile return false
        return null;
    }

    @Override
    public MAFTile afterCreateTile(MAFTile tile, String tileId,
        MAFTileController mafTileController) {
        //If this is the Tile we're interested in...
        if ("MyTileIdFromConfig".equals(tileId)) {
            //...return a new Decorator object
            return new MyTile(tile);
        }
        //...otherwise return the Tile created by the framework
        return tile;
    }
}

private class MyTile implements MAFTile {

    private MAFTile decoratedTile;

    public MyTile(MAFTile decoratedTile) {
        this.decoratedTile = decoratedTile;
    }

    @Override
    public View getView(boolean forceReload, int availableWidth,
        int availableHeight) {
always
        //Let the decorated tile to build the view
        View resultView = decoratedTile.getView(forceReload,
        availableWidth, availableHeight);
        //Search for a created sub-view we're interested in
        TextView myLabelTextView = (TextView)
decoratedTile.findViewById("myLabelUIElementFromConfig");
        //Do some after modification
        myLabelTextView.setBackgroundColor(Color.RED);
        //And return the result
        return resultView;
    }

    @Override
    public boolean onEvent(String eventId) {

```

```
        //Keep all other methods untouched now
        return decoratedTile.onEvent(eventId);
    }
    ...
}
```

### *Activity Status*

MAFActivityState object is an MAF-specific object that provides access to the current Android activity instance.

The framework can provide its feature set even if it does not have full access to the life cycle of the underlying OS objects, such as an activity.

To access the latest activity instance, some methods require MAFActivityState as an input parameter instead of an activity or context object. ActivityState objects must provide access to the actual instance. For example, if you have a MAFTile object reference, call the getActivityState() method to get the relevant ActivityState object.

To interact with the MAF Extensibility framework from your own activity, use the MAFActivityManager.provideActivityState() in your activity's onCreate() method, and invoke the returned object's methods from your activity's appropriate callbacks.

```
    // MAFCore is the main object to deal with MAF Extensibility
    // MAFCore should be built before MAF Extensibility features can
    be used
    MAFCoreBuilder mafCoreBuilder = new MAFCoreBuilder(this,
false);

    //Registering application Tile Controller Creator
    mafCoreBuilder.setApplicationUIElementCreator(new
MyViewCreator());

    ...

    private class MyViewCreator implements
MAFApplicationUIElementCreator {

        @Override
        public boolean beforeCreateUIElement(MAFActivityState
activityState,
String uiElementId, String uiElementType, ViewGroup
parentView,
int availableWidth, int availableHeight,
List<MAFParameter> parameters, MAFTile tile) {
    //If its the UI Element we're interested in take over the
creation
    if ("myUIElementIdFromConfig".equals(uiElementId)) {
        return true;
    }
    //Otherwise use the default behaviour
    return false;
}
```

```

        @Override
        public View createUIElement(final MAFActivityState
activityState,
        final String uiElementId, String uiElementType,
ViewGroup parentView,
        int availableWidth, int availableHeight,
        List<MAFParameter> parameters, final MAFTile tile) {
        //This method will be invoked only for our UI elements (the
ones we returned true for on the beforeCreateUIElement method
        final TextView textView = new
TextView(activityState.getActivity());

textView.setText(Long.toString(System.currentTimeMillis()));
        final List<MAFParameter> actionParamList = new
ArrayList<MAFParameter>();
        actionParamList.add(new
MAFDefaultParameter("targetUIElementId",
"myUIElementIdFromConfig"));
        textView.setOnClickListener(new OnClickListener() {
        @Override
        public void onClick(View v) {
            tile.getController().performAction(new
MAFDefaultAction("uiRefresh", actionParamList), activityState,
"onClick", uiElementId, textView, tile);
        }
        });
        return textView;
    }

    @Override
    public View afterCreateUIElement(View view,
MAFActivityState activityState, String uiElementId,
String uiElementType, ViewGroup parentView, int
availableWidth,
    int availableHeight, List<MAFParameter> parameters,
MAFTile tile) {
        //We do not need any changes here now, so return the
created view as it is
        return view;
    }

    @Override
    public boolean beforeRefreshUIElement(View view,
MAFActivityState activityState, String uiElementId,
String uiElementType, ViewGroup parentView, int
availableWidth,
    int availableHeight, List<MAFParameter> parameters,
MAFTile tile) {
        //If its the UI Element we're interested in take over the
refresh mechanism
        if ("myUIElementIdFromConfig".equals(uiElementId)) {
            return true;
        }
        return false;
    }
}

```

```
        @Override
        public void refreshUIElement(View view, MAFActivityState
activityState,
        String uiElementId, String uiElementType, ViewGroup
parentView,
        int availableWidth, int availableHeight,
        List<MAFParameter> parameters, MAFTile tile) {
            //This method will be invoked only for our UI elements (the
ones we returned true for on the beforeRefreshUIElement method
            ((TextView) view).setText(Long.toString(System.currentTimeMillis()))
;
        }

        @Override
        public void afterRefreshUIElement(View view,
MAFActivityState activityState, String uiElementId,
String uiElementType, ViewGroup parentView, int
availableWidth,
        int availableHeight, List<MAFParameter> parameters,
MAFTile tile) {
            //We do not need any changes here now
        }
    }
}
```

### Technical Details

Understand the development principals of business objects, extensibility layouts, functions, adaptors and configuration management.

### *Generic Business Object*

The Extensibility Framework is independent of the underlying data model. Data is represented by generic business objects; the generic business object (BO) is an abstraction introduced on top of the currently supported OData data model.

The generic business object has a type and a unique identifier, and exposes APIs for assigning key-value pairs; additionally, you can query a business object's state, which can be one of:

- **Transient** – exists only on the client, has never been persisted.
- **Persistent** – exists in the database, but has not been modified on the client.
- **Dirty** – has been modified on the client, but the changes have not yet been committed to the database.

Generic business objects also provide undo management capabilities.

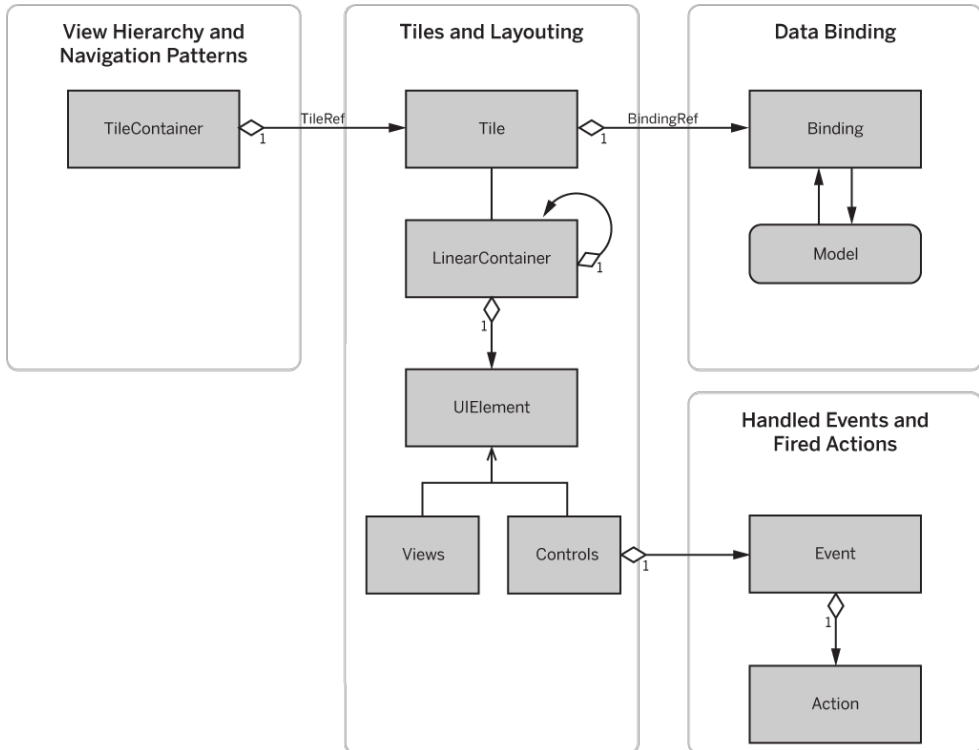
The `MAFSMDDataSourceAdapter` defines the OData-specific `MAFSMDMBO` class, which inherits from the `MAFGenericBO`. If you implement a custom datasource adapter, you must also implement a custom `MAFGenericBO` specialization, and convert the data model to the generic object format.

### Extensibility Layout XML

Configuration is the core of the Extensibility Framework.

Configuration metadata is presented in the form of XML files, which describe:

- The **TileContainer**, which defines the view hierarchy setup and the navigation pattern
- The tiles, including subviews, controls, and layout parameters
- Data binding information, which describes the model that feeds the tiles
- The default or custom actions to be performed when interacting with a control



A layout XML file typically includes these sections:

```

<MAF xmlns="http://schemas.sap.com/layout/0.1/maf">
  <!-- Define the binding -->
  <Binding bindingId="Screws" type="collection">
    <P pid="boType" value="ScrewCollection" />
  </Binding>
  <!-- Define the tile container -->
  <TileContainer tileContainerId="Root" type="nav">
    <P pid="isRoot" value="true" />
    <P pid="isHeaderVisible" value="false" />
    <TileRef ref="ScrewList" />
  </ TileContainer >

```

```

<!-- Define the tile -->
<Tile tileId="ScrewList">
  <P pid="title" value="{$_i18n.screwList}" />
  <!-- Define the tiles binding reference -->
  <BindingRef ref="Screws">
    <P pid="useContext" value="true" />
  </BindingRef>
  <!-- Layout Definition -->
  <LinearContainer layout="vertical">
    <P pid="height" value="100%" />
    <P pid="width" value="50%" />
    <P pid="halign" value="left" />
    <P pid="margin_top" value="15pt" />
    <P pid="margin_left" value="40pt" />
    <!-- UILabel -->
    <UIElement type="label">
      <!--label text - the $_i18n. prefix denotes a key to
localizable string resource - see also 2.8-->
      <P pid="text" value="{$_i18n.GENERAL_DATA}" />
      <!-- Label style as defined in SAPDefaultStyles.xml - see 2.5--
>
      <P pid="style" value="CLabelWithLightGreyBackground" />
      <P pid="width" value="85%" />
      <P pid="valign" value="top" />
      <P pid="halign" value="left" />
      <P pid="margin_top" value="10pt" />
      <P pid="margin_left" value="15pt" />
      <P pid="margin_bottom" value="10pt" />
    </UIElement>
    <!-- UIButton -->
    <UIElement type="button">
      <P pid="text" value="{$_i18n.GOTO_MAIN}" />
      <P pid="width" value="85%" />
      <P pid="height" value="36pt" />
      <P pid="margin_bottom" value="7pt" />
      <P pid="style" value="stdButton" />
      <P pid="halign" value="center" />
      <!-- assign events -->
      <Event eventId="onClick">
        <!-- ...and actions -->
        <Action actionId="navigate">
          <P pid="target" value="AppScreen" />
        </Action>
      </Event>
    </UIElement>
    <!-- Further UI definitions - see XSD for all supported UI
elements and controls -->
  </LinearContainer>
</Tile>
</MAF>

```

### *Extensibility Configuration XSD*

The `MAFExtensibility.xsd` file and the corresponding metadata configuration XML file provide details about the attributes and values you can use to define a valid Extensibility

Framework configuration. `MAFExtensibility.xsd` includes a detailed explanation of all the supported attributes and values.

### *Tile Bindings*

The binding section describes the business objects that feed data to the tile's UI. You must provide the binding definitions at the beginning of the layout XML.

To define a binding in the layout XML, use:

```
<Binding bindingId="LeaveRequests">
  <P pid= "boType" value="LeaveRequestCollection" />
  <!-- Add further binding parameters here -->
</Binding>
```

The binding definition has a unique ID. Each binding can have several parameters, which are documented in the XSD schema. Some of the most frequently used parameters include:

- **boType** – represents the type of business objects, or a collection name (OData).
- **sourceBo** – is a business object for which related data is queried.
- **relationId** – identifies the related collection or entry.
- **orderBy** – orders returned entries by the specified criteria.
- **top** – limits the number of entries to be returned simultaneously.
- **skip** – indicates the number of items to be skipped before a fetch; used for paging.
- **filter** – represents an OData filtering string.

For additional parameters, see the extensive documentation in the XSD file. This tile definition contains a reference to the binding previously defined:

```
<Tile tileId="LeaveRequestList">
  <P pid="title" value= "{$_i18n.leaverequestlist}"/>
  <BindingRef ref="LeaveRequests" />
<!-- further details skipped for brevity -->
</Tile>
```

By default, bindings are resolved at runtime by the framework, but you can add custom control logic to manage the model for specific tiles.

### *Tile Containers*

The tile container represents a logical grouping of tiles that work together, based on the navigation pattern that is used to switch between tiles.

You can choose from the following navigation patterns:

- Single view
- Standard navigation
- Tab
- Split or master/detail

In single view, no tile container is necessary, because there is no navigation. For standard navigation, tile container definition is necessary only when you share common information

between the tiles that you navigate to, such as action bar styling. However, for easier compatibility with other platforms, SAP recommends that you always embed your tile into a tile container.

With split or tab-based navigation, you must use a tile container, because it describes which tiles to use as tab or master/detail screens.

You can specify multiple tile containers if the app contains different navigation patterns. However, mark only one tile as the root to make that tile container the app window's root view controller. The framework considers only the first tile as a root tile.

Single-view apps do not need to have a tile container in their configuration. In a single-view app, define the corresponding root tile and mark it as root. The root tile can enclose further tile references and supported events and fired actions, which are brought up modally. For example:

```
<!-- Single View Tile Container -->
  <Tile tileId="Root">
    <P pid="isRoot" value="true" />
    <!--Defines a 'Settings' button, which brings up modally the
SettingsScreen -->
      <UIElement type="button">
<P pid="text" value="$i 18n.Settings" visible="true" />
<P pid="halign" value="left" />
<P pid="width" value="49%" />
<P pid="height" value="25pt" />
<P pid="style" value="BlackButton" />
<!--See Managing Lists for more details on events and actions-->
<Event id="onClick">
<Action id="navigate">
<P pid="target" value="SettingsScreen" />
</Action>
</Event>
      </UIElement>
    </ TileContainer >
```

Navigation-based tile containers can contain only one tile reference. The referenced first tile can, however, enclose further tile references. For example:

```
<!--Navigation Based Tile Container -->
  <TileContainer tileContainerId="Root" type="nav">
    <P pid="isRoot" value="true" />
    <P pid="isHeaderVisible" value="false" />
    <!--Define the initial Tile - further tiles belonging to the
navigation chain are referenced from the initial tile and so on -->
      <TileRef ref="Overview" />
    </ TileContainer >
```

Split-tile containers must include two tile references: the master tile and the detail tile. For example:

```
<!--Split (Master-Detail) Tile Container -->
<!--!!! It shall have two tiles: the Master and the Detail -->
  <TileContainer tileContainerId="Root" type="split">
    <P pid="isRoot" value="true" />
```



```

    <P pid="isHeaderVisible" value="false" />
    <TileRef ref="MasterTile" />
    <TileRef ref="DetailTile" />
  </ TileContainer >

```

Tab-based tile controllers can enclose all several tile references, one for each tab. For example:

```

<!-- Tabbed Tile Container -->
<TileContainer tileContainerId="Root" type="tab">
  <P pid="isRoot" value="true" />
  <P pid="isHeaderVisible" value="false" />
  <TileRef ref="FirstTabTile" />
  <TileRef ref="SecondTabTile" />
  <TileRef ref="ThirdTabTile" />
</ TileContainer >

```

### Tile Definitions

A tile is a UI element that has a visual representation on an iPhone or an iPad screen. It can be an entire screen, a composite tile, or a simple view element.

A basic tile can be described by these parameters:

- **Unique identifier** – (required) precisely identifies the tile inside the framework, or on the client side by the app developer.
- **Title** – (optional) a localizable string ID, text.
- **imageSrc** – (optional) the image that is to appear on the tile; can be either a bundled resource or an image URL.

This example describes a navigation-based application that contains two tiles. Follow the same pattern to add sibling or child tiles. The embedded tile with the “LeaveRequestList” ID is declared as a tile reference inside the enclosing tile’s definition:

```

<?xml version="1.0" encoding="UTF-8"?>
<MAF xmlns="http://schemas.sap.com/maf/2012/cfg">
  <!-- Define a TileContainer (Container View Controller)
  * Here we define a navigation based container (translates to
  UINavigationController)
  * Currently possible values are "nav", "tab"
  (UITabBarController) and "split"
  * (UISplitViewController / iPad)
  -->
  <TileContainer tileContainerId="NavigationContainer"
  type="nav">
    <P pid="isRoot" value="true"/>
    <TileRef ref="LeaveRequestScreen"/>
  </TileContainer>

  <Tile tileId="LeaveRequestScreen">
    <P pid=" title" value="{ $ _il8n.leaveoverview }"/>
    <P pid=" imageSrc" value="MAFExtensibilityImages.bundle/General-
    Leave.png"> <!--A linear container arranges the tiles and UI
    elements declared in its scope -->
    <LinearContainer layout="vertical">
      <Tile ref="LeaveRequestList"/>
    </LinearContainer>
    <!--Further tiles and UI elements skipped for brevity -->
  </Tile>

```

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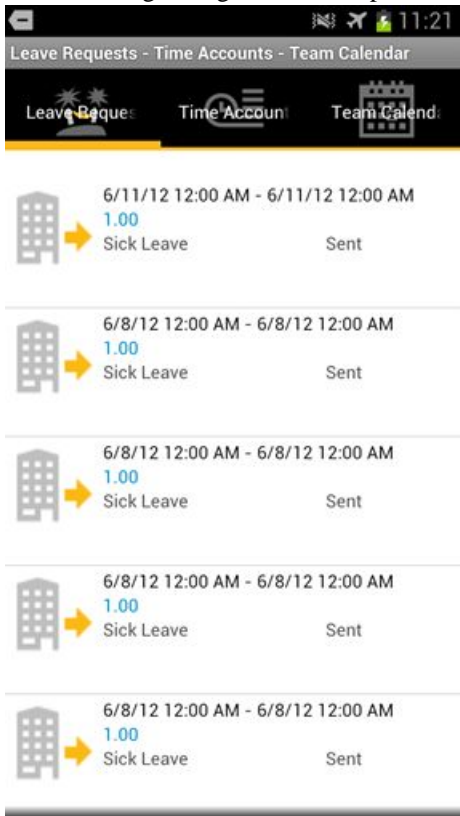
```
</LinearContainer>
  </Tile>

  <Tile tileId="LeaveRequestList">
    <P pid="title" value="{$_i18n.leavelist}" />
    <!--Further details skipped for brevity -->
  </Tile>
</MAF>
```

### Tile Layouts

The framework enables you to build complex metadata-driven UIs.

The following configuration example describes the tile's layout as presented in this picture:



```
<Tile tileId="leave_request_list">
  <P pid="title" value="{$_i18n.leaverequests}" />
  <P pid="imageSrc" value="{$_resource.lr_tab_icon}" />
  <Event ...
</Event>
  <BindingRef ref="filtered_leave_requests">
    <P pid="forceReload"
value="{$_context.forceReloadLeaveRequests}" />
  </BindingRef>
```

```

<LinearContainer layout="vertical">
  <P pid="width" value="100%" />
  <LinearContainer layout="vertical">
    <P pid="width" value="100%" />
    <UIElement type="label">
      <P pid="text" value="{$_i18n.since}
{$_format.date($_now('-744'),'short')}}" />
      <P pid="width" value="100%" />
      <P pid="padding_vertical" value="2" />
      <P pid="padding_horizontal" value="5" />
      <P pid="style" value="bg_title" />
    </UIElement>
  </LinearContainer>
<ListContainer>
  <P pid="width" value="100%" />
  <ListSection>
    <ListItem feed="filtered_leave_requests">
      <Event ...
      </Event>
      <LinearContainer layout="horizontal">
        <P pid="width" value="100%" />
        <P pid="halign" value="left" />
        <P pid="valign" value="center" />
        <P pid="padding" value="0" />
        <LinearContainer layout="horizontal">
          <P pid="width" value="100%" />
          <P pid="halign" value="left" />
          <P pid="valign" value="center" />
          <P pid="padding" value="0" />
          <LinearContainer>
            <P pid="width" value="20%" />
            <P pid="height" value="100" />
            <P pid="halign" value="center" />
            <P pid="valign" value="center" />
            <P pid="padding" value="0" />
            <UIElement type="image">
              <P pid="imageSrc"
                value="{$_filtered_leave_requests.
$_selected.AbsenceTypeIcon}" />
              <P pid="scaleType" value="fit_center" />
              <P pid="height" value="75" />
              <P pid="width" value="75" />
            </UIElement>
          </LinearContainer>
          <LinearContainer layout="vertical">
            <P pid="width" value="80%" />
            <P pid="padding_horizontal" value="5" />
            <P pid="padding_vertical" value="2" />
            <UIElement type="label">
              <P pid="text"
                value="{$_format.date($_filtered_leave_requests.
$_selected.StartDate,'short')} -
{$_format.date($_filtered_leave_requests.
$_selected.EndDate,'short')}}" />
              <P pid="width" value="100%" />
              <P pid="halign" value="left" />
            </UIElement>
          </LinearContainer>
        </LinearContainer>
      </ListItem>
    </ListSection>
  </ListContainer>

```

```

    <P pid="style" value="bold_title" />
  </UIElement>
  <UIElement type="label">
    <P pid="text"
      value="{filtered_leave_requests.
$ _selected.WorkingDaysDuration}" />
    <P pid="width" value="100%" />
    <P pid="halign" value="left" />
    <P pid="style" value="highlighted" />
  </UIElement>
  <LinearContainer layout="horizontal">
    <P pid="width" value="100%" />
    <P pid="valign" value="center" />
    <UIElement type="label">
      <P pid="text"
        value="{filtered_leave_requests.
$ _selected.AbsenceTypeName}" />
      <P pid="width" value="50%" />
      <P pid="halign" value="left" />
      <P pid="valign" value="center" />
    </UIElement>
    <UIElement type="label">
      <P pid="text" value="{filtered_leave_requests.
$ _selected.StatusName}" />
      <P pid="width" value="50%" />
      <P pid="halign" value="right" />
      <P pid="valign" value="center" />
    </UIElement>
  </LinearContainer>
</LinearContainer>
</LinearContainer>
</LinearContainer>
</ListItem>
</ListSection>
</ListContainer>
</LinearContainer>
</Tile>

```

### List Management

The framework includes an easy way to define a list container via configuration.

Although you can define each row (list item) individually, you can also create a configuration that automatically renders a cell for each BO coming from the binding.

This feature is widely used with master/detail application types, which follow a drill-down approach. You can use either of the two approaches or mix them, but you can use only one `ListItem` with `feed` in a `ListSection`, which is groups cells within the definition.

```

<!-- Tile definition -->
<Tile tileId="LeaveRequestList">
  <!-- Tile title comes from a localized resource -->
  <P pid="title" value="{$_i18n.leaverequestlist}"></P>
  <!-- 'LeaveRequests' binding referenced from the tile-->
  <BindingRef ref="LeaveRequests" />
</ListContainer>

```

```

<ListSection>
<!-- A feed is assigned to the ListItem => a cell is created and
displayed for each BO -->
  <ListItem feed="LeaveRequests">
    <!--the 'actionIndicator' refers to the cell's accessory type -->
    <!--Layout the cell's content -->

<LinearContainer layout="horizontal">
  <!--UILabel inside the cell -->
<UIElement type="label">
<!--UILabel's text is the absence type coming from thebinding -->
  <P pid="text" value="{LeaveRequests.AbsenceTypeName}"></
P>
  </UIElement>
</LinearContainer>
</ListItem>
</ListSection>
</ListContainer>
</Tile>

```

The framework provides support for grouping list rows in sections, based on a chosen property of the BO. You can use this feature in a `ListSection` by adding the `autoGroupBy` attribute as shown in this example:

```

<Tile tileId="GroupScreen">
  <BindingRef ref="Titles"/>
  <ListContainer>
    <!-- autoGroupBy attribute is used to group the items based on
their ratings -->
    <ListSection autoGroupBy="Rating">
      <!--Section Header definition for the group 'Rating' -->
      <ListBar>
        <LinearContainer layout="vertical">
          <UIElement type="label">
            <!--Section Header definition for the group
'Rating' -->
            <P pid="text" value="Rating: {$Titles.Rating}"/>
          </UIElement>
        </LinearContainer>
      </ListBar>
      <!-- Cells with feed -->
      <!-- Remark: feed should be the same as used for
autoGroupBy -->
      <ListItem feed="Titles">
        <LinearContainer layout="vertical">
          <UIElement type="label">
            <P pid="text" value="{Titles.Name}"/>
          </UIElement>
        </LinearContainer>
      </ListItem>
    </ListSection>
  </ListContainer>
</Tile>

```

### *Context Management*

Tile context acts like a cache, holding the content that is relevant for one or more tiles.

There are two types of contexts:

- **Local** – the context that belongs to a specific tile, which is updated with binding data, or with data passed from or updated by other tiles.
- **Global** – acts like a versatile, central in-memory cache, from which you can manage any custom objects that are identified by a unique ID.

### *Global Context Management*

The global context is a central repository for custom key-value pairs that are available to both application development and configuration. You can place, retrieve, and delete global context values based on their unique keys.

To update a global context, use the `updateGlobalContext` action. The same syntax and parameters apply as for the local context.

You can insert or update the global context with BO attributes, free text, or custom data. This example shows how tapping a cell triggers the update of the global context for the `releaseYear` key, with the value coming from the corresponding `MovieTitles` binding:

```
<ListItem feed="MovieTitles">
  <Event eventId="onClick">
    <Action actionId="updateGlobalContext">
      <P pid="releaseYear" value="{ $MovieTitles.ReleaseYear }" />
    </Action>
  </Event>
</ListItem>
```

Although tiles should use the local context, they can also access data that is available in the global context. To access global context elements, use the `{$_global.<value>}` syntax. This example shows how `TileWithGlobalContext` uses values that are stored in the global context:

```
<Tile tileId="TileWithGlobalContext">
  <LinearContainer layout="vertical">
    <!-- Details skipped for brevity -->
    <UIElement type="label">
      <P pid="text" value="{ $_global.
MovieTitles.ReleaseYear }" />
    </UIElement>
    <UIElement type="label">
      <P pid="text" value="{ $_context.type}" />
    </UIElement>
  </LinearContainer>
</Tile>
```

### Automatic and Explicit Context Updates

Supported context management methods include both automatic and explicit context updates.

- **Automatic updates** – use data that is passed from another tile when a navigation action occurs. You can pass BO attributes, references to context or global context data, or to free text. Use `$_context.<attribute>` to refer to an existing local context attribute, and `$_global.<attribute>` for a global context attribute. This example shows how context parameters are passed when the navigate action is triggered. The target tile's (TileB) local context is updated with the two values: a free text and a value coming from a binding:

```
<UIElement type="button">
  <P pid="text" value="Go" />
  <P pid="halign" value="center" />
  <Event eventId="onClick">
    <Action actionId="navigate">
      <!--Context receiver - the target tile which receives the
      context upon navigating to it -->
      <P pid="target" value="TileB" />
      <!-- Keys and values to be passed to the target Tile's local
      context -->
      <!-- The freetext value "Tablet" is passed for the key "type"
      -->
      <P pid="type" value="Tablet" />
      <!-- The movie title coming from the binding MovieTitles is
      passed for the key "movie" -->
      <P pid="movie" value="{ $MovieTitles.Name}" />
    </Action>
  </Event>
</UIElement>
```

- **Explicit updates** – use `updateContext` action to update the local context of tiles that appear on the same screen or exist in the tile stack.

You must specify the target tile (the receiver) in the same way as for automatic updates. Similarly, define the key-value pairs to be passed to the target tile as properties. You can pass BO attributes, references to local or global context data, or to free text. Use `$_context.<attribute>` to refer to an existing local context attribute, and `$_global.<attribute>` for a global context attribute. To pass the same objects to several different tiles, add a new `updateContext` action for every tile and repeat the context parameters. This example demonstrates how to bind the `updateContext` to the `onClick` event of a button. When the device user taps the button, the Tile3 target tiles's context is updated for the "platform" and "type" keys.

```
<UIElement type="button">
  <P pid="text" value="Tablet" />
  <P pid="halign" value="center" />
  <Event eventId="onClick">
    <Action actionId="updateContext">
      <!--Context receiver - the target tile which receives the
      context-->
      <P pid="target" value="Tile3" />
    </Action>
  </Event>
</UIElement>
```

```
<!--the key and value to be updated -->
  <!-- $_context.<attribute> denotes a context attribute -->
  <P pid="platform" value="{$_context.platform}" />
  <!--the key and value to be updated - value is free text in this
case-->
  <P pid="type" value="Tablet" />
</Action>
</Event>
</UIElement>
```

### *Responses to Context Update Events*

The target tile can use the `{$_context.<value>}` syntax to access passed values in its local context.

To update the UI whenever the context changes, hook in for the `onContextChanged` event and perform the `uiRefresh` action.

Tiles that exist in the tile stack but are not visible do not execute actions of the `onContextChanged` event when it is triggered, but the next time they become visible.

This example shows how to feed Tile3's labels from the local context.

```
<Tile tileId="Tile3">
  <!--Refresh the UI when the context changes -->
  <Event eventId="onContextChanged">
    <Action actionId="uiRefresh" />
  </Event>
  <!--Stop further UI updates till the context updated event arrives
-->
  <P pid="waitForContext" value="true" />
  <LinearContainer layout="vertical">
    <!-- Details skipped for brevity -->
    <UIElement type="label">
      <P pid="text" value="{$_context.platform}" />
    </UIElement>
    <UIElement type="label">
      <P pid="text" value="{$_context.type}" />
    </UIElement>
    <UIElement type="label">
      <P pid="text" value="{$_context.movieBO.Name}" />
    </UIElement>
  </LinearContainer>
</Tile>
```

In some cases, the tile cannot proceed until the context is updated by other tiles. This is especially true for tablet apps: there is nothing to show in the detail view while the master view is retrieving data. Once the master tile has all the required data, it can update the detail tile's context by firing an `updateContext` action. The detail tile, which has been on hold if `waitForContext` is enabled, can now resolve its bindings and refresh its UI.

This example demonstrates how the master tile updates the detail tile's context, which is waiting for this to happen:



```

<Tile tileId="MasterTile">
  <P pid="width" value="300pt" />
  <P pid="height" value="910pt" />
  <BindingRef ref="Products" />
<ListContainer>
  <P pid="uiElementId" value="CategoriesList" />
  <P pid="width" value="300pt" />
  <P pid="height" value="910pt" />
  <ListSection>
    <ListItem>
      <P pid="actionIndicator" value="arrow" />
      <Event eventId="onClick">
        <!--Update the Detail tile when the user taps the cell-->
        <Action actionId="updateContext">
          <P pid="target" value="DetailTile" />
          <P pid="selectedCategory" value="Notebooks" />
        </Action>
      </Event>
    </ListItem>
  </ListSection>
  <!-- Further details skipped for brevity -->
</ListContainer>
</Tile>

<Tile tileId="DetailTile">
  <!--Refresh the UI when the context changes -->
  <Event eventId="onContextChanged">
    <Action actionId="uiRefresh" />
  </Event>
  <!--Freeze the Tile till the context updated event arrives! -->
  <P pid="waitForContext" value="true" />

  <LinearContainer layout="vertical">
    <!-- Details skipped for brevity -->
    ...
  </LinearContainer>
</Tile>

```

For additional details about context-specific actions and parameters, see the extensibility configuration XSD file.

### *Definitions of Events and Actions*

Actions define how a control reacts to user interactions or internal events.

The framework currently supports these event types:

- `onClick` (touch)
- `onLongClick` (touch and hold)
- `onOrientationChange` (on-phone orientation change)
- `onEnter` (on Enter pressed)
- `onSearch` (for `MAFSearchBars`)
- `onChange` (for example, after text changes in `TextViews`)

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- `onDataLoaded`
- `onProgressCanceled`
- `onContextChanged`
- `onGlobalContextChanged`
- `onLeftSwipe`
- `onRightSwipe`
- `onBottomSwipe`
- `onTopSwipe`
- `onBeforeAppear`
- `onAfterAppear`
- `onAfterCreate`
- `onAfterDataLoad`

These actions define what happens when an event is triggered:

- `navigate` – navigates to another screen with a given target tile.
- `back` – returns to the previous screen.
- `copy` – copies attributes from the source object to the target object.
- `save` – saves any changes that have been made to the current object.
- `delete` – deletes the current object.
- `uiRefresh` – refreshes the current tile's views.
- `dataReload` – reloads the data.
- `showModal` – presents the tile modally.
- `dismissModal` – closes a modal screen.
- `updateContext` – updates the tile's context.
- `clearContext` – purges context.
- `updateGlobalContext` – updates the global context cache with values that are provided as action parameters.
- `clearGlobalContext` – cleans up the global context.
- `pushUndoBuffer` – starts an undo group; changes made in an undo group can be undone simultaneously.
- `popUndoBuffer` – closes a previously opened undo group.
- `emptyUndoBuffer` – reverts all BO changes.
- `showProgressView` – shows an alert view; the alert view's parameters are provided in the binding and the `BindingRef`.
- `showProgressIndicator` – shows a progress indication in the header area.
- `dismissProgressView` – closes the progress dialog or indicator previously opened via `showProgressView` or `showProgressIndicator`.
- `showAlterView` – displays a new alert dialog.
- `phoneCall` – starts a phone call.

- `showToast` – shows a new toast message.

This example demonstrates how to define a button to react to touch events by navigating to the tile with the `TimeAccountsScreen` ID:

```
<UIElement type="button">
  <P pid="text" value="Time Accounts" visible="true" />
  <P pid="halign" value="left" />
  <P pid="width" value="49%" />
  <P pid="height" value="25pt" />
  <P pid="style" value="BlackButton" />
  <Event id="onClick">
    <Action id="navigate">
      <P pid="target" value="TimeAccountsScreen" />
    </Action>
  </Event>
</UIElement>
```

### Formatters

The Extensibility Framework enables you to change currency, address, phone number, date, and time formats, based on the locale settings of the device.

### Amounts with Currency

You can format amounts with currency in different ways.

This example formats the amount (decimal and thousands separator) based on the current locale and places the Euro sign accordingly:

```
<!--Currency -->
<UIElement type="label">
  <P pid="text" value="1234.56" />
  <P pid="width" value="75%" />
  <P pid="margin_bottom" value="5%" />
  <P pid="halign" value="center" />
  <!--Currency Formatter Input Pattern Definition -->
  <Format type="currency" pattern="?" platform="iOS">
  <!--Currency Code -->
    <P pid="currencyCode" value="EUR" />
  </Format>
</UIElement>
```

The amount and currency code can be transported from the database along with the BO as shown here:

```
<UIElement type="label">
  <!--Amount comes from the BO -->
  <P pid="text" value="{${CRMOpportunities.EXP_REVENUE}}" />
  <P pid="style" value="CThinLabelWithLightGreyBackground" />
  <P pid="valign" value="top" />
  <P pid="halign" value="left" />
  <!--Currency Formatter Input Pattern Definition -->
  <Format type="currency" pattern="?" platform="iOS">
  <!--Currency Code comes from the BO -->
    <P pid="currencyCode" value="{${CRMOpportunities.CURRENCY}}" />
  </Format>
</UIElement>
```

```
</Format>  
</UIElement>
```

### *Date and Time*

You can format date and time as required.

```
<!-- Date and Time -->  
<UIElement type="label">  
<!-- $_now() returns the current date and time - see for details on  
supported functions -->  
  <P pid="text" value="{$_now()}" platform="Android" />  
  <P pid="width" value="75%" />  
  <P pid="margin_bottom" value="5%" />  
  <P pid="halign" value="center" />  
  <!-- Date/Time Formatter Output Format -->  
  <Format type="datetime" pattern="DATE/D/LONG" platform="Android">  
    <P pid="InputString" value="2012-09-07T16:30:00" />  
    <P pid="DATE_STYLE" value="1" />  
    <P pid="DATE_MODE" value="0" />  
    <P pid="DATE_PARAMS" value="1" />  
  </Format>  
</UIElement>
```

### *Phone Number*

Format phone numbers to use a corresponding international prefix. A country code determines the prefix used.

```
<!-- Phone -->  
<UIElement type="label">  
  <!-- The phone number will be formatted based on the  
international prefix.  
If no international prefix is available formatting is done based on  
the provided country code -->  
  <P pid="text" value="+1234567890" />  
  <P pid="width" value="75%" />  
  <P pid="margin_bottom" value="5%" />  
  <P pid="halign" value="center" />  
  <Format type="address" pattern="PHONELOC" platform="Android">  
    <P pid="ADDRESS_MODE" value="3" />  
    <P pid="Phone" value="{$_value}" />  
    <P pid="OperatorCountryCode" value="0036" />  
    <P pid="CountryCode" value="HU" />  
    <P pid="CountryName" value="Hungary" />  
    <P pid="postalCode" value="1031" />  
  </Format>  
</UIElement>
```

### *Address*

You can format addresses as required.

```
<!-- Address -->  
<UIElement type="label">  
  <P pid="wrapText" value="true" />  
  <P pid="width" value="75%" />
```

```

<P pid="margin_bottom" value="5%" />
<P pid="halign" value="center" />
<!-- Address Input Format - quite lengthy but this is how it works
-->
<Format type="address" pattern="ADDRLOC" platform="Android">
  <P pid="ADDRESS_MODE" value="1" />
  <P pid="Address" value="1031 Budapest Zahony Street 7" />
  <P pid="Locality" value="Europe" />
  <P pid="Street" value="Zahony" />
  <P pid="CityName" value="Budapest" />
  <P pid="CountryName" value="Hungary" />
  <P pid="CountryCode" value="HU" />
  <P pid="PostalCode" value="1031" />
</Format>
</UIElement>

```

### Custom Formatter

You can register a custom formatter factory to support formatting needs not covered by the currently available formatters.

For example, you can specify a custom formatter called MyFormatter this way:

```

<UIElement type="label">
  <P pid="width" value="75%" />
  <P pid="margin_bottom" value="5%" />
  <P pid="halign" value="center" />
  <!--Define a Custom Formatter -->
  <Format type="MyFormatter" pattern="MyPattern" platform="Android">
    <!--Define a Custom Formatter API -->
    <P pid="InputString" value="custom Formatter" />
  </Format>
</UIElement>

```

For implementation details, check the `MAFExtensibilityFormatterSample` sample app (see *Sample Applications*).

### Functions

Use functions when you are concatenating strings, formatting strings, counting records in a collection, and setting default values on a control. All functions begin with `$_`.

Supported functions include:

Function	
<b><code>\$_concat(param1, ...)</code> : <b>string</b></b>	Converts and concatenates all parameters to a single string: <pre>\$_concat("StartDate: ", \$LeaveRequests.StartDate, " - EndDate: ", \$LeaveRequests.EndDate)</pre> You must provide at least one parameter. If you provide only one parameter, it is converted to a string and returned by the function.
<b><code>\$_now()</code> : <b>date</b></b>	Returns the current date and time as <code>dateTime</code> .

Function	
<b><code>\$_format.date</code></b> (date value, format option) : string	<p>Returns the formatted string of a date value. Parameters include:</p> <ul style="list-style-type: none"> <li>• date value – date typed value.</li> <li>• format option – valid values are: short, medium, long</li> </ul> <p>Examples:</p> <pre>//returns for example "1 January 2012" if the date is 2012-01-01 and format option is long \$_format.date(\$LeaveRequests.StartDate, long)</pre> <pre>//returns for example "1 Jan 2012" if the date is 2012-01-01 and format option is medium \$_format.date(\$LeaveReuquests.StarDate, medium)</pre> <p>The phone's region setting is used to format the date.</p>
<b><code>\$_format.datetime</code></b> (date value, format option) : string	<p>Returns the formatted string of a date and time value and supports these parameters:</p> <ul style="list-style-type: none"> <li>• date value – date typed value.</li> <li>• format option – valid values are: short, medium, long.</li> </ul> <p>Example:</p> <pre>//long format of today's date and time, result: "1 January 2012 11:55" \$_format.datetime(\$_now(), long)</pre> <p>The phone's region setting is used to format the date and time</p>
<b><code>\$_date</code></b> (year, month, day) : date	<p>Creates a date typed value from parameters and supports these parameters:</p> <ul style="list-style-type: none"> <li>• year – year value as int or float.</li> <li>• month – month value as int or float.</li> <li>• day – day value as int or float.</li> </ul> <p>Example:</p> <pre>//returns "Since 1 January 2012" (UK locale was set on the phone) \$_concat("Since", \$_format.date(\$_date(\$_year(\$_now()), 1, 1)), long)</pre>
<b><code>\$_count</code></b> (binding_id) : int	<p>Returns the number of entries in a collection:</p> <pre>//returns Leave Requests (6) \$_concat("Leave Requests (", \$_count(\$LeaveRequests), ")")</pre>

Function	
<code>\$_isNull(value) : int</code>	Checks whether the parameter is a null value or nonexistent. Returns false or true.
<code>\$_isNotNull(value) : int</code>	Checks whether the parameter value is null. Returns true if the parameter value is not a null value, or false otherwise.
<code>\$_isEmpty(value) : int</code>	<p>The function returns true if:</p> <ul style="list-style-type: none"> <li>• Its parameter is a null value.</li> <li>• The referred variable or data field of a BO in its parameter does not exist.</li> <li>• The referred variable or data field of a BO exists, but its value is either an empty string ("") or an NSData instance with zero length.</li> </ul> <p>Otherwise, this function returns false.</p>
<code>\$_isNotEmpty(value) : int</code>	Returns true for values for which <code>\$_isEmpty</code> returns false.
<code>\$_isExisting(value) : int</code>	The function returns true if its parameter refers to an existing variable or data field of a BO; false otherwise. The function also returns true when the referred variable or data field of a BO is null, or empty string, because the parameter refers to an existing object.
<code>\$_isNotExisting(value) : int</code>	Returns true for values for which <code>\$_isExisting</code> returns false).
<code>\$_year(date value) : int</code>	<p>Returns the year as an int from a date value:</p> <pre>//Returns the current year \$_year(\$_now())</pre>

### Use of Functions in Configuration

Use functions in a configuration in the same places you use a string literal.

You can use examples in this topic as guidelines. This function results in a field label with the localized string for from:

```
<Label text="{$_i18n.from}">
```

This function results in a field label with the localized string for since, followed by the short string for the date and time that occurred 24 hours prior:

```
<Label text="{$_i18n.since}
{$_format.dateTime($_now(-24),short)}">
```

For further examples, see the *Extensibility Samples*.

### *Data Source Adaptor*

The Extensibility Framework comes with a ready-to-use OData generic business object adapter, which in turn relies on the SDM OData facade library.

This adapter lets you create a custom application that relies on OData (see *Loading the Library*) by adding only a few lines of code.

The data source adapter exposes a set of APIs that cover all data management needs:

- Retrieving data
- Filtering data
- Creating DB entries
- Updating existing entries
- Deleting entries
- Fetching of related entries
- Converting generic objects to and from the appropriate database-specific structures

You can also implement a custom data source adapter if you are using a data model other than OData (see `MAFDataSourceAdapter` protocol declared in the `MAFExtensibility` library).

### *Extensibility Configuration Management*

The Extensibility Framework relies on several configuration files.

By default, each application ships with a predefined set of configuration data, which is added to the project as a resource bundle. You can override the defaults by using external configuration files, which let you modify and enhance the look and feel of an app, add or remove UI elements and screens, modify data bindings and so on; that is, extend the app without having to recompile it.

Currently, you can distribute the configuration files from an SAP Mobile Platform Server in compressed form, which is called the Application Configuration Profile (ACP).

### *Application Configuration Profile Directory and Contents*

The Application Configuration Profile contains several files that are organized in this directory structure.

The directory includes:

Folder	Contents
<b>META-INF</b>	Contains versioning-related metadata in a manifest file: <ul style="list-style-type: none"><li>• <code>MANIFEST.MF</code> – the manifest file required by SAP Mobile Platform Server</li></ul>



Folder	Contents
<b>tiles</b>	<p>Contains the extensibility-related configurations:</p> <ul style="list-style-type: none"> <li>• <code>layout_phone.xml</code> – extensibility configuration file for iPhone and iPod Touch.</li> <li>• <code>layout_tablet.xml</code> – extensibility configuration file for iPad.</li> </ul> <p>For the internal structure of these files, see <i>Extensibility Layout XML</i>.</p>
<b>styles</b>	<p>contains the style configuration file:</p> <ul style="list-style-type: none"> <li>• <code>style.xml</code> – the styling configuration file. You can find the styling XSD documentation at the SAP Help Portal. <a href="https://community.wdf.sap.corp/sbs/docs/DOC-149382">https://community.wdf.sap.corp/sbs/docs/DOC-149382</a></li> </ul>
<b>img</b>	<p>Contains the static images used by the application, organized by platform.</p> <ul style="list-style-type: none"> <li>• <code>Ios</code> – contains images specific to the iOS platform by subfolder (that is, <code>Iphone</code> and <code>Ipad</code>). The top-level folder contains images common to all iOS devices. Native iOS naming conventions apply, that is, <code>&lt;filename&gt;.png</code> for low-resolution images, and <code>&lt;filename&gt;@2x.png</code> for hi-resolution images.</li> <li>• <code>Android</code> – contains images specific to the Android platform. The top-level folder contains images common to all Android devices. Subfolders include: <ul style="list-style-type: none"> <li>• <code>Ldpi</code> – contains images specific to low-density Android devices.</li> <li>• <code>Mdpi</code> – contains images specific to medium-density Android devices.</li> <li>• <code>Hdpi</code> – contains images specific to high-density Android devices.</li> <li>• <code>Xhdpi</code> – contains images specific to extra high-density Android devices.</li> </ul> </li> </ul>
<b>strings</b>	<p>Contains localized text strings, one file per locale. File names follow this format: <code>localization.&lt;language code&gt;.xml</code>. See also <i>Adding and Accessing Localized Texts</i>.</p>
<b>ext</b>	<p>Contains configuration files required by the application. The entry names are defined by the application. You can place any kinds of files in this directory. Although the framework does not process files in the <code>ext</code> folder, it exposes the APIs required to retrieve their content.</p>
<b>Demo</b>	<p>Contains offline data used by the application in demo mode:</p> <ul style="list-style-type: none"> <li>• <code>Ios</code> – platform-specific offline XML files; see <i>Demo Data Provisioned via ACP</i>.</li> <li>• <code>Android</code> – platform-specific offline data.</li> </ul>

### *Uploading Configuration Profiles*

To distribute an ACP to devices using an SAP Mobile Platform Server, the application must be registered with the SAP Mobile Platform.

You must log into Management Cockpit to complete these steps.

1. In the navigation pane, click **Applications**, then in the administration pane select your app, and click **Properties**.
2. Click the **Customization Resources Bundles** tab, then click **Add** to upload the compressed resource bundle:

After the resource is uploaded, the SAP Mobile Platform Server notifies the app about the change.

This notification only occurs when the app is running and if the device user is logged in to the SAP Mobile Platform Server; otherwise, it occurs the next time the user logs in.

### **Next**

Manage the data sent as NSData in the value parameter.

### Logging and Tracing

The MAF Extensibility Framework libraries use MAFLogger APIs for logging and tracing.

The MAFLogger provides a built-in console logger, and a built-in file logger, and also acts as a wrapper on top of the SDMLogger (see the SDMSupportability library). By default, noncritical logs are disabled, and therefore, only exceptional cases appear in the log. It is recommended to use SDMLogger for your application log as well. You can change the log level for MAF Extensibility separately. See the API documentation about logging related methods of MAFCoreBuilder

### Mobile Application Workbench

For information on how you can modify the SAP delivered configuration, see the documentation for Mobile Application Workbench on the SAP Help Portal.

### Features Not Supported

This version of MAF does not support some features.

These limitations include:

- You cannot currently configure dynamic MAF screens (different screen layouts for different users and screen layouts that change based on user input).
- Scripting inside configuration is not currently supported.
- You cannot define new events in configuration.

## Developing iOS Applications

The OData SDK is used to develop a device application for the iOS platform. An application consists of reusable building blocks, which a developer can use to start the application and perform functions needed for the application. The target audience is advanced developers who are familiar working with APIs, but who may be new to SAP Mobile Platform.

### Setting Up the Development Environment

Complete the prerequisites for developing a device application for the iOS platform, and set up the development environment.

#### *Prerequisites*

- Verify that SAP Mobile Platform Server 3.0 is installed, and that you can access it from your Mac.
- To access the data from the backend, set up a Gateway OData service.
- Configure the Gateway URL in the SAP Mobile Platform Server using the Management Cockpit.

#### *Downloading the Xcode IDE*

Download and install Xcode from the Apple Developers Web site.

1. Go to <http://developer.apple.com/downloads/>.

---

**Note:** You must be a paying member of the iOS Developer Program. Free members cannot download the supported version.

---

2. Log in using your Apple Developer credentials.
3. (Optional) To narrow the search scope, unselect all Categories except Developer Tools.
4. Download the appropriate Xcode and SDK combination.

---

**Note:** See supported Apple iOS requirements at <http://service.sap.com/pam>

---

### Creating a Project and Importing the OData Libraries and Bundles

Set up the iOS development environment by downloading the required plugins and import the associated iOS libraries into the iOS development environment.

---

**Note:** For more information on Xcode, refer to the Apple Developer Connection: <https://developer.apple.com/technologies/tools/>.

---

1. Start Xcode 4.6 and select **Create a new Xcode project**.  
You can execute the OData libraries on architecture armv7 and armv7s.
2. Under **iOS**, select **Applications**.
3. In the right pane, select **Empty Application** as the project template and click **Next**.

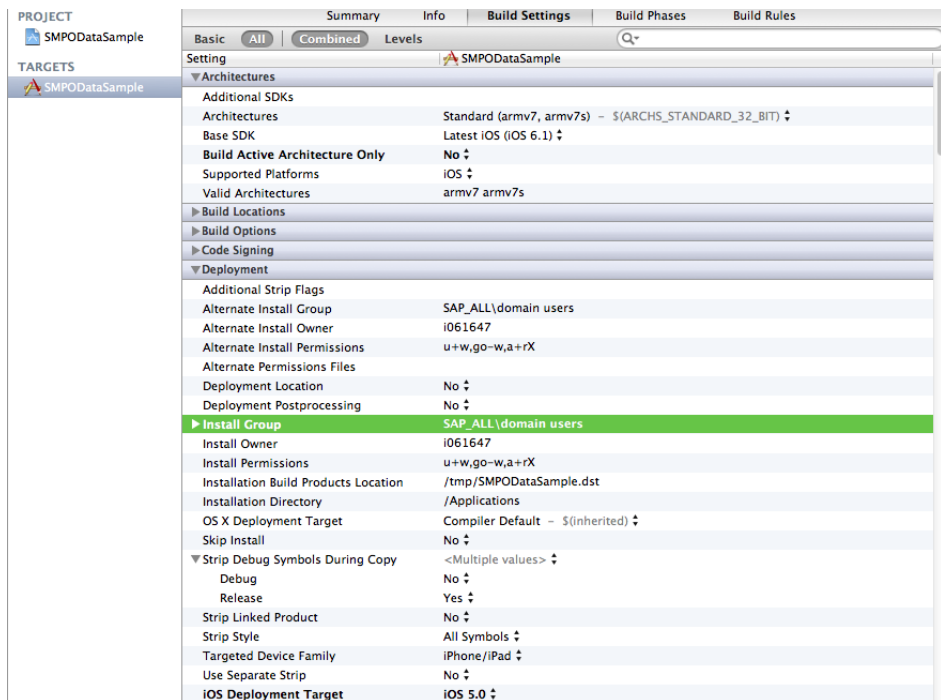
4. Enter <ProjectName> as the **Product Name**, <CorpID> as the **Company Identifier**, select **Universal** as the **Device Family** product, then click **Next**.
5. Select a location to save the project and click **Create** to open it.
6. Select the **Build Settings** tab and scroll to the **Architectures** section.
7. Set **Base SDK** for **All** configurations to iOS 6.1.
8. Select the Valid architecture as `armv7 armv7s`, Supported Platforms as `iphonesimulator iphoneos`, and the Targeted device family as `iPhone/iPad`. This ensures that the build of the application can run on either iPhone or iPad.

---

**Note:** When you migrate an existing project from an older version of Xcode to Xcode 4.6.x, you may see a build error: `No architectures to compile for (ARCHS=i386, VALID_ARCHS=armv7, armv7s)`. You can resolve this Xcode 4.6.x issue by manually editing "Valid Architectures" under Targets, to add `i386`.

---

9. Select the **Deployment** tab and set the iOS Deployment Target as appropriate for the device version where you will deploy. The minimum version is iOS 6.0. Earlier SDKs and deployment targets are not supported.



10. Connect to the Microsoft Windows machine where OData SDK is installed:
  - a) From the Apple Finder menu, select **Go > Connect to Server**.
  - b) Enter the machine name where the SDK is installed or IP address of the server, for example, `smb://<machine DNS name>` or `smb://<IP Address>`.

You see the shared directory.

11. Navigate to the `<SMP_HOME>\MobileSDK3\NativeSDK\ODataFramework\iOS\` directory in the SAP Mobile Platform installation directory, and copy the `includes` and `libraries` folders to the `<ProjectName>/<ProjectName>` directory on your Mac.

If you use `AfariaSSL.a` to provision configuration data and certificates for your SAP Mobile Platform client application, ensure to remove `libcrypto.a` and `libssl.a`, as `AfariaSSL` internally has these two libraries.

The installation directory also has some of the MAF libraries. When you compile the project directly, an error might be encountered, as these libraries are dependent on MAF Reuse libraries. To resolve the compilation error, remove the following `Files/ libs` from the locations: `<SMP_HOME>\MobileSDK3\NativeSDK\ODataFramework\iOS\libraries\Debug` and `<SMP_HOME>\MobileSDK3\NativeSDK\ODataFramework\iOS\libraries\Release`:

- `libMAFFormatters.a`
- `libMAFUIHelper.a`
- `libMAFZipHelper.a`
- `libMAFLogonUING.a`
- `libMAFLogger.a`
- `libMAFLogonManagerNG.a`

12. Right-click the `<ProjectName>` folder under the project, select **Add Files to "<ProjectName>"**, navigate to the `<ProjectName/ProjectName>/libraries/Debug-universal` directory, select all the libraries, unselect **Copy items into destination group's folder (if needed)**, and click **Add**.

The libraries are added to the project in the Project Navigator.

13. Click the project root and then, in the middle pane, click the `<ProjectName>` project and update project configuration settings.
  - a) In the right pane click the **Build Settings** tab, then scroll down to the **Search Paths** section.
  - b) Enter the location of your `includes` folder ("`$(SRCROOT)/<ProjectName>/includes/public/**`") in the **Header Search Paths** field.  
`$(SRCROOT)` is a macro that expands to the directory where the Xcode project file resides.

14. Set the Other Linker Flags to `-ObjC -all_load` for both the release and for the debug configuration. It is important that the casing of `-ObjC` is correct (upper case 'O' and upper case 'C'). Objective-C only generates one symbol per class. You must force the linker to load the members of the class. You can do this with the help of the `-ObjC` flag. You must also force inclusion of all your objects from your static library by adding the linker flag `-all_load`.

15. Add the following frameworks from the SDK to your project by clicking on the active target, and selecting **Build Phase > Link Binary With Libraries**. Click on the + button and select the following binaries from the list:
  - CoreFoundation.framework
  - CoreData.framework
  - Security.framework
  - libcucore.A.dylib
  - libstdc++.dylib
  - libz.1.2.5.dylib
  - CFNetwork.framework
  - MobileCoreServices.framework
  - SystemConfiguration.framework
  - MessageUI.framework
  - CFNetwork.framework
16. To add the required bundle resources from the SDK to your project, click the active target, select **Build Phase > Copy Bundle Resource**. Click + > **Add Other**, and select the contents under <ProjectName/ProjectName>/includes/bundles folder.
17. Select **Product > Clean** and then **Product > Build** to test the initial set up of the project. If you have correctly followed this procedure, you should receive a **Build Succeeded** message.

To build a project using Automatic Reference Counting, under the **Build Settings** tab, set Automatic Reference Counting (ARC) to YES, if ARC option was un-checked while creating project.

### Initializing an Application

You must initialize each application the first time you start it, as well as each restart thereafter.

#### *Create and Initialize the Client Connection*

Create and initialize the `SMPCClientConnection` class, which is part of the `Core Services` library. The `SMPCClientConnection` class declares the programmatic interface for an object that manages the connection settings that are required to register the user, and fetch application settings from the server. You must initialize the `SMPCClientConnection` object and set its connection properties on this object before you can perform any type of user registration or fetch any application settings from the server. Initialize the application using the following example code, which returns an instance of `SMPCClientConnection` class.

```
SMPCClientConnection* clientConn = [SMPCClientConnection
initWithAppID:@"NewFlight" domain:@"default"
secConfiguration:@"SSO"];
[clientConn setApplicationConnectionID:appConnID];
//The variable appConnID is nil the first time, but after the user is
registered, the application connection ID needs to be set at every
restart of the application.
```

### Registering the User

Registers the user to the SAP Mobile Platform by sending username and password as part of request manager during `ClientConnection` initialization. The `isSync` specifies whether the registration is synchronous or asynchronous. If registration is asynchronous, implement and register `SMPUserManagerDelegate` to receive a callback.

---

**Note:** It is mandatory to register the user before requesting data from the server.

---

- This `setConnectionProfileWithHost` is used for native applications that consist of host, port, farm ID, and relay server. The URL is constructed automatically by the OData framework in the format required by SAP Mobile Platform. This method is recommended method for initializing an application. To register the user using `setConnectionProfileWithHost`, use the following example code:

```
{
  SMPClientConnection* clientConn = [SMPClientConnection
  initializeWithAppID:<Application_ID> domain:<Domain_name>
  secConfiguration:<security_configuration>];
  [clientConn setConnectionProfileWithHost:@<IP> port:@<port>
  farm:nil relayServerUrlTemplate:nil enableHTTP:YES];
  NSError* error = nil;
  [SMPUserManager setDelegate:self];
  SMPUserManager* userManager = [SMPUserManager
  initializeWithConnection:clientConn];
  [userManager registerUser:@<username> password:@<password>
  error:&error isSyncFlag:NO];
  //...
  //...
}
-(void)userRegistrationSuccessful:(SMPUserManager*)userManager
{

}
-(void)userRegistrationFailed:(SMPUserManager*)userManager
{
  // Error handling using the error object
  NSLog("%@",error);
}
```

- For all RESTful applications built on SAP Mobile Platform 2.2 and later, use `setConnectionProfileWithUrl` to register the user. The `setConnectionProfileWithUrl` is used for applications which specify a URL as its connection end point instead of host and port. To register the user using `setConnectionProfileWithUrl`, use the following example code:

```
{
  SMPClientConnection* clientConn = [SMPClientConnection
  initializeWithAppID:@"NewFlight" domain:@"default"
  secConfiguration:@"SSO"];
  [clientConn setConnectionProfileWithUrl:@<url>];
  NSError* error = nil;
```

```
[SMPuserManager setDelegate:self];
[SMPuserManager setCaptchaChallengeDelegate:self];
SMPuserManager* userManager = [SMPuserManager
initWithConnection:clientConn];
[userManager registerUser:@<username> password:@<password>
error:&error isSyncFlag:NO];
//...
//...
}
-(void)userRegistrationSuccessful
{
}
-(void)userRegistrationFailed:(NSError*)error
{
// Error handling using the error object
NSLog("%@",error);
}
-(NSString*)didReceiveCaptchaChallenge:
(NSString*)base64ImageString
{
    NSError* error = nil;
    [userManager registerUser:@<username> password:@<password>
captchaText:@<captchatext> error:&error isSyncFlag:NO]
    return nil;
}
```

### *Enabling Network Edge for HTTP*

In a network edge scenario, all requests through a reverse proxy (for example, Microsoft ARR) should be protected by the SiteMinder Policy Server. Network edge works only in asynchronous registration. In a SiteMinder scenario, the application should set the selector to receive an authentication challenge. To enable network edge for asynchronous registration, use the following example SiteMinder callback code:

```
[SMPuserManagersetDelegate:self];
NSError *error = nil;

    l_clientconn = [SMPClientConnection
initWithAppID:@"NewFlight" domain:@"default"
secConfiguration:@"NetworkEdge"];

    [l_clientconn setConnectionProfileWithURL:@<SiteminderURL>];

[SMPuserManagersetAuthChallengeSelector:@selector(authenticationNee
dedForRequest:)];

    userManager = [SMPuserManager
initWithConnection:l_clientconn];

    [userManager registerUser:<username> password:<password>
error:&error isSyncFlag:NO];
```



*Enabling Mutual SSL Authentication*

Mutual SSL authentication, or certificate-based mutual authentication, refers to two parties authenticating each other by verifying a shared digital certificate, so that both parties are assured of the others' identity.

After initializing the `SMPClientConnection` class, use the `setClientIdentityCertificate` method to set the client certificate, using the following mutual SSL authentication example code:

```
[SMPUserManagersetDelegate:self];
l_clientconn =
[SMPClientConnectioninitializeWithAppID:applicationIddomain:@"default"secConfiguration:<securityconfig>];

    userManager = [SMPUserManager
initializeWithConnection:l_clientconn];

    NSError *error = nil;

    //During onboarding with Single and Mutual SSL, add fully
qualified domain name of the SAP Mobile Platform server instead of
just providing
    //IP address. For example vwxxx.dhcp.wdf.sap.corp. The default
ports for single and mutual SSL are 8081 and 8082 respectively.

[l_clientconnsetConnectionProfileWithHost:@<fully_qualified_domain_
name_of_server> port:@<port> farm:nilrelayServerUrlTemplate:nil
enableHTTP:NO];

/////Set the client certificate before calling onboard
    /// Assuming that CERTIFICATE.p12 is added to the "Supporting
Files" folder
    NSString *path = [[NSBundle mainBundle]
pathForResource:@"CERTIFICATE" ofType:@"p12"];    /// This is your
client certificate

    NSData *PKCS12Data = [[NSData alloc] initWithContentsOfFile:path];
    CFDataRef inPKCS12Data = (__bridge CFDataRef)PKCS12Data;

    CFStringRef password = CFSTR("password");// password of p12
certificate

    const void *key[] = { kSecImportExportPassphrase };
    const void *values[] = { password };
    CFDictionaryRef options = CFDictionaryCreate(NULL, key, values,
1, NULL, NULL);
    CFArrayRef items = CFArrayCreate(NULL, 0, 0, NULL);
    OSStatus securityError = SecPKCS12Import(inPKCS12Data, options,
&items);

    CFRelease(options);
    CFRelease(password);
```

```

    if (securityError == errSecSuccess)
    {
        NSLog(@"Success opening p12 certificate. Items: %ld",
CFArrayGetCount(items));
        NSDictionaryRef identityDict = CFArrayGetValueAtIndex(items,
0);
        identityApp =
(SecIdentityRef)CFDictionaryGetValue(identityDict,
kSecImportItemIdentity);
        SecCertificateRef myReturnedCertificate = NULL;

        OSStatus status = SecIdentityCopyCertificate (identityApp,
&myReturnedCertificate);
    } else
    {
        NSLog(@"Error opening Certificate.");
    }
    [l_clientconnsetClientIdentityCertificate:identityApp];
    /////Call onBoard user
    BOOL RegistrationSuccessful = [userManager registerUser:nil
password:nil error:&error isSyncFlag:YES];

```

### *Setting a Password Policy Using DataVault*

(Optional) Use the DVPasswordPolicy which holds the information of the password policy.

(Applicable to On-Premise only) To enable the password policy in the SAP Mobile Platform Server, launch the Management Cockpit. In the **Client Password Policy** tab, select the **Enable password policy** checkbox. In the client, the password policy settings derived from the server can be set to the DataVault password using the following code:

```

NSError *error;
DataVault *vault = [DataVault getVault:VaultName];
[vault unlock:UserVaultPassword salt:VaultSalt];
DVPasswordPolicy *setpasscodePolicy = [[DVPasswordPolicy
alloc] init];
SMPAppSettings *l_appsettingsObj = [SMPAppSettings
initWithConnection:l_clientconn userName:UserName
password:Password];
DataVaultPasswordPolicy *getpasscodePolicy =
[l_appsettingsObj getPasswordPolicy:&error];

setpasscodePolicy.defaultPasswordAllowed =
getpasscodePolicy.defaultPasswordAllowed;
setpasscodePolicy.minLength = getpasscodePolicy.minLength;
setpasscodePolicy.hasDigits = getpasscodePolicy.hasDigits;
setpasscodePolicy.hasUpper = getpasscodePolicy.hasUpper;
setpasscodePolicy.hasLower = getpasscodePolicy.hasLower;
setpasscodePolicy.hasSpecial = getpasscodePolicy.hasSpecial;
setpasscodePolicy.expirationDays =
getpasscodePolicy.expirationDays;
setpasscodePolicy.minUniqueChars =

```

```

getpasscodePolicy.minUniqueChars;
    setpasscodePolicy.lockTimeout =
getpasscodePolicy.lockTimeout;
    setpasscodePolicy.retryLimit = getpasscodePolicy.retryLimit;

    [vault setPasswordPolicy:setpasscodePolicy];

    if (!error) {

        NSLog(@"Set Password policy to vault successful");

    }
    else{
        NSLog(@"Error setting password policy to vault %@",error);
    }
}

```

### *Encryption Key Handling*

If MAF Logon Manager is not used during application development, you should use the encryption key to encrypt the database, in case of offline applications. If MAF is used, this is processed by MAF Logon Manager internally. This is a mandatory step, without which persistence of data or requests for offline usage does not work. Call these three static methods at various stages of application cycle:

```

//Get encryption key
NSError *error= nil;
NSString *key = [EncryptionKeyManager getEncryptionKey:&error];
if(error!=nil){
    NSLog(@"Error %@", [error description]);
}
// -- Persist the key into the Datavault or Other persistence place

//Set encryption Key
//Obtain the key from the Datavault or Other persistence place and
pass it to the function below
NSError *error= nil;
[EncryptionKeyManager setEncryptionKey: key withError: &error];
if(error!=nil){
    NSLog(@"Error %@", [error description]);
}
//Reset encryption Key
[EncryptionKeyManager resetEncryptionKey];

```

### *(Optional) Initializing an Application Using Logon Manager*

To initialize an application using Logon manager, follow the task flow at *MAF Logon Example* on page 2569.

### **Creating a Request**

Send a data request to the backend through the SAP Mobile Platform Server asynchronously or synchronously. If there is no network connectivity, `Request` library requests are queued in a persistent database, and invoked when the network becomes available. Use the `Request`

library to develop applications with direct connectivity to Gateway, or to register users in the Management Cockpit.

### *Creating an Asynchronous Request*

The SAP-recommended approach for creating a request is to send the data request to the backend through the SAP Mobile Platform Server asynchronously.

1. To enable offline capability, it is mandatory to set the response listeners using the following code, before invoking the request. Once the offline listeners are set, responses are notified to these listeners bypassing the online listeners set on each request for change requests (PUT, POST, DELETE). For GET requests, responses are notified to the corresponding listeners set on the `Request` object. The implementation of these listeners is seamless for both online or offline scenarios.

```
/*Set the delegate to receive the response */
[RequestBuilder setDelegate:self];
/*Set the success listener */
[RequestBuilder setDidFinishSelector:@selector(reqSuccess:)];
/*Set the failure listener */
[RequestBuilder setDidFailSelector:@selector(reqFail:)];
```

Since all the responses to change requests are notified to these listeners, it is required to co-relate the response received with the request sent. A member property `requestTag` is provided in the `Request` object. The `requestTag` can be set while invoking the request and can be read while reading the response in these listeners.

2. To create the request asynchronously for both online and offline capability, use the following code:

```
[RequestBuilder setRequestType:HTTPRequestType];
/*Enable XCSRF handling for OData requests*/
[RequestBuilder enableXCSRF:YES];
/*Initialize the Requesting class with the endpoint URL after
successful registration */
id<Requesting> serviceDocRequest = [RequestBuilder
requestWithURL:[NSURL alloc]
initWithString:applicationEndpoint]];
/*Set user name */
[serviceDocRequest setUsername:self.username.text];
/*Set password */
[serviceDocRequest setPassword:self.password.text];
/*Set the required request headers*/
[serviceDocRequest setRequestMethod:@"GET"];
[serviceDocRequest addRequestHeader:@"X-Requested-With"
value:@"XmlHttpRequest"];
[serviceDocRequest addRequestHeader:@"Content-Type"
value:@"application/xml; charset=UTF-8"];
[serviceDocRequest addRequestHeader:@"Accept"
value:@"application/xml,application/atom+xml"];
/*If the request is an online request, it is mandatory to register
the following listeners. In case of an offline listeners, these
listeners will be overridden by the listeners in Step 1.
```

```

/*Set the delegate to receive the response */
[serviceDocRequest setDelegate:self];
/*Set the success listener */
[serviceDocRequest
setDidFinishSelector:@selector(didFinishRequest:)];
/*Set the failure listener */
[serviceDocRequest
setDidFailSelector:@selector(didFailRequest:)];
serviceDocRequest.requestTag = 1; // Useful for a change request.
/*Invoke the startAsynchronous API to send the request from client
to server asynchronously */
[serviceDocRequest startAsynchronous];

```

### *Automatic Delta Query Handling*

The `Request` object is enabled to handle delta queries by default. In an offline mode (when the cache is used), the `Request` object picks up the delta link for the specified URL from the cache and calls it. The delta link queries for resources that have been created, modified, or deleted, after the previous request was made (which generated this delta link). You can stop this behavior by:

- Not including the `Cache` library in the project, so that the `Request` library does not link to the cache and persistence, and does not find a corresponding delta link. The original URL is called as before.
- Setting the `disableDeltaHandling` property explicitly on the `Request` object using the code:

```
serviceDocRequest.disableDeltaHandling = YES;
```

### *Creating a Batch Request*

Batch processing allows you to send multiple requests in a single batch request to the Gateway. The batch request is a multipart POST request that contains one or more changesets comprising other POST, PUT, or DELETE requests. The batch request can also contain GET-based retrieval requests. The Gateway processes the batch request, and the responses to the various requests that make up the batch request are combined into a single response and sent back to the user as a single response.

#### 1. Initialize the batch request:

```
BatchRequest *batchRequest = [[BatchRequest alloc] initWithURL:
[[NSURL alloc] initWithString:[NSString stringWithFormat:@"%@"
$batch", applicationEndpoint]]];
```

#### 2. Add a retrieve request to the batch request:

```
Id<requesting> request1;
request1 = [RequestBuilder requestWithURL:[NSURL
URLWithString:@"TravelagencyCollection"]];
[request1 setRequestMethod:@"GET"];
[batRequest addRetrieveRequestToBatch:request1 withError:&error];
```

**3. Add changesets to the batch request:**

```

[RequestBuilder enableXCSRF:YES];
BatchRequest *batchRequest = [[BatchRequest alloc] initWithURL:
[NSString stringWithFormat:@"%s/$batch", ApplicationEndPoint]];
Id<SDMRequesting> postRequest = [RequestBuilder requestWithURL:
[NSURL URLWithString:@"TravelagencyCollection"]];
[postRequest setRequestMethod:@"POST"];
[postRequest addRequestHeader:@"Content-Type"
value:@"application/atom+xml"];
[postRequest addRequestHeader:@"Content-Length" value:@"1005"];

NSMutableDictionary* postData;
    ///GetEntry is an ODataObject which has the response for GET
done on single entry from a collection
    ODataEntry const *postBody = [[ODataEntry
alloc] initWithEntitySchema:Getentry.getEntitySchema];
    [postBody.fields
setValuesForKeysWithDictionary:Getentry.fields];

    ODataPropertyValueObject* filterValue = [postBody
getPropertyValueByPath:@"agencynum"]; //agencynum is the
primary key or the unique value

    filterValue.rawValue=@"00000127";

    ODataPropertyValueObject* filterValue = [postBody
getPropertyValueByPath:@"agencyname"];

    filterValue.rawValue=@"BestAgency";

    //The following code builds an atom post body:
    ODataEntryBody *entryBody =
buildODataEntryRequestBody(postBody, ENTRY_OPERATION_CREATE,
serviceDocument, NO, BUILD_STYLE_ATOM_XML);

    //The following code can be used to build a JSON post body:
    // ODataEntryBody *entryBody =
buildODataEntryRequestBody(postBody, ENTRY_OPERATION_CREATE,
serviceDocument, NO, BUILD_STYLE_JSON);

    postData = [[entryBody.body
dataUsingEncoding:NSUTF8StringEncoding]mutableCopy];
    [self.request setPostBody:postData];
[batchRequest addRequestToChangeset:postRequest
withError:&error];

/* Ensure the POST URL is relative to the batch URL */

```

**4. Invoke the batch request either synchronously or asynchronously:**

```

/* Example for Asynchronous request */
[batchRequest setUsername:self.username.text];
[batchRequest setPassword:self.password.text];
/*Set the delegate to receive the response */

```

```
[batchRequest setDelegate:self];
/*Set the success listener */
[batchRequest setDidFinishSelector:@selector(didFinishRequest:)];
/*Set the failure listener */
[batchRequest setDidFailSelector:@selector(didFailRequest:)];
/*Invoke the startAsynchronous API to send the request from client
to server asynchronously */
[batchRequest startAsynchronous];
```

## **Parsing the Data**

Parse the response from the backend to the device.

### *Retrieving the Response from Backend*

Based on the data request sent to the backend, retrieve the data as a response to the device:

```
//Parse the service document
ODataServiceDocumentParser *svcDocParser =
[[ODataServiceDocumentParser alloc] init];
NSData *svc = [serviceDocRequest responseData];
[svcDocParser parse: svc];
ODataServiceDocument *serviceDocument =
svcDocParser.serviceDocument;

//Parse the metadata document
NSData *metadata = [metadataRequest responseData];
ODataSchema *schema =
ParseODataSchemaXML(metadata, serviceDocument);

//Parse the entries
NSData *entriesData = [entriesRequest responseData];
//Get the array of objects of type ODataEntry
NSMutableArray *entriesArray = ParseODataEntriesXML(entriesData,
schema, self.serviceDocument);
```

### *Accessing Properties of ODataEntry*

The code snippet explains how to access properties of ODataEntry.

```
//Accessing properties of ODataEntry
ODataEntry * entry = [entriesArray objectAtIndex:<(NSUInteger)>]
ODataPropertyValueObject *prop = [entry
getPropertyValueByPath:@"NAME"];
NSString *value = [prop getValue];
```

### *JSON Parser*

The `ODataDataParser` detects whether the content is JSON or Atom, and parses the content passed to it.

### **Caching the Data**

(Optional, offline mode only) Caching is an important part of getting an application to work in offline mode. The `Cache` method is used to cache and persist data, when the mobile device is out of the network range, and process the data, when it is within the range of the network.

**Note:** The delete tombstones for delta query support is not available on OData JSON format.

#### *Prerequisites*

The caching functionality comprises of two types of stored entries, a copy of the entries you receive from the server called as "server entry", and a copy of locally modified entries called as "local entry".

Use the `Caching` interface, which is implemented by the `Cache` class, to create an object to work with.

#### *Initialize the Cache*

To initialize all the elements required for cache to work, use the `initializeCacheWithError` method. This method should be executed once during application start.

```
id<Caching> cache = [[Cache alloc] init];
NSError* error = nil;
if (![cache initializeCacheWithError:&error])
{
    NSLog(@"Initialize Error : %@", error);
    return;
}
```

Cache can be used in persistable mode (database) and non-persistable mode (memory). By default, cache is persistable.

If you do not want to persist cache to the database, use the following API:

```
[cacheLocal setIsPersistable:NO];
```

#### *Merge to Cache*

To incrementally update the cache for server entries with the latest state of server objects, use the `mergeEntries` method. Every online HTTP GET operation on a URL should be followed by a `mergeEntries` method to enable the server cache to be in-sync with the backend service. It is important to instantiate a server cache using the `mergeEntries` method for all operations to work after a successful online GET request for a URL at the initial stage. It is recommended to optimize GET operation with Delta support to avoid redundancies.

```
ODataDataParser* dataParser = [[ODataDataParser alloc]
initWithEntitySchema:actualcollection.entitySchema
andServiceDocument: serviceDocument];
[dataParser parse:[collection responseData]];
```



```

        ODataFeed *feed = [dataParser getFeed];
NSError *errormerge=nil;
if (![cache mergeEntries:feed forUrlKey:URL withError:&errormerge
withCompletionBlock:^(NSNotification *notif){
    NSLog(@"Cache updated");
    }]) )
{
    NSLog(@"Merge error:%@",errormerge);
    return;
}
}

```

---

**Note:** There is no overhead observed in the application response time with the additional caching of data, provided merge to cache is called in separate thread after delivering parsed data for presentation.

---

### *Read Entry from Cache*

You can read server entries or local entries from cache.

- **Server entry:** All server entries are stored against a URL key, which is the actual service end-point that returns all the entries to be cached, from the backend service. Use the `ReadEntriesServer` method to read server entries.
- **Local entry:** Read the locally created, deleted, or modified entries based on the entity type (collection to which entry belongs to) and entry ID. Use the `ReadEntriesLocal` method to read local entries. Entity type and entry ID are optional parameters. Passing `nil` to entry ID retrieves all the entries for a specified entity type. Passing `nil` to both entry ID and entity type retrieves the local entries in the cache.

To read only server entries, use `readEntriesForURLKey`. To display local entries, use `readEntriesLocalForEntryId`. You can also combine the server and local entries to display the latest version of application data.

The `ODataEntry` class of the parser has two member properties. The `isLocalEntry` property checks if the particular entry is local, and the `cacheState` checks if the local entry is created, updated, or deleted on the client. The cache states are represented by the enums - `CreatedState`, `UpdatedState`, and `DeletedState`.

```

/*Read entry from server.*/
/* Note: To maintain brevity in iOS, the method name does not have
the key word
server in it and it is always server entries by default that the read
returns */
id<Caching> cacheLocal = [[Cache alloc] init];
NSError* error = nil;
NSArray* cachedEntries = [cacheLocal readEntriesForUrlKey:urlKey
withError:&error];
if (error)
{
    NSLog(@"Read Error : %@", error);
    return;
}

```

```
/*Read entry from local.*/
id<Caching> cacheLocal = [[Cache alloc] init];
NSError* error = nil;
NSArray* localEntries = [cacheLocal readEntriesLocalForEntryId:id
forEntityType:type withError:&error];
if (error)
{
    NSLog(@"Read Local Entry Error: %@", error);
    return;
}
```

### *Managing Locally Modified Entries in Cache*

- **Add Entry to Cache** – Use the `addEntry` method to create a new entry in the local cache. With connectivity, perform a HTTP POST request on the backend to create an entry in backend. Post a successful insert on the backend, perform a HTTP GET request to fetch the latest server state optimized with delta, and merge the result with server cache on the device. The `addEntry` method adds an entry into the local cache. Since the entry ID is generated by the backend in most of the cases, creating a local entry generates a temporary entry ID with which you can manage the cache entry.

```
id<Caching> cacheLocal = [[Cache alloc] init];
NSError* error = nil;
NSString* tempEntryId = [cacheLocal addEntry:entry
withError:&error];
if (error) {
    NSLog(@"Add Entry Error : %@", error);
    return;
}
```

- **Update Entry to Cache** – When you make changes that is stored locally on your device in offline mode, it must be cached and persisted locally to be updated in the backend when connectivity returns. This ensures the OData entries are cached to build an application that works with seamless offline-online experience. Use the `updateEntry` method to create a local copy of the updated entry in cache. With connectivity, perform an update on the backend using an HTTP PUT request. After the updates is successful, perform a HTTP GET request to fetch the latest server state optimized with delta, and merge the result with server cache on the device. The `updateEntry` method does not generate any temporary ID, as the entry is already associated with the ID generated by the backend.

```
id<Caching> cacheLocal = [[Cache alloc] init];
NSError* error = nil;
//updateEntry is an ODataEntry with updated values. The method
updateEntryWithChangedValues() is a user created method and not
provided by the Native OData
SDK.
ODataEntry* updateEntry = updateEntryWithChangedValues();
if (![cacheLocal updateEntry:updateEntry withError:&error]) {
    NSLog(@"Update Entry Error : %@", error);
    return;
}
```

- **Delete Entry from Cache** – Use the `deleteEntry` method to delete a new entry with its ID in the local cache. With connectivity, perform a HTTP DELETE request on the backend to delete the entry in backend. Post a successful delete on the backend, perform a HTTP GET request to fetch the latest server state optimized with delta, and merge the result with server cache on the device. The SDK reads the entry from the server cache, based on the entry ID, and updates the entry in the local cache by marking it as a local copy to be deleted. The `deleteEntry` method does not generate any temporary ID, as the entry is already associated with the ID generated by the backend.

```
id<Caching> cacheLocal = [[Cache alloc] init];
NSError* error = nil;
NSString* deletedEntryId = [deletedEntry getEntryID];
if ([cacheLocal deleteEntryForEntryId:deletedEntryId
withError:&error]) {
    NSLog(@"Delete Entry Error : %@", error);
    return;
}
```

- **Co-relating Requests with Local Cache Entries** – Each of the operations like add, update, and delete local cache entries are associated with entry IDs that are unique. These operations are also associated with requests. For example: Add corresponds to a POST request. To co-relate which request corresponds to which cached entry, there is a provision provided in the `Request` object interface to tag each of these requests with their respective entry IDs.

In case of request to a single endpoint, each request is associated with single cache entry ID.

```
-(void) createCacheEntryAndFireRequest
{
    id<Caching> cache = [[Cache alloc] init];
    NSError* error = nil;
    if (![cache initializeCacheWithError:&error])
    {
        NSLog(@"Initialization Error:%@", error);
    }

    id<Requesting> request = [RequestBuilder requestWithURL:[NSURL
URLWithString:@"<URL>"];
    [request setUsername:@"<username>"];
    [request setPassword:@"<password>"];

    error = nil;

    ODataEntry* entry = buildNewEntry(); // --> Sample dummy call.
    Not actual procedure to build an entry

    NSString* cacheEntryId = [cache addEntry:entry
withError:&error];
    [request setCacheEntryIdList:[NSArray
arrayWithObject:cacheEntryId]];
}
```

```
[request startAsynchronous];
}

-(void)onSuccessOrError:(id<Requesting>)request
{
    id<Caching> cache = [[Cache alloc] init];
    NSArray* localEntryIdList = [request cacheEntryIdList];
    NSError* error = nil;

    // In case of a single (not batched) request
    if ([localEntryIdList count] == 1 )
    {
        NSString* entryId = [localEntryIdList objectAtIndex:0];
        if (![cache clearLocalEntryForEntryId:entryId
withError:&error])
        {
            NSLog(@"Clear Local Entry %@ Error : %@", entryId,
error);
            error = nil;
        }
        return;
    }
}
```

In case of batch requests, each request can be associated with multiple cache entry IDs that have been batched.

```
-(void)createCacheEntryAndFireRequest
{
    id<Caching> cache = [[Cache alloc] init];
    NSError* error = nil;
    if (![cache initializeCacheWithError:&error])
    {
        NSLog(@"Initialization Error:%@", error);
    }

    NSMutableArray* cacheEntryIdList = [NSMutableArray array];

    // The entire batch request
    BatchRequest* request = [BatchRequest requestWithURL:[NSURL
URLWithString:@"<URL>"];
    [request setUsername:@"<username>"];
    [request setPassword:@"<password>"];

    error = nil;

    // Creating an entry in Cache. FOR POST:
    ODataEntry* createEntry = buildNewEntry(); // --> Sample dummy
call. Not actual procedure to build an entry
    NSString* cacheEntryId = [cache addEntry:createEntry
withError:&error];

    id<Requesting> createRequest = buildNewCreateRequest(); // ->
Dummy Call. For actual snippet please refer to Batch processing
```

```

section
    [request addRequestToChangeset:createRequest];
    [request closeExistingChangeSet];
    [cacheEntryIdList addObject:cacheEntryId];

    // Updating an entry in Cache. FOR POST:
    ODataEntry* updateEntry = updateExistingEntry(); // --> Sample
dummy call. Not actual procedure to build an entry
    [cache addEntry:updateEntry withError:&error];

    id<Requesting> updateRequest = buildNewUpdateRequest(); // ->
Dummy Call. For actual snippet please refer to Batch processing
section
    [request addRequestToChangeset:createRequest];
    [request closeExistingChangeSet];
    [cacheEntryIdList addObject:updateEntry.entryID]; // Note here
that update does not take the temp entry id but the actual entry id

    [request setCacheEntryIdList:cacheEntryIdList]; // Set all the
locally modified entry IDs (order maintained)
    [request startAsynchronous];
}

- (void) requestSuccess: (id<Requesting>) request
{
    id<Caching> cache = [[Cache alloc] init];
    NSArray* localEntryIdList = [request cacheEntryIdList];
    NSError* error = nil;

    for (NSString* entryId in localEntryIdList)
    {
        if (![cache clearLocalEntryForEntryId:entryId
withError:&error])
        {
            NSLog(@"Clear Local Entry %@ Error : %@", entryId,
error);
            error = nil;
        }
    }
}

```

- **Clearing Specific Data from the Local Cache** – To clear locally created entries when all the cache instances are updated with the server version of the entry on which modifications were made, use the `clearLocalEntryForEntryId` method.

**Note:** Since the local cache is specific to the entry ID, the changes made to an entry from one of the cache instances (for example, URL1 + top 10) should be reflected on all cache instances in which the entry is present (for example URL1 + top 20). Do not delete the local entry until you have refreshed all caches that are relevant for this entry.

```

id<Caching> cacheLocal = [[Cache alloc] init];
NSError* error = nil;
NSString* deleteEntryId = [deleteEntry getEntryID];
if ([cacheLocal clearLocalEntryForEntryId:deleteEntryId

```

```
withError:&error]) {
    NSLog(@"Clear Local Entry Error : %@", error);
    return;
}
```

### *Store Document in Cache*

To cache the service and metadata document (schema) for a particular service URL, use the `storeDocument` method . You can also define your own enum type and store the data for that enum type. The service document must be stored only after the metadata document is parsed.

```
typedef enum {
ServiceDocumentType = 0,
MetaDocumentType = 1
} DocType;
//Service document
id<Caching> cacheLocal = [[Cache alloc] init];
NSError* error = nil;
if ([cacheLocal storeDocument:servDoc
forDocType:ServiceDocumentType forKey:urlKey withError:&error])
{
    NSLog(@"Store Document Error : %@", error);
    return;
}
//Metadata document
id<Caching> cacheLocal = [[Cache alloc] init];
NSError* error = nil;
if ([cacheLocal storeDocument:metaDoc forDocType:MetaDocumentType
forUrlKey:urlKey withError:&error])
{
    NSLog(@"Store Document Error : %@", error);
    return;
}
```

### *Read Document from Cache*

To read the service and metadata documents from cache, use the `readDocumentForUrlKey` method. This method returns the stored document in the cache. The application should pass the document type and the URL for which the document is relevant.

```
id<Caching> cacheLocal = [[Cache alloc] init];
NSError* error = nil;
id document = [cacheLocal readDocumentForUrlKey:urlKey
forDocType:ServiceDocumentType
withError:&error];
if (error) {
    NSLog(@"Read Document Error : %@", error);
    return;
}
```

### *Clearing the Cache*

To clear the cache and persistence of all entries based on the URL key, use the `clearCacheForUrlKey` method. This method also deletes the delta token of any document that is stored against this URL. SAP recommends that you use this method only when the application does not support delta queries.

```
id<Caching> cacheLocal = [[Cache alloc] init];
NSError* error = nil;
if ([cacheLocal clearCacheForUrlKey:urlKey withError:&error]) {
    NSLog(@"Clear Cache Error : %@", error);
    return;
}
```

### *Controlling OData Cache Size and Age*

The OData SDK does not provide any APIs for configuring cache behavior related to cache size or age. The underlying database used is SQLCipher, which implements the following limits: <http://www.sqlite.org/limits.html>.

The cache database utilizes private timestamps internally, but these may not reflect the time of the last valid GET request, and are not exposed as public APIs for the purpose of validating the freshness of data in the cache.

### **Updating Settings at Runtime**

(Optional) To update application settings, for both the client and the SAP Mobile Platform Server, use OData SDK.

#### *Updating the Application Settings*

(Optional) Get and update the application settings using the following code:

```
/////Get settings
SMPAppSettings *l_appsettingsObj = [SMPAppSettings
initWithConnection:l_clientconn userName:UserName
password:Password];
NSMutableDictionary *dct=[l_appsettingsObj
getConfigPropertyMapWithError:&error];
NSLog(@"Properties - %@",dct);

//Update settings

SMPAppSettings *l_appsettingsObj = [SMPAppSettings
initWithConnection:l_clientconn userName:rrUserName
password:rrUserName];
NSMutableDictionary *dct=[NSMutableDictionary dictionary];
/////SET APNS device token/////
NSString *token;
if (deviceToken1 != nil) {
    token = [NSString stringWithFormat:@"%@",deviceToken1];
    token = [token stringByReplacingOccurrencesOfString:@"<"
withString:@""];
}
```

```

        token = [token stringByReplacingOccurrencesOfString:@">"
                withString:@""];
    }else token = @"";

    [dct setValue:token forKey:@"d:ApnsDeviceToken"];

    [dct setValue:@"1.0" forKey:@"d:ApplicationVersion"];
    [dct setValue:@"true" forKey:@"d:CapabilitiesPasswordPolicy"];

    [dct setValue:@"Custom 1" forKey:@"d:CustomCustom1"];
    [dct setValue:@"Custom 2" forKey:@"d:CustomCustom2"];
    [dct setValue:@"Custom 3" forKey:@"d:CustomCustom3"];
    [dct setValue:@"Custom 5" forKey:@"d:CustomCustom4"];

    [dct setValue:@"9876512345abcdefgh" forKey:@"d:DeviceIMSI"];
    [dct setValue:@"5" forKey:@"d:DeviceModel"];
    [dct setValue:@"100" forKey:@"d:DevicePhoneNumber"];
    [dct setValue:@"6.1" forKey:@"d:DeviceSubType"];

    [dct setValue:@"iPhone" forKey:@"d:DeviceType"];
    // [dct setValue:@"" forKey:@""];
    NSError *error;
    BOOL setPropError=[l_appsettingsObj setConfigProperty:dct
error:&error];
    if(setPropError){
        NSLog(@"Set User Property failed with error message - %@. \n
Following are the properties values sent to the server:- \n %@",
error, dct);
    }else{
        NSLog(@"Set User Property completed without any error. \n
Following are the properties values sent to the server:- \n %@",
dct);
    }

```

### ***Downloading Customization Resource Bundles***

(Optional) Download customization resource bundles as defined in SAP Mobile Platform Server using the following example code:

```

NSError* _errorWhileFetchingID = nil;
SMPAppSettings *appSettings = [SMPAppSettings
initWithConnection:l_clientconn userName:UserName
password:Password];
NSString *bundleId = [appSettings
getConfigProperty:@"d:CustomizationBundleId"
error:&_errorWhileFetchingID];
if (!_errorWhileFetchingID)
{
    NSError* _errorWhileFetchingBundle=nil;
    NSData* bundle = [appSettings
getCustomizationResourceBundleWithCustomizationResource:bundleId
error:&_errorWhileFetchingBundle];
}
//bundleId can be set to bundle name (fetches the specified bundle)
or nil (fetches the default bundle selected)

```



### *Getting the Push Endpoint*

(Optional) Retrieve the push endpoint URL to register for push notification using the following example code:

```
NSString* pushEndpoint = [appSettings getPushEndpointWithError:nil];
```

### **Enabling Apple Push Notifications (APNS)**

(Optional) Subscribe to Apple Push Notifications (APNS).

To enable APNS push notification for an iOS application:

1. Enable the certificate for push. Use the Apple Push Notification service to propagate information from the backend to the device. Use the native iOS push services to enable APNS for iOS applications. For information on enabling certificates for APNS, see the Apple Web site at: <http://developer.apple.com/xcode/>
2. Configure APNS Push using Management Cockpit on server-side to receive APNS.
3. Exchange the device token using `setConfigProperty` method. Add these two methods into the `AppDelegate` class to fetch the device token at the client side:

```

-(void)application:(UIApplication *)application
didRegisterForRemoteNotificationsWithDeviceToken:(NSData
*)deviceToken
{
    NSString *devToken=[[NSString alloc] initWithData:deviceToken
encoding:NSUTF8StringEncoding]autorelease];
    NSLog(@"Device Token: %@",devToken);
}
-(void)application:(UIApplication *)application
didFailToRegisterForRemoteNotificationsWithError:(NSError *)error
{
    NSLog(@"Error Occurred: %@",[error description]);
}

```

4. After successful registration, set the device token received in `didRegisterForRemoteNotificationsWithDeviceToken` method using following code:

```

NSError* error = nil;
NSDictionary *props = [NSMutableDictionary dictionary];
[props setValue:deviceToken forKey:@"d:ApnsDeviceToken"];
[appSettings setConfigProperty:props error:&error];
if (error) {
    NSLog(@"ERROR: %@",error);
}

```

## **API Reference**

The iOS OData SDK provides the means to easily build an app which relies on the OData protocol and the additions made by SAP.

The iOS version of the OData SDK is presented as static libraries and header files. (Custom dynamic libraries are not allowed on iOS.)

The OData SDK for iOS includes a set of core iOS libraries acting independently from each other. Each core library has well-defined responsibilities and provides APIs for OData parsing, caching, persistence, keychain, certificate management, and so on.

The full list of APIs and their descriptions are available after the installation of SAP Mobile Platform at the following location within your installation folder: `<SMP_HOME>\MobileSDK3\NativeSDK\ODataFramework\iOS\docs`

The libraries are provided in binary form as `.a` files, along with the public headers containing the APIs and the input/output structures.

## **SAP Mobile Platform 3.0 OData SDK for iOS**

Use the OData SDK API reference as the primary source for API usage and error code information.

Refer to the OData SDK API reference for each available package.

### ***BatchRequest class***

Consists of methods related to batch request.

### ***Syntax***

```
@interface BatchRequest : Request <NSCoding>
```

### ***Members***

All members of BatchRequest, including inherited members. **Methods**

<b>Method</b>	<b>Description</b>
- (void) <i>addRequestToChangeset: (id&lt; Requesting &gt;) request withError: (NSError **) error</i> on page 2227	
- (void) <i>addRetrieveRequestToBatch: (id&lt; Requesting &gt;) request withError: (NSError **) error</i> on page 2228	
- (void) <i>closeExistingChangeSet</i> on page 2228	
- (id) <i>initWithURL: (NSURL *) newURL</i> on page 2228	Initialize the Request object with a HTTP or HTTPS url.

**Inherited members from Request**

<b>Member</b>	<b>Description</b>
- (void) <i>addBasicAuthenticationHeaderWithUsername: (NSString *) theUsername andPassword: (NSString *) thePassword</i> on page 2325	Constructs a basic authentication header from the user name and password supplied, and adds it to the request headers.
- (void) <i>addRequestHeader: (NSString *) header value: (NSString *) value</i> on page 2326	Adds a custom header to the request.
- (void) <i>appendPostData: (NSData *) data</i> on page 2326	Adds data to the post body.
- (void) <i>appendPostDataFromFile: (NSString *) file</i> on page 2326	Adds data to the post body from a file.
- (void) <i>applyAuthorizationHeader</i> on page 2326	Used to apply authorization header to a request before it is sent (when <code>shouldPresentCredentials-BeforeChallenge</code> is YES).
- (void) <i>applyCookieHeader</i> on page 2326	Called during <code>buildRequestHeaders</code> and after a redirect to create a cookie header from request cookies and the global store.
+ (unsigned long) <i>averageBandwidthUsedPerSecond</i> on page 2327	Returns a rough average (for the last 5 seconds) of how much bandwidth is being used, in bytes.
+ (NSString *) <i>base64forData: (NSData *) theData</i> on page 2327	Base64 encodes the provided NSData*.
- (void) <i>buildPostBody</i> on page 2327	Creates the post body.
- (void) <i>buildRequestHeaders</i> on page 2327	Populates the request headers dictionary.
- (void) <i>cancelAuthentication</i> on page 2327	Should be called by delegates when they wish to cancel authentication and stop.
+ (void) <i>clearSession</i> on page 2327	
+ (const NSDataWritingOptions) <i>dataWritingOptions</i> on page 2328	Returns a mask which determines whether the data should be stored in encrypted form.
+ (NSDate *) <i>dateFromRFC1123String: (NSString *) string</i> on page 2328	Returns a date from a string in RFC1123 format.
+ (NSString *) <i>decodeBase64: (NSString *) string_in</i> on page 2328	Decodes a base64 encoded string.
+ (id< CacheDelegate >) <i>defaultCache</i> on page 2328	Returns the default download cache or nil if none is set at class level.

Member	Description
- (void) <i>enableTracing</i> : (BOOL) <i>value_in</i> on page 2328	Switches traceability status.
+ (void) <i>enableXCSRF</i> : (BOOL) <i>enable</i> on page 2328	Enable XSRF support for the session of the application.
- (void) <i>failWithError</i> : (NSError *) <i>theError</i> on page 2329	Called when a request fails, and lets the delegate know via <i>didFailSelector</i> .
+ (NSDictionary *) <i>fileProtectionAttributes</i> on page 2329	Returns an attributes dictionary used for encrypted file storage or NIL if file protection has been explicitly disabled.
+ (NSInteger) <i>getMaxConcurrentHTTPRequestCount</i> on page 2329	Returns the maximum number of request threads that can be executed in parallel.
- (void) <i>handleNetworkEvent</i> : (CFStreamEventType) <i>type</i> on page 2329	Handles network events as they occur.
- (Request *) <i>HEADRequest</i> on page 2329	Creates a HEAD request appropriate for this request with the same headers.
+ (void) <i>hideNetworkActivityIndicator</i> on page 2329	Hides the network activity spinner.
+ (void) <i>incrementBandwidthUsedInLastSecond</i> : (unsigned long) <i>bytes</i> on page 2330	Used internally to record bandwidth use, and by <i>InputStreams</i> when uploading. It's probably best if you don't mess with this.
- (void) <i>incrementDownloadSizeBy</i> : (long long) <i>length</i> on page 2330	Called when we get a content-length header and <i>shouldResetDownloadProgress</i> is set to TRUE.
- (void) <i>incrementUploadSizeBy</i> : (long long) <i>length</i> on page 2330	Called when a request starts and <i>shouldResetUploadProgress</i> is set to TRUE.
+ (BOOL) <i>isBandwidthThrottled</i> on page 2331	Returns YES is bandwidth throttling is currently in use.
+ (BOOL) <i>isNetworkInUse</i> on page 2331	Indicates whether there are running requests.
+ (BOOL) <i>isNetworkReachableViaWWAN</i> on page 2331	Returns YES when an iPhone OS device is connected via WWAN, false when connected via WIFI or not connected.
- (BOOL) <i>isResponseCompressed</i> on page 2331	
- (BOOL) <i>isTracingEnabled</i> on page 2331	Returns tracing status.

Member	Description
+ (unsigned long) <i>maxBandwidthPerSecond</i> on page 2332	The maximum number of bytes ALL requests can send or receive in a second.
+ (unsigned long) <i>maxUploadReadLength</i> on page 2332	Returns the maximum amount of data we can read as part of the current measurement period, and sleeps this thread if our allowance is used up.
+ (NSString *) <i>contentTypeForFileAtPath:</i> (NSString *) <i>path</i> on page 2332	
+ (void) <i>performSelector:</i> (SEL) <i>selector</i> onTarget: (id *) <i>target</i> withObject: (id) <i>object</i> amount: (void *) <i>amount</i> on page 2332	Helper method used for performing invocations on the main thread (used for progress).
- (void) <i>performThrottling</i> on page 2332	Performs bandwidth throttling.
+ (void) <i>removeCredentialsForHost:</i> (NSString *) <i>host</i> port: (int) <i>port</i> protocol: (NSString *) <i>protocol</i> realm: (NSString *) <i>realm</i> on page 2332	Deletes host credentials from the keychain.
+ (void) <i>removeCredentialsForProxy:</i> (NSString *) <i>host</i> port: (int) <i>port</i> realm: (NSString *) <i>realm</i> on page 2333	Deletes proxy credentials from the keychain.
- (void) <i>removeUploadProgressSoFar</i> on page 2333	Called when authorization is required, as we only find out we do not have some permissions when the upload is complete.
+ (id) <i>requestWithURL:</i> (NSURL *) <i>newURL</i> on page 2333	Convenience constructor with URL.
+ (id) <i>requestWithURL:</i> (NSURL *) <i>newURL</i> usingCache: (id< CacheDelegate >) <i>cache</i> on page 2333	Convenience constructor with url and cache.
+ (id) <i>requestWithURL:</i> (NSURL *) <i>newURL</i> usingCache: (id< CacheDelegate >) <i>cache</i> andCachePolicy: (ECachePolicy) <i>policy</i> on page 2333	Convenience constructor with url, cache and cache policy.
- (NSData *) <i>responseData</i> on page 2333	
- (NSString *) <i>responseString</i> on page 2334	
- (void) <i>retryUsingSuppliedCredentials</i> on page 2334	Unlocks the request thread so it can resume the request.

Member	Description
+ (void) saveCredentials: (NSURLCredential *) credentials forHost: (NSString *) host port: (int) port protocol: (NSString *) protocol realm: (NSString *) realm on page 2334	Saves host credentials to the keychain.
+ (void) saveCredentials: (NSURLCredential *) credentials forProxy: (NSString *) host port: (int) port realm: (NSString *) realm on page 2334	Saves proxy credentials to the keychain.
- (void) saveCredentialsToKeychain: (NSDictionary *) newCredentials on page 2334	Saves credentials for this request to the keychain.
+ (NSURLCredential *) savedCredentialsForHost: (NSString *) host port: (int) port protocol: (NSString *) protocol realm: (NSString *) realm on page 2335	Returns host credentials from the keychain.
+ (NSURLCredential *) savedCredentialsForProxy: (NSString *) host port: (int) port protocol: (NSString *) protocol realm: (NSString *) realm on page 2335	Returns proxy credentials from the keychain.
- (void) sendE2ETraceXML: (NSURL *) toBaseURL on page 2335	Posts the SAP E2E Trace XML to the specified URL.
- (void) setClientCertificateIdentity: (SecIdentityRef) anIdentity on page 2335	Sets the identity reference (X.509 certificate + private key) for this request; used for secure connections.
+ (void) setDefaultCache: (id<CacheDelegate>) cache on page 2335	Configures a default download cache that applies for all requests.
- (void) setEtag: (NSString *) etag withMatchType: (EtagType) matchType on page 2335	Add If-Match or If-None-Match or If-Range header.
+ (void) setMaxBandwidthPerSecond: (unsigned long) bytes on page 2336	Sets the maximum number of bytes ALL requests can send / receive in a second.
+ (void) setMaxConcurrentHTTPRequestCount: (const unsigned char) cnt on page 2336	Sets the maximum number of Request threads which can run at once.
+ (void) setProtectionEnabled: (BOOL) flag_in on page 2336	Controls whether the download cache should store files using protection.
+ (void) setShouldThrottleBandwidthForWWAN: (BOOL) throttle on page 2336	Requests can automatically turn throttling on and off, as the connection type changes between WWAN and WiFi.

Member	Description
+ (void) <i>setShouldUpdateNetworkActivityIndicator: (BOOL) shouldUpdate</i> on page 2336	Controls whether the request should take over updating the network activity indicator.
+ (NSOperationQueue *) <i>sharedQueue</i> on page 2337	Returns the shared queue.
+ (void) <i>showNetworkActivityIndicator</i> on page 2337	Shows the network activity spinner.
- (void) <i>startAsynchronous</i> on page 2337	
- (void) <i>startSynchronous</i> on page 2337	
+ (void) <i>throttleBandwidthForWWANUsingLimit: (unsigned long) limit</i> on page 2337	Turns on throttling automatically when WWAN is connected using a custom limit, and turns it off automatically when it isn't.
- (void) <i>updateDownloadProgress</i> on page 2337	Updates download progress and notifies the queue and/or downloadProgressDelegate of this request.
+ (void) <i>updateProgressIndicator: (id *) indicator withProgress: (unsigned long long) progress of-Total: (unsigned long long) total</i> on page 2338	Helper method for interacting with progress indicators to abstract the details of different APIs (NSProgressIndicator and UIProgressView).
- (void) <i>updateProgressIndicators</i> on page 2338	Updates the progress delegates.
- (void) <i>updateUploadProgress</i> on page 2338	Updates upload progress and notifies the queue and/or uploadProgressDelegate of this request.

### Usage

Batch request allows users to combine multiple requests into a single request for processing. Batch request should be used when more than one request is to be retrieved or modifying requests are to be combined.

### *addRequestToChangeset:withError: method*

#### Syntax

```
- (void) addRequestToChangeset : (id< Requesting >) request
withError : (NSError **) error
```

## *addRetrieveRequestToBatch:withError: method*

### *Syntax*

```
- (void) addRetrieveRequestToBatch : (id< Requesting >) request  
withError : (NSError **) error
```

## *closeExistingChangeSet method*

### *Syntax*

```
- (void) closeExistingChangeSet
```

## *initWithURL: method*

Initialize the Request object with a HTTP or HTTPS url.

### *Syntax*

```
- (id) initWithURL : (NSURL *) newURL
```

### *Parameters*

- **newURL** – Object of NSURL class.

### *Returns*

Returns an instance of the Request class.

```
Request *request = [Request initWithURL:[NSURL alloc]  
initWithString:applicationEndpoint];
```

## *Cache class*

### *Syntax*

```
@interface Cache : NSObject <Caching>
```

### *Members*

All members of Cache, including inherited members. **Methods**

Method	Description
- (NSString *) addEntry: (ODataEntry *) entry withError: (NSError **) error on page 2230	
- (void) addNotificationDelegate: (id) delegate withListener: (SEL) listener forUrlKey: (NSString *) urlKey on page 2230	



Method	Description
- (BOOL) <i>clearCacheForUrlKey:</i> (NSString *) <i>urlKey</i> withError: (NSError **) <i>error</i> on page 2230	
- (BOOL) <i>clearLocalEntryForEntryId:</i> (NSString *) <i>entryId</i> withError: (NSError **) <i>error</i> on page 2230	
- (BOOL) <i>deleteEntryForEntryId:</i> (NSString *) <i>entryId</i> withError: (NSError **) <i>error</i> on page 2230	
- (NSString *) <i>getDeltaLinkForUrlKey:</i> (NSString *) <i>urlKey</i> withError: (NSError **) <i>error</i> on page 2231	
- (BOOL) <i>initializeCacheWithError:</i> (NSError **) <i>error</i> on page 2231	
- (BOOL) <i>mergeEntries:</i> (ODataFeed *) <i>feed</i> forUrlKey: (NSString *) <i>urlKey</i> withError: (NSError **) <i>error</i> withCompletionBlock: (NSNotification *) <i>block</i> on page 2231	Deprecated. Use 'mergeEntriesFromFeed' instead. This will be removed in the next drop
- (BOOL) <i>mergeEntriesFromFeed:</i> (ODataFeed *) <i>feed</i> forUrlKey: (NSString *) <i>urlKey</i> withError: (NSError **) <i>error</i> withCompletionBlock: (NSNotification *) <i>notification</i> <i>block</i> on page 2231	
- (id) <i>readDocumentForUrlKey:</i> (NSString *) <i>urlKey</i> forDocType: (DocType) <i>type</i> withError: (NSError **) <i>error</i> on page 2231	
- (NSArray *) <i>readEntriesForUrlKey:</i> (NSString *) <i>urlKey</i> withError: (NSError **) <i>error</i> on page 2231	
- (NSArray *) <i>readEntriesLocalForEntryId:</i> (NSString *) <i>entryId</i> forEntityType: (NSString *) <i>entityType</i> withError: (NSError **) <i>error</i> on page 2232	

Method	Description
- (BOOL) storeDocument: (id) document forDocType: (DocType) type forKey: (NSString *) urlKey withError: (NSError **) error on page 2232	
- (BOOL) updateEntry: (ODataEntry *) entry withError: (NSError **) error on page 2232	

***addEntry:withError: method*****Syntax**

```
- (NSString *) addEntry : (ODataEntry *) entry withError :
(NSError **) error
```

***addNotificationDelegate:withListener:forUrlKey: method*****Syntax**

```
- (void) addNotificationDelegate : (id) delegate withListener :
(SEL) listener forKey : (NSString *) urlKey
```

***clearCacheForUrlKey:withError: method*****Syntax**

```
- (BOOL) clearCacheForUrlKey : (NSString *) urlKey withError :
(NSError **) error
```

***clearLocalEntryForEntryId:withError: method*****Syntax**

```
- (BOOL) clearLocalEntryForEntryId : (NSString *) entryId
withError : (NSError **) error
```

***deleteEntryForEntryId:withError: method*****Syntax**

```
- (BOOL) deleteEntryForEntryId : (NSString *) entryId withError
: (NSError **) error
```

*getDeltaLinkForUrlKey:withError: method***Syntax**

```
- (NSString *) getDeltaLinkForUrlKey : (NSString *) urlKey
withError : (NSError **) error
```

*initializeCacheWithError: method***Syntax**

```
- (BOOL) initializeCacheWithError : (NSError **) error
```

*mergeEntries:forUrlKey:withError:withCompletionBlock: method [deprecated]*

Deprecated. Use 'mergeEntriesFromFeed' instead. This will be removed in the next drop

**Syntax**

```
- (BOOL) mergeEntries : (ODataFeed *) feed forUrlKey :
(NSString *) urlKey withError : (NSError **) error
withCompletionBlock : (NSNotification *) block
```

**Usage**

DeprecatedUse 'mergeEntriesFromFeed' instead. This will be removed in the next drop

*mergeEntriesFromFeed:forUrlKey:withError:withCompletionBlock: method***Syntax**

```
- (BOOL) mergeEntriesFromFeed : (ODataFeed *) feed forUrlKey :
(NSString *) urlKey withError : (NSError **) error
withCompletionBlock : (NSNotification *notification) block
```

*readDocumentForUrlKey:forDocType:withError: method***Syntax**

```
- (id) readDocumentForUrlKey : (NSString *) urlKey forDocType
: (DocType) type withError : (NSError **) error
```

*readEntriesForUrlKey:withError: method***Syntax**

```
- (NSArray *) readEntriesForUrlKey : (NSString *) urlKey
withError : (NSError **) error
```

*readEntriesLocalForEntryId:forEntityType:withError: method*

**Syntax**

```
- (NSArray *) readEntriesLocalForEntryId : (NSString *) entryId
forEntityType : (NSString *) entityType withError : (NSError **)
error
```

*storeDocument:forDocType:forUrlKey:withError: method*

**Syntax**

```
- (BOOL) storeDocument : (id) document forDocType : (DocType)
type forUrlKey : (NSString *) urlKey withError : (NSError **)
error
```

*updateEntry:withError: method*

**Syntax**

```
- (BOOL) updateEntry : (ODataEntry *) entry withError :
(NSError **) error
```

*CacheDelegate protocol*

Defines default DownloadCache delegate methods.

**Syntax**

```
@protocol CacheDelegate
```

*Derived classes*

- *DownloadCache* on page 2241

*Members*

All members of CacheDelegate, including inherited members. **Methods**

Method	Description
- (NSDictionary *) <i>cachedHeadersForRequest:</i> (id< Requesting >) request on page 2233	
- (NSData *) <i>cachedresponseDataForRequest:</i> (id< Requesting >) request on page 2233	
- (void) <i>clearCachedResponsesForStoragePolicy:</i> (ECacheStoragePolicy) cachePolicy on page 2233	

Method	Description
- ( <i>ECachePolicy</i> ) <i>defaultCachePolicy</i> on page 2233	Returns the cache policy to be used when requests have their cache policy set to DefaultCachePolicy.
- ( <i>BOOL</i> ) <i>isCachedDataCurrentForRequest: (id&lt; Requesting &gt;) request</i> on page 2234	
- ( <i>NSString *</i> ) <i>pathToCachedResponseDataForRequest: (id&lt; Requesting &gt;) request</i> on page 2234	
- ( <i>void</i> ) <i>removeCachedDataForRequest: (id&lt; Requesting &gt;) request</i> on page 2234	
- ( <i>void</i> ) <i>storeResponseForRequest: (id&lt; Requesting &gt;) request maxAge: (NSTimeInterval) maxAge</i> on page 2234	

*cachedHeadersForRequest: method***Syntax**

```
- (NSDictionary *) cachedHeadersForRequest : (id< Requesting >) request
```

*cachedResponseDataForRequest: method***Syntax**

```
- (NSData *) cachedResponseDataForRequest : (id< Requesting >) request
```

*clearCachedResponsesForStoragePolicy: method***Syntax**

```
- (void) clearCachedResponsesForStoragePolicy :  
(ECacheStoragePolicy) cachePolicy
```

*defaultCachePolicy method*

Returns the cache policy to be used when requests have their cache policy set to DefaultCachePolicy.

**Syntax**

```
- (ECachePolicy) defaultCachePolicy
```

*isCachedDataCurrentForRequest: method*

*Syntax*

- (BOOL) isCachedDataCurrentForRequest : (id< Requesting >)  
**request**

*pathToCachedResponseDataForRequest: method*

*Syntax*

- (NSString \*) pathToCachedResponseDataForRequest : (id< Requesting >)  
**request**

*removeCachedDataForRequest: method*

*Syntax*

- (void) removeCachedDataForRequest : (id< Requesting >)  
**request**

*storeResponseForRequest:maxAge: method*

*Syntax*

- (void) storeResponseForRequest : (id< Requesting >)  
**request**  
**maxAge** : (NSTimeInterval) **maxAge**

*Caching protocol*

Consists of methods to cache parsed OData entries.

*Syntax*

@protocol Caching

*Derived classes*

- *Cache* on page 2228

*Members*

All members of Caching, including inherited members. **Methods**

Method	Description
- (NSString *) addEntry: (ODataEntry *) entry withError: (NSError **) error on page 2236	

Method	Description
- (void) <i>addNotificationDelegate:</i> (id) <i>delegate</i> with <i>Listener:</i> (SEL) <i>listener</i> for <i>UrlKey:</i> (NSString *) <i>urlKey</i> on page 2236	
- (BOOL) <i>clearCacheForUrlKey:</i> (NSString *) <i>urlKey</i> with <i>Error:</i> (NSError **) <i>error</i> on page 2236	
- (BOOL) <i>clearLocalEntryForEntryId:</i> (NSString *) <i>entryId</i> with <i>Error:</i> (NSError **) <i>error</i> on page 2236	
- (BOOL) <i>deleteEntryForEntryId:</i> (NSString *) <i>entryId</i> with <i>Error:</i> (NSError **) <i>error</i> on page 2237	
- (NSString *) <i>getDeltaLinkForUrlKey:</i> (NSString *) <i>urlKey</i> with <i>Error:</i> (NSError **) <i>error</i> on page 2237	
- (BOOL) <i>initializeCacheWithError:</i> (NSError **) <i>error</i> on page 2237	
- (BOOL) <i>mergeEntries:</i> (ODataFeed *) <i>feed</i> for <i>UrlKey:</i> (NSString *) <i>urlKey</i> with <i>Error:</i> (NSError **) <i>error</i> with <i>CompletionBlock:</i> (NSNotification *) <i>block</i> on page 2237	Deprecated. Use 'mergeEntriesFromFeed' instead. This will be removed in the next drop
- (BOOL) <i>mergeEntriesFromFeed:</i> (ODataFeed *) <i>feed</i> for <i>UrlKey:</i> (NSString *) <i>urlKey</i> with <i>Error:</i> (NSError **) <i>error</i> with <i>CompletionBlock:</i> (NSNotification *) <i>notification</i> <i>block</i> on page 2237	
- (id) <i>readDocumentForUrlKey:</i> (NSString *) <i>urlKey</i> for <i>DocType:</i> (DocType) <i>type</i> with <i>Error:</i> (NSError **) <i>error</i> on page 2237	
- (NSArray *) <i>readEntriesForUrlKey:</i> (NSString *) <i>urlKey</i> with <i>Error:</i> (NSError **) <i>error</i> on page 2238	
- (NSArray *) <i>readEntriesLocalForEntryId:</i> (NSString *) <i>entryId</i> for <i>EntityType:</i> (NSString *) <i>entityType</i> with <i>Error:</i> (NSError **) <i>error</i> on page 2238	

Method	Description
- (BOOL) storeDocument: (id) document forDocType: (DocType) type forKey: (NSString *) urlKey withError: (NSError **) error on page 2238	
- (BOOL) updateEntry: (ODataEntry *) entry withError: (NSError **) error on page 2238	

### Usage

Cache works against the new parser API (OData\*) only. Supports handling delta links and tombstones.

Error codes for caching

600 – Empty/Nil input parameter(s). 601 – No entries match the input. 602 – The entry being marked for delete is not a part of the server cache. Cannot perform operation.

### *addEntry:withError: method*

#### Syntax

```
- (NSString *) addEntry : (ODataEntry *) entry withError :
(NSError **) error
```

### *addNotificationDelegate:withListener:forUrlKey: method*

#### Syntax

```
- (void) addNotificationDelegate : (id) delegate withListener :
(SEL) listener forKey : (NSString *) urlKey
```

### *clearCacheForUrlKey:withError: method*

#### Syntax

```
- (BOOL) clearCacheForUrlKey : (NSString *) urlKey withError :
(NSError **) error
```

### *clearLocalEntryForEntryId:withError: method*

#### Syntax

```
- (BOOL) clearLocalEntryForEntryId : (NSString *) entryId
withError : (NSError **) error
```



*deleteEntryForEntryId:withError: method**Syntax*

```
- (BOOL) deleteEntryForEntryId : (NSString *) entryId withError
: (NSError **) error
```

*getDeltaLinkForUrlKey:withError: method**Syntax*

```
- (NSString *) getDeltaLinkForUrlKey : (NSString *) urlKey
withError : (NSError **) error
```

*initializeCacheWithError: method**Syntax*

```
- (BOOL) initializeCacheWithError : (NSError **) error
```

*mergeEntries:forUrlKey:withError:withCompletionBlock: method [deprecated]*

Deprecated. Use 'mergeEntriesFromFeed' instead. This will be removed in the next drop

*Syntax*

```
- (BOOL) mergeEntries : (ODataFeed *) feed forUrlKey :
(NSString *) urlKey withError : (NSError **) error
withCompletionBlock : (NSNotification *) block
```

*Usage*

DeprecatedUse 'mergeEntriesFromFeed' instead. This will be removed in the next drop

*mergeEntriesFromFeed:forUrlKey:withError:withCompletionBlock: method**Syntax*

```
- (BOOL) mergeEntriesFromFeed : (ODataFeed *) feed forUrlKey :
(NSString *) urlKey withError : (NSError **) error
withCompletionBlock : (NSNotification *notification) block
```

*readDocumentForUrlKey:forDocType:withError: method**Syntax*

```
- (id) readDocumentForUrlKey : (NSString *) urlKey forDocType
: (DocType) type withError : (NSError **) error
```

*readEntriesForUrlKey:withError: method*

**Syntax**

```
- (NSArray *) readEntriesForUrlKey : (NSString *) urlKey
withError : (NSError **) error
```

*readEntriesLocalForEntryId:forEntityType:withError: method*

**Syntax**

```
- (NSArray *) readEntriesLocalForEntryId : (NSString *) entryId
forEntityType : (NSString *) entityType withError : (NSError **)
error
```

*storeDocument:forDocType:forUrlKey:withError: method*

**Syntax**

```
- (BOOL) storeDocument : (id) document forDocType : (DocType)
type forUrlKey : (NSString *) urlKey withError : (NSError **)
error
```

*updateEntry:withError: method*

**Syntax**

```
- (BOOL) updateEntry : (ODataEntry *) entry withError :
(NSError **) error
```

**ConnectivityException class**

Exception propagated from the library.

**Syntax**

```
@interface ConnectivityException : NSException
```

**Members**

All members of ConnectivityException, including inherited members. **Methods**

Method	Description
- (id) <i>init</i> on page 2239	
- (id) <i>initWithError: (NSString *) error_in detailedError: (NSString *) details_in statusCode: (NSInteger) statusCode_in</i> on page 2239	

*init method***Syntax**

```
- (id) init
```

*initWithError:detailedError:statusCode: method***Syntax**

```
- (id) initWithError : (NSString *) error_in detailedError : (
NSString *) details_in statusCode : (NSInteger) statusCode_in
```

*DBHelper class***Syntax**

```
@interface DBHelper : NSObject
```

**Members**

All members of DBHelper, including inherited members. **Methods**

Method	Description
- (void) <i>clearTable: (NSString *) tableName</i> on page 2240	
- (void) <i>closeConnection</i> on page 2240	
- (void) <i>deleteRequest: (double) uuid from-Queue: (NSString *) tableName</i> on page 2240	
- (NSArray *) <i>getAllEntriesFromTable: (NSString *) tableName</i> on page 2240	
- (NSArray *) <i>getAllTableNames</i> on page 2240	
- (id) <i>init</i> on page 2240	
- (void) <i>insertRequest: (NSData *) encodedData withGuid: (double) uuid intoQueue: (NSString *) tableName</i> on page 2240	
+ (id) <i>sharedInstance</i> on page 2240	
- (void) <i>updateStatusOfRequest: (double) requestId inTable: (NSString *) tableName</i> on page 2241	

*clearTable: method*

*Syntax*

- (void) clearTable : (NSString \*) **tableName**

*closeConnection method*

*Syntax*

- (void) closeConnection

*deleteRequest:fromQueue: method*

*Syntax*

- (void) deleteRequest : (double) **uuid** fromQueue : (NSString \*) **tableName**

*getAllEntriesFromTable: method*

*Syntax*

- (NSArray \*) getAllEntriesFromTable : (NSString \*) **tableName**

*getAllTableNames method*

*Syntax*

- (NSArray \*) getAllTableNames

*init method*

*Syntax*

- (id) init

*insertRequest:withGuid:intoQueue: method*

*Syntax*

- (void) insertRequest : (NSData \*) **encodedData** withGuid : (double) **uuid** intoQueue : (NSString \*) **tableName**

*sharedInstance method*

*Syntax*

+ (id) sharedInstance

*updateStatusOfRequest:inTable: method*

### Syntax

```
- (void) updateStatusOfRequest : (double) requestId inTable : (
NSString *) tableName
```

*DownloadCache class*

### Syntax

```
@interface DownloadCache : NSObject <CacheDelegate>
```

### Members

All members of DownloadCache, including inherited members. **Methods**

Method	Description
+ (id) instance on page 2242	Returns a static DownloadCache instance.
+ (NSDateFormatter *) rfc1123DateFormatter on page 2242	A date formatter to be used to construct an RFC 1123 date.
+ (BOOL) serverAllowsResponseCachingForRequest: (Request *) request on page 2242	A helper function that determines if the server that has requested data should not be cached by looking at the request's response headers.

### Inherited members from CacheDelegate

Member	Description
- (NSDictionary *) cachedHeadersForRequest: (id< Requesting >) request on page 2233	
- (NSData *) cachedResponseDataForRequest: (id< Requesting >) request on page 2233	
- (void) clearCachedResponsesForStoragePolicy: (ECacheStoragePolicy) cachePolicy on page 2233	
- (ECachePolicy) defaultCachePolicy on page 2233	Returns the cache policy to be used when requests have their cache policy set to DefaultCachePolicy.
- (BOOL) isCachedDataCurrentForRequest: (id< Requesting >) request on page 2234	

Member	Description
- ( <i>NSString *</i> ) <i>pathToCachedResponseDataForRequest: (id&lt; Requesting &gt;) request</i> on page 2234	
- ( <i>void</i> ) <i>removeCachedDataForRequest: (id&lt; Requesting &gt;) request</i> on page 2234	
- ( <i>void</i> ) <i>storeResponseForRequest: (id&lt; Requesting &gt;) request maxAge: (NSTimeInterval) maxAge</i> on page 2234	

***instance method***

Returns a static DownloadCache instance.

***Syntax***

```
+ (id) instance
```

***Usage***

Used as a global cache. To make HTTPRequests use it automatically, use [HTTPRequest setDefaultCache:[DownloadCache sharedCache]];

***rfc1123DateFormatter method***

A date formatter to be used to construct an RFC 1123 date.

***Syntax***

```
+ (NSDateFormatter *) rfc1123DateFormatter
```

***Usage***

The returned formatter can be used on the calling thread. Do not use this formatter for parsing dates, as the format can vary. It is recommended you use HTTPRequest's `dateFromRFC1123String:` class method instead.

***serverAllowsResponseCachingForRequest: method***

A helper function that determines if the server that has requested data should not be cached by looking at the request's response headers.

***Syntax***

```
+ (BOOL) serverAllowsResponseCachingForRequest : (Request *)  
request
```

### *EncryptionKeyManager class*

The class `EncryptionKeyManager` provides a way to enforce security mechanism at the mobile client, basically for the persistence core for Cache and queue of requests.

### *Syntax*

```
@interface EncryptionKeyManager : NSObject
```

### *Members*

All members of `EncryptionKeyManager`, including inherited members. **Methods**

Method	Description
<i>+ (NSString *) encryptionKey</i> on page 2243	This method should not be used by the application developer or the MAF as this is only intended for internal usage.
<i>+ (NSString *) getEncryptionKey: (NSError **) error</i> on page 2244	A static method to provide the unique 128-bit encryption key.
<i>+ (NSString *) resetEncryptionKey</i> on page 2244	A static method to regenerate the key along with the database i.e.
<i>+ (void) setEncryptionKey: (NSString *) key</i> on page 2245	Deprecated.
<i>+ (void) setEncryptionKey: (NSString *) key withError: (NSError **) error</i> on page 2245	A static method to set the unique 128-bit encryption key back to the code to perform the DB operations.

### *Usage*

This class creates and deletes the database with the use of a unique 128-bit encryption key that has to be stored for future operations by either the Mobile Application Framework (MAF) or by the application itself.

### *encryptionKey method*

This method should not be used by the application developer or the MAF as this is only intended for internal usage.

### *Syntax*

```
+ (NSString *) encryptionKey
```

### *Usage*

If used outside, could give unexpected results. Please Don't use this API.

### *getEncryptionKey: method*

A static method to provide the unique 128-bit encryption key.

#### *Syntax*

```
+ (NSString *) getEncryptionKey : (NSError **) error
```

#### *Parameters*

- **error** – NSError\* object to capture any error if occurred during the execution of the method.

#### *Returns*

Returns NSString\* a unique 128-bit key to be used for the subsequent operation on DB.

#### Usage

#### *Usage*

This method should be called at the first invocation of the application to fetch the unique key for the newly created encrypted Database.

### *resetEncryptionKey method*

A static method to regenerate the key along with the database i.e.

#### *Syntax*

```
+ (NSString *) resetEncryptionKey
```

#### *Returns*

NSString\* it returns a newly created 128-bit encryption key.

#### Usage

#### *Usage*

by calling this method the DB that exists on the mobile client will be removed and a new DB with a newly created unique 128-bit encryption key will be generated. After the invocation of this method the newly generated key should be stored by the MAF or application again by removing the old key.



*setEncryptionKey: method [deprecated]*

Deprecated.

*Syntax*

```
+ (void) setEncryptionKey : (NSString *) key
```

*Usage*

Deprecated

*setEncryptionKey:withError: method*

A static method to set the unique 128-bit encryption key back to the code to perform the DB operations.

*Syntax*

```
+ (void) setEncryptionKey : (NSString *) key withError :  
(NSError **) error
```

*Parameters*

- **key** – NSString\* takes a unique 128-bit encryption key which was earlier generated by getEncryptionKey and saved by the MAF or Application at the first invocation of the application.
- **error** – NSError\* object to capture any error if occurred during the execution of the method.

*Usage**Usage*

This should only be called if the key exists in the vault. When passing key as null, the key will be cleared from the memory and no further operations could be possible. If the key is wrong i.e. not the one which was used for DB encryption, again no operation could be possible further until the correct key has been set.

*FormDataRequest class*

Composes a form data request.

*Syntax*

```
@interface FormDataRequest : Request <NSCopying>
```

*Members*

All members of FormDataRequest, including inherited members. **Methods**

Method	Description
- (void) addData: (NSData *) data forKey: (NSString *) key on page 2251	Adds the contents of an NSData object to the request.
- (void) addData: (id) data withFileName: (NSString *) fileName andContentType: (NSString *) contentType forKey: (NSString *) key on page 2252	Adds the contents of an NSData object to the request.
- (void) addFile: (NSString *) filePath forKey: (NSString *) key on page 2252	Adds the contents of a local file to the request.
- (void) addFile: (id) data withFileName: (NSString *) fileName andContentType: (NSString *) contentType forKey: (NSString *) key on page 2252	Adds the contents of a local file to the request.
- (void) addPostValue: (id< NSObject >) value forKey: (NSString *) key on page 2252	Adds a POST variable to the request.
- (NSString *) encodeURL: (NSString *) string on page 2252	
- (void) setData: (NSData *) data forKey: (NSString *) key on page 2253	Adds the contents of an NSData object to the request, clearing any others with the same key.
- (void) setData: (id) data withFileName: (NSString *) fileName andContentType: (NSString *) contentType forKey: (NSString *) key on page 2253	Adds the contents of an NSData object to the request, clearing any others with the same key.
- (void) setFile: (NSString *) filePath forKey: (NSString *) key on page 2253	Adds the contents of a local file to the request, clearing any others with the same key.
- (void) setFile: (id) data withFileName: (NSString *) fileName andContentType: (NSString *) contentType forKey: (NSString *) key on page 2253	Adds the contents of a local file to the request, clearing any others with the same key.
- (void) setPost Value: (id< NSObject >) value forKey: (NSString *) key on page 2253	Sets a POST variable for this request, clearing any others with the same key.

### Inherited members from Request

Member	Description
- (void) <i>addBasicAuthenticationHeaderWithUsername: (NSString *) theUsername andPassword: (NSString *) thePassword</i> on page 2325	Constructs a basic authentication header from the user name and password supplied, and adds it to the request headers.
- (void) <i>addRequestHeader: (NSString *) header value: (NSString *) value</i> on page 2326	Adds a custom header to the request.
- (void) <i>appendPostData: (NSData *) data</i> on page 2326	Adds data to the post body.
- (void) <i>appendPostDataFromFile: (NSString *) file</i> on page 2326	Adds data to the post body from a file.
- (void) <i>applyAuthorizationHeader</i> on page 2326	Used to apply authorization header to a request before it is sent (when <i>shouldPresentCredentials-BeforeChallenge</i> is YES).
- (void) <i>applyCookieHeader</i> on page 2326	Called during <i>buildRequestHeaders</i> and after a redirect to create a cookie header from request cookies and the global store.
+ (unsigned long) <i>averageBandwidthUsedPerSecond</i> on page 2327	Returns a rough average (for the last 5 seconds) of how much bandwidth is being used, in bytes.
+ (NSString *) <i>base64forData: (NSData *) theData</i> on page 2327	Base64 encodes the provided NSData*.
- (void) <i>buildPostBody</i> on page 2327	Creates the post body.
- (void) <i>buildRequestHeaders</i> on page 2327	Populates the request headers dictionary.
- (void) <i>cancelAuthentication</i> on page 2327	Should be called by delegates when they wish to cancel authentication and stop.
+ (void) <i>clearSession</i> on page 2327	
+ (const NSDataWritingOptions) <i>dataWritingOptions</i> on page 2328	Returns a mask which determines whether the data should be stored in encrypted form.
+ (NSDate *) <i>dateFromRFC1123String: (NSString *) string</i> on page 2328	Returns a date from a string in RFC1123 format.
+ (NSString *) <i>decodeBase64: (NSString *) string_in</i> on page 2328	Decodes a base64 encoded string.
+ (id<CacheDelegate >) <i>defaultCache</i> on page 2328	Returns the default download cache or nil if none is set at class level.

Member	Description
- (void) <i>enableTracing</i> : (BOOL) <i>value_in</i> on page 2328	Switches traceability status.
+ (void) <i>enableXCSRF</i> : (BOOL) <i>enable</i> on page 2328	Enable XSRF support for the session of the application.
- (void) <i>failWithError</i> : (NSError *) <i>theError</i> on page 2329	Called when a request fails, and lets the delegate know via <i>didFailSelector</i> .
+ (NSDictionary *) <i>fileProtectionAttributes</i> on page 2329	Returns an attributes dictionary used for encrypted file storage or NIL if file protection has been explicitly disabled.
+ (NSInteger) <i>getMaxConcurrentHTTPRequestCount</i> on page 2329	Returns the maximum number of request threads that can be executed in parallel.
- (void) <i>handleNetworkEvent</i> : (CFStreamEventType) <i>type</i> on page 2329	Handles network events as they occur.
- (Request *) <i>HEADRequest</i> on page 2329	Creates a HEAD request appropriate for this request with the same headers.
+ (void) <i>hideNetworkActivityIndicator</i> on page 2329	Hides the network activity spinner.
+ (void) <i>incrementBandwidthUsedInLastSecond</i> : (unsigned long) <i>bytes</i> on page 2330	Used internally to record bandwidth use, and by <i>InputStreams</i> when uploading. It's probably best if you don't mess with this.
- (void) <i>incrementDownloadSizeBy</i> : (long long) <i>length</i> on page 2330	Called when we get a content-length header and <i>shouldResetDownloadProgress</i> is set to TRUE.
- (void) <i>incrementUploadSizeBy</i> : (long long) <i>length</i> on page 2330	Called when a request starts and <i>shouldResetUploadProgress</i> is set to TRUE.
- (id) <i>initWithURL</i> : (NSURL *) <i>newURL</i> on page 2330	Initialize the Request object with a HTTP or HTTPS url.
+ (BOOL) <i>isBandwidthThrottled</i> on page 2331	Returns YES is bandwidth throttling is currently in use.
+ (BOOL) <i>isNetworkInUse</i> on page 2331	Indicates whether there are running requests.
+ (BOOL) <i>isNetworkReachableViaWWAN</i> on page 2331	Returns YES when an iPhone OS device is connected via WWAN, false when connected via WIFI or not connected.

Member	Description
- (BOOL) <i>isResponseCompressed</i> on page 2331	
- (BOOL) <i>isTracingEnabled</i> on page 2331	Returns tracing status.
+ (unsigned long) <i>maxBandwidthPerSecond</i> on page 2332	The maximum number of bytes ALL requests can send or receive in a second.
+ (unsigned long) <i>maxUploadReadLength</i> on page 2332	Returns the maximum amount of data we can read as part of the current measurement period, and sleeps this thread if our allowance is used up.
+ (NSString *) <i>mimeTypeForFileAtPath:</i> (NSString *) <i>path</i> on page 2332	
+ (void) <i>performSelector:</i> (SEL) <i>selector onTarget:</i> (id *) <i>target withObject:</i> (id) <i>object amount:</i> (void *) <i>amount</i> on page 2332	Helper method used for performing invocations on the main thread (used for progress).
- (void) <i>performThrottling</i> on page 2332	Performs bandwidth throttling.
+ (void) <i>removeCredentialsForHost:</i> (NSString *) <i>host port:</i> (int) <i>port protocol:</i> (NSString *) <i>protocol realm:</i> (NSString *) <i>realm</i> on page 2332	Deletes host credentials from the keychain.
+ (void) <i>removeCredentialsForProxy:</i> (NSString *) <i>host port:</i> (int) <i>port realm:</i> (NSString *) <i>realm</i> on page 2333	Deletes proxy credentials from the keychain.
- (void) <i>removeUploadProgressSoFar</i> on page 2333	Called when authorization is required, as we only find out we do not have some permissions when the upload is complete.
+ (id) <i>requestWithURL:</i> (NSURL *) <i>newURL</i> on page 2333	Convenience constructor with URL.
+ (id) <i>requestWithURL:</i> (NSURL *) <i>newURL usingCache:</i> (id< CacheDelegate >) <i>cache</i> on page 2333	Convenience constructor with url and cache.
+ (id) <i>requestWithURL:</i> (NSURL *) <i>newURL usingCache:</i> (id< CacheDelegate >) <i>cache and-CachePolicy:</i> (ECachePolicy) <i>policy</i> on page 2333	Convenience constructor with url, cache and cache policy.
- (NSData *) <i>responseData</i> on page 2333	

Member	Description
- ( <i>NSString *</i> ) <i>responseString</i> on page 2334	
- ( <i>void</i> ) <i>retryUsingSuppliedCredentials</i> on page 2334	Unlocks the request thread so it can resume the request.
+ ( <i>void</i> ) <i>saveCredentials: (NSURLCredential *) credentials forHost: (NSString *) host port: (int) port protocol: (NSString *) protocol realm: (NSString *) realm</i> on page 2334	Saves host credentials to the keychain.
+ ( <i>void</i> ) <i>saveCredentials: (NSURLCredential *) credentials forProxy: (NSString *) host port: (int) port realm: (NSString *) realm</i> on page 2334	Saves proxy credentials to the keychain.
- ( <i>void</i> ) <i>saveCredentialsToKeychain: (NSDictionary *) newCredentials</i> on page 2334	Saves credentials for this request to the keychain.
+ ( <i>NSURLCredential *) savedCredentialsForHost: (NSString *) host port: (int) port protocol: (NSString *) protocol realm: (NSString *) realm</i> on page 2335	Returns host credentials from the keychain.
+ ( <i>NSURLCredential *) savedCredentialsForProxy: (NSString *) host port: (int) port protocol: (NSString *) protocol realm: (NSString *) realm</i> on page 2335	Returns proxy credentials from the keychain.
- ( <i>void</i> ) <i>sendE2ETraceXML: (NSURL *) toBaseURL</i> on page 2335	Posts the SAP E2E Trace XML to the specified URL.
- ( <i>void</i> ) <i>setClientCertificateIdentity: (SecIdentityRef) anIdentity</i> on page 2335	Sets the identity reference (X.509 certificate + private key) for this request; used for secure connections.
+ ( <i>void</i> ) <i>setDefaultCache: (id&lt;CacheDelegate&gt;) cache</i> on page 2335	Configures a default download cache that applies for all requests.
- ( <i>void</i> ) <i>setEtag: (NSString *) etag withMatchType: (EtagType) matchType</i> on page 2335	Add If-Match or If-None-Match or If-Range header.
+ ( <i>void</i> ) <i>setMaxBandwidthPerSecond: (unsigned long) bytes</i> on page 2336	Sets the maximum number of bytes ALL requests can send / receive in a second.
+ ( <i>void</i> ) <i>setMaxConcurrentHTTPRequestCount: (const unsigned char) cnt</i> on page 2336	Sets the maximum number of Request threads which can run at once.

Member	Description
+ (void) <i>setProtectionEnabled: (BOOL) flag_in</i> on page 2336	Controls whether the download cache should store files using protection.
+ (void) <i>setShouldThrottleBandwidthForWWAN: (BOOL) throttle</i> on page 2336	Requests can automatically turn throttling on and off, as the connection type changes between WWAN and WiFi.
+ (void) <i>setShouldUpdateNetworkActivityIndicator: (BOOL) shouldUpdate</i> on page 2336	Controls whether the request should take over updating the network activity indicator.
+ (NSOperationQueue *) <i>sharedQueue</i> on page 2337	Returns the shared queue.
+ (void) <i>showNetworkActivityIndicator</i> on page 2337	Shows the network activity spinner.
- (void) <i>startAsynchronous</i> on page 2337	
- (void) <i>startSynchronous</i> on page 2337	
+ (void) <i>throttleBandwidthForWWANUsingLimit: (unsigned long) limit</i> on page 2337	Turns on throttling automatically when WWAN is connected using a custom limit, and turns it off automatically when it isn't.
- (void) <i>updateDownloadProgress</i> on page 2337	Updates download progress and notifies the queue and/or downloadProgressDelegate of this request.
+ (void) <i>updateProgressIndicator: (id *) indicator withProgress: (unsigned long long) progress of- Total: (unsigned long long) total</i> on page 2338	Helper method for interacting with progress indicators to abstract the details of different APIs (NSProgressIndicator and UIProgressView).
- (void) <i>updateProgressIndicators</i> on page 2338	Updates the progress delegates.
- (void) <i>updateUploadProgress</i> on page 2338	Updates upload progress and notifies the queue and/or uploadProgressDelegate of this request.

***addData:forKey: method***

Adds the contents of an NSData object to the request.

**Syntax**

```
- (void) addData : (NSData *) data forKey : (NSString *) key
```

### *addData:withFileName:andContentType:forKey: method*

Adds the contents of an NSData object to the request.

#### *Syntax*

```
- (void) addData : (id) data withFileName : (NSString *) fileName  
andContentType : (NSString *) contentType forKey : (NSString *)  
key
```

#### *Usage*

You can specify the content-type and file name.

### *addFile:forKey: method*

Adds the contents of a local file to the request.

#### *Syntax*

```
- (void) addFile : (NSString *) filePath forKey : (NSString *)  
key
```

### *addFile:withFileName:andContentType:forKey: method*

Adds the contents of a local file to the request.

#### *Syntax*

```
- (void) addFile : (id) data withFileName : (NSString *) fileName  
andContentType : (NSString *) contentType forKey : (NSString *)  
key
```

#### *Usage*

You can specify the content-type and file name.

### *addPostValue:forKey: method*

Adds a POST variable to the request.

#### *Syntax*

```
- (void) addPostValue : (id< NSObject >) value forKey :  
(NSString *) key
```

### *encodeURL: method*

#### *Syntax*

```
- (NSString *) encodeURL : (NSString *) string
```



*setData:forKey: method*

Adds the contents of an NSData object to the request, clearing any others with the same key.

*Syntax*

```
- (void) setData : (NSData *) data forKey : (NSString *) key
```

*setData:withFileName:andContentType:forKey: method*

Adds the contents of an NSData object to the request, clearing any others with the same key.

*Syntax*

```
- (void) setData : (id) data withFileName : (NSString *) fileName
andContentType : (NSString *) contentType forKey : (NSString *)
key
```

*Usage*

You can specify the content-type and file name.

*setFile:forKey: method*

Adds the contents of a local file to the request, clearing any others with the same key.

*Syntax*

```
- (void) setFile : (NSString *) filePath forKey : (NSString *)
key
```

*setFile:withFileName:andContentType:forKey: method*

Adds the contents of a local file to the request, clearing any others with the same key.

*Syntax*

```
- (void) setFile : (id) data withFileName : (NSString *) fileName
andContentType : (NSString *) contentType forKey : (NSString *)
key
```

*Usage*

You can specify the content-type and file name.

*setPostValue:forKey: method*

Sets a POST variable for this request, clearing any others with the same key.

*Syntax*

```
- (void) setPostValue : (id< NSObject >) value forKey :
(NSString *) key
```

*LogEntry class***Syntax**

```
@interface LogEntry : NSObject
```

*NetworkQueue class***Syntax**

```
@interface NetworkQueue : NSOperationQueue
<ProgressDelegate> <RequestDelegate> <NSCopying>
```

**Members**

All members of NetworkQueue, including inherited members. **Methods**

Method	Description
+ (id) queue on page 2255	Convenience constructor.
- (void) reset on page 2255	Resets the queue; it cancels all operations, clears delegates, and suspends operations.
- (void) startBatch on page 2255	Starts the queue.

**Inherited members from ProgressDelegate**

Member	Description
- (void) request: (id< Requesting >) request didReceiveBytes: (long long) bytes on page 2315	Delegate method called when the request receives data.
- (void) request: (id< Requesting >) request didSendBytes: (long long) bytes on page 2315	Delegate method called when the request sends data.
- (void) request: (id< Requesting >) request incrementDownloadSizeBy: (long long) newLength on page 2316	Delegate method called when the request needs to change the download content size.
- (void) request: (id< Requesting >) request incrementUploadSizeBy: (long long) newLength on page 2316	Delegate method called when the request needs to change the length of the content to be uploaded.
- (void) setProgress: (float) newProgress on page 2316	Delegate method called to update UIProgress-Views.

**Inherited members from RequestDelegate**

Member	Description
- (void) <i>authenticationNeededForRequest:</i> (Request *) request on page 2346	Default delegate method called when credentials must be supplied for authentication.
- (void) <i>proxyAuthenticationNeededForRequest:</i> (Request *) request on page 2346	Default delegate method called when the proxy requires credentials for authentication.
- (void) <i>request:</i> (Request *) request <i>didReceiveData:</i> (const NSData *const) data_in on page 2346	Default delegate method invoked when incoming data is available.
- (void) <i>requestFailed:</i> (Request *) request on page 2347	Default delegate method called when the request fails.
- (void) <i>requestFinished:</i> (Request *) request on page 2347	Default delegate method called when the request is completed.
- (void) <i>requestRedirected:</i> (Request *) request on page 2347	Default delegate method called when the request gets redirected.
- (void) <i>requestStarted:</i> (Request *) request on page 2347	Default delegate method called when the request starts.

**queue method**

Convenience constructor.

**Syntax**

```
+ (id) queue
```

**reset method**

Resets the queue; it cancels all operations, clears delegates, and suspends operations.

**Syntax**

```
- (void) reset
```

**startBatch method**

Starts the queue.

**Syntax**

```
- (void) startBatch
```

**Usage**

NetworkQueues are paused when created, so that total size can be calculated before the queue starts.

*ODataActionLink* class

SAP Action Link Contains the optional parameters of the action and helper method to assemble the final URL that is required to execute the action.

*Syntax*

```
@interface ODataActionLink : ODataLink
```

*Members*

All members of ODataActionLink, including inherited members. **Methods**

Method	Description
- ( <i>NSString *</i> ) <i>createActionLinkURL</i> : ( <i>NSDictionary *</i> ) <i>parameters</i> on page 2257	Creates the final action link URL that can be used in an HTTP request to execute the action in the backend.
- ( <i>NSDictionary *</i> ) <i>getParameters</i> on page 2257	Gets the action link parameters whose values should be set by the user.

**Inherited members from ODataLink**

Member	Description
- ( <i>id</i> ) <i>initWithHref</i> : ( <i>NSString *const</i> ) <i>newHref</i> on page 2277	
- ( <i>id</i> ) <i>initWithHref</i> : ( <i>NSString *const</i> ) <i>newHref</i> and <i>LinkRel</i> : ( <i>NSString *const</i> ) <i>newRel</i> on page 2277	
- ( <i>id</i> ) <i>initWithHref</i> : ( <i>NSString *const</i> ) <i>newHref</i> and <i>LinkRel</i> : ( <i>NSString *const</i> ) <i>newRel</i> and <i>LinkType</i> : ( <i>NSString *const</i> ) <i>newType</i> on page 2278	
- ( <i>id</i> ) <i>initWithHref</i> : ( <i>NSString *const</i> ) <i>newHref</i> and <i>LinkRel</i> : ( <i>NSString *const</i> ) <i>newRel</i> and <i>LinkType</i> : ( <i>NSString *const</i> ) <i>newType</i> and <i>LinkTitle</i> : ( <i>NSString *const</i> ) <i>newTitle</i> on page 2278	
- ( <i>id</i> ) <i>initWithHref</i> : ( <i>NSString *const</i> ) <i>newHref</i> and <i>LinkRel</i> : ( <i>NSString *const</i> ) <i>newRel</i> and <i>LinkType</i> : ( <i>NSString *const</i> ) <i>newType</i> and <i>LinkTitle</i> : ( <i>NSString *const</i> ) <i>newTitle</i> and <i>Semantic</i> : ( <i>const enum TEN_LINK_SEMANTICS</i> ) <i>newSemantic</i> on page 2278	

*createActionLinkURL: method*

Creates the final action link URL that can be used in an HTTP request to execute the action in the backend.

*Syntax*

```
- (NSString *) createActionLinkURL : (NSDictionary *)
```

**parameters***Usage*

If the action link has parameters, they will be URL encoded and concatenated to the URL. The returned URL is always an absolute URL. Pass nil, if the action link has no parameters. If the "parameters" value is nil, but the action link has parameters the method adds the parameters with their default values to the final URL.

*getParameters method*

Gets the action link parameters whose values should be set by the user.

*Syntax*

```
- (NSDictionary *) getParameters
```

*Usage*

The dictionary contains ODataPropertyValue... instances. The actual type depends on the edm type of the action link parameter. For example, if the type is Edm.String, the parameter is typed as ODataPropertyValueString. Use ODataPropertyValueObject provides generic, but only string based access to values for reading and writing.

*ODataCollection class*

Collection information.

*Syntax*

```
@interface ODataCollection : NSObject <NSCoding>
```

*Members*

All members of ODataCollection, including inherited members. **Methods**

Method	Description
- (BOOL) addIcon: (const ODataIconInfo *const) newIcon on page 2258	
- (BOOL) addLink: (const ODataLink *const) newLink on page 2258	

Method	Description
- ( <i>BOOL</i> ) <i>doesRequireFilter</i> on page 2259	If the return value is not NO, that means the entries of the collection cannot be queried without providing a \$filter expression (if accessed without a \$filter expression, the server responds with an error message.)
- ( <i>ODataLink *</i> ) <i>getSubscriptionLink</i> on page 2259	if the collection supports subscription, then the returned object will be an ODataLink, otherwise nil.
- ( <i>BOOL</i> ) <i>hasMedia</i> on page 2259	Queries if a collection has media links or not.
- ( <i>id</i> ) <i>initWithName: (NSString *const) newName</i> on page 2259	
- ( <i>BOOL</i> ) <i>isCreatable</i> on page 2259	Queries if a acolection allows creating new entries or not.
- ( <i>BOOL</i> ) <i>isDeletable</i> on page 2259	Queries if a collection allows deleting its entries.
- ( <i>BOOL</i> ) <i>isSearchable</i> on page 2260	Checks if the collection supports google-like search, where a search term is matched against several or all properties of each entry.
- ( <i>BOOL</i> ) <i>isTopLevel</i> on page 2260	Queries if a collection should appear on the main screen as a starting/root collection.
- ( <i>BOOL</i> ) <i>isUpdatable</i> on page 2260	Queries if a collection allows updating its entries.

*addIcon: method*

*Syntax*

- (*BOOL*) *addIcon* : (*const ODataIconInfo \*const*) **newIcon**

*addLink: method*

*Syntax*

- (*BOOL*) *addLink* : (*const ODataLink \*const*) **newLink**

*doesRequireFilter method*

If the return value is not NO, that means the entries of the collection cannot be queried without providing a \$filter expression (if accessed without a \$filter expression, the server responds with an error message.)

*Syntax*

```
- (BOOL) doesRequireFilter
```

*getSubscriptionLink method*

if the collection supports subscription, then the returned object will be an ODataLink, otherwise nil.

*Syntax*

```
- (ODataLink *) getSubscriptionLink
```

*hasMedia method*

Queries if a collection has media links or not.

*Syntax*

```
- (BOOL) hasMedia
```

*initWithName: method**Syntax*

```
- (id) initWithName : (NSString *const) newName
```

*isCreatable method*

Queries if a collection allows creating new entries or not.

*Syntax*

```
- (BOOL) isCreatable
```

*isDeletable method*

Queries if a collection allows deleting its entries.

*Syntax*

```
- (BOOL) isDeletable
```

### *isSearchable method*

Checks if the collection supports google-like search, where a search term is matched against several or all properties of each entry.

#### *Syntax*

```
- ( BOOL ) isSearchable
```

### *isTopLevel method*

Queries if a collection should appear on the main screen as a starting/root collection.

#### *Syntax*

```
- ( BOOL ) isTopLevel
```

### *isUpdatable method*

Queries if a collection allows updating its entries.

#### *Syntax*

```
- ( BOOL ) isUpdatable
```

### *ODataDataParser class*

Parses a feed or an entry xml.

#### *Syntax*

```
@interface ODataDataParser : ODataGenericParser
```

#### *Members*

All members of ODataDataParser, including inherited members. **Methods**

Method	Description
- (id) initWithEntitySchema: (const ODataEntitySchema *const) newEntitySchema on page 2261	
- (id) initWithEntitySchema: (const ODataEntitySchema *const) newEntitySchema andServiceDocument: (const ODataServiceDocument *const) newServiceDocument on page 2261	
- (void) parse: (NSData *const) content on page 2261	



### Usage

The array of parsed entry/entries can be accessed via the "entries" property of the parser after parsing. Any "inlined" entries or feed(s) will be parsed when service document is passed to the "initWithEntitySchema" variant that accepts service document as input. If "inlined" feed(s) or entries should not be returned pass nil as the service document parameter or use the other "initWithEntitySchema" that does not have a service document parameter.

```
NSMutableArray* entries = nil; { ODataDataParser* dataParser =
[[[ODataDataParser alloc] initWithEntitySchema: entitySchema
andServiceDocument: serviceDocument] autorelease];
[dataParser parse: content_in]; entries = [dataParser.entries
retain]; (ODataParserException* e) { //error handling... }
```

### *initWithEntitySchema: method*

#### Syntax

```
- (id) initWithEntitySchema : (const ODataEntitySchema
*const) newEntitySchema
```

### *initWithEntitySchema:andServiceDocument: method*

#### Syntax

```
- (id) initWithEntitySchema : (const ODataEntitySchema
*const) newEntitySchema andServiceDocument : (const
ODataServiceDocument *const) newServiceDocument
```

### *parse: method*

#### Syntax

```
- (void) parse : (NSData *const) content
```

### *ODataDuration class*

Duration data class.

#### Syntax

```
@interface ODataDuration : NSObject
```

### Members

All members of ODataDuration, including inherited members. **Methods**

Method	Description
- (id) <i>init</i> on page 2262	
- (BOOL) <i>isDaysFieldPresent</i> on page 2262	

Method	Description
- (BOOL) <i>isHoursFieldPresent</i> on page 2262	
- (BOOL) <i>isMinutesFieldPresent</i> on page 2262	
- (BOOL) <i>isMonthsFieldPresent</i> on page 2262	
- (BOOL) <i>isNegative</i> on page 2262	
- (BOOL) <i>isSecondsFieldPresent</i> on page 2263	
- (BOOL) <i>isYearsFieldPresent</i> on page 2263	
- (void) <i>setSign: (const BOOL) negativeDuration</i> on page 2263	Sets the duration sign.

*init method**Syntax*

```
- (id) init
```

*isDaysFieldPresent method**Syntax*

```
- (BOOL) isDaysFieldPresent
```

*isHoursFieldPresent method**Syntax*

```
- (BOOL) isHoursFieldPresent
```

*isMinutesFieldPresent method**Syntax*

```
- (BOOL) isMinutesFieldPresent
```

*isMonthsFieldPresent method**Syntax*

```
- (BOOL) isMonthsFieldPresent
```

*isNegative method**Syntax*

```
- (BOOL) isNegative
```

*isSecondsFieldPresent method***Syntax**

```
- (BOOL) isSecondsFieldPresent
```

*isYearsFieldPresent method***Syntax**

```
- (BOOL) isYearsFieldPresent
```

*setSign: method*

Sets the duration sign.

**Syntax**

```
- (void) setSign : (const BOOL) negativeDuration
```

**Usage**

If YES is passed the duration will be a negative duration, otherwise positive.

*ODataEntitySchema class***Syntax**

```
@interface ODataEntitySchema : NSObject <NSCoding>
```

**Members**

All members of ODataEntitySchema, including inherited members. **Methods**

Method	Description
- (NSArray *const) <i>getVisibleInDetailPathsInOrder</i> on page 2263	Gets the property paths of those properties that are visible on detail screens.
- (NSArray *const) <i>getVisibleInListPathsInOrder</i> on page 2264	Gets the property paths of those properties that are visible on list screens.
- ( <i>id</i> ) <i>init</i> on page 2264	

*getVisibleInDetailPathsInOrder method*

Gets the property paths of those properties that are visible on detail screens.

**Syntax**

```
- (NSArray *const) getVisibleInDetailPathsInOrder
```

## Usage

These paths can be used on entry instances to get the property values in visibility order.

### *getVisibleInListPathsInOrder* method

Gets the property paths of those properties that are visible on list screens.

### Syntax

```
- (NSArray *const) getVisibleInListPathsInOrder
```

## Usage

These paths can be used on entry instances to get the property values in visibility order.

### *init* method

### Syntax

```
- (id) init
```

### *ODataEntry* class

Represents one entry in memory.

### Syntax

```
@interface ODataEntry : NSObject <NSCoding>
```

### Members

All members of ODataEntry, including inherited members. **Methods**

Method	Description
- (void) addIcon: (const ODataIconInfo *const) icon on page 2265	
- (void) addLink: (const ODataLink *const) link on page 2265	
- (NSArray *const) getActionLinks on page 2266	Returns an array of ODataActionLink objects.
- (NSArray *const) getInlinedRelatedEntriesFor-RelatedLink: (NSString *const) relatedUrl on page 2266	Gets an inlined related list of entries for a related link.
- (NSArray *) getMediaLinksForEditing on page 2266	Returns all the media entry links for editing that are associated with the entry or an empty array, if no media links are available.

Method	Description
- (NSArray *) <i>getMediaLinksForReading</i> on page 2266	Returns all the read-only media entry links that are associated with the entry or an empty array, if no media links are available.
- (ODataPropertyValueObject *const) <i>getPropertyValueByPath:</i> (NSString *const) <i>path</i> on page 2266	Returns a pointer to a writable property value object by path>> example: items\description \lang_code.
- (const ODataRelatedLink *const) <i>getRelatedLinkByNavigationPropertyName:</i> (NSString *const) <i>navigationPropertyName</i> on page 2267	Returns a related link that matches the given navigation property name or nil, if link is not found.
- (NSArray *const) <i>getRelatedLinks</i> on page 2267	Returns an array of ODataRelatedLink objects.
- (ODataLink *) <i>getSubscriptionLink</i> on page 2267	if the entry supports subscription, then the returned object will be an ODataLink, otherwise nil.
- (NSDate *) <i>getUpdated</i> on page 2267	Returns the date when the entry was updated.
- (NSArray *const) <i>getVisibleDetailPropertiesInOrder</i> on page 2267	Gets the visible property value objects in details ordered by the display order attribute value.
- (NSArray *const) <i>getVisibleListPropertiesInOrder</i> on page 2268	Gets the visible property value objects in lists ordered by the display order attribute value.
- (id) <i>initWithEntitySchema:</i> (const ODataEntitySchema *const) <i>newEntitySchema</i> on page 2268	
- (BOOL) <i>isValid</i> on page 2268	Checks if all of the stored values are valid.

*addIcon:* method

**Syntax**

- (void) *addIcon* : (const ODataIconInfo \*const) **icon**

*addLink:* method

**Syntax**

- (void) *addLink* : (const ODataLink \*const) **link**

### *getActionLinks method*

Returns an array of ODataActionLink objects.

#### *Syntax*

```
- (NSArray *const) getActionLinks
```

### *getInlinedRelatedEntriesForRelatedLink: method*

Gets an inlined related list of entries for a related link.

#### *Syntax*

```
- (NSArray *const) getInlinedRelatedEntriesForRelatedLink : (NSString *const) relatedUrl
```

#### *Usage*

The related entries are present only if they appear in the original payload as inline.

### *getMediaLinksForEditing method*

Returns all the media entry links for editing that are associated with the entry or an empty array, if no media links are available.

#### *Syntax*

```
- (NSArray *) getMediaLinksForEditing
```

### *getMediaLinksForReading method*

Returns all the read-only media entry links that are associated with the entry or an empty array, if no media links are available.

#### *Syntax*

```
- (NSArray *) getMediaLinksForReading
```

### *getPropertyValueByPath: method*

Returns a pointer to a writable property value object by path>> example: items\description \lang\_code.

#### *Syntax*

```
- (ODataPropertyValueObject *const) getPropertyValueByPath : (NSString *const) path
```

*getRelatedLinkByNavigationPropertyName: method*

Returns a related link that matches the given navigation property name or nil, if link is not found.

*Syntax*

```
- (const ODataRelatedLink *const)
getRelatedLinkByNavigationPropertyName : (NSString *const)
navigationPropertyName
```

*getRelatedLinks method*

Returns an array of ODataRelatedLink objects.

*Syntax*

```
- (NSArray *const) getRelatedLinks
```

*Usage*

The links are absolute links and the targetCollection property of the ODataRelatedLink class defines the name of the collection of the related data. When the data is downloaded, use this collection name to retrieve its entitySchema and pass that schema to the data parser along with the downloaded data.

*getSubscriptionLink method*

if the entry supports subscription, then the returned object will be an ODataLink, otherwise nil.

*Syntax*

```
- (ODataLink *) getSubscriptionLink
```

*getUpdated method*

Returns the date when the entry was updated.

*Syntax*

```
- (NSDate *) getUpdated
```

*Usage*

The return value is nil if the entry has an invalid "updated" value.

*getVisibleDetailPropertiesInOrder method*

Gets the visible property value objects in details ordered by the display order attribute value.

*Syntax*

```
- (NSArray *const) getVisibleDetailPropertiesInOrder
```

### *getVisibleListPropertiesInOrder method*

Gets the visible property value objects in lists ordered by the display order attribute value.

#### *Syntax*

```
- (NSArray *const) getVisibleListPropertiesInOrder
```

### *initWithEntitySchema: method*

#### *Syntax*

```
- (id) initWithEntitySchema : (const ODataEntitySchema *const) newEntitySchema
```

### *isValid method*

Checks if all of the stored values are valid.

#### *Syntax*

```
- (BOOL) isValid
```

### *ODataEntryBody class*

Contains the XML representation of an entry and the HTTP method that must be used when issuing a request with the above mentioned XML against the backend.

#### *Syntax*

```
@interface ODataEntryBody : NSObject
```

#### *Members*

All members of ODataEntryBody, including inherited members. **Methods**

Method	Description
- (id) <i>init</i> on page 2268	

### *init method*

#### *Syntax*

```
- (id) init
```

### *ODataError class*

Stores the parsed data fields of OData error payloads.

#### *Syntax*

```
@interface ODataError : NSObject
```



### Members

All members of `ODataError`, including inherited members. **Methods**

Method	Description
- ( <i>id</i> ) <i>init</i> on page 2269	

### Usage

Example error payload: `<?xml version="1.0" encoding="utf-8" standalone="yes"?> <error xmlns="http://schemas.microsoft.com/ado/2007/08/dataservices/metadata"> <message xml:lang="en-US">Resource not found for the segment 'Titles'.</message> </error>` The stored values after parsing the example payload are: `code = "" message = @"Resource not found for the segment 'Titles'." language = @"en-US"`

### *init* method

#### Syntax

- (*id*) *init*

### *ODataErrorXMLParser* class

Parses an OData error payload and returns an `ODataError` instance with the parsed values.

#### Syntax

```
@interface ODataErrorXMLParser : ODataGenericParser
```

### Members

All members of `ODataErrorXMLParser`, including inherited members. **Methods**

Method	Description
- ( <i>id</i> ) <i>init</i> on page 2269	

### *init* method

#### Syntax

- (*id*) *init*

### *ODataFeed* class

#### Syntax

```
@interface ODataFeed : NSObject <NSCoding>
```

### Members

All members of `ODataFeed`, including inherited members. **Methods**

Method	Description
- ( <i>ODataLink *</i> ) <i>getDeltaLink</i> on page 2270	

*getDeltaLink* method**Syntax**

```
- (ODataLink *) getDeltaLink
```

**ODataFunctionImport** class

OData Function Import class.

**Syntax**

```
@interface ODataFunctionImport : NSObject <NSCoding>
```

**Members**

All members of ODataFunctionImport, including inherited members. **Methods**

Method	Description
- ( <i>NSString *</i> ) <i>generateFunctionImportUrl:</i> ( <i>NSString *const</i> ) <i>baseUrl</i> parameters: ( <i>NSDictionary *const</i> ) <i>parameters</i> on page 2270	Generates the URL that is required to execute the backend functionality that is mapped to the function import.
- ( <i>NSMutableDictionary *</i> ) <i>getWritableParameters</i> on page 2271	Creates a dictionary of property values (ODataPropertyValue...) that can be used as function import parameters.
- ( <i>id</i> ) <i>initWithName:</i> ( <i>NSString *const</i> ) <i>newName</i> on page 2271	Creates a function import with the name specified.

*generateFunctionImportUrl:parameters:* method

Generates the URL that is required to execute the backend functionality that is mapped to the function import.

**Syntax**

```
- (NSString *) generateFunctionImportUrl : (NSString *const)
baseUrl parameters : (NSDictionary *const) parameters
```

**Usage**

The method also generates the parameter part of the Function Import URL. For example:  
[http://www.example.com/demo.svc/FunctionImportName?  
parameter='value'&numeric\\_param=123](http://www.example.com/demo.svc/FunctionImportName?parameter='value'&numeric_param=123)

***getWritableParameters method***

Creates a dictionary of property values (ODataPropertyValue...) that can be used as function import parameters.

***Syntax***

```
- (NSMutableDictionary *) getWritableParameters
```

***Usage***

Set the rawValue property to the value you would like to send as a parameter when executing a function import. For example, the metadata defines the following parameters for the given function import: <Parameter name="name" type="Edm.String" mode="In"> <Parameter name="index" type="Edm.Int32" mode="In"> The method will return an NSMutableDictionary of writable parameters as ODataPropertyValue.... The name of the ODataPropertyValue... instance will be the name of the parameter.

***initWithName: method***

Creates a function import with the name specified.

***Syntax***

```
- (id) initWithName : (NSString *const) newName
```

***ODataFunctionImportParameter class***

OData Function Import Parameter class.

***Syntax***

```
@interface ODataFunctionImportParameter : NSObject
<NSCoding>
```

***Members***

All members of ODataFunctionImportParameter, including inherited members. **Methods**

Method	Description
- (id) initWithMetaInfo: (const ODataPropertyInfo *) newMetaInfo on page 2271	

***initWithMetaInfo: method******Syntax***

```
- (id) initWithMetaInfo : (const ODataPropertyInfo *)
newMetaInfo
```

## *ODataFunctionImportResultParser class*

Parses the result payload xml of a function import.

### *Syntax*

```
@interface ODataFunctionImportResultParser :  
ODataGenericParser
```

### *Members*

All members of ODataFunctionImportResultParser, including inherited members. **Methods**

Method	Description
- (id) initWithFunctionImport: (const OData-FunctionImport *const) newFunctionImport on page 2272	

*initWithFunctionImport: method*

### *Syntax*

```
- (id) initWithFunctionImport : (const ODataFunctionImport  
*const) newFunctionImport
```

## *ODataGenericParser class*

### *Syntax*

```
@interface ODataGenericParser : NSObject  
<NSXMLParserDelegate> <ODataParserDelegate>
```

### *Derived classes*

- *ODataDataParser* on page 2260
- *ODataErrorXMLParser* on page 2269
- *ODataFunctionImportResultParser* on page 2272
- *ODataMetaDocumentParser* on page 2279
- *ODataServiceDocumentParser* on page 2304
- *OpenSearchDescriptionXMLParser* on page 2308

### *Members*

All members of ODataGenericParser, including inherited members. **Methods**

Method	Description
- (void) abortParsing on page 2274	

Method	Description
- (void) characters: (NSString *const) string on page 2274	
- (void) endDocument on page 2274	
- (void) endElement: (NSString *const) elementName namespaceURI: (NSString *const) namespaceURI on page 2274	
- (id) init on page 2274	
- (void) parse: (NSData *const) content on page 2274	Parses the passed data as XML.
- (void) parseContentsOfURL: (NSURL *const) url on page 2274	Parses the data that will be downloaded from the passed URL as XML.
- (void) parser: (NSXMLParser *) parser didEndElement: (NSString *) elementName namespaceURI: (NSString *) namespaceURI qualifiedName: (NSString *) qName on page 2275	
- (void) parser: (NSXMLParser *) parser didStartElement: (NSString *) elementName namespaceURI: (NSString *) namespaceURI qualifiedName: (NSString *) qualifiedName attributes: (NSDictionary *) attributeDict on page 2275	
- (void) parser: (NSXMLParser *) parser foundCharacters: (NSString *) string on page 2275	
- (void) parserDidEndDocument: (NSXMLParser *) parser on page 2275	
- (void) parserDidStartDocument: (NSXMLParser *) parser on page 2275	
- (void) setDoProcessPrefixes: (BOOL) processPrefixes on page 2275	
- (void) startDocument on page 2275	
- (void) startElement: (NSString *const) elementName namespaceURI: (NSString *const) namespaceURI attributes: (NSDictionary *const) attributes on page 2276	

### *abortParsing method*

#### *Syntax*

- (void) abortParsing

### *characters: method*

#### *Syntax*

- (void) characters : (NSString \*const) **string**

### *endDocument method*

#### *Syntax*

- (void) endDocument

### *endElement:namespaceURI: method*

#### *Syntax*

- (void) endElement : (NSString \*const) **elementName**  
namespaceURI : (NSString \*const) **namespaceURI**

### *init method*

#### *Syntax*

- (id) init

### *parse: method*

Parses the passed data as XML.

#### *Syntax*

- (void) parse : (NSData \*const) **content**

### *parseContentsOfURL: method*

Parses the data that will be downloaded from the passed URL as XML.

#### *Syntax*

- (void) parseContentsOfURL : (NSURL \*const) **url**

*parser:didEndElement:namespaceURI:qualifiedName: method*

**Syntax**

```
- (void) parser : (NSXMLParser *) parser didEndElement :
(NSString *) elementName namespaceURI : (NSString *) namespaceURI
qualifiedName : (NSString *) qName
```

*parser:didStartElement:namespaceURI:qualifiedName:attributes: method*

**Syntax**

```
- (void) parser : (NSXMLParser *) parser didStartElement :
(NSString *) elementName namespaceURI : (NSString *) namespaceURI
qualifiedName : (NSString *) qualifiedName attributes :
(NSDictionary *) attributeDict
```

*parser:foundCharacters: method*

**Syntax**

```
- (void) parser : (NSXMLParser *) parser foundCharacters :
(NSString *) string
```

*parserDidEndDocument: method*

**Syntax**

```
- (void) parserDidEndDocument : (NSXMLParser *) parser
```

*parserDidStartDocument: method*

**Syntax**

```
- (void) parserDidStartDocument : (NSXMLParser *) parser
```

*setDoProcessPrefixes: method*

**Syntax**

```
- (void) setDoProcessPrefixes : (BOOL) processPrefixes
```

*startDocument method*

**Syntax**

```
- (void) startDocument
```

*startElement:namespaceURI:attributes: method*

**Syntax**

```
- (void) startElement : (NSString *const) elementName
namespaceURI : (NSString *const) namespaceURI attributes :
(NSDictionary *const) attributes
```

**ODataIconInfo class**

icon information

**Syntax**

```
@interface ODataIconInfo : NSObject <NSCoding>
```

**Members**

All members of ODataIconInfo, including inherited members. **Methods**

Method	Description
- (id) initWithUrl: (NSString *const) newUrl on page 2276	
- (id) initWithUrl: (NSString *const) newUrl andWidth: (const size_t) newWidth andHeight: (const size_t) newHeight on page 2276	

*initWithUrl: method*

**Syntax**

```
- (id) initWithUrl : (NSString *const) newUrl
```

*initWithUrl:andWidth:andHeight: method*

**Syntax**

```
- (id) initWithUrl : (NSString *const) newUrl andWidth :
(const size_t) newWidth andHeight : (const size_t) newHeight
```

**ODataLink class**

OData Link (base)

**Syntax**

```
@interface ODataLink : NSObject <NSCoding>
```



*Derived classes*

- *ODataActionLink* on page 2256
- *ODataMediaResourceLink* on page 2278
- *ODataRelatedLink* on page 2300

*Members*

All members of *ODataLink*, including inherited members. **Methods**

Method	Description
- (id) initWithHRef: (NSString *const) newHRef on page 2277	
- (id) initWithHRef: (NSString *const) newHRef andLinkRel: (NSString *const) newRel on page 2277	
- (id) initWithHRef: (NSString *const) newHRef andLinkRel: (NSString *const) newRel andLinkType: (NSString *const) newType on page 2278	
- (id) initWithHRef: (NSString *const) newHRef andLinkRel: (NSString *const) newRel andLinkType: (NSString *const) newType andLinkTitle: (NSString *const) newTitle on page 2278	
- (id) initWithHRef: (NSString *const) newHRef andLinkRel: (NSString *const) newRel andLinkType: (NSString *const) newType andLinkTitle: (NSString *const) newTitle andSemantic: (const enum TEN_LINK_SEMANTICS) newSemantic on page 2278	

*initWithHRef: method***Syntax**

```
- (id) initWithHRef : (NSString *const) newHRef
```

*initWithHRef:andLinkRel: method***Syntax**

```
- (id) initWithHRef : (NSString *const) newHRef andLinkRel : (NSString *const) newRel
```

*initWithHref:andLinkRel:andLinkType: method*

**Syntax**

```
- (id) initWithHref : (NSString *const) newHref andLinkRel : (
NSString *const) newRel andLinkType : (NSString *const)
newType
```

*initWithHref:andLinkRel:andLinkType:andLinkTitle: method*

**Syntax**

```
- (id) initWithHref : (NSString *const) newHref andLinkRel : (
NSString *const) newRel andLinkType : (NSString *const) newType
andLinkTitle : (NSString *const) newTitle
```

*initWithHref:andLinkRel:andLinkType:andLinkTitle:andSemantic: method*

**Syntax**

```
- (id) initWithHref : (NSString *const) newHref andLinkRel : (
NSString *const) newRel andLinkType : (NSString *const) newType
andLinkTitle : (NSString *const) newTitle andSemantic : (const
enum TEN_LINK_SEMANTICS) newSemantic
```

**ODataMediaResourceLink class**

OData Media Resource Link Contains the media link resource and the concurrency token (m:etag) if present.

**Syntax**

```
@interface ODataMediaResourceLink : ODataLink
```

**Members**

All members of ODataMediaResourceLink, including inherited members. **Inherited members from ODataLink**

Member	Description
- (id) initWithHref: (NSString *const) newHref on page 2277	
- (id) initWithHref: (NSString *const) newHref andLinkRel: (NSString *const) newRel on page 2277	

Member	Description
- (id) initWithHref: (NSString *const) newHref andLinkRel: (NSString *const) newRel andLinkType: (NSString *const) newType on page 2278	
- (id) initWithHref: (NSString *const) newHref andLinkRel: (NSString *const) newRel andLinkType: (NSString *const) newType andLinkTitle: (NSString *const) newTitle on page 2278	
- (id) initWithHref: (NSString *const) newHref andLinkRel: (NSString *const) newRel andLinkType: (NSString *const) newType andLinkTitle: (NSString *const) newTitle andSemantic: (const enum TEN_LINK_SEMANTICS) newSemantic on page 2278	

### *ODataMetaDocumentParser* class

Parses and matches the schema with the service document and its collections.

### Syntax

```
@interface ODataMetaDocumentParser : ODataGenericParser
```

### Members

All members of *ODataMetaDocumentParser*, including inherited members. **Methods**

Method	Description
- (id) initWithServiceDocument: (ODataServiceDocument *const) newServiceDocument on page 2280	

### Usage

The parser creates the schema of the input service document's collections.

```
{ ODataMetaDocumentParser* metaDocParser =
[[[ODataMetaDocumentParser alloc] initWithServiceDocument:
serviceDocument] autorelease]; [metaDocParser parse:
content_in]; } (ODataParserException* e) { //error handling
code... }
```

*initWithServiceDocument: method*

**Syntax**

```
- (id) initWithServiceDocument : (ODataServiceDocument *const) newServiceDocument
```

*ODataParserDelegate protocol*

**Syntax**

```
@protocol ODataParserDelegate
```

*Derived classes*

- *ODataGenericParser* on page 2272

*Members*

All members of ODataParserDelegate, including inherited members. **Methods**

Method	Description
- (void) characters: (NSString *const) string on page 2280	
- (void) endDocument on page 2280	
- (void) endElement: (NSString *const) elementName namespaceURI: (NSString *const) namespaceURI on page 2281	
- (void) startDocument on page 2281	
- (void) startElement: (NSString *const) elementName namespaceURI: (NSString *const) namespaceURI attributes: (NSDictionary *const) attributes on page 2281	

*characters: method*

**Syntax**

```
- (void) characters : (NSString *const) string
```

*endDocument method*

**Syntax**

```
- (void) endDocument
```

*endElement:namespaceURI: method***Syntax**

```
- (void) endElement : (NSString *const) elementName
namespaceURI : (NSString *const) namespaceURI
```

*startDocument method***Syntax**

```
- (void) startDocument
```

*startElement:namespaceURI:attributes: method***Syntax**

```
- (void) startElement : (NSString *const) elementName
namespaceURI : (NSString *const) namespaceURI attributes :
(NSDictionary *const) attributes
```

*ODataParserException class*

ODataParserException.

**Syntax**

```
@interface ODataParserException : NSEnvironment
```

**Members**

All members of ODataParserException, including inherited members. **Methods**

Method	Description
- (id) <i>init</i> on page 2281	
- (id) <i>initWithError: (NSString *) error_in detailedError: (NSString *) details_in</i> on page 2282	
- (id) <i>initWithError: (NSString *) error_in detailedError: (NSString *) details_in statusCode: (NSInteger) statusCode_in</i> on page 2282	

*init method***Syntax**

```
- (id) init
```

*initWithError:detailedError: method***Syntax**

```
- (id) initWithError : (NSString *) error_in detailedError : (
NSString *) details_in
```

*initWithError:detailedError:statusCode: method***Syntax**

```
- (id) initWithError : (NSString *) error_in detailedError : (
NSString *) details_in statusCode : (NSInteger) statusCode_in
```

**ODataPropertyInfo class**

Property information list of attributes: 7.1.5 OData Metadata Document + 3.1.9 Properties.

**Syntax**

```
@interface ODataPropertyInfo : NSObject <NSCoding>
```

**Members**

All members of ODataPropertyInfo, including inherited members. **Methods**

Method	Description
- (void) <i>addChildPropertyInfo: (const ODataPropertyInfo *const) child</i> on page 2283	
- (ODataPropertyInfo *const) <i>getPropertyInfoByPath: (NSString *const) path</i> on page 2283	Returns a pointer to a writable property info by path example path: "items\description\lang_code".
- (id) <i>initWithName: (NSString *const) propName andPropEdmType: (const enum TEN_EDM_TYPES) propEdmType</i> on page 2283	
- (BOOL) <i>isCreatable</i> on page 2283	
- (BOOL) <i>isFilterable</i> on page 2283	
- (BOOL) <i>isKey</i> on page 2283	
- (BOOL) <i>isNullable</i> on page 2284	
- (BOOL) <i>isSearchable</i> on page 2284	
- (BOOL) <i>isServerGenerated</i> on page 2284	

Method	Description
- (BOOL) isUpdatable on page 2284	
- (BOOL) isVisibleInDetail on page 2284	
- (BOOL) isVisibleInList on page 2284	

*addChildPropertyInfo: method***Syntax**

```
- (void) addChildPropertyInfo : (const ODataPropertyInfo
*const) child
```

*getPropertyInfoByPath: method*

Returns a pointer to a writable property info by path example path: "items\description\lang\_code".

**Syntax**

```
- (ODataPropertyInfo *const) getPropertyInfoByPath :
(NSString *const) path
```

*initWithName:andPropEdmType: method***Syntax**

```
- (id) initWithName : (NSString *const) propName
andPropEdmType : (const enum TEN_EDM_TYPES) propEdmType
```

*isCreatable method***Syntax**

```
- (BOOL) isCreatable
```

*isFilterable method***Syntax**

```
- (BOOL) isFilterable
```

*isKey method***Syntax**

```
- (BOOL) isKey
```

### *isNullable method*

#### *Syntax*

- (BOOL) isNullable

### *isSearchable method*

#### *Syntax*

- (BOOL) isSearchable

### *isServerGenerated method*

#### *Syntax*

- (BOOL) isServerGenerated

### *isUpdatable method*

#### *Syntax*

- (BOOL) isUpdatable

### *isVisibleInDetail method*

#### *Syntax*

- (BOOL) isVisibleInDetail

### *isVisibleInList method*

#### *Syntax*

- (BOOL) isVisibleInList

### *ODataPropertyValueBinary class*

Binary.

#### *Syntax*

```
@interface ODataPropertyValueBinary :  
    ODataPropertyValueObject
```

#### *Members*

All members of ODataPropertyValueBinary, including inherited members. **Methods**



Method	Description
- ( <i>NSMutableData *</i> ) <i>getBinaryData</i> on page 2285	Decodes the stored base64 string and returns the decoded data (mutable)
- ( <i>void</i> ) <i>setBinaryData</i> : ( <i>NSData *</i> ) <i>newValue</i> on page 2285	Base64 encodes the passed data and stores the result as string.

### Inherited members from *ODataPropertyValueObject*

Member	Description
- ( <i>NSString *const</i> ) <i>getDefaultValue</i> on page 2296	Returns the default value of the given EDM type.
- ( <i>NSString *const</i> ) <i>getHTMLEncodedValue</i> on page 2296	Returns the HTML encoded value of the stored value.
- ( <i>id</i> ) <i>initWithPropertyInfo</i> : ( <i>const ODataPropertyInfo *const</i> ) <i>propInfo</i> on page 2296	
- ( <i>id</i> ) <i>initWithPropertyInfo</i> : ( <i>const ODataPropertyInfo *const</i> ) <i>propInfo</i> and <i>Value</i> : ( <i>NSString *const</i> ) <i>initialValue</i> on page 2297	
- ( <i>BOOL</i> ) <i>isValid</i> on page 2297	Checks if the object stores a valid value.

#### *getBinaryData* method

Decodes the stored base64 string and returns the decoded data (mutable)

#### Syntax

```
- (NSMutableData *) getBinaryData
```

#### *setBinaryData*: method

Base64 encodes the passed data and stores the result as string.

#### Syntax

```
- (void) setBinaryData : (NSData *) newValue
```

#### *ODataPropertyValueBoolean* class

Boolean.

#### Syntax

```
@interface ODataPropertyValueBoolean :
ODataPropertyValueObject
```

### Members

All members of `ODataPropertyValueBoolean`, including inherited members. **Methods**

Method	Description
- ( <i>NSNumber *</i> ) <i>getBooleanValue</i> on page 2286	Since OData can define a nullable bool property that means the return type BOOL would not be sufficient.
- ( <i>void</i> ) <i>setBooleanValue</i> : ( <i>NSNumber *</i> ) <i>newValue</i> on page 2286	

### Inherited members from `ODataPropertyValueObject`

Member	Description
- ( <i>NSString *const</i> ) <i>getDefaultValue</i> on page 2296	Returns the default value of the given EDM type.
- ( <i>NSString *const</i> ) <i>getHTMLEncodedValue</i> on page 2296	Returns the HTML encoded value of the stored value.
- ( <i>id</i> ) <i>initWithPropertyInfo</i> : ( <i>const ODataPropertyInfo *const</i> ) <i>propInfo</i> on page 2296	
- ( <i>id</i> ) <i>initWithPropertyInfo</i> : ( <i>const ODataPropertyInfo *const</i> ) <i>propInfo</i> and <i>Value</i> : ( <i>NSString *const</i> ) <i>initialValue</i> on page 2297	
- ( <i>BOOL</i> ) <i>isValid</i> on page 2297	Checks if the object stores a valid value.

#### *getBooleanValue* method

Since OData can define a nullable bool property that means the return type BOOL would not be sufficient.

#### Syntax

```
- (NSNumber *) getBooleanValue
```

#### Usage

Therefore the function returns a boxed bool value (with values YES/NO) or nil, if the property value is nullable and stores "null".

#### *setBooleanValue*: method

#### Syntax

```
- (void) setBooleanValue : (NSNumber *) newValue
```

*ODataPropertyValueComplex class*

Complex value.

**Syntax**

```
@interface ODataPropertyValueComplex :
ODataPropertyValueObject
```

**Members**All members of ODataPropertyValueComplex, including inherited members. **Methods**

Method	Description
- ( <i>NSString *const</i> ) <i>getDefaultValue</i> on page 2287	Returns the default value of the given EDM type.
- ( <i>NSString *const</i> ) <i>getHTMLEncodedValue</i> on page 2287	Returns the HTML encoded value of the stored value.

**Inherited members from ODataPropertyValueObject**

Member	Description
- ( <i>id</i> ) <i>initWithPropertyInfo:</i> ( <i>const ODataPropertyInfo *const</i> ) <i>propInfo</i> on page 2296	
- ( <i>id</i> ) <i>initWithPropertyInfo:</i> ( <i>const ODataPropertyInfo *const</i> ) <i>propInfo</i> and <i>Value:</i> ( <i>NSString *const</i> ) <i>initialValue</i> on page 2297	
- ( <i>BOOL</i> ) <i>isValid</i> on page 2297	Checks if the object stores a valid value.

*getDefaultValue method*

Returns the default value of the given EDM type.

**Syntax**

```
- (NSString *const) getDefaultValue
```

*getHTMLEncodedValue method*

Returns the HTML encoded value of the stored value.

**Syntax**

```
- (NSString *const) getHTMLEncodedValue
```

**Usage**

Required by the XML serializer.

*ODataPropertyValueDateTime class*

DateTime.

**Syntax**

```
@interface ODataPropertyValueDateTime :
ODataPropertyValueObject
```

**Derived classes**

- *ODataPropertyValueDateTimeOffset* on page 2289

**Members**All members of *ODataPropertyValueDateTime*, including inherited members. **Methods**

Method	Description
- ( <i>NSDate *</i> ) <i>getDateValue</i> on page 2288	
- ( <i>void</i> ) <i>setDateValue:(NSDate *) newValue</i> on page 2289	

**Inherited members from ODataPropertyValueObject**

Member	Description
- ( <i>NSString *const</i> ) <i>getDefaultValue</i> on page 2296	Returns the default value of the given EDM type.
- ( <i>NSString *const</i> ) <i>getHTMLEncodedValue</i> on page 2296	Returns the HTML encoded value of the stored value.
- ( <i>id</i> ) <i>initWithPropertyInfo:(const ODataPropertyInfo *const) propInfo</i> on page 2296	
- ( <i>id</i> ) <i>initWithPropertyInfo:(const ODataPropertyInfo *const) propInfo andValue:(NSString *const) initialValue</i> on page 2297	
- ( <i>BOOL</i> ) <i>isValid</i> on page 2297	Checks if the object stores a valid value.

*getDateValue method***Syntax**

```
- (NSDate *) getDateValue
```

*setValue*: method

### Syntax

```
- (void) setValue : (NSDate *) newValue
```

*DateTimeOffset* class

Edm.DateTimeOffset.

### Syntax

```
@interface DateTimeOffset :
    DateTimeOffset
```

### Members

All members of DateTimeOffset, including inherited members.

#### Inherited members from DateTimeOffset

Member	Description
- (NSDate *) <i>getValue</i> on page 2288	
- (void) <i>setValue</i> : (NSDate *) <i>newValue</i> on page 2289	

#### Inherited members from DateTimeOffset

Member	Description
- (NSString *const) <i>getDefault</i> on page 2296	Returns the default value of the given EDM type.
- (NSString *const) <i>getHTMLEncoded</i> on page 2296	Returns the HTML encoded value of the stored value.
- (id) <i>initWithPropertyInfo</i> : (const ODataPropertyInfo *const) <i>propInfo</i> on page 2296	
- (id) <i>initWithPropertyInfo</i> : (const ODataPropertyInfo *const) <i>propInfo</i> and <i>Value</i> : (NSString *const) <i>initialValue</i> on page 2297	
- (BOOL) <i>isValid</i> on page 2297	Checks if the object stores a valid value.

*Decimal* class

Decimal See the following for more details on certain limitations: <http://social.msdn.microsoft.com/Forums/en/adodotnetdataservices/thread/832edcc7-d6ef-4551-bc81-98efb15d9ac0> XMLSCHEMA2: <http://www.w3.org/TR/2001/REC-xmlschema-2-20010502/#decimal> The Library limitations since it uses NSDecimalNumber:

An instance can represent any number that can be expressed as mantissa x 10<sup>exponent</sup> where mantissa is a decimal integer up to 38 digits long, and exponent is an integer from -128 through 127.

### Syntax

```
@interface ODataPropertyValueDecimal :
ODataPropertyValueObject
```

### Members

All members of ODataPropertyValueDecimal, including inherited members. **Methods**

Method	Description
- (NSDecimalNumber *) <i>getDecimalValue</i> on page 2290	
- (void) <i>setDecimalValue:</i> (NSDecimalNumber *) <i>newValue</i> on page 2291	

### Inherited members from ODataPropertyValueObject

Member	Description
- (NSString *const) <i>getDefaultValue</i> on page 2296	Returns the default value of the given EDM type.
- (NSString *const) <i>getHTMLEncodedValue</i> on page 2296	Returns the HTML encoded value of the stored value.
- (id) <i>initWithPropertyInfo:</i> (const ODataPropertyInfo *const) <i>propInfo</i> on page 2296	
- (id) <i>initWithPropertyInfo:</i> (const ODataPropertyInfo *const) <i>propInfo</i> and <i>Value:</i> (NSString *const) <i>initialValue</i> on page 2297	
- (BOOL) <i>isValid</i> on page 2297	Checks if the object stores a valid value.

### Usage

That means Precision and Scale attributes are limited to 38. That is because Precision is defined as: "a positive integer that specifies the maximum number of decimal digits that an instance of the decimal type can have, both to the left and to the right of the decimal point.

### *getDecimalValue* method

#### Syntax

```
- (NSDecimalNumber *) getDecimalValue
```

*setDecimalValue*: method

### Syntax

```
- (void) setDecimalValue : (NSDecimalNumber *) newValue
```

*ODataPropertyValueDouble* class

Double.

### Syntax

```
@interface ODataPropertyValueDouble :  
ODataPropertyValueObject
```

### Members

All members of *ODataPropertyValueDouble*, including inherited members. **Methods**

Method	Description
- ( <i>NSNumber</i> *) <i>getDouble Value</i> on page 2292	Since OData can define a nullable double property that means the return type double would not be sufficient.
- (void) <i>setDouble Value</i> : ( <i>NSNumber</i> *) <i>newValue</i> on page 2292	

### Inherited members from *ODataPropertyValueObject*

Member	Description
- ( <i>NSString</i> *const) <i>getDefault Value</i> on page 2296	Returns the default value of the given EDM type.
- ( <i>NSString</i> *const) <i>getHTMLEncodedValue</i> on page 2296	Returns the HTML encoded value of the stored value.
- ( <i>id</i> ) <i>initWithPropertyInfo</i> : ( <i>const ODataPropertyInfo</i> *const) <i>propInfo</i> on page 2296	
- ( <i>id</i> ) <i>initWithPropertyInfo</i> : ( <i>const ODataPropertyInfo</i> *const) <i>propInfo</i> and <i>Value</i> : ( <i>NSString</i> *const) <i>initial Value</i> on page 2297	
- ( <i>BOOL</i> ) <i>isValid</i> on page 2297	Checks if the object stores a valid value.

*getDoubleValue method*

Since OData can define a nullable double property that means the return type double would not be sufficient.

*Syntax*

- (NSNumber \*) getDoubleValue

*Usage*

Therefore the function returns a boxed double value or nil, if the property value is nullable and stores "null".

*setDoubleValue: method*

*Syntax*

- (void) setDoubleValue : (NSNumber \*) **newValue**

*ODataPropertyValueFactory class*

Property value factory Creates the proper property value object instance based on the incoming property info.

*Syntax*

@interface ODataPropertyValueFactory : NSObject

*Members*

All members of ODataPropertyValueFactory, including inherited members. **Methods**

Method	Description
+ (ODataPropertyValueObject *) createPropertyValueFromPropertyInfoWithValue: (const ODataPropertyInfo *const) propInfo initialValue: (NSString *const) initialValue creationFlags: (const uint16_t) creationFlags customFactoryFunction: (PFNCUSTOMPROPERTYVALUEFROMPROPERTYINFOWITHVALUE) customFactoryFunction on page 2293	Creates a property value from its metadata if initial value is nil, the initWith...



### *createPropertyValueFromPropertyInfoWithValue:initialValue:creationFlags:customFactoryFunction: method*

Creates a property value from its metadata if initial value is nil, the initWith...

#### **Syntax**

```
+ (ODataPropertyValueObject *)
createPropertyValueFromPropertyInfoWithValue : (const
ODataPropertyInfo *const) propInfo initialValue : (NSString
*const) initialValue creationFlags : (const uint16_t) creationFlags
customFactoryFunction :
(PFNCUSTOMPROPERTYVALUEFROMPROPERTYINFOWITHVALUE)
customFactoryFunction
```

#### **Usage**

method of the PropertyValuexxx object will set the default value of the object! the 4th parameter can be NULL, if no custom types/custom semantics are used

#### *ODataPropertyValueGuid class*

GUID.

#### **Syntax**

```
@interface ODataPropertyValueGuid :
ODataPropertyValueObject
```

#### **Members**

All members of ODataPropertyValueGuid, including inherited members. **Inherited members from ODataPropertyValueObject**

Member	Description
- (NSString *const) <i>getDefaultValue</i> on page 2296	Returns the default value of the given EDM type.
- (NSString *const) <i>getHTMLEncodedValue</i> on page 2296	Returns the HTML encoded value of the stored value.
- (id) <i>initWithPropertyInfo: (const ODataPropertyInfo *const) propInfo</i> on page 2296	
- (id) <i>initWithPropertyInfo: (const ODataPropertyInfo *const) propInfo andValue: (NSString *const) initialValue</i> on page 2297	
- (BOOL) <i>isValid</i> on page 2297	Checks if the object stores a valid value.

*ODataPropertyValueInt* class

Int field value (Byte, SByte, Int16, Int32, Int64)

**Syntax**

```
@interface ODataPropertyValueInt :
ODataPropertyValueObject
```

**Members**All members of ODataPropertyValueInt, including inherited members. **Methods**

Method	Description
- ( <i>NSString *const</i> ) <i>getHTMLEncodedValue</i> on page 2294	Returns the HTML encoded value of the stored value.
- ( <i>NSNumber *</i> ) <i>getIntValue</i> on page 2295	
- ( <i>id</i> ) <i>initWithPropertyInfo:</i> ( <i>const ODataPropertyInfo *const</i> ) <i>propInfo</i> on page 2295	
- ( <i>id</i> ) <i>initWithPropertyInfo:</i> ( <i>const ODataPropertyInfo *const</i> ) <i>propInfo</i> and <i>Value:</i> ( <i>NSString *const</i> ) <i>initialValue</i> on page 2295	
- ( <i>void</i> ) <i>setIntValue:</i> ( <i>NSNumber *</i> ) <i>newValue</i> on page 2295	
- ( <i>void</i> ) <i>setValue:</i> ( <i>NSString *</i> ) <i>newValue</i> on page 2295	

**Inherited members from ODataPropertyValueObject**

Member	Description
- ( <i>NSString *const</i> ) <i>getDefaultValue</i> on page 2296	Returns the default value of the given EDM type.
- ( <i>BOOL</i> ) <i>isValid</i> on page 2297	Checks if the object stores a valid value.

*getHTMLEncodedValue* method

Returns the HTML encoded value of the stored value.

**Syntax**

```
- (NSString *const) getHTMLEncodedValue
```

**Usage**

Required by the XML serializer.

*getIntValue method***Syntax**

```
- (NSNumber *) getIntValue
```

*initWithPropertyInfo: method***Syntax**

```
- (id) initWithPropertyInfo : (const ODataPropertyInfo
*const) propInfo
```

*initWithPropertyInfo:andValue: method***Syntax**

```
- (id) initWithPropertyInfo : (const ODataPropertyInfo
*const) propInfo andValue : (NSString *const) initialValue
```

*setIntValue: method***Syntax**

```
- (void) setIntValue : (NSNumber *) newValue
```

*setValue: method***Syntax**

```
- (void) setValue : (NSString *) newValue
```

*ODataPropertyValueObject class*

Base field value.

**Syntax**

```
@interface ODataPropertyValueObject : NSObject
```

*Derived classes*

- *ODataPropertyValueBinary* on page 2284
- *ODataPropertyValueBoolean* on page 2285
- *ODataPropertyValueComplex* on page 2287
- *ODataPropertyValueDateTime* on page 2288
- *ODataPropertyValueDecimal* on page 2289
- *ODataPropertyValueDouble* on page 2291
- *ODataPropertyValueGuid* on page 2293

- *ODataPropertyValueInt* on page 2294
- *ODataPropertyValueSingle* on page 2297
- *ODataPropertyValueString* on page 2298
- *ODataPropertyValueTime* on page 2299

### Members

All members of *ODataPropertyValueObject*, including inherited members. **Methods**

Method	Description
- ( <i>NSString *const</i> ) <i>getDefaultValue</i> on page 2296	Returns the default value of the given EDM type.
- ( <i>NSString *const</i> ) <i>getHTMLEncodedValue</i> on page 2296	Returns the HTML encoded value of the stored value.
- ( <i>id</i> ) <i>initWithPropertyInfo: (const ODataPropertyInfo *const) propInfo</i> on page 2296	
- ( <i>id</i> ) <i>initWithPropertyInfo: (const ODataPropertyInfo *const) propInfo andValue: (NSString *const) initialValue</i> on page 2297	
- ( <i>BOOL</i> ) <i>isValid</i> on page 2297	Checks if the object stores a valid value.

#### *getDefaultValue* method

Returns the default value of the given EDM type.

#### Syntax

```
- (NSString *const) getDefaultValue
```

#### *getHTMLEncodedValue* method

Returns the HTML encoded value of the stored value.

#### Syntax

```
- (NSString *const) getHTMLEncodedValue
```

#### Usage

Required by the XML serializer.

#### *initWithPropertyInfo: method*

#### Syntax

```
- (id) initWithPropertyInfo : (const ODataPropertyInfo *const) propInfo
```

*initWithPropertyInfo:andValue: method***Syntax**

```
- (id) initWithPropertyInfo : (const ODataPropertyInfo
*const) propInfo andValue : (NSString *const) initialValue
```

*isValid method*

Checks if the object stores a valid value.

**Syntax**

```
- (BOOL) isValid
```

**Usage**

: When validation is disabled, the return value is always YES!

*ODataPropertyValueSingle class*

Single.

**Syntax**

```
@interface ODataPropertyValueSingle :
ODataPropertyValueObject
```

**Members**

All members of ODataPropertyValueSingle, including inherited members. **Methods**

Method	Description
- (NSNumber *) <i>getSingle Value</i> on page 2298	Since OData can define a nullable single property that means the return type float would not be sufficient.
- (void) <i>setSingle Value: (NSNumber *) new Value</i> on page 2298	

**Inherited members from ODataPropertyValueObject**

Member	Description
- (NSString *const) <i>getDefault Value</i> on page 2296	Returns the default value of the given EDM type.
- (NSString *const) <i>getHTMLEncoded Value</i> on page 2296	Returns the HTML encoded value of the stored value.

Member	Description
- (id) initWithPropertyInfo: (const ODataPropertyInfo *const) propInfo on page 2296	
- (id) initWithPropertyInfo: (const ODataPropertyInfo *const) propInfo andValue: (NSString *const) initialValue on page 2297	
- (BOOL) isValid on page 2297	Checks if the object stores a valid value.

**getSingleValue method**

Since OData can define a nullable single property that means the return type float would not be sufficient.

**Syntax**

```
- (NSNumber *) getSingleValue
```

**Usage**

Therefore the function returns a boxed float value or nil, if the property value is nullable and stores "null".

**setSingleValue: method****Syntax**

```
- (void) setSingleValue : (NSNumber *) newValue
```

**ODataPropertyValueString class**

String.

**Syntax**

```
@interface ODataPropertyValueString :
ODataPropertyValueObject
```

**Members**

All members of ODataPropertyValueString, including inherited members. **Inherited members from ODataPropertyValueObject**

Member	Description
- (NSString *const) getDefault Value on page 2296	Returns the default value of the given EDM type.
- (NSString *const) getHTMLEncodedValue on page 2296	Returns the HTML encoded value of the stored value.

Member	Description
- (id) <i>initWithPropertyInfo</i> : (const <i>ODataPropertyInfo</i> *const) <i>propInfo</i> on page 2296	
- (id) <i>initWithPropertyInfo</i> : (const <i>ODataPropertyInfo</i> *const) <i>propInfo</i> and <i>Value</i> : ( <i>NSString</i> *const) <i>initialValue</i> on page 2297	
- ( <i>BOOL</i> ) <i>isValid</i> on page 2297	Checks if the object stores a valid value.

*ODataPropertyValueTime* class  
Edm.Time.

### Syntax

```
@interface ODataPropertyValueTime :
    ODataPropertyValueObject
```

### Members

All members of *ODataPropertyValueTime*, including inherited members. **Methods**

Method	Description
- ( <i>ODataDuration</i> *) <i>getTimeValue</i> on page 2300	Gets the time duration value.
- (void) <i>setTimeValue</i> : (const <i>ODataDuration</i> *) <i>newValue</i> on page 2300	Sets the time duration value using <i>ODataDuration</i> .

### Inherited members from *ODataPropertyValueObject*

Member	Description
- ( <i>NSString</i> *const) <i>getDefaultValue</i> on page 2296	Returns the default value of the given EDM type.
- ( <i>NSString</i> *const) <i>getHTMLEncodedValue</i> on page 2296	Returns the HTML encoded value of the stored value.
- (id) <i>initWithPropertyInfo</i> : (const <i>ODataPropertyInfo</i> *const) <i>propInfo</i> on page 2296	
- (id) <i>initWithPropertyInfo</i> : (const <i>ODataPropertyInfo</i> *const) <i>propInfo</i> and <i>Value</i> : ( <i>NSString</i> *const) <i>initialValue</i> on page 2297	
- ( <i>BOOL</i> ) <i>isValid</i> on page 2297	Checks if the object stores a valid value.

## *getTimeValue method*

Gets the time duration value.

### *Syntax*

```
- (ODataDuration *) getTimeValue
```

## *setTimeValue: method*

Sets the time duration value using ODataDuration.

### *Syntax*

```
- (void) setTimeValue : (const ODataDuration *) newValue
```

## *ODataRelatedLink class*

OData Related Link When the payload is downloaded from the address stored by the href property, parse the entries with the entity schema that belongs to the collection stored by the targetCollection property of this class!

### *Syntax*

```
@interface ODataRelatedLink : ODataLink
```

### *Members*

All members of ODataRelatedLink, including inherited members. **Methods**

Method	Description
- (id) initWithHref: (NSString *const) newHref andLinkRel: (NSString *const) newRel on page 2301	
- (id) initWithHref: (NSString *const) newHref andLinkRel: (NSString *const) newRel andLinkType: (NSString *const) newType on page 2301	
- (id) initWithHref: (NSString *const) newHref andLinkRel: (NSString *const) newRel andLinkType: (NSString *const) newType andLinkTitle: (NSString *const) newTitle on page 2301	
- (id) initWithHref: (NSString *const) newHref andLinkRel: (NSString *const) newRel andLinkType: (NSString *const) newType andLinkTitle: (NSString *const) newTitle andSemantic: (const enum TEN_LINK_SEMANTICS) newSemantic on page 2301	



**Inherited members from ODataLink**

Member	Description
- (id) initWithHRef: (NSString *const) newHRef on page 2277	

*initWithHRef:andLinkRel: method*

**Syntax**

```
- (id) initWithHRef : (NSString *const) newHRef andLinkRel : (
NSString *const) newRel
```

*initWithHRef:andLinkRel:andLinkType: method*

**Syntax**

```
- (id) initWithHRef : (NSString *const) newHRef andLinkRel : (
NSString *const) newRel andLinkType : (NSString *const)
newType
```

*initWithHRef:andLinkRel:andLinkType:andLinkTitle: method*

**Syntax**

```
- (id) initWithHRef : (NSString *const) newHRef andLinkRel : (
NSString *const) newRel andLinkType : (NSString *const) newType
andLinkTitle : (NSString *const) newTitle
```

*initWithHRef:andLinkRel:andLinkType:andLinkTitle:andSemantic: method*

**Syntax**

```
- (id) initWithHRef : (NSString *const) newHRef andLinkRel : (
NSString *const) newRel andLinkType : (NSString *const) newType
andLinkTitle : (NSString *const) newTitle andSemantic : (const
enum TEN_LINK_SEMANTICS) newSemantic
```

**ODataSchema class**

OData Schema.

**Syntax**

```
@interface ODataSchema : NSObject <NSCoding>
```

**Members**

All members of ODataSchema, including inherited members. **Methods**

Method	Description
- (BOOL) <i>addWorkspace</i> : (const ODataWorkspace *const) <i>newWorkspace</i> on page 2302	
- (ODataCollection *) <i>getCollectionByName</i> : (NSString *const) <i>collectionName</i> on page 2302	returns a collection by name (href)
- (ODataCollection *) <i>getCollectionByName</i> : (NSString *const) <i>collectionName workspaceOfCollection</i> : (ODataWorkspace **) <i>workspaceOfCollection</i> on page 2302	returns a collection by name (href) and its workspace, if required.
- (NSArray *) <i>getWorkspacesBySemantic</i> : (const enum TEN_WORKSPACE_SEMANTICS) <i>workspaceSemantic</i> on page 2303	returns an array of workspaces (ODataWorkspace instances) by semantic, if available, returns nil otherwise
- (id) <i>init</i> on page 2303	
- (void) <i>setOpenSearchDescriptionForCollection</i> : (NSString *const) <i>collectionName openSearchDescription</i> : (const OpenSearchDescription *const) <i>openSearchDescription</i> on page 2303	Adds an OpenSearchDescription instance to the collection.

***addWorkspace: method*****Syntax**

```
- (BOOL) addWorkspace : (const ODataWorkspace *const)
```

***newWorkspace******getCollectionByName: method***

returns a collection by name (href)

**Syntax**

```
- (ODataCollection *) getCollectionByName : (NSString *const) collectionName
```

***getCollectionByName:workspaceOfCollection: method***

returns a collection by name (href) and its workspace, if required.

**Syntax**

```
- (ODataCollection *) getCollectionByName : (NSString *const) collectionName workspaceOfCollection : (ODataWorkspace **) workspaceOfCollection
```

*Usage*

If not, pass nil.

*getWorkspacesBySemantic: method*

returns an array of workspaces (ODataWorkspace instances) by semantic, if available, returns nil otherwise

*Syntax*

```
- (NSArray *) getWorkspacesBySemantic : (const enum
TEN_WORKSPACE_SEMANTICS) workspaceSemantic
```

*init method**Syntax*

```
- (id) init
```

*setOpenSearchDescriptionForCollection:openSearchDescription: method*

Adds an OpenSearchDescription instance to the collection.

*Syntax*

```
- (void) setOpenSearchDescriptionForCollection : (NSString
*const) collectionName openSearchDescription : (const
OpenSearchDescription *const) openSearchDescription
```

*ODataServiceDocument class*

Service Document class.

*Syntax*

```
@interface ODataServiceDocument : NSObject <NSCoding>
```

*Members*

All members of ODataServiceDocument, including inherited members. **Methods**

Method	Description
- (id) init on page 2303	

*init method**Syntax*

```
- (id) init
```

*ODataServiceDocumentParser class*

Parses the service document xml and converts it to an Obj-C service document object.

*Syntax*

```
@interface ODataServiceDocumentParser : ODataGenericParser
```

*Members*

All members of ODataServiceDocumentParser, including inherited members. **Methods**

Method	Description
- (id) init on page 2304	

*Usage*

The service document instance can be accessed via the "serviceDocument" property of the parser after parsing. ODataServiceDocument\* svcDoc = nil;

```
{ ODataServiceDocumentParser* svcDocParser =
[[[ODataServiceDocumentParser alloc] init] autorelease];
[svcDocParser parse: content_in]; svcDoc =
[svcDocParser.serviceDocument retain]; }
(ODataParserException* e) { //error handling code... }
```

*init method*

*Syntax*

```
- (id) init
```

*ODataSubscriptionInfo class*

*Syntax*

```
@interface ODataSubscriptionInfo : NSObject
```

*Members*

All members of ODataSubscriptionInfo, including inherited members. **Methods**

Method	Description
- (id) initWithCollection: (const ODataCollection *const) newCollection on page 2305	subscribe to a collection
- (id) initWithCollection: (const ODataCollection *const) newCollection andEntry: (const ODataEntry *const) newEntry on page 2305	subscribe to a collection's entry

*initWithCollection: method*

subscribe to a collection

*Syntax*

```
- (id) initWithCollection : (const ODataCollection *const)
newCollection
```

*initWithCollection:andEntry: method*

subscribe to a collection's entry

*Syntax*

```
- (id) initWithCollection : (const ODataCollection *const)
newCollection andEntry : (const ODataEntry *const) newEntry
```

*ODataSubscriptionXML class*

Contains the xml representation of a subscription info, the http method to be used and the headers that should be added to the http request when subscribing.

*Syntax*

```
@interface ODataSubscriptionXML : NSObject
```

*Members*

All members of ODataSubscriptionXML, including inherited members. **Methods**

Method	Description
- (id) <i>init</i> on page 2305	

*init method**Syntax*

```
- (id) init
```

*ODataWorkspace class*

OData Workspace.

*Syntax*

```
@interface ODataWorkspace : NSObject <NSCoding>
```

*Members*

All members of ODataWorkspace, including inherited members. **Methods**

Method	Description
- (BOOL) addCollection: (const ODataCollection *const) newCollection on page 2306	
- (id) init on page 2306	

*addCollection: method**Syntax*

```
- (BOOL) addCollection : (const ODataCollection *const)
```

**newCollection**

*init method**Syntax*

```
- (id) init
```

*OpenSearchDescription class*

Open Search Description representation.

*Syntax*

```
@interface OpenSearchDescription : NSObject <NSCoding>
```

*Members*

All members of OpenSearchDescription, including inherited members. **Methods**

Method	Description
- (void) addUrlTemplate: (const OpenSearchDescriptionURLTemplate *const) newTemplate on page 2306	
- (id) init on page 2306	

*addUrlTemplate: method**Syntax*

```
- (void) addUrlTemplate : (const  
OpenSearchDescriptionURLTemplate *const) newTemplate
```

*init method**Syntax*

```
- (id) init
```

*OpenSearchDescriptionURLTemplate class*

Open Search template URL.

*Syntax*

```
@interface OpenSearchDescriptionURLTemplate : NSObject
<NSCoding>
```

*Members*

All members of OpenSearchDescriptionURLTemplate, including inherited members.

**Methods**

Method	Description
- (NSString *) <i>createUrlWithParameters:</i> (NSDictionary *) <i>parameters</i> on page 2307	Creates an URL from the template URL assigning values to the parameters that appear in the template.
- (id) <i>initWithUrlTemplate:</i> (NSString *const) <i>newUrlTemplate</i> andType: (NSString *const) <i>newType</i> on page 2307	

*createUrlWithParameters: method*

Creates an URL from the template URL assigning values to the parameters that appear in the template.

*Syntax*

```
- (NSString *) createUrlWithParameters : (NSDictionary *)
```

**parameters**

*Usage*

The parameters are passed as a dictionary, the key is the parameter name, the value is the value of the parameter. The function URL encodes the parameter values. An exception is thrown if a mandatory parameter cannot be found in the dictionary.

*initWithUrlTemplate:andType: method**Syntax*

```
- (id) initWithUrlTemplate : (NSString *const) newUrlTemplate
andType : (NSString *const) newType
```

***OpenSearchDescriptionXMLParser class***

Parses an OpenSearch description document and creates its ObjC representation that can be accessed via the `openSearchDescription` property of the class instance after parsing.

***Syntax***

```
@interface OpenSearchDescriptionXMLParser :
    ODataGenericParser
```

***Members***

All members of `OpenSearchDescriptionXMLParser`, including inherited members. **Methods**

Method	Description
- ( <i>id</i> ) <i>init</i> on page 2308	

***Usage***

```
OpenSearchDescription* osd = nil;
{ OpenSearchDescriptionXMLParser* osdParser =
  [[[OpenSearchDescriptionXMLParser alloc] init] autorelease];
  [osdParser parse: content_in]; osd =
  [osdParser.openSearchDescription retain]; }
(ODataParserException* e) { //error handling... }
```

***init method******Syntax***

```
- (id) init
```

***PerformanceAgent class***

This class is responsible for management of performance counters.

***Syntax***

```
@interface PerformanceAgent : NSObject
```

***Members***

All members of `PerformanceAgent`, including inherited members. **Methods**

Method	Description
- ( <i>void</i> ) <i>disablePerformanceCounter</i> on page 2309	
- ( <i>void</i> ) <i>enablePerformanceCounter</i> on page 2310	



Method	Description
- (NSData *) getHalfFile: (NSString *) file fileSize: (long) fileSize on page 2310	
- (PerformanceCounter *) getInterval: (NSString *) type on page 2310	
- (NSString *) getIntervalDataAsString: (NSString *) type on page 2310	
- (NSString *) getIntervalDescriptionAsString: (NSString *) type on page 2310	
- (NSString *) getMeasuredDataAsString on page 2310	
- (NSString *) getMeasuredDataAsStringDescription on page 2310	
- (void) saveEntryToFile: (NSString *) entry on page 2310	
- (void) startInteractionStep: (NSString *) name on page 2311	Starts Interaction Step with specified Interactions name.
- (void) startInterval: (NSString *) type on page 2311	Starts specified Interval.
- (void) stopInteractionStep on page 2311	Stops Interaction Step with specified Interactions name.
- (void) stopInterval: (NSString *) type on page 2311	Stops specified Interval.
- (void) writeToConsole: (BOOL) writeToConsole on page 2311	Activate console logging.
- (void) writeToFile: (BOOL) writeToFile fileSize: (int) fileSize on page 2312	Activate logging into file.

### *disablePerformanceCounter method*

#### **Syntax**

- (void) disablePerformanceCounter

*enablePerformanceCounter method*

*Syntax*

- (void) enablePerformanceCounter

*getHalfFile:fileSize: method*

*Syntax*

- (NSData \*) getHalfFile : (NSString \*) **file** fileSize : (long) **fileSize**

*getInterval: method*

*Syntax*

- (PerformanceCounter \*) getInterval : (NSString \*) **type**

*getIntervalDataAsString: method*

*Syntax*

- (NSString \*) getIntervalDataAsString : (NSString \*) **type**

*getIntervalDescriptionAsString: method*

*Syntax*

- (NSString \*) getIntervalDescriptionAsString : (NSString \*) **type**

*getMeasuredDataAsString method*

*Syntax*

- (NSString \*) getMeasuredDataAsString

*getMeasuredDataAsStringDescription method*

*Syntax*

- (NSString \*) getMeasuredDataAsStringDescription

*saveEntryToFile: method*

*Syntax*

- (void) saveEntryToFile : (NSString \*) **entry**

*startInteractionStep: method*

Starts Interaction Step with specified Interactions name.

*Syntax*

```
- (void) startInteractionStep : (NSString *) name
```

*Parameters*

- **name** – name of Interaction Step

*startInterval: method*

Starts specified Interval.

*Syntax*

```
- (void) startInterval : (NSString *) type
```

*Parameters*

- **type** – Intervals type

*stopInteractionStep method*

Stops Interaction Step with specified Interactions name.

*Syntax*

```
- (void) stopInteractionStep
```

*Parameters*

- **name** – name of Interaction Step

*stopInterval: method*

Stops specified Interval.

*Syntax*

```
- (void) stopInterval : (NSString *) type
```

*Parameters*

- **type** – Intervals type

*writeToConsole: method*

Activate console logging.

*Syntax*

```
- (void) writeToConsole : (BOOL) writeToConsole
```

*Parameters*

- **writeToConsole** – can be true or false

*writeToFile:fileSize: method*

Activate logging into file.

*Syntax*

```
- (void) writeToFile : (BOOL) writeToFile fileSize : (int)
fileSize
```

*Parameters*

- **writeToConsole** – can be true or false
- **fileSize** – set size in KiloBytes of log file

*PerformanceCounter class*

*Syntax*

```
@interface PerformanceCounter : NSObject
```

*Members*

All members of PerformanceCounter, including inherited members. **Methods**

Method	Description
- (NSString *) <i>getCounterValue</i> : (NSString *) <i>kpiName</i> on page 2313	
- (NSString *) <i>getCurrentTime</i> on page 2313	
- (NSString *) <i>getIntervalDataAsString</i> on page 2313	
- (NSString *) <i>getIntervalDescriptionAsString</i> on page 2313	
- (NSString *) <i>getUserReadableResult</i> on page 2313	
- (void) <i>setCounterValue</i> : (NSString *) <i>kpiName</i> <i>kpiValue</i> : (NSString *) <i>kpiValue</i> on page 2313	
- (void) <i>startMeasurement</i> : (NSString *) <i>step</i> on page 2313	
- (void) <i>stopMeasurement</i> on page 2313	

*getCounterValue: method**Syntax*

```
- (NSString *) getCounterValue : (NSString *) kpiName
```

*getCurrentTime method**Syntax*

```
- (NSString *) getCurrentTime
```

*getIntervalDataAsString method**Syntax*

```
- (NSString *) getIntervalDataAsString
```

*getIntervalDescriptionAsString method**Syntax*

```
- (NSString *) getIntervalDescriptionAsString
```

*getUserReadableResult method**Syntax*

```
- (NSString *) getUserReadableResult
```

*setCounterValue:kpiValue: method**Syntax*

```
- (void) setCounterValue : (NSString *) kpiName kpiValue : (NSString *) kpiValue
```

*startMeasurement: method**Syntax*

```
- (void) startMeasurement : (NSString *) step
```

*stopMeasurement method**Syntax*

```
- (void) stopMeasurement
```

*PerformanceUtil class***Syntax**

```
@interface PerformanceUtil : NSObject
```

**Members**

All members of PerformanceUtil, including inherited members. **Methods**

Method	Description
+ (void) enableParserPerformanceLog: (BOOL) value_in on page 2314	
+ (BOOL) isParserPerfLogEnabled on page 2314	

*enableParserPerformanceLog: method***Syntax**

```
+ (void) enableParserPerformanceLog : (BOOL) value_in
```

*isParserPerfLogEnabled method***Syntax**

```
+ (BOOL) isParserPerfLogEnabled
```

*ProgressDelegate protocol*

Defines default delegate methods for upload and download progress notification.

**Syntax**

```
@protocol ProgressDelegate
```

*Derived classes*

- *NetworkQueue* on page 2254

**Members**

All members of ProgressDelegate, including inherited members. **Methods**

Method	Description
- (void) request: (id<Requesting >) request didReceiveBytes: (long long) bytes on page 2315	Delegate method called when the request receives data.

Method	Description
- (void) request: (id< Requesting >) request didSendBytes: (long long) bytes on page 2315	Delegate method called when the request sends data.
- (void) request: (id< Requesting >) request incrementDownloadSizeBy: (long long) newLength on page 2316	Delegate method called when the request needs to change the download content size.
- (void) request: (id< Requesting >) request incrementUploadSizeBy: (long long) newLength on page 2316	Delegate method called when the request needs to change the length of the content to be uploaded.
- (void) setProgress: (float) newProgress on page 2316	Delegate method called to update UIProgress-Views.

### Usage

Protocol to be adapted by client classes to hook in for didReceiveBytes, didSendBytes, incrementDownloadSizeBy, and incrementUploadSizeBy delegates.

#### *request:didReceiveBytes: method*

Delegate method called when the request receives data.

#### Syntax

```
- (void) request : (id< Requesting >) request didReceiveBytes : (long long) bytes
```

#### Parameters

- **request** – request object which received data.
- **bytes** – number of bytes received.

#### *request:didSendBytes: method*

Delegate method called when the request sends data.

#### Syntax

```
- (void) request : (id< Requesting >) request didSendBytes : (long long) bytes
```

#### Parameters

- **request** – request object which sent the data.
- **bytes** – number of bytes sent. It can be a negative value, if the request has to remove the upload progress (that is, to run again).

### *request:incrementDownloadSizeBy: method*

Delegate method called when the request needs to change the download content size.

#### *Syntax*

```
- (void) request : (id< Requesting >) request  
incrementDownloadSizeBy : (long long) newLength
```

#### *Parameters*

- **request** – request object which sent the data.
- **bytes** – number of bytes sent. It can be a negative value if the request has to remove the upload progress (that is, to run again).

### *request:incrementUploadSizeBy: method*

Delegate method called when the request needs to change the length of the content to be uploaded.

#### *Syntax*

```
- (void) request : (id< Requesting >) request  
incrementUploadSizeBy : (long long) newLength
```

#### *Parameters*

- **request** – request object which sent the data.
- **bytes** – number of bytes uploaded. It can be a negative value, if the request needs to remove the size of the internal buffer from progress tracking.

### *setProgress: method*

Delegate method called to update UIProgressViews.

#### *Syntax*

```
- (void) setProgress : (float) newProgress
```

#### *Usage*

As an alternative, you might want to consider implementing `didReceiveBytes / didSendBytes` delegate methods.

### *Reachability class*

Network reachability APIs.

#### *Syntax*

```
@interface Reachability : NSObject
```



*Members*All members of *Reachability*, including inherited members. **Methods**

<b>Method</b>	<b>Description</b>
- ( <i>BOOL</i> ) <i>connectionRequired</i> on page 2318	
- ( <i>NetworkStatus</i> ) <i>currentReachabilityStatus</i> on page 2318	
- ( <i>Reachability</i> *) <i>initWithReachabilityRef:</i> ( <i>SCNetworkReachabilityRef</i> ) <i>ref</i> on page 2318	
- ( <i>BOOL</i> ) <i>isConnectionOnDemand</i> on page 2318	
- ( <i>BOOL</i> ) <i>isConnectionRequired</i> on page 2318	
- ( <i>BOOL</i> ) <i>isEqual:</i> ( <i>Reachability</i> *) <i>r</i> on page 2318	
- ( <i>BOOL</i> ) <i>isInterventionRequired</i> on page 2318	
- ( <i>BOOL</i> ) <i>isReachable</i> on page 2318	
- ( <i>BOOL</i> ) <i>isReachableViaWiFi</i> on page 2319	
- ( <i>BOOL</i> ) <i>isReachableViaWWAN</i> on page 2319	
- ( <i>SCNetworkReachabilityFlags</i> ) <i>reachabilityFlags</i> on page 2319	
+ ( <i>Reachability</i> *) <i>reachabilityForInternetConnection</i> on page 2319	
+ ( <i>Reachability</i> *) <i>reachabilityForLocalWiFi</i> on page 2319	
+ ( <i>Reachability</i> *) <i>reachabilityWithAddress:</i> ( <i>const struct sockaddr_in</i> *) <i>hostAddress</i> on page 2319	
+ ( <i>Reachability</i> *) <i>reachabilityWithHostName:</i> ( <i>NSSString</i> *) <i>hostName</i> on page 2319	
- ( <i>BOOL</i> ) <i>startNotifier</i> on page 2319	
- ( <i>void</i> ) <i>stopNotifier</i> on page 2320	

*connectionRequired method*

*Syntax*

- ( BOOL ) connectionRequired

*currentReachabilityStatus method*

*Syntax*

- ( NetworkStatus ) currentReachabilityStatus

*initWithReachabilityRef: method*

*Syntax*

- ( Reachability \* ) initWithReachabilityRef :  
( SCNetworkReachabilityRef ) **ref**

*isConnectionOnDemand method*

*Syntax*

- ( BOOL ) isConnectionOnDemand

*isConnectionRequired method*

*Syntax*

- ( BOOL ) isConnectionRequired

*isEqual: method*

*Syntax*

- ( BOOL ) isEqual : ( Reachability \* ) **r**

*isInterventionRequired method*

*Syntax*

- ( BOOL ) isInterventionRequired

*isReachable method*

*Syntax*

- ( BOOL ) isReachable

*isReachableViaWiFi method***Syntax**

```
- (BOOL) isReachableViaWiFi
```

*isReachableViaWWAN method***Syntax**

```
- (BOOL) isReachableViaWWAN
```

*reachabilityFlags method***Syntax**

```
- (SCNetworkReachabilityFlags) reachabilityFlags
```

*reachabilityForInternetConnection method***Syntax**

```
+ (Reachability *) reachabilityForInternetConnection
```

*reachabilityForLocalWiFi method***Syntax**

```
+ (Reachability *) reachabilityForLocalWiFi
```

*reachabilityWithAddress: method***Syntax**

```
+ (Reachability *) reachabilityWithAddress : (const struct  
sockaddr_in *) hostAddress
```

*reachabilityWithHostName: method***Syntax**

```
+ (Reachability *) reachabilityWithHostName : (NSString *)  
hostName
```

*startNotifier method***Syntax**

```
- (BOOL) startNotifier
```

## *stopNotifier method*

### *Syntax*

- (void) stopNotifier

### *Request class*

Consists of methods to handle HTTP requests.

### *Syntax*

```
@interface Request : NSOperation <Requesting> <NSCopying>
<NSCoding>
```

### *Derived classes*

- *BatchRequest* on page 2222
- *FormDataRequest* on page 2245

### *Members*

All members of Request, including inherited members. **Methods**

Method	Description
- (void) <i>addBasicAuthenticationHeaderWithUsername: (NSString *) theUsername andPassword: (NSString *) thePassword</i> on page 2325	Constructs a basic authentication header from the user name and password supplied, and adds it to the request headers.
- (void) <i>addRequestHeader: (NSString *) header value: (NSString *) value</i> on page 2326	Adds a custom header to the request.
- (void) <i>appendPostData: (NSData *) data</i> on page 2326	Adds data to the post body.
- (void) <i>appendPostDataFromFile: (NSString *) file</i> on page 2326	Adds data to the post body from a file.
- (void) <i>applyAuthorizationHeader</i> on page 2326	Used to apply authorization header to a request before it is sent (when <i>shouldPresentCredentials-BeforeChallenge</i> is YES).
- (void) <i>applyCookieHeader</i> on page 2326	Called during <i>buildRequestHeaders</i> and after a redirect to create a cookie header from request cookies and the global store.
+ (unsigned long) <i>averageBandwidthUsedPerSecond</i> on page 2327	Returns a rough average (for the last 5 seconds) of how much bandwidth is being used, in bytes.

Method	Description
+ (NSString *) base64forData: (NSData *) the-Data on page 2327	Base64 encodes the provided NSData*.
- (void) buildPostBody on page 2327	Creates the post body.
- (void) buildRequestHeaders on page 2327	Populates the request headers dictionary.
- (void) cancelAuthentication on page 2327	Should be called by delegates when they wish to cancel authentication and stop.
+ (void) clearSession on page 2327	
+ (const NSDataWritingOptions) dataWritingOptions on page 2328	Returns a mask which determines whether the data should be stored in encrypted form.
+ (NSDate *) dateFromRFC1123String: (NSString *) string on page 2328	Returns a date from a string in RFC1123 format.
+ (NSString *) decodeBase64: (NSString *) string_in on page 2328	Decodes a base64 encoded string.
+ (id< CacheDelegate >) defaultCache on page 2328	Returns the default download cache or nil if none is set at class level.
- (void) enableTracing: (BOOL) value_in on page 2328	Switches traceability status.
+ (void) enableXSRF: (BOOL) enable on page 2328	Enable XSRF support for the session of the application.
- (void) failWithError: (NSError *) theError on page 2329	Called when a request fails, and lets the delegate know via didFailSelector.
+ (NSDictionary *) fileProtectionAttributes on page 2329	Returns an attributes dictionary used for encrypted file storage or NIL if file protection has been explicitly disabled.
+ (NSInteger) getMaxConcurrentHTTPRequestCount on page 2329	Returns the maximum number of request threads that can be executed in parallel.
- (void) handleNetworkEvent: (CFStreamEventType) type on page 2329	Handles network events as they occur.
- (Request *) HEADRequest on page 2329	Creates a HEAD request appropriate for this request with the same headers.
+ (void) hideNetworkActivityIndicator on page 2329	Hides the network activity spinner.

Method	Description
+ (void) <i>incrementBandwidthUsedInLastSecond</i> : (unsigned long) bytes on page 2330	Used internally to record bandwidth use, and by InputStreams when uploading. It's probably best if you don't mess with this.
- (void) <i>incrementDownloadSizeBy</i> : (long long) length on page 2330	Called when we get a content-length header and shouldResetDownloadProgress is set to TRUE.
- (void) <i>incrementUploadSizeBy</i> : (long long) length on page 2330	Called when a request starts and shouldResetUploadProgress is set to TRUE.
- (id) <i>initWithURL</i> : (NSURL *) newURL on page 2330	Initialize the Request object with a HTTP or HTTPS url.
+ (BOOL) <i>isBandwidthThrottled</i> on page 2331	Returns YES is bandwidth throttling is currently in use.
+ (BOOL) <i>isNetworkInUse</i> on page 2331	Indicates whether there are running requests.
+ (BOOL) <i>isNetworkReachableViaWWAN</i> on page 2331	Returns YES when an iPhone OS device is connected via WWAN, false when connected via WIFI or not connected.
- (BOOL) <i>isResponseCompressed</i> on page 2331	
- (BOOL) <i>isTracingEnabled</i> on page 2331	Returns tracing status.
+ (unsigned long) <i>maxBandwidthPerSecond</i> on page 2332	The maximum number of bytes ALL requests can send or receive in a second.
+ (unsigned long) <i>maxUploadReadLength</i> on page 2332	Returns the maximum amount of data we can read as part of the current measurement period, and sleeps this thread if our allowance is used up.
+ (NSString *) <i>mimeTypeForFileAtPath</i> : (NSString *) path on page 2332	
+ (void) <i>performSelector</i> : (SEL) selector onTarget: (id *) target withObject: (id) object amount: (void *) amount on page 2332	Helper method used for performing invocations on the main thread (used for progress).
- (void) <i>performThrottling</i> on page 2332	Performs bandwidth throttling.
+ (void) <i>removeCredentialsForHost</i> : (NSString *) host port: (int) port protocol: (NSString *) protocol realm: (NSString *) realm on page 2332	Deletes host credentials from the keychain.

Method	Description
+ (void) <i>removeCredentialsForProxy:</i> (NSString *) <i>host port:</i> (int) <i>port realm:</i> (NSString *) <i>realm</i> on page 2333	Deletes proxy credentials from the keychain.
- (void) <i>removeUploadProgressSoFar</i> on page 2333	Called when authorization is required, as we only find out we do not have some permissions when the upload is complete.
+ (id) <i>requestWithURL:</i> (NSURL *) <i>newURL</i> on page 2333	Convenience constructor with URL.
+ (id) <i>requestWithURL:</i> (NSURL *) <i>newURL usingCache:</i> (id< CacheDelegate >) <i>cache</i> on page 2333	Convenience constructor with url and cache.
+ (id) <i>requestWithURL:</i> (NSURL *) <i>newURL usingCache:</i> (id< CacheDelegate >) <i>cache and-CachePolicy:</i> (ECachePolicy) <i>policy</i> on page 2333	Convenience constructor with url, cache and cache policy.
- (NSData *) <i>responseData</i> on page 2333	
- (NSString *) <i>responseString</i> on page 2334	
- (void) <i>retryUsingSuppliedCredentials</i> on page 2334	Unlocks the request thread so it can resume the request.
+ (void) <i>saveCredentials:</i> (NSURLCredential *) <i>credentials forHost:</i> (NSString *) <i>host port:</i> (int) <i>port protocol:</i> (NSString *) <i>protocol realm:</i> (NSString *) <i>realm</i> on page 2334	Saves host credentials to the keychain.
+ (void) <i>saveCredentials:</i> (NSURLCredential *) <i>credentials forProxy:</i> (NSString *) <i>host port:</i> (int) <i>port realm:</i> (NSString *) <i>realm</i> on page 2334	Saves proxy credentials to the keychain.
- (void) <i>saveCredentialsToKeychain:</i> (NSDictionary *) <i>newCredentials</i> on page 2334	Saves credentials for this request to the keychain.
+ (NSURLCredential *) <i>savedCredentialsForHost:</i> (NSString *) <i>host port:</i> (int) <i>port protocol:</i> (NSString *) <i>protocol realm:</i> (NSString *) <i>realm</i> on page 2335	Returns host credentials from the keychain.

Method	Description
+ (NSURLCredential *) savedCredentialsForProxy: (NSString *) host port: (int) port protocol: (NSString *) protocol realm: (NSString *) realm on page 2335	Returns proxy credentials from the keychain.
- (void) sendE2ETraceXML: (NSURL *) toBaseURL on page 2335	Posts the SAP E2E Trace XML to the specified URL.
- (void) setClientCertificateIdentity: (SecIdentityRef) anIdentity on page 2335	Sets the identity reference (X.509 certificate + private key) for this request; used for secure connections.
+ (void) setDefaultCache: (id<CacheDelegate>) cache on page 2335	Configures a default download cache that applies for all requests.
- (void) setEtag: (NSString *) etag withMatchType: (EtagType) matchType on page 2335	Add If-Match or If-None-Match or If-Range header.
+ (void) setMaxBandwidthPerSecond: (unsigned long) bytes on page 2336	Sets the maximum number of bytes ALL requests can send / receive in a second.
+ (void) setMaxConcurrentHTTPRequestCount: (const unsigned char) cnt on page 2336	Sets the maximum number of Request threads which can run at once.
+ (void) setProtectionEnabled: (BOOL) flag_in on page 2336	Controls whether the download cache should store files using protection.
+ (void) setShouldThrottleBandwidthForWWAN: (BOOL) throttle on page 2336	Requests can automatically turn throttling on and off, as the connection type changes between WWAN and WiFi.
+ (void) setShouldUpdateNetworkActivityIndicator: (BOOL) shouldUpdate on page 2336	Controls whether the request should take over updating the network activity indicator.
+ (NSOperationQueue *) sharedQueue on page 2337	Returns the shared queue.
+ (void) showNetworkActivityIndicator on page 2337	Shows the network activity spinner.
- (void) startAsynchronous on page 2337	
- (void) startSynchronous on page 2337	
+ (void) throttleBandwidthForWWANUsingLimit: (unsigned long) limit on page 2337	Turns on throttling automatically when WWAN is connected using a custom limit, and turns it off automatically when it isn't.



Method	Description
- (void) <i>updateDownloadProgress</i> on page 2337	Updates download progress and notifies the queue and/or downloadProgressDelegate of this request.
+ (void) <i>updateProgressIndicator: (id *) indicator withProgress: (unsigned long long) progress of- Total: (unsigned long long) total</i> on page 2338	Helper method for interacting with progress indicators to abstract the details of different APIs (NSProgressIndicator and UIProgressView).
- (void) <i>updateProgressIndicators</i> on page 2338	Updates the progress delegates.
- (void) <i>updateUploadProgress</i> on page 2338	Updates upload progress and notifies the queue and/or uploadProgressDelegate of this request.

### Usage

It is a wrapper around CFNetwork.

Features:

Synchronous and asynchronous execution.

Continues downloading and uploading when the application is sent to the background (iOS 4.0+ only).

Network Queue for batch http request processing and progress tracking.

Protected download cache; encrypted offline storage of downloaded content (iOS 4.0+ only).

Secure connection (iOS 4.0+ only).

Easy to extend.

Progress tracking.

### *addBasicAuthenticationHeaderWithUsername:andPassword: method*

Constructs a basic authentication header from the user name and password supplied, and adds it to the request headers.

### Syntax

```
- (void) addBasicAuthenticationHeaderWithUsername :
(NSString *) theUsername andPassword : (NSString *) thePassword
```

### *Usage*

It is used when `shouldPresentCredentialsBeforeChallenge` is set to YES.

### *addRequestHeader:value: method*

Adds a custom header to the request.

### *Syntax*

```
- (void) addRequestHeader : (NSString *) header value :  
  (NSString *) value
```

### *appendPostData: method*

Adds data to the post body.

### *Syntax*

```
- (void) appendPostData : (NSData *) data
```

### *Usage*

It appends to post body when `shouldStreamPostDataFromDisk` is false, or write to `postBodyWriteStream` when true.

### *appendPostDataFromFile: method*

Adds data to the post body from a file.

### *Syntax*

```
- (void) appendPostDataFromFile : (NSString *) file
```

### *Parameters*

- **file** – Object of NSString class indicating the complete path to the file.

```
[request appendPostDataFromFile:filePath];
```

### *applyAuthorizationHeader method*

Used to apply authorization header to a request before it is sent (when `shouldPresentCredentialsBeforeChallenge` is YES).

### *Syntax*

```
- (void) applyAuthorizationHeader
```

### *applyCookieHeader method*

Called during `buildRequestHeaders` and after a redirect to create a cookie header from request cookies and the global store.

### *Syntax*

```
- (void) applyCookieHeader
```

*averageBandwidthUsedPerSecond method*

Returns a rough average (for the last 5 seconds) of how much bandwidth is being used, in bytes.

*Syntax*

```
+ (unsigned long) averageBandwidthUsedPerSecond
```

*base64forData: method*

Base64 encodes the provided NSData\*.

*Syntax*

```
+ (NSString *) base64forData : (NSData *) theData
```

*buildPostBody method*

Creates the post body.

*Syntax*

```
- (void) buildPostBody
```

*buildRequestHeaders method*

Populates the request headers dictionary.

*Syntax*

```
- (void) buildRequestHeaders
```

*Usage*

It is called before a request is started, or by a HEAD request that needs to borrow them.

*cancelAuthentication method*

Should be called by delegates when they wish to cancel authentication and stop.

*Syntax*

```
- (void) cancelAuthentication
```

*clearSession method**Syntax*

```
+ (void) clearSession
```

### *dataWritingOptions method*

Returns a mask which determines whether the data should be stored in encrypted form.

#### *Syntax*

```
+ (const NSDataWritingOptions) dataWritingOptions
```

#### *Usage*

Data is stored in an encrypted form by default.

### *dateFromRFC1123String: method*

Returns a date from a string in RFC1123 format.

#### *Syntax*

```
+ (NSDate *) dateFromRFC1123String : (NSString *) string
```

### *decodeBase64: method*

Decodes a base64 encoded string.

#### *Syntax*

```
+ (NSString *) decodeBase64 : (NSString *) string_in
```

### *defaultCache method*

Returns the default download cache or nil if none is set at class level.

#### *Syntax*

```
+ (id< CacheDelegate >) defaultCache
```

### *enableTracing: method*

Switches traceability status.

#### *Syntax*

```
- (void) enableTracing : (BOOL) value_in
```

### *enableXCSRF: method*

Enable XSRF support for the session of the application.

#### *Syntax*

```
+ (void) enableXCSRF : (BOOL) enable
```

#### *Usage*

It should be set again in case of application restart.

*failWithError: method*

Called when a request fails, and lets the delegate know via didFailSelector.

*Syntax*

```
- (void) failWithError : (NSError *) theError
```

*fileProtectionAttributes method*

Returns an attributes dictionary used for encrypted file storage or NIL if file protection has been explicitly disabled.

*Syntax*

```
+ (NSDictionary *) fileProtectionAttributes
```

*getMaxConcurrentHTTPRequestCount method*

Returns the maximum number of request threads that can be executed in parallel.

*Syntax*

```
+ (NSInteger) getMaxConcurrentHTTPRequestCount
```

*handleNetworkEvent: method*

Handles network events as they occur.

*Syntax*

```
- (void) handleNetworkEvent : (CFStreamEventType) type
```

*Usage*

It is called from ReadStreamClientCallBack when one of the events requested in NETWORK\_EVENTS occurs.

*HEADRequest method*

Creates a HEAD request appropriate for this request with the same headers.

*Syntax*

```
- (Request *) HEADRequest
```

*Usage*

It is used by NetworkQueue.

*hideNetworkActivityIndicator method*

Hides the network activity spinner.

*Syntax*

```
+ (void) hideNetworkActivityIndicator
```

### *incrementBandwidthUsedInLastSecond: method*

Used internally to record bandwidth use, and by InputStreams when uploading. It's probably best if you don't mess with this.

#### *Syntax*

```
+ (void) incrementBandwidthUsedInLastSecond : (unsigned long) bytes
```

### *incrementDownloadSizeBy: method*

Called when we get a content-length header and shouldResetDownloadProgress is set to TRUE.

#### *Syntax*

```
- (void) incrementDownloadSizeBy : (long long) length
```

### *incrementUploadSizeBy: method*

Called when a request starts and shouldResetUploadProgress is set to TRUE.

#### *Syntax*

```
- (void) incrementUploadSizeBy : (long long) length
```

#### *Usage*

It is also called (with a negative length) to remove the size of the underlying buffer used for upload.

### *initWithURL: method*

Initialize the Request object with a HTTP or HTTPS url.

#### *Syntax*

```
- (id) initWithURL : (NSURL *) newURL
```

#### *Parameters*

- **newURL** – Object of NSURL class.

#### *Returns*

Returns an instance of the Request class.

```
Request *request = [Request initWithURL:[NSURL alloc] initWithString:applicationEndpoint];
```

***isBandwidthThrottled method***

Returns YES is bandwidth throttling is currently in use.

***Syntax***

```
+ (BOOL) isBandwidthThrottled
```

***isNetworkInUse method***

Indicates whether there are running requests.

***Syntax***

```
+ (BOOL) isNetworkInUse
```

***Returns***

NO, if no requests are currently executed.

***isNetworkReachableViaWWAN method***

Returns YES when an iPhone OS device is connected via WWAN, false when connected via WIFI or not connected.

***Syntax***

```
+ (BOOL) isNetworkReachableViaWWAN
```

***isResponseCompressed method******Syntax***

```
- (BOOL) isResponseCompressed
```

***isTracingEnabled method***

Returns tracing status.

***Syntax***

```
- (BOOL) isTracingEnabled
```

***Usage***

The default value is NO.

```
if([request isTracingEnabled])
{ }
```

### *maxBandwidthPerSecond method*

The maximum number of bytes ALL requests can send or receive in a second.

#### *Syntax*

```
+ (unsigned long) maxBandwidthPerSecond
```

#### *Usage*

This is a rough figure. The actual amount used is slightly more. This does not include HTTP headers.

### *maxUploadReadLength method*

Returns the maximum amount of data we can read as part of the current measurement period, and sleeps this thread if our allowance is used up.

#### *Syntax*

```
+ (unsigned long) maxUploadReadLength
```

### *mimeTypeForFileAtPath: method*

#### *Syntax*

```
+ (NSString *) mimeTypeForFileAtPath : (NSString *) path
```

### *performSelector:onTarget:withObject:amount: method*

Helper method used for performing invocations on the main thread (used for progress).

#### *Syntax*

```
+ (void) performSelector : (SEL) selector onTarget : (id *) target  
withObject : (id) object amount : (void *) amount
```

### *performThrottling method*

Performs bandwidth throttling.

#### *Syntax*

```
- (void) performThrottling
```

### *removeCredentialsForHost:port:protocol:realm: method*

Deletes host credentials from the keychain.

#### *Syntax*

```
+ (void) removeCredentialsForHost : (NSString *) host port : (int) port  
protocol : (NSString *) protocol realm : (NSString *) realm
```



*removeCredentialsForProxy:port:realm: method*

Deletes proxy credentials from the keychain.

*Syntax*

```
+ (void) removeCredentialsForProxy : (NSString *) host port :
(int) port realm : (NSString *) realm
```

*removeUploadProgressSoFar method*

Called when authorization is required, as we only find out we do not have some permissions when the upload is complete.

*Syntax*

```
- (void) removeUploadProgressSoFar
```

*requestWithURL: method*

Convenience constructor with URL.

*Syntax*

```
+ (id) requestWithURL : (NSURL *) newURL
```

*requestWithURL:usingCache: method*

Convenience constructor with url and cache.

*Syntax*

```
+ (id) requestWithURL : (NSURL *) newURL usingCache : (id<
CacheDelegate >) cache
```

*requestWithURL:usingCache:andCachePolicy: method*

Convenience constructor with url, cache and cache policy.

*Syntax*

```
+ (id) requestWithURL : (NSURL *) newURL usingCache : (id<
CacheDelegate >) cache andCachePolicy : (ECachePolicy) policy
```

*responseData method**Syntax*

```
- (NSData *) responseData
```

*responseString method*

*Syntax*

```
- (NSString *) responseString
```

*retryUsingSuppliedCredentials method*

Unlocks the request thread so it can resume the request.

*Syntax*

```
- (void) retryUsingSuppliedCredentials
```

*Usage*

It should be called by delegates when they have populated the authentication information after an authentication challenge.

*saveCredentials:forHost:port:protocol:realm: method*

Saves host credentials to the keychain.

*Syntax*

```
+ (void) saveCredentials : (NSURLCredential *) credentials  
forHost : (NSString *) host port : (int) port protocol :  
(NSString *) protocol realm : (NSString *) realm
```

*saveCredentials:forProxy:port:realm: method*

Saves proxy credentials to the keychain.

*Syntax*

```
+ (void) saveCredentials : (NSURLCredential *) credentials  
forProxy : (NSString *) host port : (int) port realm : (NSString  
*) realm
```

*saveCredentialsToKeychain: method*

Saves credentials for this request to the keychain.

*Syntax*

```
- (void) saveCredentialsToKeychain : (NSDictionary *)  
newCredentials
```

*savedCredentialsForHost:port:protocol:realm: method*

Returns host credentials from the keychain.

*Syntax*

```
+ (NSURLCredential *) savedCredentialsForHost : (NSString *)
host port : (int) port protocol : (NSString *) protocol realm : (
NSString *) realm
```

*savedCredentialsForProxy:port:protocol:realm: method*

Returns proxy credentials from the keychain.

*Syntax*

```
+ (NSURLCredential *) savedCredentialsForProxy : (NSString
*) host port : (int) port protocol : (NSString *) protocol realm : (
NSString *) realm
```

*sendE2ETraceXML: method*

Posts the SAP E2E Trace XML to the specified URL.

*Syntax*

```
- (void) sendE2ETraceXML : (NSURL *) toBaseURL
```

*setClientCertificateIdentity: method*

Sets the identity reference (X.509 certificate + private key) for this request; used for secure connections.

*Syntax*

```
- (void) setClientCertificateIdentity : (SecIdentityRef)
anIdentity
```

*setDefaultCache: method*

Configures a default download cache that applies for all requests.

*Syntax*

```
+ (void) setDefaultCache : (id< CacheDelegate >) cache
```

*setEtag:withMatchType: method*

Add If-Match or If-None-Match or If-Range header.

*Syntax*

```
- (void) setEtag : (NSString *) etag withMatchType :
(EtagType) matchType
```

### *setMaxBandwidthPerSecond: method*

Sets the maximum number of bytes ALL requests can send / receive in a second.

#### *Syntax*

```
+ (void) setMaxBandwidthPerSecond : (unsigned long) bytes
```

### *setMaxConcurrentHTTPRequestCount: method*

Sets the maximum number of Request threads which can run at once.

#### *Syntax*

```
+ (void) setMaxConcurrentHTTPRequestCount : (const unsigned char) cnt
```

#### *Exceptions*

- **ConnectivityException class** – if maximum allowed parallel thread is exceeded.

### *setProtectionEnabled: method*

Controls whether the download cache should store files using protection.

#### *Syntax*

```
+ (void) setProtectionEnabled : (BOOL) flag_in
```

#### *Usage*

It is enabled by default and applies to all instances; only available for builds targeting iOS version 4.0 or above.

### *setShouldThrottleBandwidthForWWAN: method*

Requests can automatically turn throttling on and off, as the connection type changes between WWAN and WiFi.

#### *Syntax*

```
+ (void) setShouldThrottleBandwidthForWWAN : (BOOL) throttle
```

#### *Usage*

Set to YES to automatically turn on throttling when WWAN is connected, and automatically turn it off, when it is not connected.

### *setShouldUpdateNetworkActivityIndicator: method*

Controls whether the request should take over updating the network activity indicator.

#### *Syntax*

```
+ (void) setShouldUpdateNetworkActivityIndicator : (BOOL) shouldUpdate
```

*Usage*

enabled by default

*sharedQueue method*

Returns the shared queue.

*Syntax*

```
+ (NSOperationQueue *) sharedQueue
```

*showNetworkActivityIndicator method*

Shows the network activity spinner.

*Syntax*

```
+ (void) showNetworkActivityIndicator
```

*startAsynchronous method**Syntax*

```
- (void) startAsynchronous
```

*startSynchronous method**Syntax*

```
- (void) startSynchronous
```

*throttleBandwidthForWWANUsingLimit: method*

Turns on throttling automatically when WWAN is connected using a custom limit, and turns it off automatically when it isn't.

*Syntax*

```
+ (void) throttleBandwidthForWWANUsingLimit : (unsigned long) limit
```

*updateDownloadProgress method*

Updates download progress and notifies the queue and/or downloadProgressDelegate of this request.

*Syntax*

```
- (void) updateDownloadProgress
```

*updateProgressIndicator:withProgress:ofTotal: method*

Helper method for interacting with progress indicators to abstract the details of different APIs (NSProgressIndicator and UIProgressView).

**Syntax**

```
+ (void) updateProgressIndicator : (id *) indicator withProgress : (unsigned long long) progress ofTotal : (unsigned long long) total
```

*updateProgressIndicators method*

Updates the progress delegates.

**Syntax**

```
- (void) updateProgressIndicators
```

**Usage**

Used by NetworkQueue. The clients should not invoke them directly.

*updateUploadProgress method*

Updates upload progress and notifies the queue and/or uploadProgressDelegate of this request.

**Syntax**

```
- (void) updateUploadProgress
```

*RequestBuilder class*

Acts as a configuration based runtime switch between Request or SUPRequest.

**Syntax**

```
@interface RequestBuilder : NSObject
```

**Members**

All members of RequestBuilder, including inherited members. **Methods**

Method	Description
+ (void) <i>cancelAllRequestsInQueue</i> on page 2340	This is an API to help clear the Queue of all queued requests.
+ (void) <i>clearPendingRequestsWithError: (NSError *) error</i> on page 2340	Clears all requests in the persistent queue.
+ (void) <i>enablePerformanceLogging: (BOOL) enable</i> on page 2340	Enable performance logging support.

Method	Description
+ (void) <i>enableTracing</i> : (BOOL) <i>value_in</i> on page 2341	Switches traceability status, the default is NO.
+ (void) <i>enableXCSRF</i> : (BOOL) <i>enable</i> on page 2341	Enable XCSRF support.
+ (id) <i>getDelegate</i> on page 2341	Returns the delegate to be invoked in Offline mode.
+ (SEL) <i>getDidFailSelector</i> on page 2341	Returns the selector registered for Offline mode.
+ (SEL) <i>getDidFinishSelector</i> on page 2342	Returns the selector registered for Offline mode.
+ (int) <i>getTraceLevel</i> on page 2342	Returns the trace level set.
+ (BOOL) <i>isOfflineEnabled</i> on page 2342	Returns a BOOL value indicating if Offline mode is enabled.
+ (BOOL) <i>isPerformanceLoggingEnabled</i> on page 2342	Returns performance logging status (default is NO).
+ (BOOL) <i>isTracingEnabled</i> on page 2342	Returns tracing status (default is NO).
+ (id<Requesting>) <i>requestWithURL</i> : (NSURL *) <i>newURL</i> on page 2343	Factory method which returns a request object.
+ (id<Requesting>) <i>requestWithURL</i> : (NSURL *) <i>newURL usingCache</i> : (id<CacheDelegate>) <i>cache</i> on page 2343	Factory method which returns a request object created using url and cache.
+ (id<Requesting>) <i>requestWithURL</i> : (NSURL *) <i>newURL usingCache</i> : (id<CacheDelegate>) <i>cache andCachePolicy</i> : (ECachePolicy) <i>policy</i> on page 2343	Factory method which returns a request object created using url, cache and a cache policy.
+ (enum ERequestType) <i>retrieveRequestType</i> on page 2344	Helper method to retrieve the request type to be instantiated from NSUserDefaults.
+ (void) <i>setDelegate</i> : (id) <i>delegate</i> on page 2344	Clients need to register their custom selectors to be invoked in Offline mode.
+ (void) <i>setDidFailSelector</i> : (SEL) <i>selector</i> on page 2344	Clients need to register their custom selectors to be invoked in Offline mode.
+ (void) <i>setDidFinishSelector</i> : (SEL) <i>selector</i> on page 2344	Clients need to register their custom selectors to be invoked in Offline mode.

Method	Description
<i>+ (void) setRequestType: (const enum ERequestType) type_in</i> on page 2345	Helper method to store the request type to be instantiated; the builder decides which class (Request or SUPRequest) should be instantiated based on this value.
<i>+ (void) setTraceLevel: (TraceLevel) value_in</i> on page 2345	Set the trace level, default is MEDIUM.

### Usage

The provided factory methods can return a valid Request, but we cannot guarantee this for SUPRequest \ However, as the SUPRequest library and public headers are not bundled with Connectivity lib, we attempt to create the SUPRequest class using `NSClassFromString("SUPRequest")`. `NSClassFromString` will work correctly only if: \ a) the SUPRequest library and the public header are added to the client project \ b) the `-ObjC` value is added to the Other Linker Flags

### *cancelAllRequestsInQueue* method

This is an API to help clear the Queue of all queued requests.

#### Syntax

```
+ (void) cancelAllRequestsInQueue
[RequestBuilder cancelAllRequestsInQueue];
```

### *clearPendingRequestsWithError:* method

Clears all requests in the persistent queue.

#### Syntax

```
+ (void) clearPendingRequestsWithError : (NSError *) error
NSError *error = nil;
[RequestBuilder clearPendingRequestsWithError:&error];
```

### *enablePerformanceLogging:* method

Enable performance logging support.

#### Syntax

```
+ (void) enablePerformanceLogging : (BOOL) enable
```

#### Parameters

- **enable** – BOOL value.

```
[RequestBuilder enablePerformanceLogging:YES];
```



***enableTracing: method***

Switches traceability status, the default is NO.

***Syntax***

```
+ (void) enableTracing : (BOOL) value_in
```

```
// set the request type
[RequestBuilder setRequestType:HTTPRequestType];
// enable tracing before instantiating the request
[RequestBuilder enableTracing:YES];
// instantiate the request
self.request = [RequestBuilder requestWithURL:demoUrl];
```

***Usage***

If tracing is enabled, "SAP-PASSPORT" and "X-CorrelationID" headers are set and filled with values to enable SAP Passport functionality.

***enableXCSRF: method***

Enable XCSRF support.

***Syntax***

```
+ (void) enableXCSRF : (BOOL) enable
```

```
// enable xcsrf before instantiating the request
[RequestBuilder enableXCSRF:YES];
// instantiate the request
self.request = [RequestBuilder requestWithURL:demoUrl];
```

***Usage***

It is disabled by default.

***getDelegate method***

Returns the delegate to be invoked in Offline mode.

***Syntax***

```
+ (id) getDelegate
```

```
// register the client as delegate for this request
[RequestBuilder getDelegate];
```

***getDidFailSelector method***

Returns the selector registered for Offline mode.

***Syntax***

```
+ (SEL) getDidFailSelector
```

### *getDidFinishSelector method*

Returns the selector registered for Offline mode.

#### *Syntax*

```
+ ( SEL ) getDidFinishSelector
```

### *getTraceLevel method*

Returns the trace level set.

#### *Syntax*

```
+ ( int ) getTraceLevel
```

#### *Returns*

int value indicating the trace level.

```
int level = [RequestBuilder getTraceLevel];
```

### *isOfflineEnabled method*

Returns a BOOL value indicating if Offline mode is enabled.

#### *Syntax*

```
+ ( BOOL ) isOfflineEnabled
```

```
if([RequestBuilder isOfflineEnabled])  
{ }
```

### *isPerformanceLoggingEnabled method*

Returns performance logging status (default is NO).

#### *Syntax*

```
+ ( BOOL ) isPerformanceLoggingEnabled
```

```
if([RequestBuilder isPerformanceLoggingEnabled])  
{ }
```

### *isTracingEnabled method*

Returns tracing status (default is NO).

#### *Syntax*

```
+ ( BOOL ) isTracingEnabled
```

```
if([RequestBuilder isTracingEnabled])  
{ }
```

*requestWithURL: method*

Factory method which returns a request object.

*Syntax*

```
+ (id< Requesting >) requestWithURL : (NSURL *) newURL
```

*Parameters*

- **newURL** – Object of NSURL class.

```
[RequestBuilder setRequestType:HTTPRequestType];
id<Requesting> request = [RequestBuilder requestWithURL:[NSURL
alloc] initWithString:applicationEndpoint];
```

*requestWithURL:usingCache: method*

Factory method which returns a request object created using url and cache.

*Syntax*

```
+ (id< Requesting >) requestWithURL : (NSURL *) newURL
usingCache : (id< CacheDelegate >) cache
```

*Parameters*

- **newURL** – Object of NSURL class.
- **cache** – Object of class implementing CacheDelegate protocol.

```
[RequestBuilder setRequestType:HTTPRequestType];
id<Requesting> request = [RequestBuilder requestWithURL:[NSURL
alloc] initWithString:applicationEndpoint] usingCache:self];
```

*requestWithURL:usingCache:andCachePolicy: method*

Factory method which returns a request object created using url, cache and a cache policy.

*Syntax*

```
+ (id< Requesting >) requestWithURL : (NSURL *) newURL
usingCache : (id< CacheDelegate >) cache andCachePolicy :
( ECachePolicy) policy
```

*Parameters*

- **newURL** – Object of NSURL class.
- **cache** – Object of class implementing CacheDelegate protocol.
- **policy** – ECachePolicy enum value.

```
[RequestBuilder setRequestType:HTTPRequestType];
id<Requesting> request = [RequestBuilder requestWithURL:[NSURL
alloc] initWithString:applicationEndpoint] usingCache:self
andCachePolicy:Default_CachePolicy];
```

### *retrieveRequestType* method

Helper method to retrieve the request type to be instantiated from NSUserDefaults.

#### *Syntax*

```
+ (enum ERequestType) retrieveRequestType
```

#### *Returns*

Request\_Type enum value.

```
[RequestBuilder retrieveRequestType];
```

### *setDelegate:* method

Clients need to register their custom selectors to be invoked in Offline mode.

#### *Syntax*

```
+ (void) setDelegate : (id) delegate
```

```
// register the client as delegate for this request  
[RequestBuilder setDelegate:self];
```

### *setDidFailSelector:* method

Clients need to register their custom selectors to be invoked in Offline mode.

#### *Syntax*

```
+ (void) setDidFailSelector : (SEL) selector
```

```
// register the client as delegate for this request  
[RequestBuilder setDelegate:self];  
[RequestBuilder setDidFailSelector:(offlineRequestFailed:)];
```

#### *Usage*

This selector is invoked when request execution failed.

### *setDidFinishSelector:* method

Clients need to register their custom selectors to be invoked in Offline mode.

#### *Syntax*

```
+ (void) setDidFinishSelector : (SEL) selector
```

```
// register the client as delegate for this request  
[RequestBuilder setDelegate:self];  
[RequestBuilder setDidFinishSelector:(offlineRequestFinished:)];
```

#### *Usage*

This selector is invoked when request execution is successfully complete.

***setRequestType: method***

Helper method to store the request type to be instantiated; the builder decides which class (Request or SUPRequest) should be instantiated based on this value.

***Syntax***

```
+ (void) setRequestType : (const enum ERequestType) type_in
```

***Parameters***

- **type\_in** – RequestType enum value.

```
[RequestBuilder setRequestType:HTTPRequestType];
```

***setTraceLevel: method***

Set the trace level, default is MEDIUM.

***Syntax***

```
+ (void) setTraceLevel : (TraceLevel) value_in
```

```
// enable tracing before instantiating the request
[RequestBuilder enableTracing:YES];
// set the trace level
[RequestBuilder setTraceLevel:High];
// instantiate the request
self.request = [RequestBuilder requestWithURL:demoUrl];
```

***Usage***

If tracing is enabled, "SAP-PASSPORT" and "X-CorrelationID" headers are set and filled with values to enable SAP Passport functionality.

***RequestDelegate protocol***

Defines default delegate methods for request status related housekeeping.

***Syntax***

```
@protocol RequestDelegate
```

***Derived classes***

- *NetworkQueue* on page 2254

***Members***

All members of RequestDelegate, including inherited members. **Methods**

Method	Description
- (void) <i>authenticationNeededForRequest: (Request *) request</i> on page 2346	Default delegate method called when credentials must be supplied for authentication.

Method	Description
- (void) <i>proxyAuthenticationNeededForRequest:</i> (Request *) request on page 2346	Default delegate method called when the proxy requires credentials for authentication.
- (void) <i>request:</i> (Request *) request <i>didReceiveData:</i> (const NSData *const) data_in on page 2346	Default delegate method invoked when incoming data is available.
- (void) <i>requestFailed:</i> (Request *) request on page 2347	Default delegate method called when the request fails.
- (void) <i>requestFinished:</i> (Request *) request on page 2347	Default delegate method called when the request is completed.
- (void) <i>requestRedirected:</i> (Request *) request on page 2347	Default delegate method called when the request gets redirected.
- (void) <i>requestStarted:</i> (Request *) request on page 2347	Default delegate method called when the request starts.

***authenticationNeededForRequest: method***

Default delegate method called when credentials must be supplied for authentication.

***Syntax***

```
- (void) authenticationNeededForRequest : (Request *)  
request
```

***proxyAuthenticationNeededForRequest: method***

Default delegate method called when the proxy requires credentials for authentication.

***Syntax***

```
- (void) proxyAuthenticationNeededForRequest : (Request *)  
request
```

***request:didReceiveData: method***

Default delegate method invoked when incoming data is available.

***Syntax***

```
- (void) request : (Request *) request didReceiveData : (const  
NSData *const) data_in
```

***Usage***

Implementing this delegate is usually not required; otherwise you have to process all incoming bytes yourself. This means that responseData or responseString are ignored. You can override this default delegate by setting Request didReceiveDataSelector.

*requestFailed: method*

Default delegate method called when the request fails.

*Syntax*

```
- (void) requestFailed : (Request *) request
```

*requestFinished: method*

Default delegate method called when the request is completed.

*Syntax*

```
- (void) requestFinished : (Request *) request
```

*requestRedirected: method*

Default delegate method called when the request gets redirected.

*Syntax*

```
- (void) requestRedirected : (Request *) request
```

*requestStarted: method*

Default delegate method called when the request starts.

*Syntax*

```
- (void) requestStarted : (Request *) request
```

*Usage*

Implement it to get informed when the request starts. You can override this default delegate by setting `Request didStartSelector`.

*Requesting protocol*

Requesting is the protocol to be adapted by Request classes.

*Syntax*

```
@protocol Requesting
```

*Derived classes*

- *Request* on page 2320

*Members*

All members of Requesting, including inherited members. **Methods**

Method	Description
- (void) <i>addBasicAuthenticationHeaderWithUsername: (NSString *) theUsername andPassword: (NSString *) thePassword</i> on page 2352	Constructs a basic authentication header from the username and password provided, and adds it to the request headers.
- (void) <i>addRequestHeader: (NSString *) header value: (NSString *) value</i> on page 2353	Adds a custom header to the request.
- (void) <i>appendPostData: (NSData *) data</i> on page 2353	Adds data to the post body.
- (void) <i>appendPostDataFromFile: (NSString *) file</i> on page 2353	Adds data to the post body from a file.
- (void) <i>applyAuthorizationHeader</i> on page 2353	Used to apply authorization header to a request before it is sent (when <i>shouldPresentCredentials-BeforeChallenge</i> is YES).
- (void) <i>applyCookieHeader</i> on page 2353	Called during <i>buildRequestHeaders</i> and after a redirect to create a cookie header from request cookies and the global store.
+ (unsigned long) <i>averageBandwidthUsedPerSecond</i> on page 2354	Returns a rough average (for the last 5 seconds) of how much bandwidth is being used, in bytes.
+ (NSString *) <i>base64forData: (NSData *) theData</i> on page 2354	Base64 encodes the provided NSData*.
- (void) <i>buildPostBody</i> on page 2354	Creates the post body.
- (void) <i>buildRequestHeaders</i> on page 2354	Populates the request headers dictionary.
- (void) <i>cancelAuthentication</i> on page 2354	Should be called by delegates to cancel authentication and stop.
+ (void) <i>clearSession</i> on page 2354	
+ (const NSDataWritingOptions) <i>dataWritingOptions</i> on page 2355	Returns a mask that determines whether the data should be stored in an encrypted form.
+ (NSDate *) <i>dateFromRFC1123String: (NSString *) string</i> on page 2355	Returns a date from a string in RFC1123 format.
+ (NSString *) <i>decodeBase64: (NSString *) string_in</i> on page 2355	Decodes a base64 encoded string.
+ (id< CacheDelegate >) <i>defaultCache</i> on page 2355	Returns the default download cache or nil if none is set at class level.



Method	Description
- (void) <i>enableTracing</i> : (BOOL) <i>value_in</i> on page 2355	Switches traceability status.
+ (void) <i>enableXCSRF</i> : (BOOL) <i>enable</i> on page 2355	Enable XSRF support for the session of the application.
- (void) <i>failWithError</i> : (NSError *) <i>theError</i> on page 2356	Called when a request fails, and lets the delegate know via <i>didFailSelector</i> .
+ (NSDictionary *) <i>fileProtectionAttributes</i> on page 2356	Returns a attributes dictionary used for encrypted file storage or nil if file protection has been explicitly disabled.
+ (NSInteger) <i>getMaxConcurrentHTTPRequestCount</i> on page 2356	Returns the maximum number of request threads that can be executed in parallel.
- (void) <i>handleNetworkEvent</i> : (CFStreamEventType) <i>type</i> on page 2356	Handles network events as they occur.
- (id< Requesting >) <i>HEADRequest</i> on page 2356	Convenience constructor with URL and cache.
+ (void) <i>hideNetworkActivityIndicator</i> on page 2357	Hides the network activity spinner.
+ (void) <i>incrementBandwidthUsedInLastSecond</i> : (unsigned long) <i>bytes</i> on page 2357	Used internally to record bandwidth use, and by <i>InputStreams</i> when uploading. It's probably best if you don't mess with this.
- (void) <i>incrementDownloadSizeBy</i> : (long long) <i>length</i> on page 2357	Called when we get a content-length header and <i>shouldResetDownloadProgress</i> is true.
- (void) <i>incrementUploadSizeBy</i> : (long long) <i>length</i> on page 2357	Called when a request starts and <i>shouldResetUploadProgress</i> is true.
- (id) <i>initWithURL</i> : (NSURL *) <i>newURL</i> on page 2357	Should be an HTTP or HTTPS URL.
+ (BOOL) <i>isBandwidthThrottled</i> on page 2358	Returns YES is bandwidth throttling is currently in use.
+ (BOOL) <i>isNetworkInUse</i> on page 2358	Indicates whether there are running requests.
+ (BOOL) <i>isNetworkReachableViaWWAN</i> on page 2358	Returns YES when an iPhone OS device is connected via WWAN, false when connected via WIFI or not connected.

Method	Description
- (BOOL) <i>isResponseCompressed</i> on page 2358	
- (BOOL) <i>isTracingEnabled</i> on page 2358	Returns tracing status.
+ (unsigned long) <i>maxBandwidthPerSecond</i> on page 2358	The maximum number of bytes all requests can send or receive in a second.
+ (unsigned long) <i>maxUploadReadLength</i> on page 2359	Returns the maximum amount of data you can read as part of the current measurement period, and closes this thread if the allowance is used up.
+ (NSString *) <i>mimeTypeForFileAtPath:</i> (NSString *) <i>path</i> on page 2359	
+ (void) <i>performSelector:</i> (SEL) <i>selector onTarget:</i> (id *) <i>target withObject:</i> (id) <i>object amount:</i> (void *) <i>amount</i> on page 2359	Helper method used for performing invocations on the main thread (used for progress).
- (void) <i>performThrottling</i> on page 2359	Perform bandwidth throttling.
+ (void) <i>removeCredentialsForHost:</i> (NSString *) <i>host port:</i> (int) <i>port protocol:</i> (NSString *) <i>protocol realm:</i> (NSString *) <i>realm</i> on page 2359	Deletes host credentials from the keychain.
+ (void) <i>removeCredentialsForProxy:</i> (NSString *) <i>host port:</i> (int) <i>port realm:</i> (NSString *) <i>realm</i> on page 2359	Deletes proxy credentials from the keychain.
- (void) <i>removeUploadProgressSoFar</i> on page 2360	Called when authorization is needed, as you can only find out that you do not have permission, when the upload is complete.
+ (id) <i>requestWithURL:</i> (NSURL *) <i>newURL</i> on page 2360	Convenience constructor with URL.
+ (id) <i>requestWithURL:</i> (NSURL *) <i>newURL usingCache:</i> (id< CacheDelegate >) <i>cache</i> on page 2360	Convenience constructor with url and cache.
+ (id) <i>requestWithURL:</i> (NSURL *) <i>newURL usingCache:</i> (id< CacheDelegate >) <i>cache and-CachePolicy:</i> (ECachePolicy) <i>policy</i> on page 2360	Convenience constructor with url, cache and cache policy.
- (NSData *) <i>responseData</i> on page 2360	

Method	Description
- ( <i>NSString *</i> ) <i>responseString</i> on page 2360	
- ( <i>void</i> ) <i>retryUsingSuppliedCredentials</i> on page 2360	Wakes up (unlocks) the request thread so it can resume the request.
+ ( <i>void</i> ) <i>saveCredentials: (NSURLCredential *) credentials forHost: (NSString *) host port: (int) port protocol: (NSString *) protocol realm: (NSString *) realm</i> on page 2361	Saves host credentials to the keychain.
+ ( <i>void</i> ) <i>saveCredentials: (NSURLCredential *) credentials forProxy: (NSString *) host port: (int) port realm: (NSString *) realm</i> on page 2361	Saves proxy credentials to the keychain.
- ( <i>void</i> ) <i>saveCredentialsToKeychain: (NSDictionary *) newCredentials</i> on page 2361	Saves credentials for this request to the keychain.
+ ( <i>NSURLCredential *</i> ) <i>savedCredentialsForHost: (NSString *) host port: (int) port protocol: (NSString *) protocol realm: (NSString *) realm</i> on page 2361	Returns host credentials from the keychain.
+ ( <i>NSURLCredential *</i> ) <i>savedCredentialsForProxy: (NSString *) host port: (int) port protocol: (NSString *) protocol realm: (NSString *) realm</i> on page 2361	Returns proxy credentials from the keychain.
- ( <i>void</i> ) <i>sendE2ETraceXML: (NSURL *) toBaseURL</i> on page 2362	Posts the SAP E2E Trace XML to the specified URL.
- ( <i>void</i> ) <i>setClientCertificateIdentity: (SecIdentityRef) anIdentity</i> on page 2362	Sets the identity reference (X.509 certificate + private key) for this request; used for secure connections.
+ ( <i>void</i> ) <i>setDefaultCache: (id&lt;CacheDelegate&gt;) cache</i> on page 2362	Configures a default download cache that applies for all requests.
- ( <i>void</i> ) <i>setEtag: (NSString *) etag withMatchType: (EtagType) matchType</i> on page 2362	Add If-Match or If-None-Match or If-Range header.
+ ( <i>void</i> ) <i>setMaxBandwidthPerSecond: (unsigned long) bytes</i> on page 2362	Sets the maximum number of bytes ALL requests can send / receive in a second.
+ ( <i>void</i> ) <i>setMaxConcurrentHTTPRequestCount: (const unsigned char) cnt</i> on page 2362	Sets the maximum number of Request threads which can run at once.

Method	Description
+ (void) <i>setProtectionEnabled: (BOOL) flag_in</i> on page 2363	Controls whether the download cache should store files using protection.
+ (void) <i>setShouldThrottleBandwidthForWWAN: (BOOL) throttle</i> on page 2363	Request can automatically turn throttling on and off, as the connection type changes between WWAN and WiFi.
+ (void) <i>setShouldUpdateNetworkActivityIndicator: (BOOL) shouldUpdate</i> on page 2363	Controls whether the request should take over updating the network activity indicator.
+ (NSOperationQueue *) <i>sharedQueue</i> on page 2363	Returns the shared queue.
+ (void) <i>showNetworkActivityIndicator</i> on page 2363	Shows the network activity spinner.
- (void) <i>startAsynchronous</i> on page 2364	
- (void) <i>startSynchronous</i> on page 2364	
+ (void) <i>throttleBandwidthForWWANUsingLimit: (unsigned long) limit</i> on page 2364	Turns on throttling automatically when WWAN is connected using a custom limit, and turns it off automatically when it is not connected.
- (void) <i>updateDownloadProgress</i> on page 2364	Updates download progress (notifies the queue and/or downloadProgressDelegate of this request).
+ (void) <i>updateProgressIndicator: (id *) indicator withProgress: (unsigned long long) progress of- Total: (unsigned long long) total</i> on page 2364	Helper method for interacting with progress indicators to abstract the details of different APIs (NSProgressIndicator and UIProgressView).
- (void) <i>updateProgressIndicators</i> on page 2364	Updates the progress delegates.
- (void) <i>updateUploadProgress</i> on page 2365	Updates upload progress (notifies the queue and/or uploadProgressDelegate of this request).

#### *addBasicAuthenticationHeaderWithUsername:andPassword: method*

Constructs a basic authentication header from the username and password provided, and adds it to the request headers.

#### *Syntax*

```
- (void) addBasicAuthenticationHeaderWithUsername :
(NSString *) theUsername andPassword : (NSString *) thePassword
```

*Usage*

Used when `shouldPresentCredentialsBeforeChallenge` is set to YES.

*addRequestHeader:value: method*

Adds a custom header to the request.

*Syntax*

```
- (void) addRequestHeader : (NSString *) header value :
(NSString *) value
```

*appendPostData: method*

Adds data to the post body.

*Syntax*

```
- (void) appendPostData : (NSData *) data
```

*Usage*

It appends to post body when `shouldStreamPostDataFromDisk` is false, or write to `postBodyWriteStream` when true.

*appendPostDataFromFile: method*

Adds data to the post body from a file.

*Syntax*

```
- (void) appendPostDataFromFile : (NSString *) file
```

*Usage*

It appends to post body when `shouldStreamPostDataFromDisk` is false, or write to `postBodyWriteStream` when true.

*applyAuthorizationHeader method*

Used to apply authorization header to a request before it is sent (when `shouldPresentCredentialsBeforeChallenge` is YES).

*Syntax*

```
- (void) applyAuthorizationHeader
```

*applyCookieHeader method*

Called during `buildRequestHeaders` and after a redirect to create a cookie header from request cookies and the global store.

*Syntax*

```
- (void) applyCookieHeader
```

### *averageBandwidthUsedPerSecond method*

Returns a rough average (for the last 5 seconds) of how much bandwidth is being used, in bytes.

#### *Syntax*

```
+ (unsigned long) averageBandwidthUsedPerSecond
```

### *base64forData: method*

Base64 encodes the provided NSData\*.

#### *Syntax*

```
+ (NSString *) base64forData : (NSData *) theData
```

### *buildPostBody method*

Creates the post body.

#### *Syntax*

```
- (void) buildPostBody
```

### *buildRequestHeaders method*

Populates the request headers dictionary.

#### *Syntax*

```
- (void) buildRequestHeaders
```

### *Usage*

It is called before a request is started, or by a HEAD request that needs to borrow them.

### *cancelAuthentication method*

Should be called by delegates to cancel authentication and stop.

#### *Syntax*

```
- (void) cancelAuthentication
```

### *clearSession method*

#### *Syntax*

```
+ (void) clearSession
```

*dataWritingOptions method*

Returns a mask that determines whether the data should be stored in an encrypted form.

*Syntax*

```
+ (const NSDataWritingOptions) dataWritingOptions
```

*Usage*

Data will be stored in encrypted form by default.

*dateFromRFC1123String: method*

Returns a date from a string in RFC1123 format.

*Syntax*

```
+ (NSDate *) dateFromRFC1123String : (NSString *) string
```

*decodeBase64: method*

Decodes a base64 encoded string.

*Syntax*

```
+ (NSString *) decodeBase64 : (NSString *) string_in
```

*defaultCache method*

Returns the default download cache or nil if none is set at class level.

*Syntax*

```
+ (id< CacheDelegate >) defaultCache
```

*enableTracing: method*

Switches traceability status.

*Syntax*

```
- (void) enableTracing : (BOOL) value_in
```

*enableXCSRF: method*

Enable XSRF support for the session of the application.

*Syntax*

```
+ (void) enableXCSRF : (BOOL) enable
```

*Usage*

It should be set again in case of application restart.

### *failWithError: method*

Called when a request fails, and lets the delegate know via didFailSelector.

### *Syntax*

```
- (void) failWithError : (NSError *) theError
```

### *fileProtectionAttributes method*

Returns a attributes dictionary used for encrypted file storage or nil if file protection has been explicitly disabled.

### *Syntax*

```
+ (NSDictionary *) fileProtectionAttributes
```

### *getMaxConcurrentHTTPRequestCount method*

Returns the maximum number of request threads that can be executed in parallel.

### *Syntax*

```
+ (NSInteger) getMaxConcurrentHTTPRequestCount
```

### *handleNetworkEvent: method*

Handles network events as they occur.

### *Syntax*

```
- (void) handleNetworkEvent : (CFStreamEventType) type
```

### *Usage*

Called from ReadStreamClientCallBack when one of the events requested in NETWORK\_EVENTS occurs.

### *HEADRequest method*

Convenience constructor with URL and cache.

### *Syntax*

```
- (id< Requesting >) HEADRequest
```

### *Usage*

Convenience constructor with URL, cache, and cache policy. Used by NetworkQueue to create a HEAD request appropriate for this request with the same headers.



*hideNetworkActivityIndicator method*

Hides the network activity spinner.

*Syntax*

```
+ (void) hideNetworkActivityIndicator
```

*incrementBandwidthUsedInLastSecond: method*

Used internally to record bandwidth use, and by `InputStreams` when uploading. It's probably best if you don't mess with this.

*Syntax*

```
+ (void) incrementBandwidthUsedInLastSecond : (unsigned long) bytes
```

*incrementDownloadSizeBy: method*

Called when we get a content-length header and `shouldResetDownloadProgress` is true.

*Syntax*

```
- (void) incrementDownloadSizeBy : (long long) length
```

*incrementUploadSizeBy: method*

Called when a request starts and `shouldResetUploadProgress` is true.

*Syntax*

```
- (void) incrementUploadSizeBy : (long long) length
```

*Usage*

It is also called (with a negative length) to remove the size of the underlying buffer used for uploading.

*initWithURL: method*

Should be an HTTP or HTTPS URL.

*Syntax*

```
- (id) initWithURL : (NSURL *) newURL
```

*Usage*

It may include username and password (if appropriate).

*isBandwidthThrottled method*

Returns YES is bandwidth throttling is currently in use.

*Syntax*

```
+ ( BOOL ) isBandwidthThrottled
```

*isNetworkInUse method*

Indicates whether there are running requests.

*Syntax*

```
+ ( BOOL ) isNetworkInUse
```

*Returns*

NO, if no requests are being executed.

*isNetworkReachableViaWWAN method*

Returns YES when an iPhone OS device is connected via WWAN, false when connected via WIFI or not connected.

*Syntax*

```
+ ( BOOL ) isNetworkReachableViaWWAN
```

*isResponseCompressed method*

*Syntax*

```
- ( BOOL ) isResponseCompressed
```

*isTracingEnabled method*

Returns tracing status.

*Syntax*

```
- ( BOOL ) isTracingEnabled
```

*maxBandwidthPerSecond method*

The maximum number of bytes all requests can send or receive in a second.

*Syntax*

```
+ ( unsigned long ) maxBandwidthPerSecond
```

*Usage*

This is a rough figure. The actual amount used will be slightly more, this does not include HTTP headers.

*maxUploadReadLength method*

Returns the maximum amount of data you can read as part of the current measurement period, and closes this thread if the allowance is used up.

*Syntax*

```
+ (unsigned long) maxUploadReadLength
```

*mimeTypeForFileAtPath: method**Syntax*

```
+ (NSString *) mimeTypeForFileAtPath : (NSString *) path
```

*performSelector:onTarget:withObject:amount: method*

Helper method used for performing invocations on the main thread (used for progress).

*Syntax*

```
+ (void) performSelector : (SEL) selector onTarget : (id *) target
withObject : (id) object amount : (void *) amount
```

*performThrottling method*

Perform bandwidth throttling.

*Syntax*

```
- (void) performThrottling
```

*removeCredentialsForHost:port:protocol:realm: method*

Deletes host credentials from the keychain.

*Syntax*

```
+ (void) removeCredentialsForHost : (NSString *) host port : (
int) port protocol : (NSString *) protocol realm : (NSString *)
realm
```

*removeCredentialsForProxy:port:realm: method*

Deletes proxy credentials from the keychain.

*Syntax*

```
+ (void) removeCredentialsForProxy : (NSString *) host port :
(int) port realm : (NSString *) realm
```

### *removeUploadProgressSoFar method*

Called when authorization is needed, as you can only find out that you do not have permission, when the upload is complete.

#### *Syntax*

```
- (void) removeUploadProgressSoFar
```

### *requestWithURL: method*

Convenience constructor with URL.

#### *Syntax*

```
+ (id) requestWithURL : (NSURL *) newURL
```

### *requestWithURL:usingCache: method*

Convenience constructor with url and cache.

#### *Syntax*

```
+ (id) requestWithURL : (NSURL *) newURL usingCache : (id<CacheDelegate >) cache
```

### *requestWithURL:usingCache:andCachePolicy: method*

Convenience constructor with url, cache and cache policy.

#### *Syntax*

```
+ (id) requestWithURL : (NSURL *) newURL usingCache : (id<CacheDelegate >) cache andCachePolicy : (ECachePolicy) policy
```

### *responseData method*

#### *Syntax*

```
- (NSData *) responseData
```

### *responseString method*

#### *Syntax*

```
- (NSString *) responseString
```

### *retryUsingSuppliedCredentials method*

Wakes up (unlocks) the request thread so it can resume the request.

#### *Syntax*

```
- (void) retryUsingSuppliedCredentials
```

*Usage*

It should be called by delegates when they have populated the authentication information after an authentication challenge.

*saveCredentials:forHost:port:protocol:realm: method*

Saves host credentials to the keychain.

*Syntax*

```
+ (void) saveCredentials : (NSURLCredential *) credentials
forHost : (NSString *) host port : (int) port protocol :
(NSString *) protocol realm : (NSString *) realm
```

*saveCredentials:forProxy:port:realm: method*

Saves proxy credentials to the keychain.

*Syntax*

```
+ (void) saveCredentials : (NSURLCredential *) credentials
forProxy : (NSString *) host port : (int) port realm : (NSString
*) realm
```

*saveCredentialsToKeychain: method*

Saves credentials for this request to the keychain.

*Syntax*

```
- (void) saveCredentialsToKeychain : (NSDictionary *)
newCredentials
```

*savedCredentialsForHost:port:protocol:realm: method*

Returns host credentials from the keychain.

*Syntax*

```
+ (NSURLCredential *) savedCredentialsForHost : (NSString *)
host port : (int) port protocol : (NSString *) protocol realm : (
NSString *) realm
```

*savedCredentialsForProxy:port:protocol:realm: method*

Returns proxy credentials from the keychain.

*Syntax*

```
+ (NSURLCredential *) savedCredentialsForProxy : (NSString
*) host port : (int) port protocol : (NSString *) protocol realm : (
NSString *) realm
```

### *sendE2ETraceXML: method*

Posts the SAP E2E Trace XML to the specified URL.

#### *Syntax*

```
- (void) sendE2ETraceXML : (NSURL *) toBaseURL
```

### *setClientCertificateIdentity: method*

Sets the identity reference (X.509 certificate + private key) for this request; used for secure connections.

#### *Syntax*

```
- (void) setClientCertificateIdentity : (SecIdentityRef)  
anIdentity
```

### *setDefaultCache: method*

Configures a default download cache that applies for all requests.

#### *Syntax*

```
+ (void) setDefaultCache : (id< CacheDelegate >) cache
```

### *setEtag:withMatchType: method*

Add If-Match or If-None-Match or If-Range header.

#### *Syntax*

```
- (void) setEtag : (NSString *) etag withMatchType :  
( EtagType ) matchType
```

### *setMaxBandwidthPerSecond: method*

Sets the maximum number of bytes ALL requests can send / receive in a second.

#### *Syntax*

```
+ (void) setMaxBandwidthPerSecond : (unsigned long) bytes
```

### *setMaxConcurrentHTTPRequestCount: method*

Sets the maximum number of Request threads which can run at once.

#### *Syntax*

```
+ (void) setMaxConcurrentHTTPRequestCount : (const unsigned  
char) cnt
```

#### *Exceptions*

- **ConnectivityException class** – if maximum allowed parallel thread is exceeded.

*setProtectionEnabled: method*

Controls whether the download cache should store files using protection.

*Syntax*

```
+ (void) setProtectionEnabled : (BOOL) flag_in
```

*Usage*

Enabled by default, applies to all instances; only available for builds targeting iOS 4.0 or above.

*setShouldThrottleBandwidthForWWAN: method*

Request can automatically turn throttling on and off, as the connection type changes between WWAN and WiFi.

*Syntax*

```
+ (void) setShouldThrottleBandwidthForWWAN : (BOOL) throttle
```

*Usage*

Set to YES to automatically turn on throttling when WWAN is connected, and automatically turn it off when it is not connected.

*setShouldUpdateNetworkActivityIndicator: method*

Controls whether the request should take over updating the network activity indicator.

*Syntax*

```
+ (void) setShouldUpdateNetworkActivityIndicator : (BOOL)
shouldUpdate
```

*Usage*

Enabled by default.

*sharedQueue method*

Returns the shared queue.

*Syntax*

```
+ (NSOperationQueue *) sharedQueue
```

*showNetworkActivityIndicator method*

Shows the network activity spinner.

*Syntax*

```
+ (void) showNetworkActivityIndicator
```

### *startAsynchronous method*

#### *Syntax*

```
- (void) startAsynchronous
```

### *startSynchronous method*

#### *Syntax*

```
- (void) startSynchronous
```

### *throttleBandwidthForWWANUsingLimit: method*

Turns on throttling automatically when WWAN is connected using a custom limit, and turns it off automatically when it is not connected.

#### *Syntax*

```
+ (void) throttleBandwidthForWWANUsingLimit : (unsigned long) limit
```

### *updateDownloadProgress method*

Updates download progress (notifies the queue and/or downloadProgressDelegate of this request).

#### *Syntax*

```
- (void) updateDownloadProgress
```

### *updateProgressIndicator:withProgress:ofTotal: method*

Helper method for interacting with progress indicators to abstract the details of different APIs (NSProgressIndicator and UIProgressView).

#### *Syntax*

```
+ (void) updateProgressIndicator : (id *) indicator withProgress : (unsigned long long) progress ofTotal : (unsigned long long) total
```

### *updateProgressIndicators method*

Updates the progress delegates.

#### *Syntax*

```
- (void) updateProgressIndicators
```

### *Usage*

Used by NetworkQueue, clients should not invoke them directly.



*updateUploadProgress method*

Updates upload progress (notifies the queue and/or uploadProgressDelegate of this request).

*Syntax*

```
- (void) updateUploadProgress
```

*SAPExtendedPassport class*

comment the following lines out if you do not have the required exception classes

*Syntax*

```
@interface SAPExtendedPassport : NSObject
```

*Members*

All members of SAPExtendedPassport, including inherited members. **Methods**

Method	Description
- (NSString *) correlationIdHttpHeader on page 2366	Retrieves the @"X-CorrelationID" header value.
+ (SAPExtendedPassport *) createPassport on page 2366	Factory method Returns an autoreleased SAPExtendedPassport instance initialized with defaults (medium trace level and auto generated UID)
+ (SAPExtendedPassport *) createPassportWithRootId: (NSData *) rootId_in andTraceLevel: (TraceLevel) traceLevel_in on page 2366	Factory method Returns an autoreleased SAPExtendedPassport instance.
+ (NSData *) getuuidAsData on page 2366	Factory method Returns an autoreleased UUID instance.
+ (NSString *) getuuidAsString on page 2366	Factory method Returns an autoreleased UUID instance as HEXASCII-String.
- (id) initWithRootId: (NSData *) RootId andTraceLevel: (TraceLevel) traceLevel_in on page 2367	Initializes a Passport object.
- (id) initWithRootId: (NSData *) rootId_in andTraceLevel: (TraceLevel) traceLevel_in andTransportId: (NSData *) transportId_in andTerminalId: (NSData *) terminalId_in on page 2367	Initializes a Passport object.
- (NSString *) passportHttpHeader on page 2367	Retrieves the @"SAP-PASSPORT" header value.

### *Usage*

Class leveraging SAPPassport functionality

```
SAPExtendedPassport* passport = [SAPExtendedPassport
createPassport];

[m_HTTPRequest addRequestHeader:@"SAP-PASSPORT" value:[passport
passportHTTPHeader]];
[m_HTTPRequest addRequestHeader:@"X-CorrelationID" value:[passport
correlationIdHTTPHeader]];
```

### *correlationIdHTTPHeader method*

Retrieves the @"X-CorrelationID" header value.

### *Syntax*

```
- (NSString *) correlationIdHTTPHeader
```

### *createPassport method*

Factory method Returns an autoreleased SAPExtendedPassport instance initialized with defaults (medium trace level and auto generated UID)

### *Syntax*

```
+ (SAPExtendedPassport *) createPassport
```

### *createPassportWithRootId:andTraceLevel: method*

Factory method Returns an autoreleased SAPExtendedPassport instance.

### *Syntax*

```
+ (SAPExtendedPassport *) createPassportWithRootId : (NSData
*) rootId_in andTraceLevel : (TraceLevel) traceLevel_in
```

### *getuuidAsData method*

Factory method Returns an autoreleased UUID instance.

### *Syntax*

```
+ (NSData *) getuuidAsData
```

### *getuuidAsString method*

Factory method Returns an autoreleased UUID instance as HEXASCII-String.

### *Syntax*

```
+ (NSString *) getuuidAsString
```

*initWithRootId:andTraceLevel: method*

Initializes a Passport object.

*Syntax*

```
- (id) initWithRootId : (NSData *) RootId andTraceLevel :  
  (TraceLevel) traceLevel_in
```

*initWithRootId:andTraceLevel:andTransportId:andTerminalId: method*

Initializes a Passport object.

*Syntax*

```
- (id) initWithRootId : (NSData *) rootId_in andTraceLevel : (TraceLevel) traceLevel_in andTransportId : (NSData *) transportId_in  
andTerminalId : (NSData *) terminalId_in
```

*passportHttpHeader method*

Retrieves the @“SAP-PASSPORT“ header value.

*Syntax*

```
- (NSString *) passportHttpHeader
```

*SDMLogger class*

Defines the Logging APIs.

*Syntax*

```
@interface SDMLogger : NSObject <SDMLogging>
```

*Members*

All members of SDMLogger, including inherited members. **Methods**

Method	Description
<i>+ (void) disableLogging</i> on page 2369	Disables logging of non-critical messages Call this API to disable logging of low prio messages if you previously enabled them via +enableLogging API.
<i>- (void) displayLogsWithLevel: (LoggingLevels) level_in</i> on page 2369	Displays all log entries with the given Logging Level.
<i>- (void) displayLogsWithLevel: (LoggingLevels) level_in forQueryOperation: (QueryOperations) queryOperation_in</i> on page 2369	Displays all log entries which match the provided Logging Level and query operation.

Method	Description
- (void) <i>displayLogsWithLevel: (LoggingLevels) level_in forQueryOperation: (QueryOperations) queryOperation_in withSkinType: (LogSkinType) skinType_in</i> on page 2369	Displays all log entries which match the provided Logging Level and query operation.
- (void) <i>displayLogsWithLevel: (LoggingLevels) level_in withSkinType: (LogSkinType) skinType_in</i> on page 2370	Displays all log entries with the given Logging Level and Skin Type.
+ (void) <i>enableLogging</i> on page 2370	Logging is enabled.
+ (id) <i>instance</i> on page 2370	Static Persistence instance.
+ (BOOL) <i>isLoggingEnabled</i> on page 2370	Returns whether non-critical logs are currently enabled.
- (void) <i>logAlert: (NSString *) message_in withInfo: (NSString *) info_in</i> on page 2370	Alert level logger API.
- (void) <i>logCritical: (NSString *) message_in withInfo: (NSString *) info_in</i> on page 2371	Critical level logger API.
- (void) <i>logDebug: (NSString *) message_in withInfo: (NSString *) info_in</i> on page 2371	Debug level logger API.
- (void) <i>logEmergency: (NSString *) message_in withInfo: (NSString *) info_in</i> on page 2371	Highest (Emergency) level logger API.
- (void) <i>logError: (NSString *) message_in withInfo: (NSString *) info_in</i> on page 2371	Error level logger API.
- (void) <i>logInfo: (NSString *) message_in withInfo: (NSString *) info_in</i> on page 2372	Information level logger API.
- (void) <i>logMessage: (NSString *) message_in withLevel: (LoggingLevels) level_in andInfo: (NSString *) info_in</i> on page 2372	Generic logger API.
- (void) <i>logNotice: (NSString *) message_in withInfo: (NSString *) info_in</i> on page 2372	Notice level logger API.
- (void) <i>logWarning: (NSString *) message_in withInfo: (NSString *) info_in</i> on page 2372	Warning level logger API.
- (NSArray *) <i>retrieveLogsWithLevel: (LoggingLevels) level_in</i> on page 2373	Returns all log entries with the given Logging Level.

Method	Description
- (NSArray *) retrieveLogsWithLevel: (LoggingLevels) level_in forQueryOperation: (QueryOperations) queryOperation on page 2373	Returns all log entries with match the provided Logging Level and query operation.
+ (void) setDeviceLogEntries: (unsigned int) noOfLogs on page 2373	Set the number of log entries that can be read at a time.

**disableLogging method**

Disables logging of non-critical messages Call this API to disable logging of low prio messages if you previously enabled them via +enableLogging API.

**Syntax**

```
+ (void) disableLogging
```

**Usage**

Logging is disabled by default for non-critical logging levels; WarningLoggingLevel, NoticeLoggingLevel, InfoLoggingLevel and DebugLoggingLevel messages won't be logged - unless you call +enableLogging API explicitly. Note: NSLog counts as a WarningLoggingLevel log message Critical log messages are always logged: EmergencyLoggingLevel, AlertLoggingLevel, CriticalLoggingLevel and ErrorLoggingLevel

**displayLogsWithLevel: method**

Displays all log entries with the given Logging Level.

**Syntax**

```
- (void) displayLogsWithLevel : (LoggingLevels) level_in
```

**displayLogsWithLevel:forQueryOperation: method**

Displays all log entries which match the provided Logging Level and query operation.

**Syntax**

```
- (void) displayLogsWithLevel : (LoggingLevels) level_in
forQueryOperation : (QueryOperations) queryOperation_in
```

**displayLogsWithLevel:forQueryOperation:withSkinType: method**

Displays all log entries which match the provided Logging Level and query operation.

**Syntax**

```
- (void) displayLogsWithLevel : (LoggingLevels) level_in
forQueryOperation : (QueryOperations) queryOperation_in
withSkinType : (LogSkinType) skinType_in
```

### *displayLogsWithLevel:withSkinType: method*

Displays all log entries with the given Logging Level and Skin Type.

#### *Syntax*

```
- (void) displayLogsWithLevel : (LoggingLevels) level_in  
withSkinType : (LogSkinType) skinType_in
```

### *enableLogging method*

Logging is enabled.

#### *Syntax*

```
+ (void) enableLogging
```

### *Usage*

Enables logging. Logging is disabled by default for non-critical logging levels, meaning WarningLoggingLevel, NoticeLoggingLevel, InfoLoggingLevel and DebugLoggingLevel messages won't be logged - unless you call +enableLogging API explicitly. Call this API to enable all log levels. Handle with care, since verbose logging might affect your applications performance. Note: NSLog counts as a WarningLoggingLevel log message. Critical log messages are always logged: EmergencyLoggingLevel, AlertLoggingLevel, CriticalLoggingLevel and ErrorLoggingLevel.

### *instance method*

Static Persistence instance.

#### *Syntax*

```
+ (id) instance
```

### *isLoggingEnabled method*

Returns whether non-critical logs are currently enabled.

#### *Syntax*

```
+ (BOOL) isLoggingEnabled
```

### *logAlert:withInfo: method*

Alert level logger API.

#### *Syntax*

```
- (void) logAlert : (NSString *) message_in withInfo :  
(NSString *) info_in
```

*Parameters*

- **message\_in** – the message to be logged

*logCritical:withInfo: method*

Critical level logger API.

*Syntax*

```
- (void) logCritical : (NSString *) message_in withInfo :
(NSString *) info_in
```

*Parameters*

- **message\_in** – the message to be logged

*logDebug:withInfo: method*

Debug level logger API.

*Syntax*

```
- (void) logDebug : (NSString *) message_in withInfo :
(NSString *) info_in
```

*Parameters*

- **message\_in** – the message to be logged

*logEmergency:withInfo: method*

Highest (Emergency) level logger API.

*Syntax*

```
- (void) logEmergency : (NSString *) message_in withInfo :
(NSString *) info_in
```

*Parameters*

- **message\_in** – the message to be logged

*logError:withInfo: method*

Error level logger API.

*Syntax*

```
- (void) logError : (NSString *) message_in withInfo :
(NSString *) info_in
```

### *Parameters*

- **message\_in** – the message to be logged

### *logInfo:withInfo: method*

Information level logger API.

### *Syntax*

```
- (void) logInfo : (NSString *) message_in withInfo : (NSString *) info_in
```

### *Parameters*

- **message\_in** – the message to be logged

### *logMessage:withLevel:andInfo: method*

Generic logger API.

### *Syntax*

```
- (void) logMessage : (NSString *) message_in withLevel : (LoggingLevels) level_in andInfo : (NSString *) info_in
```

### *Parameters*

- **message\_in** – the message to be logged
- **info\_in** – additional info to be logged (i.e. FILE, PRETTY\_FUNCTION, LINE)

### *logNotice:withInfo: method*

Notice level logger API.

### *Syntax*

```
- (void) logNotice : (NSString *) message_in withInfo : (NSString *) info_in
```

### *Parameters*

- **message\_in** – the message to be logged

### *logWarning:withInfo: method*

Warning level logger API.

### *Syntax*

```
- (void) logWarning : (NSString *) message_in withInfo : (NSString *) info_in
```



*Parameters*

- **message\_in** – the message to be logged

*retrieveLogsWithLevel: method*

Returns all log entries with the given Logging Level.

*Syntax*

```
- (NSArray *) retrieveLogsWithLevel : (LoggingLevels)
level_in
```

*retrieveLogsWithLevel:forQueryOperation: method*

Returns all log entries with match the provided Logging Level and query operation.

*Syntax*

```
- (NSArray *) retrieveLogsWithLevel : (LoggingLevels) level_in
forQueryOperation : (QueryOperations) queryOperation
```

*setDeviceLogEntries: method*

Set the number of log entries that can be read at a time.

*Syntax*

```
+ (void) setDeviceLogEntries : (unsigned int) noOfLogs
```

*Usage*

This is set to 500 by default. Call this API only when you want to read a greater no of log entries from the ASL won't be logged - unless you call +enableLogging API explicitly.

*SDMLogging protocol*

Declares the logger APIs Protocol to be adapted by Logger classes.

*Syntax*

```
@protocol SDMLogging
```

*Derived classes*

- *SDMLogger* on page 2367

*Members*

All members of SDMLogging, including inherited members. **Methods**

Method	Description
- (void) <i>logAlert:</i> (NSString *) <i>message_in</i> withInfo: (NSString *) <i>info_in</i> on page 2374	Alert level logger API.
- (void) <i>logCritical:</i> (NSString *) <i>message_in</i> withInfo: (NSString *) <i>info_in</i> on page 2375	Critical level logger API.
- (void) <i>logDebug:</i> (NSString *) <i>message_in</i> withInfo: (NSString *) <i>info_in</i> on page 2375	Debug level logger API.
- (void) <i>logEmergency:</i> (NSString *) <i>message_in</i> withInfo: (NSString *) <i>info_in</i> on page 2375	Highest (Emergency) level logger API.
- (void) <i>logError:</i> (NSString *) <i>message_in</i> withInfo: (NSString *) <i>info_in</i> on page 2375	Error level logger API.
- (void) <i>logInfo:</i> (NSString *) <i>message_in</i> withInfo: (NSString *) <i>info_in</i> on page 2376	Information level logger API.
- (void) <i>logMessage:</i> (NSString *) <i>message_in</i> withLevel: (LoggingLevels) <i>level_in</i> andInfo: (NSString *) <i>info_in</i> on page 2376	Generic logger API.
- (void) <i>logNotice:</i> (NSString *) <i>message_in</i> withInfo: (NSString *) <i>info_in</i> on page 2376	Notice level logger API.
- (void) <i>logWarning:</i> (NSString *) <i>message_in</i> withInfo: (NSString *) <i>info_in</i> on page 2377	Warning level logger API.
- (NSArray *) <i>retrieveLogsWithLevel:</i> (LoggingLevels) <i>level_in</i> on page 2377	Should return all log entries with the given Logging Level.
- (NSArray *) <i>retrieveLogsWithLevel:</i> (LoggingLevels) <i>level_in</i> forQueryOperation: (QueryOperations) <i>queryOperation</i> on page 2377	Should return all log entries with match the provided Logging Level and query operation.

***logAlert:withInfo:* method**

Alert level logger API.

**Syntax**

```
- (void) logAlert : (NSString *) message_in withInfo :
(NSString *) info_in
```

**Parameters**

- **message\_in** – the message to be logged
- **info\_in** – additional info to be logged (i.e. FILE, PRETTY\_FUNCTION, LINE)

*logCritical:withInfo: method*

Critical level logger API.

*Syntax*

```
- (void) logCritical : (NSString *) message_in withInfo :
(NSString *) info_in
```

*Parameters*

- **message\_in** – the message to be logged
- **info\_in** – additional info to be logged (i.e. FILE, PRETTY\_FUNCTION, LINE)

*logDebug:withInfo: method*

Debug level logger API.

*Syntax*

```
- (void) logDebug : (NSString *) message_in withInfo :
(NSString *) info_in
```

*Parameters*

- **message\_in** – the message to be logged
- **info\_in** – additional info to be logged (i.e. FILE, PRETTY\_FUNCTION, LINE)

*logEmergency:withInfo: method*

Highest (Emergency) level logger API.

*Syntax*

```
- (void) logEmergency : (NSString *) message_in withInfo :
(NSString *) info_in
```

*Parameters*

- **message\_in** – the message to be logged
- **info\_in** – additional info to be logged (i.e. FILE, PRETTY\_FUNCTION, LINE)

*logError:withInfo: method*

Error level logger API.

*Syntax*

```
- (void) logError : (NSString *) message_in withInfo :
(NSString *) info_in
```

### *Parameters*

- **message\_in** – the message to be logged
- **info\_in** – additional info to be logged (i.e. FILE, PRETTY\_FUNCTION, LINE)

### *logInfo:withInfo: method*

Information level logger API.

### *Syntax*

```
- (void) logInfo : (NSString *) message_in withInfo : (NSString *) info_in
```

### *Parameters*

- **message\_in** – the message to be logged
- **info\_in** – additional info to be logged (i.e. FILE, PRETTY\_FUNCTION, LINE)

### *logMessage:withLevel:andInfo: method*

Generic logger API.

### *Syntax*

```
- (void) logMessage : (NSString *) message_in withLevel : (LoggingLevels) level_in andInfo : (NSString *) info_in
```

### *Parameters*

- **message\_in** – the message to be logged
- **info\_in** – additional info to be logged (i.e. FILE, PRETTY\_FUNCTION, LINE)

### *logNotice:withInfo: method*

Notice level logger API.

### *Syntax*

```
- (void) logNotice : (NSString *) message_in withInfo : (NSString *) info_in
```

### *Parameters*

- **message\_in** – the message to be logged
- **info\_in** – additional info to be logged (i.e. FILE, PRETTY\_FUNCTION, LINE)

*logWarning:withInfo: method*

Warning level logger API.

*Syntax*

```
- (void) logWarning : (NSString *) message_in withInfo :
(NSString *) info_in
```

*Parameters*

- **message\_in** – the message to be logged
- **info\_in** – additional info to be logged (i.e. FILE, PRETTY\_FUNCTION, LINE)

*retrieveLogsWithLevel: method*

Should return all log entries with the given Logging Level.

*Syntax*

```
- (NSArray *) retrieveLogsWithLevel : (LoggingLevels)
level_in
```

*retrieveLogsWithLevel:forQueryOperation: method*

Should return all log entries with match the provided Logging Level and query operation.

*Syntax*

```
- (NSArray *) retrieveLogsWithLevel : (LoggingLevels) level_in
forQueryOperation : (QueryOperations) queryOperation
```

*SeedDataAPI class**Syntax*

```
@interface SeedDataAPI : NSObject
```

*Members*

All members of SeedDataAPI, including inherited members. **Methods**

Method	Description
- (BOOL) <i>areSettingsConfigured</i> on page 2378	
- (void) <i>clearSettings</i> on page 2378	
- (void) <i>handleUrl: (NSURL *) url</i> on page 2378	

Method	Description
- ( <i>SeedDataAPI *</i> ) <i>initWithURLScheme:(NSString *) urlScheme andDelegate:(id&lt; SeedDataDelegate &gt;) delegate</i> on page 2378	
- ( <i>void</i> ) <i>retrieveSeedData</i> on page 2378	
- ( <i>void</i> ) <i>updateSeedData</i> on page 2378	
- ( <i>void</i> ) <i>updateSettings</i> on page 2379	
- ( <i>void</i> ) <i>uploadFile:(NSString *) filePath</i> on page 2379	

*areSettingsConfigured* method**Syntax**

```
- (BOOL) areSettingsConfigured
```

*clearSettings* method**Syntax**

```
- (void) clearSettings
```

*handleUrl:* method**Syntax**

```
- (void) handleUrl : (NSURL *) url
```

*initWithURLScheme:andDelegate:* method**Syntax**

```
- (SeedDataAPI *) initWithURLScheme : (NSString *) urlScheme  
andDelegate : (id< SeedDataDelegate >) delegate
```

*retrieveSeedData* method**Syntax**

```
- (void) retrieveSeedData
```

*updateSeedData* method**Syntax**

```
- (void) updateSeedData
```

*updateSettings method***Syntax**

```
- (void) updateSettings
```

*uploadFile: method***Syntax**

```
- (void) uploadFile : (NSString *) filePath
```

*SeedDataDelegate protocol***Syntax**

```
@protocol SeedDataDelegate
```

**Members**

All members of SeedDataDelegate, including inherited members. **Methods**

Method	Description
- (void) <i>didFailWithError:</i> (NSError *) <i>error</i> on page 2379	
- (void) <i>didNotNeedUpdate</i> on page 2379	
- (void) <i>didRetrieveSeedData:</i> (NSString *) <i>seed-File</i> on page 2379	
- (void) <i>didUploadFile:</i> (NSString *) <i>filePath</i> on page 2380	

*didFailWithError: method***Syntax**

```
- (void) didFailWithError : (NSError *) error
```

*didNotNeedUpdate method***Syntax**

```
- (void) didNotNeedUpdate
```

*didRetrieveSeedData: method***Syntax**

```
- (void) didRetrieveSeedData : (NSString *) seedFile
```

*didUploadFile*: method

**Syntax**

```
- (void) didUploadFile : (NSString *) filePath
```

*SeedingAPISynchronous* class

**Syntax**

```
@interface SeedingAPISynchronous : NSObject
```

**Members**

All members of SeedingAPISynchronous, including inherited members. **Methods**

Method	Description
+ (BOOL) areSettingsConfigured on page 2382	
+ (void) clearSettings on page 2382	
+ (NSInteger) getAfariaServer.SettingsForUrlScheme: (NSString *) urlScheme on page 2382	
+ (NSInteger) initializeLibrary: (NSURL *) url inUrlScheme: (NSString *) inurlscheme on page 2382	
+ (NSInteger) retrieveCertificateWithPrivateKey: (SecKeyRef) privateKey andPublicKey: (SecKeyRef) publicKey andCommonName: (NSString *) commonName andChallenge: (NSString *) challengeCode forUrlScheme: (NSString *) urlScheme inCertificate: (SecCertificateRef *) certificate on page 2382	
+ (NSInteger) retrieveCertificateWithPrivateKey: (SecKeyRef) privateKey andPublicKey: (SecKeyRef) publicKey andUserName: (NSString *) userName andPassword: (NSString *) password andCommonName: (NSString *) commonName andChallenge: (NSString *) challengeCode forUrlScheme: (NSString *) urlScheme inCertificate: (SecCertificateRef *) certificate on page 2383	



Method	Description
<p>+ (NSInteger) retrieveCertificateWithURL: (NSURL *) url andPrivateKey: (SecKeyRef) privateKey andPublicKey: (SecKeyRef) publicKey andCommonName: (NSString *) commonName andChallenge: (NSString *) challengeCode inCertificate: (SecCertificateRef *) certificate on page 2383</p>	
<p>+ (NSInteger) retrieveCertificateWithURL: (NSURL *) url andPrivateKey: (SecKeyRef) privateKey andPublicKey: (SecKeyRef) publicKey andUserName: (NSString *) useName andPassword: (NSString *) password andCommonName: (NSString *) commonName andChallenge: (NSString *) challengeCode inCertificate: (SecCertificateRef *) certificate on page 2383</p>	
<p>+ (NSInteger) retrieveSeedData: (NSString *) urlScheme InFile: (NSMutableString *) seedFile withCredentials: (NSURLCredential *) credentials on page 2383</p>	
<p>+ (NSInteger) retrieveSeedDataWithURL: (NSURL *) url InFile: (NSMutableString *) seedFile withCredentials: (NSURLCredential *) credentials on page 2384</p>	
<p>+ (NSInteger) retrieveUserCertificate: (SecKeyRef) privateKey andPublicKey: (SecKeyRef) publicKey andUserName: (NSString *) userName andPassword: (NSString *) password andChallenge: (NSString *) challengeCode outCertificate: (SecCertificateRef *) userCertificate on page 2384</p>	
<p>+ (NSInteger) setAfarriaServerSettings: (NSURL *) url on page 2384</p>	
<p>+ (NSInteger) updateSeedData: (NSString *) urlScheme InFile: (NSMutableString *) seedFile withCredentials: (NSURLCredential *) credentials on page 2384</p>	

Method	Description
+ (NSInteger) updateSeedDataWithURL: (NSURL *) url InFile: (NSMutableString *) seedFile withCredentials: (NSURLCredential *) credentials on page 2384	

*areSettingsConfigured method***Syntax**

```
+ (BOOL) areSettingsConfigured
```

*clearSettings method***Syntax**

```
+ (void) clearSettings
```

*getAfariaServerSettingsForUrlScheme: method***Syntax**

```
+ (NSInteger) getAfariaServerSettingsForUrlScheme :  

(NSString *) urlScheme
```

*initializeLibrary:inUrlScheme: method***Syntax**

```
+ (NSInteger) initializeLibrary : (NSURL *) url inUrlScheme : (NSString *) inurlscheme
```

*retrieveCertificateWithPrivateKey:andPublicKey:andCommonName:andChallenge:forUrlScheme:inCertificate: method***Syntax**

```
+ (NSInteger) retrieveCertificateWithPrivateKey :  

(SecKeyRef) privateKey andPublicKey : (SecKeyRef) publicKey  

andCommonName : (NSString *) commonName andChallenge :  

(NSString *) challengeCode forUrlScheme : (NSString *) urlScheme  

inCertificate : (SecCertificateRef *) certificate
```

*retrieveCertificateWithPrivateKey:andPublicKey:andUserName:andPassword:andCommonName:andChallenge:forUrlScheme:inCertificate: method*

**Syntax**

```
+ (NSInteger) retrieveCertificateWithPrivateKey :
  (SecKeyRef) privateKey andPublicKey : (SecKeyRef) publicKey
andUserName : (NSString *) userName andPassword : (NSString *)
password andCommonName : (NSString *) commonName andChallenge :
(NSString *) challengeCode forUrlScheme : (NSString *) urlScheme
inCertificate : (SecCertificateRef *) certificate
```

*retrieveCertificateWithUrl:andPrivateKey:andPublicKey:andCommonName:andChallenge:inCertificate: method*

**Syntax**

```
+ (NSInteger) retrieveCertificateWithUrl : (NSURL *) url
andPrivateKey : (SecKeyRef) privateKey andPublicKey :
(SecKeyRef) publicKey andCommonName : (NSString *) commonName
andChallenge : (NSString *) challengeCode inCertificate :
(SecCertificateRef *) certificate
```

*retrieveCertificateWithUrl:andPrivateKey:andPublicKey:andUserName:andPassword:andCommonName:andChallenge:inCertificate: method*

**Syntax**

```
+ (NSInteger) retrieveCertificateWithUrl : (NSURL *) url
andPrivateKey : (SecKeyRef) privateKey andPublicKey :
(SecKeyRef) publicKey andUserName : (NSString *) userName
andPassword : (NSString *) password andCommonName : (NSString *)
commonName andChallenge : (NSString *) challengeCode
inCertificate : (SecCertificateRef *) certificate
```

*retrieveSeedData:InFile:withCredentials: method*

**Syntax**

```
+ (NSInteger) retrieveSeedData : (NSString *) urlScheme InFile
: (NSMutableString *) seedFile withCredentials :
(NSURLCredential *) credentials
```

*retrieveSeedDataWithUrl:InFile:withCredentials: method*

*Syntax*

```
+ (NSInteger) retrieveSeedDataWithUrl : (NSURL *) url InFile :  
(NSMutableString *) seedFile withCredentials : (NSURLCredential  
*) credentials
```

*retrieveUserCertificate:andPublicKey:andUserName:andPassword:andChallenge:outCertificate: method*

*Syntax*

```
+ (NSInteger) retrieveUserCertificate : (SecKeyRef) privateKey  
andPublicKey : (SecKeyRef) publicKey andUserName : (NSString *)  
userName andPassword : (NSString *) password andChallenge :  
(NSString *) challengeCode outCertificate : (SecCertificateRef  
*) userCertificate
```

*setAfarriaServerSettings: method*

*Syntax*

```
+ (NSInteger) setAfarriaServerSettings : (NSURL *) url
```

*updateSeedData:InFile:withCredentials: method*

*Syntax*

```
+ (NSInteger) updateSeedData : (NSString *) urlScheme InFile :  
(NSMutableString *) seedFile withCredentials : (NSURLCredential  
*) credentials
```

*updateSeedDataWithUrl:InFile:withCredentials: method*

*Syntax*

```
+ (NSInteger) updateSeedDataWithUrl : (NSURL *) url InFile :  
(NSMutableString *) seedFile withCredentials : (NSURLCredential  
*) credentials
```

*SMPAppSettings class*

*Syntax*

```
@interface SMPAppSettings : NSObject
```

## Members

All members of SMPAppSettings, including inherited members. **Methods**

Method	Description
- (NSString *) <i>getApplicationEndpointWithError:</i> (NSError **) error on page 2386	Retrieves the application end-point with which the application can access business data.
- (NSString *) <i>getConfigProperty:</i> (NSString *) <i>configKey</i> error: (NSError **) error on page 2386	Retrieves the Configuration Property by providing key.
- (NSDictionary *) <i>getConfigPropertyMapWithError:</i> (NSError **) error on page 2387	Returns all the settings in Key-Value pair.
- (NSData *) <i>getCustomizationResourceBundleWithCustomizationResource:</i> (NSString *) <i>customizationResource</i> error: (NSError **) error on page 2387	Returns or downloads Customization Resources as binary data.
- (DataVaultPasswordPolicy *) <i>getPasswordPolicy:</i> (NSError **) error on page 2388	Retrieves the password policy set by the administrator in SCC for the application.
- (NSString *) <i>getPushEndpointWithError:</i> (NSError **) error on page 2388	Retrieves the push end-point which the enterprise back-end can use to push data to the ODP client via the server.
+ (SMPAppSettings *) <i>initializeWithConnection:</i> (SMPClientConnection *) <i>clientConn</i> <i>userName:</i> (NSString *) <i>userName</i> <i>password:</i> (NSString *) <i>password</i> on page 2389	Gets the singleton instance/object of the AppSettings class.
- (void) <i>releaseStoredCredentialsWithError:</i> (NSError **) error on page 2389	Releases the username and password provided while initializing app settings class.
- (BOOL) <i>setConfigProperty:</i> (NSDictionary *) <i>settingsList</i> error: (NSError **) error on page 2390	Updates the config property by providing list of settings as a NSDictionary Object.

## Usage

Consists of methods used to retrieve setting details required by the application. This class implements instance methods to fetch settings like end-points for application data access, push endpoint, customizationbundleID and password policy .

### *getApplicationEndpointWithError: method*

Retrieves the application end-point with which the application can access business data.

#### *Syntax*

```
- (NSString *) getApplicationEndpointWithError : (NSError **) error
```

#### *Parameters*

- **error** – Double pointer to the error object if the method results in an error.

#### *Returns*

Returns the end-point as a string object (URL/URN)

```
SMPAppSettings* appSettings = [SMPAppSettings
initWithConnection:clientConn userName:"username"
password:@"password"];
NSError *error = nil;
NSString *appEndPoint = [appSettings
getApplicationEndpointWithError:&error];
if (!error)
{
    //Continue processing
}
```

### *getConfigProperty:error: method*

Retrieves the Configuration Property by providing key.

#### *Syntax*

```
- (NSString *) getConfigProperty : (NSString *) configKey error
: (NSError **) error
```

#### *Parameters*

- **configKey** – Key for the desired configuration property
- **error** – Double pointer to the error object if the method results in an error.

#### *Returns*

Returns the Configuration Property as a string object.

```
SMPAppSettings* appSettings = [SMPAppSettings
initWithConnection:clientConn userName:"username"
password:@"password"];
NSError* error = nil;
NSString* configProp = [appSettings getConfigProperty:configKey
error:&error];
if (!error)
{
```

```
// Further processing
}
```

***getConfigPropertyMapWithError: method***

Returns all the settings in Key-Value pair.

***Syntax***

```
- (NSDictionary *) getConfigPropertyMapWithError : (NSError **) error
```

***Parameters***

- **error** – Double pointer to the error object if the method results in an error.

***Returns***

Returns all the settings as NSDictionary object.

```
SMPAppSettings* appSettings = [SMPAppSettings
initWithConnection:clientConn userName:"username"
password:@"password"];
NSError* error = nil;
NSDictionary* configProp = [appSettings
getConfigPropertyMapWithError:&error];
if (!error)
{
    // Further processing
}
```

***getCustomizationResourceBundleWithCustomizationResource:error: method***

Returns or downloads Customization Resources as binary data.

***Syntax***

```
- (NSData *)
getCustomizationResourceBundleWithCustomizationResource :
(NSString *) customizationResource error : (NSError **) error
```

***Parameters***

- **customizationResource:** – Customization Resource name.
- **error** – Double pointer to the error object if the function results in an error. Returns the Customization Resource(zip or jar file) as binary data.

***Returns***

Returns the Customization Resource as binary data.

```
SMPAppSettings* appSettings = [SMPAppSettings
initWithConnection:clientConn userName:"username"
password:@"password"];
NSError* error = nil;
NSData* customResourceBundleData = [appSettings
```

```
getCustomizationResourceBundleWithCustomizationResource:customizationResource error:&error];  
if (!error)  
{  
    // Further processing  
}
```

### *getPasswordPolicy: method*

Retrieves the password policy set by the administrator in SCC for the application.

#### *Syntax*

```
- (DataVaultPasswordPolicy *) getPasswordPolicy : (NSError **) error
```

#### *Parameters*

- **error** – Double pointer to the error object if the method results in an error.

#### *Returns*

Returns the structure containing the password policy.

```
SMPAppSettings* appSettings = [SMPAppSettings  
initializeWithConnection:clientConn userName:"username"  
password:@"password"];  
NSError* error = nil;  
DataVaultPasswordPolicy *dvppStruct = [appSettings  
getPasswordPolicy:&error];  
if (!error)  
{  
    // Further processing  
}
```

### *getPushEndpointWithError: method*

Retrieves the push end-point which the enterprise back-end can use to push data to the ODP client via the server.

#### *Syntax*

```
- (NSString *) getPushEndpointWithError : (NSError **) error
```

#### *Parameters*

- **error** – Double pointer to the error object if the method results in an error.

#### *Returns*

Returns the end-point as a string object (URL/URN)

```
-(void)userRegistrationSuccessful:(SMPUserManager*)userManager  
{  
    NSLog("userRegistrationSuccessful...");  
    NSString* appConID= [userManager applicationConnectionID];  
    SMPAppSettings* appSettings = [SMPAppSettings
```



```

initWithConnection:clientConn userName:"username"
password:@"password"];
NSError *error=nil;
NSString *pushEndpoint = [appSettings
getPushEndpointWithError:&error];
if(!error){
    NSLog("pushEndpoint : %",pushEndpoint);
}

```

### *initWithConnection:userName:password: method*

Gets the singleton instance/object of the AppSettings class.

### *Syntax*

```

+ (SMPAppSettings *) initWithConnection :
(SMPCClientConnection *) clientConn userName : (NSString *)
userName password : (NSString *) password

```

### *Parameters*

- **clientConn** – Object of SMPCClientConnection class
- **userName** – User Name that will be authorised by a predefined security provider
- **password** – Password for that user

### *Returns*

Returns the instance of the class SMPAppSettings

```

SMPAppSettings* appSettings = [SMPAppSettings
initWithConnection:clientConn userName:"username"
password:@"password"];

```

### *releaseStoredCredentialsWithError: method*

Releases the username and password provided while initializing app settings class.

### *Syntax*

```

- (void) releaseStoredCredentialsWithError : (NSError **)
error

```

### *Parameters*

- **error** – Double pointer to the error object if the method results in an error.

```

SMPAppSettings* appSettings = [SMPAppSettings
initWithConnection:clientConn userName:"username"
password:@"password"];
NSError* error = nil;
[appSettings releaseStoredCredentialsWithError:&error];
if (!error)
{
    // Further processing
}

```

### *setConfigProperty:error: method*

Updates the config property by providing list of settings as a NSDictionary Object.

#### *Syntax*

```
- (BOOL) setConfigProperty : (NSDictionary *) settingsList error
: (NSError **) error
```

#### *Parameters*

- **settingsList** – List of settings as key-value
- **error** – Double pointer to the error object if the method results in an error.

#### *Returns*

Returns BOOL whether successfully updated or not.

```
SMPAppSettings* appSettings = [SMPAppSettings
initWithConnection:clientConn userName:"username"
password:@"password"];
NSMutableDictionary dictionary;
[props setValue:"654321" forKey:@"d:ApnsDeviceToken"];
NSError error = nil;
BOOL isSuccess = [appSettings setConfigProperty:props error:&error];
if (!error)
{
    // Further processing
}
```

### *SMPCaptchaChallengeDelegate protocol*

#### *Syntax*

```
@protocol SMPCaptchaChallengeDelegate
```

#### *Members*

All members of SMPCaptchaChallengeDelegate, including inherited members. **Methods**

Method	Description
- ( <i>NSString</i> *) <i>didReceiveCaptchaChallenge:</i> ( <i>NSString</i> *) <i>base64ImageString</i> on page 2391	The captcha challenge delegate which will be called by the underlying framework when captcha challenge is required during the user registration.

#### *Usage*

The protocol to which any class implementing the Captcha Challenge listeners has to adhere to. This protocol has to be adhered to by any class that implements the captcha challenge delegates.

***didReceiveCaptchaChallenge: method***

The captcha challenge delegate which will be called by the underlying framework when captcha challenge is required during the user registration.

***Syntax***

```
- (NSString *) didReceiveCaptchaChallenge : (NSString *)
base64ImageString
```

```
- (IBAction)buttonsPressed:(UIButton*)button{
[SMPUserManager setCaptchaChallengeDelegate:self];
SMPUserManager* userManager = [SMPUserManager
initWithConnection:clientConn];
}

- (NSString*) didReceiveCaptchaChallenge:base64ImageString
{
    // Return text String input from user.
}
```

***Usage***

This is supported in case of SAP Mobile Platform, enterprise edition, cloud version onboarding only.

***SMPCClientConnection class******Syntax***

```
@interface SMPCClientConnection : NSObject
```

***Members***

All members of SMPCClientConnection, including inherited members. **Methods**

Method	Description
+ (SMPCClientConnection *) initializeWithAppID: (NSString *) applicationID domain: (NSString *) domain secConfiguration: (NSString *) secConfig on page 2392	Gets the instance/object of the client connection class.
- (void) setApplicationConnectionID: (NSString *) appConnectionID on page 2393	Sets the application Connection ID to ClientConnection.
- (void) setClientIdentityCertificate: (SecIdentityRef) secIdenref on page 2393	Sets the identity reference (X.509 certificate + private key) for this request; used for secure connections.

Method	Description
- (BOOL) <i>setConnectionProfileWithHost:</i> (NSString *) <i>hostName port:</i> (NSString *) <i>port-Number farm:</i> (NSString *) <i>farmId relayServer-UrlTemplate:</i> (NSString *) <i>urlSuffix enableHTTP:</i> (BOOL) <i>enableHttp</i> on page 2393	Provides connection properties to the connection class before registration.
- (BOOL) <i>setConnectionProfileWithURL:</i> (NSString *) <i>hostPort</i> on page 2394	Provides connection properties to the connection class before registration.
- (void) <i>setTraceLevel:</i> (E2ELevel) <i>value_in</i> on page 2395	Set the trace level, default is E2EMEDIUM.If tracing is enabled, "SAP-PASSPORT" and "X-CorrelationID" headers are set and filled with values to enable SAP Passport functionality.
- (void) <i>startTrace</i> on page 2395	Enables the tracing and starts generating Business Transaction XML.
- (void) <i>stopTrace</i> on page 2396	Disables the tracing and stops generating BTX.
- (void) <i>uploadTraceWithUserName:</i> (NSString *) <i>username password:</i> (NSString *) <i>password error:</i> (NSError **) <i>error</i> on page 2396	Uploads the generated BTX to solution manager server via SAP Mobile Platform.

### Usage

Consists of methods used to interact with the underlying client to register connection settings. Using this class the application can initialize/set connection by providing hostname ,port, applicationID, domain and security configuration,

#### *initializeWithAppID:domain:secConfiguration: method*

Gets the instance/object of the client connection class.

### Syntax

```
+ (SMPCClientConnection *) initializeWithAppID : (NSString *)
applicationID domain : (NSString *) domain secConfiguration :
(NSString *) secConfig
```

### Parameters

- **applicationID** – Application Id of the application trying to establish the connection
- **domain** – server domain
- **securityConfig** – The name of the security configuration authenticating the user against a certain authentication provider

### Returns

Returns the instance of the class SMPCClientConnection

```
SMPCClientConnection* clientConn = [SMPCClientConnection
initWithAppID:@"application ID" domain:@"domain"
secConfiguration:@"secconfig"];
```

***setApplicationConnectionID: method***

Sets the application Connection ID to ClientConnection.

***Syntax***

```
- (void) setApplicationConnectionID : (NSString *)
```

**appConnectionID**

***Parameters***

- **appConnectionID** – application Connection ID

```
SMPCClientConnection* clientConn = [SMPCClientConnection
initWithAppID:@"application ID" domain:@"domain"
secConfiguration:@"secconfig"];
[clientConn setConnectionProfileWithHost:@"supServerHost"
port:@"supServerPort" farm:nil relayServerUrlTemplate:nil
enableHTTP:YES];
[clientConn setApplicationConnectionID:@"application Connection
ID"];
```

***setClientIdentityCertificate: method***

Sets the identity reference (X.509 certificate + private key) for this request; used for secure connections.

***Syntax***

```
- (void) setClientIdentityCertificate : (SecIdentityRef)
```

**secIdenref**

***Parameters***

- **secIdenref** – identity reference (X.509 certificate + private key)

```
SMPCClientConnection* clientConn = [SMPCClientConnection
initWithAppID:@"application ID" domain:@"domain"
secConfiguration:@"secconfig"];
[clientConn setClientIdentityCertificate:@"secIdenref"];
[clientConn setConnectionProfileWithHost:@"supServerHost"
port:@"supServerPort" farm:nil relayServerUrlTemplate:nil
enableHTTP:YES];
```

***setConnectionProfileWithHost:port:farm:relayServerUrlTemplate:enableHTTP: method***

Provides connection properties to the connection class before registration.

***Syntax***

```
- (BOOL) setConnectionProfileWithHost : (NSString *) hostName
port : (NSString *) portNumber farm : (NSString *) farmId
```

```
relayServerUrlTemplate : (NSString *) urlSuffix enableHTTP :  
(BOOL) enableHttp
```

### Parameters

- **hostName** – Host name of the server
- **portNumber** – Port number of the server with which the client talks
- **enableHttp** – Http protocol to be used

### Returns

Returns a BOOL indicating if the operation is successful or not.

```
SMPClientConnection* clientConn = [SMPClientConnection  
initWithAppID:"application ID" domain:@"domain"  
secConfiguration:@"seconfig"];  
[clientConn setConnectionProfileWithHost:@"supServerHost"  
port:@"supServerPort" farm:nil relayServerUrlTemplate:nil  
enableHTTP:YES];
```

In case of relay server

```
[clientConn  
setConnectionProfileWithHost:"relayserver.sybase.com" port:@"80"  
farm:@"relay.farm" relayServerUrlTemplate:@"/ias_relay_server/  
client/rs_client.dll" enableHTTP:YES];
```

### *setConnectionProfileWithUrl: method*

Provides connection properties to the connection class before registration.

### Syntax

```
- (BOOL) setConnectionProfileWithUrl : (NSString *) hostPort
```

### Parameters

- **hostPort** – Host name of the server : Port number of the server with which the client talks

### Returns

Returns a BOOL indicating if the operation is successful or not.

```
SMPClientConnection* clientConn = [SMPClientConnection  
initWithAppID:"application ID" domain:@"domain"  
secConfiguration:@"seconfig"];  
[clientConn setConnectionProfileWithUrl:@"http://  
supServerHost:supServerPort"];
```

In case of relay server

```
[clientConn setConnectionProfileWithUrl:"http://  
relayServerHost:relayServerPort/relay_server_url_suffix/farmId"];
```

***setTraceLevel: method***

Set the trace level, default is E2EMEDIUM. If tracing is enabled, "SAP-PASSPORT" and "X-CorrelationID" headers are set and filled with values to enable SAP Passport functionality.

***Syntax***

- (void) setTraceLevel : (E2ELevel) value\_in

```

    SMPClientConnection* clientConn = [SMPClientConnection
initializeWithAppID:"application ID" domain:@"domain"
secConfiguration:@"secconfig"];
    [clientConn setConnectionProfileWithHost:@"supServerHost"
port:@"supServerPort" farm:nil relayServerUrlTemplate:nil
enableHTTP:YES];
    //On board user
    //...
    [clientConn setTraceLevel:E2EHIGH];
    [clientConn startTrace];
    //Request response
    [clientConn stopTrace];
    NSError* error = nil;
    [clientConn uploadTraceWithUserName:"username"
password:@"password" error:&error];
    if (!error)
    {
        // Further processing
    }

```

***startTrace method***

Enables the tracing and starts generating Business Transaction XML.

***Syntax***

- (void) startTrace

```

{
    SMPClientConnection* clientConn = [SMPClientConnection
initializeWithAppID:"application ID" domain:@"domain"
secConfiguration:@"secconfig"];
    [clientConn setConnectionProfileWithHost:@"supServerHost"
port:@"supServerPort" farm:nil relayServerUrlTemplate:nil
enableHTTP:YES];
    //On board user
    //...
    [clientConn startTrace];
}
(NSException *e){
    // catch exception here
}

```

### *stopTrace method*

Disables the tracing and stops generating BTX.

### *Syntax*

- (void) stopTrace

```
{
    SMPClientConnection* clientConn = [SMPClientConnection
initializeWithAppID:"application ID" domain:@"domain"
secConfiguration:@"secconfig"];
    [clientConniton setConnectionProfileWithHost:@"supServerHost"
port:@"supServerPort" farm:nil relayServerUrlTemplate:nil
enableHTTP:YES];
    //On board user
    //...
    [clientConn startTrace];
    //Request response
    [clientConn stopTrace];
}
(NSException *e){
    // catch exception here
}
```

### *uploadTraceWithUserName:passWord:error: method*

Uploads the generated BTX to solution manager server via SAP Mobile Platform.

### *Syntax*

- (void) uploadTraceWithUserName : (NSString \*) **username**  
passWord : (NSString \*) **password** error : (NSError \*\*) **error**

### *Parameters*

- **userName** – User Name that will be authorised by a predefined security provider
- **password** – Password for that user
- **error:** – A double pointer to the error object in case the operation results in an error This API will upload the generated BTX to Solution manager .If fails will throw respective error.

```
SMPClientConnection* clientConn = [SMPClientConnection
initializeWithAppID:"application ID" domain:@"domain"
secConfiguration:@"secconfig"];
    [clientConniton setConnectionProfileWithHost:@"supServerHost"
port:@"supServerPort" farm:nil relayServerUrlTemplate:nil
enableHTTP:YES];
    //On board user
    //...
    [clientConn startTrace];
    //Request response
    [clientConn stopTrace];
    NSError* error = nil;
    [clientConn uploadTraceWithUserName:"username"
```



```

password:@"password" error:&error];
    if (!error)
    {
        // Further processing
    }

```

## SMPUserManager class

### Syntax

```
@interface SMPUserManager : NSObject
```

### Members

All members of SMPUserManager, including inherited members. **Methods**

Method	Description
- (BOOL) deleteUser: (NSString *) userName password: (NSString *) passWord error: (NSError **) error on page 2398	Static Method which deletes the application connection/user with which the application has established a connection.
+ (SEL) getAuthChallengeSelector on page 2399	Getter for Authentication Challenge Selector.
+ (id< SMPCaptchaChallengeDelegate >) getCaptchaChallengeDelegate on page 2399	Getter for the Captcha Challenge Listener.
+ (id< SMPUserManagerDelegate >) getDelegate on page 2399	Getter for the user manager listener. This is a class method to fetch the user manager listener object.
+ (SMPUserManager *) initializeWithConnection: (SMPClientConnection *) clientConn on page 2400	Gets the instance/object of the SMPUserManager class.
- (BOOL) registerUser: (NSString *) userName password: (NSString *) loginPassword captchaText: (NSString *) captchaText error: (NSError **) error isSyncFlag: (BOOL) isSynchronous on page 2400	Static method which registers the client with the server by automatically creating a user with the help of a pre-defined authentication mechanism along with Captcha Text.
- (BOOL) registerUser: (NSString *) userName password: (NSString *) loginPassword error: (NSError **) error isSyncFlag: (BOOL) isSynchronous on page 2401	Registers the client with the server by automatically creating a user with the help of a pre-defined authentication mechanism.
+ (void) setAuthChallengeSelector: (SEL) selector on page 2402	Setter For the Authentication Challenge.

Method	Description
+ (void) setCaptchaChallengeDelegate: (id< SMPCaptchaChallengeDelegate >) delegate on page 2402	Setter for the Captcha Challenge listener.This is a class method to register for the Captcha Challenge Listener.
+ (void) setDelegate: (id< SMPUserManagerDelegate >) delegate on page 2403	Setter for the user manager listener.This is a class method to register the user manager listener .

### Usage

The class which has all the functions to register/de-register a user All the function calls in this class have various ways of provisioning settings on to the client and register the user with the help of these settings. We can also check if a user is registered and delete the user as and when necessary

### Settings Exchange Error Codes

- 70002 - Password Policy Not Enabled.
- 70003 - Error Fetching Push End Point.
- 70004 - Empty Parameters Passed.
- 70005 - Non Editable Properties. This Error is particularly thrown for setConfiguration Property API where properties set are not editable.
- 70006 - Customization Bundle Data Fetch Error.
- 70007 - Customization Bundle Not Available.

### User Registration Error Codes

- 70001 - Application Connection Identifier is null. User is not registered.
- 70008 - Parser Error.
- 71000 - SMPInternalError. Error occurred in Rest Client.

### *deleteUser:password:error: method*

Static Method which deletes the application connection/user with which the application has established a connection.

### Syntax

```
- (BOOL) deleteUser : (NSString *) userName password :
(NSString *) passWord error : (NSError **) error
```

### Parameters

- **appConID** – Application Connection Id of the user to be deleted
- **userName** – User Name that will be authorised by a predefined security provider
- **password** – Password for that user

- **error** – A double pointer to the error object that the application will pass to the function call and which will be populated by the function call in case of any errors within.

### Returns

A BOOL is returned indicating if the user has been deleted or not.

```
NSError* error = nil;
if([userManager deleteUser:@"username" password:@"password"
error:&error];)
{
    // Further Processing
}
else
{
    // Further Error processing using error object
}
```

### *getAuthChallengeSelector method*

Getter for Authentication Challenge Selector.

### Syntax

```
+ (SEL) getAuthChallengeSelector
```

### Returns

Custom Selector set by client as as SEL object.

### *getCaptchaChallengeDelegate method*

Getter for the Captcha Challenge Listener.

### Syntax

```
+ (id< SMPCaptchaChallengeDelegate >)
getCaptchaChallengeDelegate
```

### Returns

Instance of the listener object.

### *getDelegate method*

Getter for the user manager listener. This is a class method to fetch the user manager listener object.

### Syntax

```
+ (id< SMPUserManagerDelegate >) getDelegate
```

### Returns

Instance of the listener object.

### *initializeWithConnection: method*

Gets the instance/object of the SMPUserManager class.

#### *Syntax*

```
+ (SMPUserManager *) initializeWithConnection :  
  (SMPClientConnection *) clientConn
```

#### *Parameters*

- **clientConn** – SMPClientConnection object

#### *Returns*

Returns the instance of the class SMPUserManager

```
SMPUserManager* userManager = [SMPUserManager  
initializeWithConnection:clientConn];
```

### *registerUser:password:captchaText:error:isSyncFlag: method*

Static method which registers the client with the server by automatically creating a user with the help of a pre-defined authentication mechanism along with Captcha Text.

#### *Syntax*

```
- (BOOL) registerUser : (NSString *) userName password :  
  (NSString *) loginPassword captchaText : (NSString *) captchaText  
error : (NSError **) error isSyncFlag : (BOOL) isSynchronous
```

#### *Parameters*

- **userName** – User Name that will be authorised by a predefined security provider
- **loginPassword** – Password for that user
- **captchaText** – Captcha Text provided by the user shown in the image
- **error** – A double pointer to the error object that the application will pass to the function call and which will be populated by the function call in case of any errors within.
- **isSynchronous** – A flag indicating whether the user registration has to happen synchronously or in an asynchronous manner

#### *Returns*

Returns a BOOL indicating if the user registration has been successful. Significant in case of synchronous registration only.

```
NSError* error = nil;  
[userManager registerUser:"username" password:@"password"  
captchaText:@"captchText" error:&error isSyncFlag:NO]
```

*registerUser:password:error:isSyncFlag: method*

Registers the client with the server by automatically creating a user with the help of a pre-defined authentication mechanism.

*Syntax*

```
- (BOOL) registerUser : (NSString *) userName password :
(NSString *) loginPassword error : (NSError **) error isSyncFlag :
(BOOL) isSynchronous
```

*Parameters*

- **userName** – User Name that will be authorised by a predefined security provider
- **loginPassword** – Password for that user
- **error** – A double pointer to the error object that the application will pass to the function call and which will be populated by the function call in case of any errors within.
- **isSynchronous** – A flag indicating whether the user registration has to happen synchronously or in an asynchronous manner

*Returns*

Returns a BOOL indicating if the user registration has been successful. Significant in case of synchronous registration only.

```
Synchronous Registration
SMPUserManager* userManager = [SMPUserManager
initWithConnection:clientConn];
NSError* error = nil;
if([userManager registerUser:"username" password:@"password"
error:&error isSyncFlag:YES])
{
    // Further processing
} else
{
    // Error handling using the error object defined above
}
```

```
Asynchronous Registration
SMPUserManager* userManager = [SMPUserManager
initWithConnection:clientConn];
NSError* error = nil;
[SMPUserManager setDelegate:self]; // The class implementing the
listener methods should adhere to <SMPUserManagerDelegate> protocol
[userManager registerUser:"username" password:@"password"
error:&error isSyncFlag:NO];
```

### *setAuthChallengeSelector: method*

Setter For the Authentication Challenge.

#### *Syntax*

+ (void) setAuthChallengeSelector : (SEL) **selector**

```
// register the client as delegate for this request
[SMPUserManager setAuthChallengeSelector:
 (authenticationNeededForRequest:)];
SMPUserManager* userManager = [SMPUserManager
 initializeWithConnection:clientConn];
[userManager registerUser:"username" password:@"password"
 error:&error isSyncFlag:NO];
...
}
- (void) authenticationNeededForRequest: (SDMHttpRequest*) request
{
//
}
```

#### *Usage*

Clients can chose to register their custom selectors to be invoked.

### *setCaptchaChallengeDelegate: method*

Setter for the Captcha Challenge listener.This is a class method to register for the Captcha Challenge Listener.

#### *Syntax*

+ (void) setCaptchaChallengeDelegate : (id<  
SMPCaptchaChallengeDelegate >) **delegate**

#### *Parameters*

- **listener** – A listener object whose definition adheres to the <SMPCaptchaChallengeDelegate> protocol that has to be implemented by the application to receive Captcha Challenge

```
// register the client as delegate for this request
[SMPUserManager setCaptchaChallengeDelegate:self];
SMPUserManager* userManager = [SMPUserManager
 initializeWithConnection:clientConn];
[userManager registerUser:"username" password:@"password"
 error:&error isSyncFlag:NO];
...
}
- (NSString*) didReceiveCaptchaChallenge: (NSString*) base64ImageString
{
// Return text String input from user.
}
```

***setDelegate: method***

Setter for the user manager listener. This is a class method to register the user manager listener .

***Syntax***

```
+ (void) setDelegate : (id< SMPUserManagerDelegate >)
delegate
```

***Parameters***

- **listener** – A listener object whose definition adheres to the <SMPUserManagerDelegate> protocol that has to be implemented by the client to get the pushed data

```
// register the client as delegate for this request
[SMPUserManager setDelegate:self];
SMPUserManager* userManager = [SMPUserManager
initWithConnection:clientConn];
[userManager registerUser:"username" password:@"password"
error:&error isSyncFlag:NO];
...
}
```

***SMPUserManagerDelegate protocol******Syntax***

```
@protocol SMPUserManagerDelegate
```

***Members***

All members of SMPUserManagerDelegate, including inherited members. **Methods**

Method	Description
- (void) <i>userRegistrationFailed:</i> (SMPUserManager *) <i>userManager</i> on page 2404	The failure listener delegate which will be called by the underlying framework when the user registration has failed and the reason for failure will be propagated through an error object.
- (void) <i>userRegistrationSuccessful:</i> (SMPUserManager *) <i>userManager</i> on page 2404	The success listener delegate which will be called by the underlying framework when the user registration is successful.

***Usage***

The protocol to which any class implementing the notification listeners has to adhere to. This protocol has to be adhered to by any class that implements the success and failure notification delegates and this class has to be passed to the delegate variable of the user manager class object.

### *userRegistrationFailed: method*

The failure listener delegate which will be called by the underlying framework when the user registration has failed and the reason for failure will be propagated through an error object.

### *Syntax*

```
- (void) userRegistrationFailed : ( SMPUserManager * )
```

### **userManager**

```
-(IBAction)buttonsPressed:(UIButton*)button{
[SMPUserManager setDelegate:self];
SMPUserManager* userManager = [SMPUserManager
initWithConnection:clientConn];

}

-(void)userRegistrationFailed:userManager
{
    // Error handling using the error object
}
```

### *Usage*

This is true in case of asynchronous user registration only.

### *userRegistrationSuccessful: method*

The success listener delegate which will be called by the underlying framework when the user registration is successful.

### *Syntax*

```
- (void) userRegistrationSuccessful : ( SMPUserManager * )
```

### **userManager**

```
-(IBAction)buttonsPressed:(UIButton*)button{
[SMPUserManager setDelegate:self];
SMPUserManager* userManager = [SMPUserManager
initWithConnection:clientConn];

}

-(void)userRegistrationSuccessful:userManager
{
    // Successful post-processing
}
```

### *Usage*

This is true in case of asynchronous user registration only.



**SUPE2ETraceController class**

Class leveraging BusinessTransaction.xml and SAPPassport functionality.

**Syntax**

```
@interface SUPE2ETraceController : NSObject
```

**Members**

All members of SUPE2ETraceController, including inherited members. **Methods**

Method	Description
- (SUPE2ETraceRequest *) createRequest on page 2406	
- (SUPE2ETraceStep *) createStep on page 2407	starts a new step with an associated Requestlist container.
- (SUPE2ETraceTransaction *) createTransaction on page 2407	returns a TraceController singleton reference.
- (SUPE2ETraceTransaction *) createTransactionWithName: (NSString *) transactionName withClientHost: (NSString *) clientHost on page 2407	returns a TraceController singleton reference.
- (Boolean) endRequest: (SUPE2ETraceRequest *) theRequest on page 2407	
- (Boolean) endStep: (SUPE2ETraceStep *) theStep on page 2407	ends step with an associated Requestlist container.
- (Boolean) endTransaction on page 2407	
- (NSDictionary *) getStepAndRequestByPassportHeader: (NSString *) Passport_in on page 2408	returns a dictionary containing References to Step and Request Object for a given PassportHttpHeader.
- (NSDictionary *) getStepAndRequestForKey: (NSString *) Key_in withSearchString: (NSString *) Value_in on page 2408	returns a dictionary containing References to Step and Request Object for a given Key/Value pair within an SUPE2ETraceRequest object.
- (NSDictionary *) getStepAndRequestForSearchValue: (NSString *) Value_in on page 2408	returns a dictionary containing references to Step and SUPE2ETraceRequest object for a given searchvalue within an SUPE2ETraceRequest object.
- (NSString *) getXML on page 2408	returns generated Business Transaction XML.

Method	Description
- (NSUInteger) sendXML: (NSURL *) toBaseURL on page 2409	Uploads the generated BTX to provided server URL and returns the response status code.
- (Boolean) setSearchKeyForRequest: (SUPE2ETraceRequest *) theRequest_in With-Value: (NSString *) Value_in on page 2409	SUPE2ETraceRequest defines a custom search-key field for use by developers to be set with a application specific value for later retrieval of the SUPE2ETraceRequest and SUPE2ETraceStep object reference.
- (void) setTraceLevel: (NSUInteger) trcLvl on page 2409	sets the E2E Tracelevel with the TraceController
+ (SUPE2ETraceController *) sharedController on page 2410	returns a TraceController singleton reference.
- (Boolean) updateRequestElementsInRequest: (SUPE2ETraceRequest *) theRequest withDictionary: (NSDictionary *) withDictionary on page 2410	Updates the data for each request and step to form transaction step xml and append it to the business transaction xml.
- (Boolean) updateRequestElementWith Value: (SUPE2ETraceRequest *) theRequest : (NSString *) Value : (NSString *) forKey on page 2410	Updates the data for each request and step to form transaction step xml and append it to the business transaction xml.

### Usage

```

SUPE2ETraceController* TraceHandler = [SUPE2ETraceController
sharedController];
SUPE2ETraceTransaction* Trace = [TraceHandler createTransaction];
SUPE2ETraceStep* theStep = [Trace createStep];
SUPE2ETraceRequest* theRequest = [theStep createRequest];

[m_HTTPRequest addRequestHeader:@"SAP-PASSPORT" value:[theRequest
PassportHttpHeader]];
[m_HTTPRequest addRequestHeader:@"X-CorrelationID" value:[theRequest
CorrelationIdHttpHeader]];

```

### createRequest method

#### Syntax

```
- (SUPE2ETraceRequest *) createRequest
```

*createStep method*

starts a new step with an associated Requestlist container.

*Syntax*

```
- (SUPE2ETraceStep *) createStep
```

*createTransaction method*

returns a TraceController singleton reference.

*Syntax*

```
- (SUPE2ETraceTransaction *) createTransaction
```

*createTransactionWithName:withClientHost: method*

returns a TraceController singleton reference.

*Syntax*

```
- (SUPE2ETraceTransaction *) createTransactionWithName :
(NSString *) transactionName withClientHost : (NSString *)
clientHost
```

*endRequest: method**Syntax*

```
- (Boolean) endRequest : (SUPE2ETraceRequest *) theRequest
```

*endStep: method*

ends step with an associated Requestlist container.

*Syntax*

```
- (Boolean) endStep : (SUPE2ETraceStep *) theStep
```

*endTransaction method**Syntax*

```
- (Boolean) endTransaction
```

### *getStepAndRequestByPassportHeader: method*

returns a dictionary containing References to Step and Request Object for a given PassportHTTPHeader.

#### *Syntax*

```
- (NSDictionary *) getStepAndRequestByPassportHeader :  
  (NSString *) Passport_in
```

#### *Usage*

If developers store the PassportHTTPHeader with their own objects they can retrieve the relevant Step and request object references later with PassportHeader as lookup parameter.

### *getStepAndRequestForKey:withSearchString: method*

returns a dictionary containing References to Step and Request Object for a given Key/Value pair within an SUPE2ETraceRequest object.

#### *Syntax*

```
- (NSDictionary *) getStepAndRequestForKey : (NSString *)  
Key_in withSearchString : (NSString *) Value_in
```

#### *Parameters*

- **Key\_in** – Key field in SUPE2ETraceRequest
- **Value\_in** – Searchvalue for Key field in SUPE2ETraceRequest

### *getStepAndRequestForSearchValue: method*

returns a dictionary containing references to Step and SUPE2ETraceRequest object for a given searchvalue within an SUPE2ETraceRequest object.

#### *Syntax*

```
- (NSDictionary *) getStepAndRequestForSearchValue :  
  (NSString *) Value_in
```

#### *Parameters*

- **Value\_in** – Searchvalue for SearchKey field in SUPE2ETraceRequest

### *getXML method*

returns generated Business Transaction XML.

#### *Syntax*

```
- (NSString *) getXML
```

*Returns*

String XML

*Usage*

```
[[SUPE2ETraceController sharedController] getXML];
```

*sendXML: method*

Uploads the generated BTX to provided server URL and returns the response status code.

*Syntax*

```
- (NSInteger) sendXML : (NSURL *) toBaseURL
```

*Parameters*

- **baseUrl** – server Url

*Usage*

```
[[SUPE2ETraceController sharedController] sendXML:solmanURL];
```

*Returns*

Response status code as Integer

*setSearchKeyForRequest:WithValue: method*

SUPE2ETraceRequest defines a custom searchkey field for use by developers to be set with a application specific value for later retrieval of the SUPE2ETraceRequest and SUPE2ETraceStep object reference.

*Syntax*

```
- (Boolean) setSearchKeyForRequest : (SUPE2ETraceRequest *)  
theRequest_in WithValue : (NSString *) Value_in
```

*Usage*

Code Example:...

*setTraceLevel: method*

sets the E2E Tracelevel with the TraceController

*Syntax*

```
- (void) setTraceLevel : (NSInteger) trcLvl
```

### *Parameters*

- **trcLvl** – integer representing the tracelevel (LOW=1,MEDIUM=2,HIGH=3)

### *sharedController method*

returns a TraceController singleton reference.

### *Syntax*

```
+ (SUPE2ETraceController *) sharedController
```

### *updateRequestElementsInRequest:withDictionary: method*

Updates the data for each request and step to form transaction step xml and append it to the business transaction xml.

### *Syntax*

```
- (Boolean) updateRequestElementsInRequest :  
(SUPE2ETraceRequest *) theRequest withDictionary :  
(NSDictionary *) withDictionary
```

### *Parameters*

- **request** – current tracerequest
- **dictionary** – Contains the references to step and traceRequest object with passportheader and co-relationID

### *updateRequestElementWithValue::: method*

Updates the data for each request and step to form transaction step xml and append it to the business transaction xml.

### *Syntax*

```
- (Boolean) updateRequestElementWithValue :  
(SUPE2ETraceRequest *) theRequest : (NSString *) Value :  
(NSString *) forKey
```

### *Parameters*

- **request** – current tracerequest
- **Value** – step and tracerequest object value
- **key** – step and tracerequest object key

### *SUPE2ETraceRequest class*

### *Syntax*

```
@interface SUPE2ETraceRequest : NSObject
```

## Members

All members of `SUPE2ETraceRequest`, including inherited members. **Methods**

Method	Description
- ( <i>NSString *</i> ) <i>CorrelationIdHTTPHeader</i> on page 2411	Retrieves the @"X-CorrelationID" header value.
+ ( <i>SUPE2ETraceRequest *</i> ) <i>createRequest:</i> ( <i>NSString *</i> ) <i>WithId</i> on page 2412	Standard initialization.
- ( <i>Boolean</i> ) <i>endRequest</i> on page 2412	At the end when response is received.
- ( <i>NSString *</i> ) <i>getXML</i> on page 2412	
- ( <i>void</i> ) <i>markReceived</i> on page 2412	When all data from the response have been received call this.
- ( <i>void</i> ) <i>markReceiving</i> on page 2413	When the first data is being received.
- ( <i>void</i> ) <i>markSending</i> on page 2413	Should be called before the request is sent out.
- ( <i>void</i> ) <i>markSent</i> on page 2414	Should be called as soon as the data is being sent.
- ( <i>NSString *</i> ) <i>PassportHTTPHeader</i> on page 2414	Retrieves the @"SAP-PASSPORT" header value.
- ( <i>Boolean</i> ) <i>updateRequestElementsWithDictionary:</i> ( <i>NSDictionary *</i> ) <i>withDictionary</i> on page 2414	
- ( <i>Boolean</i> ) <i>updateRequestWithValue:</i> ( <i>NSString *</i> ) <i>withValue :</i> ( <i>NSString *</i> ) <i>forKey</i> on page 2414	

### *CorrelationIdHTTPHeader* method

Retrieves the @"X-CorrelationID" header value.

### Syntax

```
- (NSString *) CorrelationIdHTTPHeader
```

### Usage

Usage

```
[m_HTTPRequest addRequestHeader:@"X-CorrelationID" value:[theRequest
CorrelationIdHTTPHeader]];
```

### *createRequest: method*

Standard initialization.

#### *Syntax*

```
+ (SUPE2ETraceRequest *) createRequest : (NSString *) WithId
```

#### *Usage*

The request created receives default attributes. Request timestamp is set to the time of initialization. SAP-PASSPORT and X-CorrelationID http headers are created.

### *endRequest method*

At the end when response is received.

#### *Syntax*

```
- (Boolean) endRequest
```

#### *Returns*

Boolean

#### *Usage*

```
SUPE2ETraceController* TraceHandler = [SUPE2ETraceController  
sharedController];  
SUPE2ETraceTransaction* Trace = [TraceHandler createTransaction];  
SUPE2ETraceStep* theStep = [Trace createStep];  
SUPE2ETraceRequest* theRequest = [theStep createRequest];  
[theRequest markReceived];
```

### *getXML method*

#### *Syntax*

```
- (NSString *) getXML
```

### *markReceived method*

When all data from the response have been received call this.

#### *Syntax*

```
- (void) markReceived
```

#### *Returns*

void

#### *Usage*



```
SUPE2ETraceController* TraceHandler = [SUPE2ETraceController
sharedController];
SUPE2ETraceTransaction* Trace = [TraceHandler createTransaction];
SUPE2ETraceStep* theStep = [Trace createStep];
SUPE2ETraceRequest* theRequest = [theStep createRequest];
[theRequest markReceived];
```

***markReceiving method***

When the first data is being received.

***Syntax***

```
- (void) markReceiving
```

***Returns***

void

***Usage***

```
SUPE2ETraceController* TraceHandler = [SUPE2ETraceController
sharedController];
SUPE2ETraceTransaction* Trace = [TraceHandler createTransaction];
SUPE2ETraceStep* theStep = [Trace createStep];
SUPE2ETraceRequest* theRequest = [theStep createRequest];
[theRequest markReceiving];
```

***markSending method***

Should be called before the request is sent out.

***Syntax***

```
- (void) markSending
```

***Returns***

void

***Usage***

```
SUPE2ETraceController* TraceHandler = [SUPE2ETraceController
sharedController];
SUPE2ETraceTransaction* Trace = [TraceHandler createTransaction];
SUPE2ETraceStep* theStep = [Trace createStep];
SUPE2ETraceRequest* theRequest = [theStep createRequest];
[theRequest markSending];
```

### *markSent method*

Should be called as soon as the data is being sent.

### *Syntax*

- (void) markSent

### *Returns*

void

### *Usage*

```
SUPE2ETraceController* TraceHandler = [SUPE2ETraceController
sharedController];
SUPE2ETraceTransaction* Trace = [TraceHandler createTransaction];
SUPE2ETraceStep* theStep = [Trace createStep];
SUPE2ETraceRequest* theRequest = [theStep createRequest];
[theRequest markSent];
```

### *PassportHTTPHeader method*

Retrieves the @"SAP-PASSPORT" header value.

### *Syntax*

- (NSString \*) PassportHTTPHeader

### *Usage*

### *Usage*

```
[m_HTTPRequest addRequestHeader:@"SAP-PASSPORT" value:[theRequest
PassportHTTPHeader]];
```

### *updateRequestElementsWithDictionary: method*

### *Syntax*

- (Boolean) updateRequestElementsWithDictionary :  
(NSDictionary \*) **withDictionary**

### *updateRequestWithValue:: method*

### *Syntax*

- (Boolean) updateRequestWithValue : (NSString \*) **withValue** : (NSString \*) **forKey**

*SUPE2ETraceSettings class***Syntax**

```
@interface SUPE2ETraceSettings : NSObject
```

**Members**

All members of SUPE2ETraceSettings, including inherited members. **Methods**

Method	Description
- (void) <i>incrementRequest</i> on page 2415	
- (void) <i>incrementStep</i> on page 2415	
- (void) <i>resetRequest</i> on page 2415	
- (void) <i>resetStep</i> on page 2416	
- (void) <i>setTraceFlags: (Byte) Byte0 : (Byte) Byte1</i> on page 2416	
+ ( <i>SUPE2ETraceSettings</i> *) <i>sharedManager</i> on page 2416	
- ( <i>NSData</i> *) <i>TraceFlags</i> on page 2416	
- ( <i>NSString</i> *) <i>TraceFlagsAsString</i> on page 2416	

*incrementRequest method***Syntax**

```
- (void) incrementRequest
```

*incrementStep method***Syntax**

```
- (void) incrementStep
```

*resetRequest method***Syntax**

```
- (void) resetRequest
```

*resetStep method*

*Syntax*

- (void) resetStep

*setTraceFlags:: method*

*Syntax*

- (void) setTraceFlags : (Byte) **Byte0** : (Byte) **Byte1**

*sharedManager method*

*Syntax*

+ (SUPE2ETraceSettings \*) sharedManager

*TraceFlags method*

*Syntax*

- (NSData \*) TraceFlags

*TraceFlagsAsString method*

*Syntax*

- (NSString \*) TraceFlagsAsString

*SUPE2ETraceStep class*

*Syntax*

@interface SUPE2ETraceStep : NSObject

*Members*

All members of SUPE2ETraceStep, including inherited members. **Methods**

Method	Description
- (void) addAction on page 2417	
+ (SUPE2ETraceStep *) createStep on page 2417	
- (Boolean) endStep on page 2417	
- (NSString *) getXML on page 2417	

*addUIAction method***Syntax**

```
- (void) addUIAction
```

*createStep method***Syntax**

```
+ (SUPE2ETraceStep *) createStep
```

*endStep method***Syntax**

```
- (Boolean) endStep
```

*getXML method***Syntax**

```
- (NSString *) getXML
```

*SUPE2ETraceTransaction class***Syntax**

```
@interface SUPE2ETraceTransaction : NSObject
```

**Members**

All members of SUPE2ETraceTransaction, including inherited members. **Methods**

Method	Description
+ (SUPE2ETraceTransaction *) createTransaction on page 2418	
+ (SUPE2ETraceTransaction *) createTransactionWithName: (NSString *) transactionName withClientHost: (NSString *) clientHost on page 2418	
- (Boolean) endTransaction on page 2418	
- (NSString *) getXML on page 2418	

### *createTransaction method*

#### *Syntax*

```
+ (SUPE2ETraceTransaction *) createTransaction
```

### *createTransactionWithName:withClientHost: method*

#### *Syntax*

```
+ (SUPE2ETraceTransaction *) createTransactionWithName :  
(NSString *) transactionName withClientHost : (NSString *)  
clientHost
```

### *endTransaction method*

#### *Syntax*

```
- (Boolean) endTransaction
```

### *getXML method*

#### *Syntax*

```
- (NSString *) getXML
```

### *buildODataEntryRequestBody method*

#### *Syntax*

```
- (ODataEntryBody *) buildODataEntryRequestBody : (const  
ODataEntry *const) entry : (const enum TEN_ENTRY_OPERATIONS )  
operation : (const ODataServiceDocument *const) serviceDocument :  
(const BOOL) serializeInlinedEntries : (const enum BUILD_STYLE )  
buildStyle
```

### *Deprecated API List*

The following pages are deprecated in this version of the API.

### *Deprecated Protocols*

- *SDMCacheDelegate* on page 2428
- *SDMCaching* on page 2432
- *SDMHttpRequestDelegate* on page 2474
- *SDMParserDelegate* on page 2528
- *SDMPersisting* on page 2536
- *SDMProgressDelegate* on page 2540

- *SDMRequesting* on page 2546

### Deprecated Classes

- *SDMCache* on page 2420
- *SDMCacheException* on page 2431
- *SDMConnectivityException* on page 2438
- *SDMDownloadCache* on page 2439
- *SDMDuration* on page 2441
- *SDMFormDataRequest* on page 2443
- *SDMFunctionImportResultParser* on page 2451
- *SDMGenericParser* on page 2453
- *SDMHttpRequest* on page 2456
- *SDMNetworkQueue* on page 2476
- *SDMODataActionLink* on page 2478
- *SDMODataCollection* on page 2480
- *SDMODataDataParser* on page 2482
- *SDMODataEntitySchema* on page 2485
- *SDMODataEntry* on page 2486
- *SDMODataEntryJSON* on page 2490
- *SDMODataEntryXML* on page 2490
- *SDMODataError* on page 2490
- *SDMODataErrorXMLParser* on page 2491
- *SDMODataFunctionImport* on page 2493
- *SDMODataFunctionImportParameter* on page 2494
- *SDMODataIconInfo* on page 2494
- *SDMODataLink* on page 2495
- *SDMODataMediaResourceLink* on page 2497
- *SDMODataMetaDocumentParser* on page 2498
- *SDMODataPropertyInfo* on page 2500
- *SDMODataPropertyValueBinary* on page 2502
- *SDMODataPropertyValueBoolean* on page 2503
- *SDMODataPropertyValueComplex* on page 2504
- *SDMODataPropertyValueDateTime* on page 2505
- *SDMODataPropertyValueDateTimeOffset* on page 2506
- *SDMODataPropertyValueDecimal* on page 2507
- *SDMODataPropertyValueDouble* on page 2509
- *SDMODataPropertyValueFactory* on page 2510
- *SDMODataPropertyValueGuid* on page 2511
- *SDMODataPropertyValueInt* on page 2511

- *SDMODataPropertyValueObject* on page 2513
- *SDMODataPropertyValueSingle* on page 2515
- *SDMODataPropertyValueString* on page 2516
- *SDMODataPropertyValueTime* on page 2517
- *SDMODataRelatedLink* on page 2518
- *SDMODataSchema* on page 2519
- *SDMODataServiceDocument* on page 2521
- *SDMODataServiceDocumentParser* on page 2522
- *SDMODataWorkspace* on page 2524
- *SDMOpenSearchDescription* on page 2524
- *SDMOpenSearchDescriptionURLTemplate* on page 2525
- *SDMOpenSearchDescriptionXMLParser* on page 2526
- *SDMParserException* on page 2529
- *SDMPerformanceUtil* on page 2530
- *SDMPerfTimer* on page 2530
- *SDMPersistence* on page 2532
- *SDMRequestBuilder* on page 2542
- *SDMSubscriptionInfo* on page 2566
- *SDMSubscriptionXML* on page 2566

### Deprecated Global Methods

- *buildSubscriptionXML* on page 2567
- *sdmBuildSubscriptionXML* on page 2567

### SDMCache class

Deprecated. In-memory cache, providing additional features like data filtering and serialization.

### Syntax

```
@interface SDMCache : NSObject <SDMCaching> <NSCoding>
```

### Members

All members of SDMCache, including inherited members. **Methods**

Method	Description
<i>+(id) cacheWithServiceDoc: (SDMODataServiceDocument *) serviceDoc_in</i> on page 2423	Static Factory method.
<i>-(void) clear</i> on page 2424	Should wipe out all cached content.



Method	Description
- (NSArray *) <i>filterEntriesOfCollection:</i> (NSString *) <i>collectionName_in</i> forSearchText: (NSString *) <i>searchText_in</i> on page 2424	Filters cached entries with searchable properties according to the search term.
- (NSArray *) <i>getAllWorkspaces</i> on page 2424	Retrieves all workspaces belonging to the stored SDMODDataServiceDocument.
- (const SDMODDataCollection *) <i>getCollection-ByName:</i> (NSString *) <i>collectionName_in</i> on page 2424	Retrieves a collection based on its name.
- (NSArray *) <i>getCollectionsByWorkspace:</i> (SDMODDataWorkspace *) <i>workspace_in</i> on page 2425	Retrieves all collections for a given workspace.
- (NSMutableArray *) <i>getODataEntriesByCollection:</i> (NSString *) <i>collectionName_in</i> on page 2425	Retrieves an array of SDMODDataEntry instance pointers.
- (const SDMODDataEntry *) <i>getODataEntryBy-Collection:</i> (NSString *) <i>collectionName_in</i> andEntryId: (NSString *) <i>entryId_in</i> on page 2425	Retrieves the SDMODDataServiceDocument.
- (NSArray *) <i>getWorkspacesBySemantic:</i> (enum TEN_WORKSPACE_SEMANTICS) <i>semantic_in</i> on page 2426	Retrieves the workspace based on the provided semantics.
- (id) <i>initWithServiceDocument:</i> (SDMODDataServiceDocument *) <i>serviceDoc_in</i> on page 2426	Initiates the SDMCache instance.
- (BOOL) <i>removeODataEntriesForCollection:</i> (NSString *) <i>collectionName_in</i> on page 2426	Removes all SDMODDataEntry entries from the cache which belong to the given collection.
- (BOOL) <i>removeODataEntry:</i> (const SDMODDataEntry *) <i>entry_in</i> forCollection: (NSString *) <i>collectionName_in</i> on page 2427	Removes an SDMODDataEntry from the cache.
- (BOOL) <i>removeODataServiceDocument</i> on page 2427	Removes the cached SDMODDataServiceDocument which acts as a root of the metadata tree.
- (void) <i>setODataEntries:</i> (NSArray *) <i>entries_in</i> byCollection: (NSString *) <i>collectionName_in</i> on page 2427	Stores an array of SDMODDataEntry instance pointers.

Method	Description
- (void) <i>setODataEntry: (const SDMODataEntry *) entry_in byCollection: (NSString *) collectionName_in</i> on page 2427	Sets a valid metadata tree with a SDMODataServiceDocument as root, which will be kept in memory.
+ (void) <i>setShouldAutoSaveOnMemoryWarning: (BOOL) flag_in</i> on page 2428	Sets that the cache will be saved automatically if the application receives memory warning.
+ (BOOL) <i>shouldAutoSaveOnMemoryWarning</i> on page 2428	Get that the cache will be saved automatically if the application receives memory warning.

### Inherited members from SDMCaching

Member	Description
- (SDMODataServiceDocument *) <i>getODataServiceDocument</i> on page 2435	Should retrieve the SDMODataServiceDocument.
- (NSString *) <i>getUid</i> on page 2435	Returns with the unique id of the cache.
- (void) <i>setODataServiceDocument: (SDMODataServiceDocument *) serviceDocument_in</i> on page 2437	Should set a valid metadata tree with a SDMODataServiceDocument as root, which will be kept in memory.
- (void) <i>setRegexSearchEnabled: (BOOL) flag_in</i> on page 2438	Enables in-cache filtering using regular expressions.

### Usage

Usage

```
// 1. Initialize Cache

SDMCache* cache = [SDMCache cacheWithServiceDoc:SvcDoc];
//the cache's UID is generated during the cache's initialization

//set the cache that it will be persisted automatically if the
application receives a memory warning from the system
[SDMCache setShouldAutoSaveOnMemoryWarning:YES];
//the default value is NO, because if the user does not care about
storing the uid and the library persists the cache, the user can not
load the cache in without the uid

//get the UID from the cache
NSString* uid = [cache retrieveUID];

//store uid in UserDefaults to make it loadable in case of
autoSaveOnMemoryWarning
[[NSUserDefaults standardUserDefaults] setObject:uid forKey:
UNIQUE_KEY_TO_STORE_AND_LOAD_THE_UID_OF_THE_CACHE ];
[[NSUserDefaults standardUserDefaults] synchronize];
```

```

// 2. Store Cache

//get UID from cache object
NSString* uid = [cache retrieveUID];
//store cache's uid in the UserDefaults for the
UNIQUE_KEY_TO_STORE_AND_LOAD_THE_UID_OF_THE_CACHE
[[NSUserDefaults standardUserDefaults] setObject:uid forKey:
UNIQUE_KEY_TO_STORE_AND_LOAD_THE_UID_OF_THE_CACHE ];
[[NSUserDefaults standardUserDefaults] synchronize];
//store cache
[[SDMPersistence instance] storeCache: cache];

//other (equivalent) solution
//store the cache and get the uid of the cache
NSString* uid = [[SDMPersistence instance] storeCache: cache];
//store cache's uid in the UserDefaults for the
UNIQUE_KEY_TO_STORE_AND_LOAD_THE_UID_OF_THE_CACHE
[[NSUserDefaults standardUserDefaults] setObject:uid forKey:
UNIQUE_KEY_TO_STORE_AND_LOAD_THE_UID_OF_THE_CACHE ];
[[NSUserDefaults standardUserDefaults] synchronize];

// 3. Load Cache

//load the previously persisted serviceDoc
NSString* uid = (NSString*)[[NSUserDefaults standardUserDefaults]
objectForKey: UNIQUE_KEY_TO_STORE_AND_LOAD_THE_UID_OF_THE_CACHE ];

#ifdef DEBUG
NSLog("Cache's Uid: %@", uid);
#endif
if ([NSString isNullOrEmpty: uid]) {
    //There is no UID saved for the
    UNIQUE_KEY_TO_STORE_AND_LOAD_THE_UID_OF_THE_CACHE
}else{
    //There is a UID saved for the
    UNIQUE_KEY_TO_STORE_AND_LOAD_THE_UID_OF_THE_CACHE

    //load the previously persisted cache
    cache = [[SDMPersistence instance] loadCache:uid];
}

```

***cacheWithServiceDoc: method***

Static Factory method.

***Syntax***

```
+ (id) cacheWithServiceDoc : (SDMODataServiceDocument *)
serviceDoc_in
```

***Parameters***

- **serviceDoc\_in**– the SDMODataServiceDocument to be cached in memory; required root object, if not set, cache is unusable

### *Returns*

SDMCache\* or nil if invalid SDMODataServiceDocument\* passed

### *clear method*

Should wipe out all cached content.

### *Syntax*

```
- (void) clear
```

### *filterEntriesOfCollection:forSearchText: method*

Filters cached entries with searchable properties according to the search term.

### *Syntax*

```
- (NSArray *) filterEntriesOfCollection : (NSString *)  
collectionName_in forSearchText : (NSString *) searchText_in
```

### *Parameters*

- **collectionName\_in** – - the ID of the collection is needed to lookup metadata description
- **searchText\_in** – - the search text

### *Returns*

filtered array with the SDMODataEntry objects, or empty array if the searchText is nil or empty

### *getAllWorkspaces method*

Retrieves all workspaces belonging to the stored SDMODataServiceDocument.

### *Syntax*

```
- (NSArray *) getAllWorkspaces
```

### *Returns*

array of SDMODataWorkspace\* belonging to the stored SDMODataServiceDocument

### *getCollectionByName: method*

Retrieves a collection based on it's name.

### *Syntax*

```
- (const SDMODataCollection *) getCollectionByName :  
(NSString *) collectionName_in
```

*Parameters*

- **collectionName\_in** – collection's name to be retrieved

*Returns*

valid `SDMODataCollection*` or `nil`

*getCollectionsByWorkspace: method*

Retrieves all collections for a given workspace.

*Syntax*

```
- (NSArray *) getCollectionsByWorkspace : (SDMODataWorkspace
*) workspace_in
```

*Parameters*

- **workspace\_in** – the workspace which 'holds' collections

*Returns*

collections for the given workspace

*getODataEntriesByCollection: method*

Retrieves an array of `SDMODataEntry` instance pointers.

*Syntax*

```
- (NSMutableArray *) getODataEntriesByCollection : (NSString
*) collectionName_in
```

*Parameters*

- **collectionName\_in** – identifying the entries' collection

*Returns*

array of `SDMODataEntry*`

*getODataEntryByCollection:andEntryId: method*

Retrieves the `SDMODataServiceDocument`.

*Syntax*

```
- (const SDMODataEntry *) getODataEntryByCollection :
(NSString *) collectionName_in andEntryId : (NSString *) entryId_in
```

### *Parameters*

- **collectionName\_in** – identifies the entry's Collection
- **entryId\_in** – unique entry ID

### *Returns*

pointer to a valid SDMODataServiceDocument object or nil;SDMODataEntry stored in memory

### *getWorkspacesBySemantic: method*

Retrieves the workspace based on the provided semantics.

### *Syntax*

```
- (NSArray *) getWorkspacesBySemantic : (enum  
TEN_WORKSPACE_SEMANTICS) semantic_in
```

### *Parameters*

- **semantic\_in** – the semantic for the Workspace to be retrieved

### *Returns*

array of SDMODataWorkspace\* for the given semantic, or nil if none found

### *initWithServiceDocument: method*

Initiates the SDMCache instance.

### *Syntax*

```
- (id) initWithServiceDocument : (SDMODataServiceDocument *)  
serviceDoc_in
```

### *removeODataEntriesForCollection: method*

Removes all SDMODataEntry entries from the cache which belong to the given collection.

### *Syntax*

```
- (BOOL) removeODataEntriesForCollection : (NSString *)  
collectionName_in
```

### *Parameters*

- **collectionName\_in** – the collection href for which we want to remove the entries

### *Returns*

YES if the entries have been successfully removed, NO otherwise

*removeODataEntry:forCollection: method*

Removes an SDMODataEntry from the cache.

*Syntax*

```
- (BOOL) removeODataEntry : (const SDMODataEntry *) entry_in
forCollection : (NSString *) collectionName_in
```

*Parameters*

- **entry\_in** – the SDMODataEntry to be removed

*Returns*

YES is the entry was successfully removed, NO otherwise

*removeODataServiceDocument method*

Removes the cached SDMODataServiceDocument which acts as a root of the metadata tree.

*Syntax*

```
- (BOOL) removeODataServiceDocument
```

*Usage*

Without a valid SDMODataServiceDocument, the cache renders useless. Only invoke this API if you know what you are doing!

*setODataEntries:byCollection: method*

Stores an array of SDMODataEntry instance pointers.

*Syntax*

```
- (void) setODataEntries : (NSArray *) entries_in byCollection :
(NSString *) collectionName_in
```

*Parameters*

- **entries\_in** – SDMODataEntry\* array to be cached in memory
- **collectionName\_in** – identifying the entries' collection

*setODataEntry:byCollection: method*

Sets a valid metadata tree with a SDMODataServiceDocument as root, which will be kept in memory.

*Syntax*

```
- (void) setODataEntry : (const SDMODataEntry *) entry_in
byCollection : (NSString *) collectionName_in
```

## Parameters

- **serviceDocument\_in** – SDMODataServiceDocument to be stored in memory Stores a data entry (which is the result of data parsing)
- **entry\_in** – SDMODataEntry to be stored in memory
- **collectionName\_in** – identifies the entry's Collection
- **entryId\_in** – unique entry ID

## *setShouldAutoSaveOnMemoryWarning: method*

Sets that the cache will be saved automatically if the application receives memory warning.

## Syntax

```
+ (void) setShouldAutoSaveOnMemoryWarning : (BOOL) flag_in
```

## Parameters

- **flag\_in** – if YES the cache will be saved automatically if the application receives memory warning

## *shouldAutoSaveOnMemoryWarning method*

Get that the cache will be saved automatically if the application receives memory warning.

## Syntax

```
+ (BOOL) shouldAutoSaveOnMemoryWarning
```

## *SDMCacheDelegate protocol*

Deprecated. Defines default DownloadCache delegate methods Protocol to be adapted by client classes in order to achieve the DownloadCache functionality

## Syntax

```
@protocol SDMCacheDelegate
```

## Derived classes

- *SDMDownloadCache* on page 2439

## Members

All members of SDMCacheDelegate, including inherited members. **Methods**

Method	Description
- (NSDictionary *) cachedHeadersForRequest: (id<SDMRequesting >) request on page 2429	Should return an NSDictionary of cached headers for the passed request, if it is stored in the cache.



Method	Description
- (NSData *) <i>cachedResponseDataForRequest:</i> (id< SDMRequesting >) <i>request</i> on page 2429	Should return the cached body of a response for the passed request, if it is stored in the cache.
- (void) <i>clearCachedResponsesForStoragePolicy:</i> (CacheStoragePolicy) <i>cachePolicy</i> on page 2430	Clear cached data stored for the passed storage policy.
- (CachePolicy) <i>defaultCachePolicy</i> on page 2430	Should return the cache policy that will be used when requests have their cache policy set to DefaultCachePolicy.
- (BOOL) <i>isCachedDataCurrentForRequest:</i> (id< SDMRequesting >) <i>request</i> on page 2430	Should return YES if the cache considers its cached response current for the request Should return NO if the data is not cached, or (for example) if the cached headers state the request should have expired.
- (NSString *) <i>pathToCachedResponseDataForRequest:</i> (id< SDMRequesting >) <i>request</i> on page 2430	Same as the above, but returns a path to the cached response body instead.
- (void) <i>removeCachedDataForRequest:</i> (id< SDMRequesting >) <i>request</i> on page 2430	Should Remove cached data for a particular request.
- (void) <i>storeResponseForRequest:</i> (id< SDMRequesting >) <i>request</i> <i>maxAge:</i> (NSTimeInterval) <i>maxAge</i> on page 2431	Should store the response for the passed request in the cache When a non-zero maxAge is passed, it should be used as the expiry time for the cached response.

***cachedHeadersForRequest:* method**

Should return an NSDictionary of cached headers for the passed request, if it is stored in the cache.

**Syntax**

```
- (NSDictionary *) cachedHeadersForRequest : (id< SDMRequesting >) request
```

***cachedResponseDataForRequest:* method**

Should return the cached body of a response for the passed request, if it is stored in the cache.

**Syntax**

```
- (NSData *) cachedResponseDataForRequest : (id< SDMRequesting >) request
```

### *clearCachedResponsesForStoragePolicy: method*

Clear cached data stored for the passed storage policy.

#### *Syntax*

```
- (void) clearCachedResponsesForStoragePolicy :  
  (CacheStoragePolicy) cachePolicy
```

### *defaultCachePolicy method*

Should return the cache policy that will be used when requests have their cache policy set to DefaultCachePolicy.

#### *Syntax*

```
- (CachePolicy) defaultCachePolicy
```

### *isCachedDataCurrentForRequest: method*

Should return YES if the cache considers its cached response current for the request Should return NO if the data is not cached, or (for example) if the cached headers state the request should have expired.

#### *Syntax*

```
- (BOOL) isCachedDataCurrentForRequest : (id< SDMRequesting  
>) request
```

### *pathToCachedResponseDataForRequest: method*

Same as the above, but returns a path to the cached response body instead.

#### *Syntax*

```
- (NSString *) pathToCachedResponseDataForRequest : (id<  
SDMRequesting >) request
```

### *removeCachedDataForRequest: method*

Should Remove cached data for a particular request.

#### *Syntax*

```
- (void) removeCachedDataForRequest : (id< SDMRequesting >)  
request
```

*storeResponseForRequest:maxAge: method*

Should store the response for the passed request in the cache. When a non-zero maxAge is passed, it should be used as the expiry time for the cached response.

*Syntax*

```
- (void) storeResponseForRequest : (id< SDMRequesting >)
request maxAge : (NSTimeInterval) maxAge
```

*SDMCacheException class*

Deprecated. Exception propagated from the library.

*Syntax*

```
@interface SDMCacheException : NSEException
```

*Members*

All members of SDMCacheException, including inherited members. **Methods**

Method	Description
- (id) <i>init</i> on page 2431	
- (id) <i>initWithError: (NSString *) error_in detailedError: (NSString *) details_in</i> on page 2431	
- (id) <i>initWithError: (NSString *) error_in detailedError: (NSString *) details_in statusCode: (NSInteger) statusCode_in</i> on page 2431	

*init method**Syntax*

```
- (id) init
```

*initWithError:detailedError: method**Syntax*

```
- (id) initWithError : (NSString *) error_in detailedError : (NSString *) details_in
```

*initWithError:detailedError:statusCode: method**Syntax*

```
- (id) initWithError : (NSString *) error_in detailedError : (NSString *) details_in statusCode : (NSInteger) statusCode_in
```

*SDMCaching protocol*

Deprecated. Declares the In-memory Cache protocol Protocol to be adapted by client classes in order to achieve the in-memory storage and filtering functionality.

*Syntax*

```
@protocol SDMCaching
```

*Derived classes*

- *SDMCache* on page 2420

*Members*

All members of SDMCaching, including inherited members. **Methods**

Method	Description
- (void) <i>clear</i> on page 2433	Should wipe out all cached content.
- (NSArray *) <i>filterEntriesOfCollection:</i> (NSString *) <i>collectionName_in</i> forSearchText: (NSString *) <i>searchText_in</i> on page 2433	Filters cached entries with searchable properties according to the search term.
- (NSArray *) <i>getAllWorkspaces</i> on page 2434	Should retrieve all workspaces belonging to the stored SDMODDataServiceDocument.
- (const SDMODDataCollection *) <i>getCollection- ByName:</i> (NSString *) <i>collectionName_in</i> on page 2434	Should retrieve a collection based on it's name.
- (NSArray *) <i>getCollectionsByWorkspace:</i> (SDMODDataWorkspace *) <i>workspace_in</i> on page 2434	Should retrieve all collections for a given workspace.
- (NSMutableArray *) <i>getODataEntriesByCol- lection:</i> (NSString *) <i>collectionName_in</i> on page 2435	Should retrieve an array of SDMODDataEntry instance pointers.
- (const SDMODDataEntry *) <i>getODataEntryBy- Collection:</i> (NSString *) <i>collectionName_in</i> and <i>entryId:</i> (NSString *) <i>entryId_in</i> on page 2435	Should retrieve the previously cached data entry (which is the result of data parsing)
- (SDMODDataServiceDocument *) <i>getOData- ServiceDocument</i> on page 2435	Should retrieve the SDMODDataServiceDocument.
- (NSString *) <i>getUid</i> on page 2435	Returns with the unique id of the cache.

Method	Description
- (NSArray *) <i>getWorkspacesBySemantic:</i> (enum <i>TEN_WORKSPACE_SEMANTICS</i> ) <i>semantic_in</i> on page 2436	Should retrieve the workspace based on the provided semantics.
- (BOOL) <i>removeODataEntriesForCollection:</i> (NSString *) <i>collectionName_in</i> on page 2436	Removes all SDMODataEntry entries from the cache which belong to the given collection.
- (BOOL) <i>removeODataEntry:</i> (const SDMODataEntry *) <i>entry_in</i> <i>forCollection:</i> (NSString *) <i>collectionName_in</i> on page 2436	Removes an SDMODataEntry from the cache.
- (BOOL) <i>removeODataServiceDocument</i> on page 2437	Removes the cached SDMODataServiceDocument which acts as a root of the metadata tree.
- (void) <i>setODataEntries:</i> (NSArray *) <i>entries_in</i> <i>byCollection:</i> (NSString *) <i>collectionName_in</i> on page 2437	Should store an array of SDMODataEntry instance pointers.
- (void) <i>setODataEntry:</i> (const SDMODataEntry *) <i>entry_in</i> <i>byCollection:</i> (NSString *) <i>collectionName_in</i> on page 2437	Should store data entry (which is the result of data parsing)
- (void) <i>setODataServiceDocument:</i> (SDMODataServiceDocument *) <i>serviceDocument_in</i> on page 2437	Should set a valid metadata tree with a SDMODataServiceDocument as root, which will be kept in memory.
- (void) <i>setRegexSearchEnabled:</i> (BOOL) <i>flag_in</i> on page 2438	Enables in-cache filtering using regular expressions.

**clear method**

Should wipe out all cached content.

**Syntax**

```
- (void) clear
```

**filterEntriesOfCollection:forSearchText: method**

Filters cached entries with searchable properties according to the search term.

**Syntax**

```
- (NSArray *) filterEntriesOfCollection : (NSString *)  
collectionName_in forSearchText : (NSString *) searchText_in
```

**Parameters**

- **collectionName\_in** – the ID of the collection is needed to lookup metadata description

- **searchText\_in** – - the search text

### *Returns*

filtered array with the SDMODataEntry objects, or empty array if the searchText is nil or empty

### *getAllWorkspaces method*

Should retrieve all workspaces belonging to the stored SDMODataServiceDocument.

### *Syntax*

```
- (NSArray *) getAllWorkspaces
```

### *Returns*

array of SDMODataWorkspace\* belonging to the stored SDMODataServiceDocument

### *getCollectionByName: method*

Should retrieve a collection based on it's name.

### *Syntax*

```
- (const SDMODataCollection *) getCollectionByName :  
(NSString *) collectionName_in
```

### *Parameters*

- **collectionName\_in** – collection's name to be retrieved

### *Returns*

valid SDMODataCollection\* or nil

### *getCollectionsByWorkspace: method*

Should retrieve all collections for a given workspace.

### *Syntax*

```
- (NSArray *) getCollectionsByWorkspace : (SDMODataWorkspace  
*) workspace_in
```

### *Parameters*

- **workspace\_in** – the workspace which 'holds' collections

### *Returns*

collections for the given workspace

*getODataEntriesByCollection: method*

Should retrieve an array of SDMODataEntry instance pointers.

*Syntax*

```
- (NSMutableArray *) getODataEntriesByCollection : (NSString *) collectionName_in
```

*Parameters*

- **collectionName\_in** – identifying the entries' collection

*Returns*

array of SDMODataEntry\*

*getODataEntryByCollection:andEntryId: method*

Should retrieve the previously cached data entry (which is the result of data parsing)

*Syntax*

```
- (const SDMODataEntry *) getODataEntryByCollection : (NSString *) collectionName_in andEntryId : (NSString *) entryId_in
```

*Parameters*

- **collectionName\_in** – identifies the entry's Collection
- **entryId\_in** – unique entry ID

*Returns*

SDMODataEntry stored in memory

*getODataServiceDocument method*

Should retrieve the SDMODataServiceDocument.

*Syntax*

```
- (SDMODataServiceDocument *) getODataServiceDocument
```

*Returns*

pointer to a valid SDMODataServiceDocument object or nil;

*getUid method*

Returns with the unique id of the cache.

*Syntax*

```
- (NSString *) getUid
```

### *Returns*

uid of the cache

### *getWorkspacesBySemantic: method*

Should retrieve the workspace based on the provided semantics.

### *Syntax*

```
- (NSArray *) getWorkspacesBySemantic : (enum  
TEN_WORKSPACE_SEMANTICS) semantic_in
```

### *Parameters*

- **semantic\_in** – the semantic for the Workspace to be retrieved

### *Returns*

array of SDMODataWorkspace\* for the given semantic, or nil if none found

### *removeODataEntriesForCollection: method*

Removes all SDMODataEntry entries from the cache which belong to the given collection.

### *Syntax*

```
- (BOOL) removeODataEntriesForCollection : (NSString *)  
collectionName_in
```

### *Parameters*

- **collectionName\_in** – the collection href for which we want to remove the entries

### *Returns*

YES is the entries have been successfully removed, NO otherwise

### *removeODataEntry:forCollection: method*

Removes an SDMODataEntry from the cache.

### *Syntax*

```
- (BOOL) removeODataEntry : (const SDMODataEntry *) entry_in  
forCollection : (NSString *) collectionName_in
```

### *Parameters*

- **entry\_in** – the SDMODataEntry to be removed

### *Returns*

YES is the entry was successfully removed, NO otherwise



*removeODataServiceDocument method*

Removes the cached SDMODataServiceDocument which acts as a root of the metadata tree.

*Syntax*

```
- (BOOL) removeODataServiceDocument
```

*Usage*

Without a valid SDMODataServiceDocument, the cache renders useless

*setODataEntries:byCollection: method*

Should store an array of SDMODataEntry instance pointers.

*Syntax*

```
- (void) setODataEntries : (NSArray *) entries_in byCollection :  
(NSString *) collectionName_in
```

*Parameters*

- **entries\_in** – SDMODataEntry\* array to be cached in memory
- **collectionName\_in** – identifying the entries' collection

*setODataEntry:byCollection: method*

Should store data entry (which is the result of data parsing)

*Syntax*

```
- (void) setODataEntry : (const SDMODataEntry *) entry_in  
byCollection : (NSString *) collectionName_in
```

*Parameters*

- **entry\_in** – SDMODataEntry to be stored in memory
- **collectionName\_in** – identifies the entry's Collection
- **entryId\_in** – unique entry ID

*setODataServiceDocument: method*

Should set a valid metadata tree with a SDMODataServiceDocument as root, which will be kept in memory.

*Syntax*

```
- (void) setODataServiceDocument : (SDMODataServiceDocument  
*) serviceDocument_in
```

*Parameters*

- **serviceDocument\_in** – SDMODataServiceDocument to be stored in memory

*setRegexSearchEnabled: method*

Enables in-cache filtering using regular expressions.

*Syntax*

```
- (void) setRegexSearchEnabled : (BOOL) flag_in
```

*Usage*

supports wildcard based search (\* and ?) at the cost of some performance hit

*SDMConnectivityException class*

Deprecated. Exception propagated from the library

*Syntax*

```
@interface SDMConnectivityException : NSEnception
```

*Members*

All members of SDMConnectivityException, including inherited members. **Methods**

Method	Description
- (id) <i>init</i> on page 2438	
- (id) <i>initWithError: (NSString *) error_in detailedError: (NSString *) details_in statusCode: (NSInteger) statusCode_in</i> on page 2438	

*init method*

*Syntax*

```
- (id) init
```

*initWithError:detailedError:statusCode: method*

*Syntax*

```
- (id) initWithError : (NSString *) error_in detailedError : (NSString *) details_in statusCode : (NSInteger) statusCode_in
```

**SDMDownloadCache class**

Deprecated. Download cache to store http responses. Please note that the download cache does not work with ODPRequest via SUP. [[DownloadCache instance] setDefaultCachePolicy:OnlyLoadIfNotCachedCachePolicy];

**Syntax**

```
@interface SDMDownloadCache : NSObject <SDMCacheDelegate>
```

**Members**

All members of SDMDownloadCache, including inherited members. **Methods**

Method	Description
+ ( <i>id</i> ) instance on page 2440	Static DownloadCache instance Used as a global cache To make HTTPRequests use it automatically, use [HTTPRequest setDefaultCache:[DownloadCache sharedCache]];
+ ( <i>NSDateFormatter</i> *) rfc1123DateFormatter on page 2441	
+ ( <i>BOOL</i> ) serverAllowsResponseCachingForRequest: ( <i>SDMHttpRequest</i> *) request on page 2441	A helper function that determines if the server has requested data should not be cached by looking at the request's response headers.

**Inherited members from SDMCacheDelegate**

Member	Description
- ( <i>NSDictionary</i> *) cachedHeadersForRequest: ( <i>id</i> < <i>SDMRequesting</i> >) request on page 2429	Should return an NSDictionary of cached headers for the passed request, if it is stored in the cache.
- ( <i>NSData</i> *) cachedResponseDataForRequest: ( <i>id</i> < <i>SDMRequesting</i> >) request on page 2429	Should return the cached body of a response for the passed request, if it is stored in the cache.
- ( <i>void</i> ) clearCachedResponsesForStoragePolicy: ( <i>CacheStoragePolicy</i> ) cachePolicy on page 2430	Clear cached data stored for the passed storage policy.
- ( <i>CachePolicy</i> ) defaultCachePolicy on page 2430	Should return the cache policy that will be used when requests have their cache policy set to DefaultCachePolicy.

Member	Description
- (BOOL) <i>isCachedDataCurrentForRequest:</i> (id<SDMRequesting >) request on page 2430	Should return YES if the cache considers its cached response current for the request Should return NO if the data is not cached, or (for example) if the cached headers state the request should have expired.
- (NSString *) <i>pathToCachedResponseDataForRequest:</i> (id<SDMRequesting >) request on page 2430	Same as the above, but returns a path to the cached response body instead.
- (void) <i>removeCachedDataForRequest:</i> (id<SDMRequesting >) request on page 2430	Should Remove cached data for a particular request.
- (void) <i>storeResponseForRequest:</i> (id<SDMRequesting >) request maxAge: (NSTimeInterval) maxAge on page 2431	Should store the response for the passed request in the cache When a non-zero maxAge is passed, it should be used as the expiry time for the cached response.

```
// assign the download cache to our request
[m AsynchRequest setDownloadCache:[SDMDownloadCache instance]];
// fine-tune cache settings
[m AsynchRequest
setCacheStoragePolicy:CachePermanentlyCacheStoragePolicy];
// ...

Slightly more advanced technique
// check for network reachability
int reachabilityStatus = [[Reachability
reachabilityForInternetConnection] currentReachabilityStatus];
// use cached content if no network
if (reachabilityStatus == NotReachable) {
    [[SDMDownloadCache instance]
setDefaultCachePolicy:UseCacheIfLoadFailsCachePolicy];
}
else {
    [[SDMDownloadCache instance]
setDefaultCachePolicy:OnlyLoadIfNotCachedCachePolicy];
}
```

Deprecated

#### *instance method*

Static DownloadCache instance Used as a global cache To make HTTPRequests use it automatically, use [HTTPRequest setDefaultCache:[DownloadCache sharedCache]].

#### *Syntax*

+ (id) instance

*rfc1123DateFormatter method***Syntax**

```
+ (NSDateFormatter *) rfc1123DateFormatter
```

*serverAllowsResponseCachingForRequest: method*

A helper function that determines if the server has requested data should not be cached by looking at the request's response headers.

**Syntax**

```
+ (BOOL) serverAllowsResponseCachingForRequest :
  (SDMHttpRequest *) request
```

*SDMDuration class*

Deprecated. Duration data class.

**Syntax**

```
@interface SDMDuration : NSObject
```

**Members**

All members of SDMDuration, including inherited members. **Methods**

Method	Description
- (id) init on page 2441	
- (BOOL) isDaysFieldPresent on page 2442	
- (BOOL) isHoursFieldPresent on page 2442	
- (BOOL) isMinutesFieldPresent on page 2442	
- (BOOL) isMonthsFieldPresent on page 2442	
- (BOOL) isNegative on page 2442	
- (BOOL) isSecondsFieldPresent on page 2442	
- (BOOL) isYearsFieldPresent on page 2442	
- (void) setSign: (const BOOL) negativeDuration on page 2442	Sets the duration sign.

*init method***Syntax**

```
- (id) init
```

*isDaysFieldPresent method*

*Syntax*

- ( BOOL ) isDaysFieldPresent

*isHoursFieldPresent method*

*Syntax*

- ( BOOL ) isHoursFieldPresent

*isMinutesFieldPresent method*

*Syntax*

- ( BOOL ) isMinutesFieldPresent

*isMonthsFieldPresent method*

*Syntax*

- ( BOOL ) isMonthsFieldPresent

*isNegative method*

*Syntax*

- ( BOOL ) isNegative

*isSecondsFieldPresent method*

*Syntax*

- ( BOOL ) isSecondsFieldPresent

*isYearsFieldPresent method*

*Syntax*

- ( BOOL ) isYearsFieldPresent

*setSign: method*

Sets the duration sign.

*Syntax*

- ( void ) setSign : ( const BOOL ) **negativeDuration**

*Usage*

If YES is passed the duration will be a negative duration, otherwise positive.

***SDMFormDataRequest class***

Deprecated. Composes a form data request

**Syntax**

```
@interface SDMFormDataRequest : SDMHttpRequest <NSCopying>
```

**Members**

All members of `SDMFormDataRequest`, including inherited members. **Methods**

Method	Description
- (void) <i>addData: (NSData *) data forKey: (NSString *) key</i> on page 2449	Adds the contents of an NSData object to the request.
- (void) <i>addData: (id) data withFileName: (NSString *) fileName andContentType: (NSString *) contentType forKey: (NSString *) key</i> on page 2449	Same as above, but you can specify the content-type and file name.
- (void) <i>addFile: (NSString *) filePath forKey: (NSString *) key</i> on page 2449	Adds the contents of a local file to the request.
- (void) <i>addFile: (id) data withFileName: (NSString *) fileName andContentType: (NSString *) contentType forKey: (NSString *) key</i> on page 2450	Adds the contents of a local file to the request.
- (void) <i>addPostValue: (id&lt; NSObject &gt;) value forKey: (NSString *) key</i> on page 2450	Adds a POST variable to the request.
- (NSString *) <i>encodeURL: (NSString *) string</i> on page 2450	
- (void) <i>setData: (NSData *) data forKey: (NSString *) key</i> on page 2450	Adds the contents of an NSData object to the request, clearing any others with the same key.
- (void) <i>setData: (id) data withFileName: (NSString *) fileName andContentType: (NSString *) contentType forKey: (NSString *) key</i> on page 2450	Same as above, but you can specify the content-type and file name.
- (void) <i>setFile: (NSString *) filePath forKey: (NSString *) key</i> on page 2451	Adds the contents of a local file to the request, clearing any others with the same key.

Method	Description
- (void) <i>setFile</i> : (id) data with <i>fileName</i> : (NSString *) <i>fileName</i> and <i>contentType</i> : (NSString *) <i>contentType</i> for <i>key</i> : (NSString *) <i>key</i> on page 2451	Adds the contents of a local file to the request, clearing any others with the same key.
- (void) <i>setPostValue</i> : (id<NSObject>) <i>value</i> for <i>key</i> : (NSString *) <i>key</i> on page 2451	Sets a POST variable for this request, clearing any others with the same key.

### Inherited members from `SDMHttpRequest`

Member	Description
- (void) <i>addBasicAuthenticationHeaderWithUsername</i> : (NSString *) <i>theUsername</i> and <i>password</i> : (NSString *) <i>thePassword</i> on page 2462	Constructs a basic authentication header from the username and password supplied, and adds it to the request headers Used when <code>shouldPresentCredentialsBeforeChallenge</code> is YES.
- (void) <i>addRequestHeader</i> : (NSString *) <i>header value</i> : (NSString *) <i>value</i> on page 2462	Adds a custom header to the request.
- (void) <i>appendPostData</i> : (NSData *) <i>data</i> on page 2462	Adds data to the post body.
- (void) <i>appendPostDataFromFile</i> : (NSString *) <i>file</i> on page 2462	Adds data to the post body from a file.
- (void) <i>applyAuthorizationHeader</i> on page 2463	
- (void) <i>applyCookieHeader</i> on page 2463	Called during <code>buildRequestHeaders</code> and after a redirect to create a cookie header from request cookies and the global store.
+ (unsigned long) <i>averageBandwidthUsedPerSecond</i> on page 2463	Returns a rough average (for the last 5 seconds) of how much bandwidth is being used, in bytes.
+ (NSString *) <i>base64forData</i> : (NSData *) <i>theData</i> on page 2463	Base64 encodes the provided <code>NSData*</code> .
- (void) <i>buildPostBody</i> on page 2463	Creates the post body.
- (void) <i>buildRequestHeaders</i> on page 2463	Populates the request headers dictionary.
- (void) <i>cancelAuthentication</i> on page 2464	Should be called by delegates when they wish to cancel authentication and stop.
+ (void) <i>clearSession</i> on page 2464	



Member	Description
+ (const NSDataWritingOptions) dataWritingOptions on page 2464	Returns a mask which determines whether the data should be stored in encrypted form.
+ (NSDate *) dateFromRFC1123String: (NSString *) string on page 2464	Returns a date from a string in RFC1123 format.
+ (NSString *) decodeBase64: (NSString *) string_in on page 2464	Decodes a base64 encoded string.
+ (id<SDMCacheDelegate >) defaultCache on page 2464	Returns the default download cache or nil if none set at class level.
- (void)enableTracing: (BOOL) value_in on page 2464	Switches traceability status, the default is NO. If tracing is enabled, "SAP-PASSPORT" and "X-CorrelationID" headers are set and filled with values to enable SAP Passport functionality. Data is gathered to compose the Business Transaction XML, which can be uploaded via E2ETraceController sendXML API.
+ (void)enableXSRF: (BOOL) enable on page 2465	Enable XSRF support.
- (void)failWithError: (NSError *) theError on page 2465	Called when a request fails, and lets the delegate know via didFailSelector.
+ (NSDictionary *) fileProtectionAttributes on page 2465	Returns a dictionary of attributes used for encrypted file storage or nil if file protection has been explicitly disabled.
+ (NSInteger) getMaxConcurrentHTTPRequestCount on page 2465	Returns the maximum number of SDMHTTP request threads which can be executed in parallel.
- (void)handleNetworkEvent: (CFStreamEventType) type on page 2465	Handles network events as they occur.
- (SDMHttpRequest *) HEADRequest on page 2466	Used by NetworkQueue to create a HEAD request appropriate for this request with the same headers (though you can use it yourself).
+ (void)hideNetworkActivityIndicator on page 2466	Hides the network activity spinner.
+ (void)incrementBandwidthUsedInLastSecond: (unsigned long) bytes on page 2466	Used internally to record bandwidth use, and by InputStreams when uploading. It's probably best if you don't mess with this.

Member	Description
- (void) incrementDownloadSizeBy: (long long) length on page 2466	Called when we get a content-length header and shouldResetDownloadProgress is true.
- (void) incrementUploadSizeBy: (long long) length on page 2466	Called when a request starts and shouldResetUploadProgress is true Also called (with a negative length) to remove the size of the underlying buffer used for uploading.
- (id) initWithURL: (NSURL *) newURL on page 2466	Should be an HTTP or HTTPS url, may include username and password if appropriate.
+ (BOOL) isBandwidthThrottled on page 2467	Returns YES is bandwidth throttling is currently in use.
+ (BOOL) isNetworkInUse on page 2467	Indicates whether there are running requests.
+ (BOOL) isNetworkReachableViaWWAN on page 2467	Returns YES when an iPhone OS device is connected via WWAN, false when connected via WIFI or not connected.
- (BOOL) isResponseCompressed on page 2467	Returns true if the response was gzip compressed.
- (BOOL) isTracingEnabled on page 2467	Returns tracing status (default is NO)
+ (unsigned long) maxBandwidthPerSecond on page 2467	The maximum number of bytes ALL requests can send / receive in a second This is a rough figure.
+ (unsigned long) maxUploadReadLength on page 2468	Returns the maximum amount of data we can read as part of the current measurement period, and sleeps this thread if our allowance is used up.
+ (NSString *) mimeTypeForFileAtPath: (NSString *) path on page 2468	
+ (void) performSelector: (SEL) selector onTarget: (id *) target withObject: (id) object amount: (void *) amount on page 2468	Helper method used for performing invocations on the main thread (used for progress)
- (void) performThrottling on page 2468	Perform bandwidth throttling.
+ (void) removeCredentialsForHost: (NSString *) host port: (int) port protocol: (NSString *) protocol realm: (NSString *) realm on page 2468	Deletes host credentials from the keychain.

Member	Description
+ (void) <i>removeCredentialsForProxy:</i> (NSString *) <i>host port:</i> (int) <i>port realm:</i> (NSString *) <i>realm</i> on page 2468	Deletes proxy credentials from the keychain.
- (void) <i>removeUploadProgressSoFar</i> on page 2469	Called when authorization is needed, as we only find out we don't have permission to something when the upload is complete.
+ (id) <i>requestWithURL:</i> (NSURL *) <i>newURL</i> on page 2469	Convenience constructor with url.
+ (id) <i>requestWithURL:</i> (NSURL *) <i>newURL usingCache:</i> (id< SDMCacheDelegate >) <i>cache</i> on page 2469	Convenience constructor with url and cache.
+ (id) <i>requestWithURL:</i> (NSURL *) <i>newURL usingCache:</i> (id< SDMCacheDelegate >) <i>cache andCachePolicy:</i> (CachePolicy) <i>policy</i> on page 2469	Convenience constructor with url, cache and cache policy.
- (NSData *) <i>responseData</i> on page 2469	Response data, automatically uncompressed where appropriate see <i>responseString</i> .
- (NSString *) <i>responseString</i> on page 2469	Returns the contents of the result as an NSString (not appropriate for binary data - used <i>responseData</i> instead)
- (void) <i>retryUsingSuppliedCredentials</i> on page 2470	Wakes up (unlocks) the request thread so it can resume the request.
+ (void) <i>saveCredentials:</i> (NSURLCredential *) <i>credentials forHost:</i> (NSString *) <i>host port:</i> (int) <i>port protocol:</i> (NSString *) <i>protocol realm:</i> (NSString *) <i>realm</i> on page 2470	Saves host credentials to the keychain.
+ (void) <i>saveCredentials:</i> (NSURLCredential *) <i>credentials forProxy:</i> (NSString *) <i>host port:</i> (int) <i>port realm:</i> (NSString *) <i>realm</i> on page 2470	Saves proxy credentials to the keychain.
- (void) <i>saveCredentialsToKeychain:</i> (NSDictionary *) <i>newCredentials</i> on page 2470	Saves credentials for this request to the keychain.
+ (NSURLCredential *) <i>savedCredentialsForHost:</i> (NSString *) <i>host port:</i> (int) <i>port protocol:</i> (NSString *) <i>protocol realm:</i> (NSString *) <i>realm</i> on page 2470	Returns host credentials from the keychain.

Member	Description
+ (NSURLCredential *) savedCredentialsForProxy: (NSString *) host port: (int) port protocol: (NSString *) protocol realm: (NSString *) realm on page 2471	Returns proxy credentials from the keychain.
- (void) sendE2ETraceXML: (NSURL *) toBaseURL on page 2471	Posts the SAP E2E Trace XML to the given url.
- (void) setClientCertificateIdentity: (SecIdentityRef) anIdentity on page 2471	Sets the identity reference (X.509 certificate + private key) for this request; used for secure connections.
+ (void) setDefaultCache: (id<SDMCacheDelegate>) cache on page 2471	Configures a default download cache which applies for all requests.
- (void) setEtag: (NSString *) etag withMatchType: (EtagMatchType) matchType on page 2471	Add etag header.
+ (void) setMaxBandwidthPerSecond: (unsigned long) bytes on page 2471	Sets the maximum number of bytes ALL requests can send / receive in a second.
+ (void) setMaxConcurrentHTTPRequestCount: (const unsigned char) cnt on page 2472	Sets the maximum number of SDMHTTPRequest threads which can run at once.
+ (void) setProtectionEnabled: (BOOL) flag_in on page 2472	Controls whether the download cache should store files using protection.
+ (void) setShouldThrottleBandwidthForWWAN: (BOOL) throttle on page 2472	SDMHTTPRequest can automatically turn throttling on and off as the connection type changes between WWAN and WiFi Set to YES to automatically turn on throttling when WWAN is connected, and automatically turn it off when it isn't.
+ (void) setShouldUpdateNetworkActivityIndicator: (BOOL) shouldUpdate on page 2472	Controls whether the request should take over updating the network activity indicator.
+ (NSOperationQueue *) sharedQueue on page 2472	Returns the shared queue.
+ (void) showNetworkActivityIndicator on page 2473	Shows the network activity spinner.
- (void) startAsynchronous on page 2473	Runs request in the background The client should register callback selector in order to get notified about various events (failure, completion, etc.)

Member	Description
- (void) <i>startSynchronous</i> on page 2473	Runs a request synchronously, and returns control when the request completes or fails.
+ (void) <i>throttleBandwidthForWWANUsingLimit: (unsigned long) limit</i> on page 2473	Turns on throttling automatically when WWAN is connected using a custom limit, and turns it off automatically when it isn't.
- (void) <i>updateDownloadProgress</i> on page 2473	Updates download progress (notifies the queue and/or <i>downloadProgressDelegate</i> of this request)
+ (void) <i>updateProgressIndicator: (id *) indicator withProgress: (unsigned long long) progress ofTotal: (unsigned long long) total</i> on page 2473	Helper method for interacting with progress indicators to abstract the details of different APIs ( <i>NSProgressIndicator</i> and <i>UIProgressView</i> )
- (void) <i>updateProgressIndicators</i> on page 2474	Updates the progress delegates.
- (void) <i>updateUploadProgress</i> on page 2474	Updates upload progress (notifies the queue and/or <i>uploadProgressDelegate</i> of this request)

***addData:forKey: method***

Adds the contents of an *NSData* object to the request.

***Syntax***

```
- (void) addData : (NSData *) data forKey : (NSString *) key
```

***addData:withFileName:andContentType:forKey: method***

Same as above, but you can specify the content-type and file name.

***Syntax***

```
- (void) addData : (id) data withFileName : (NSString *) fileName
andContentType : (NSString *) contentType forKey : (NSString *)
key
```

***addFile:forKey: method***

Adds the contents of a local file to the request.

***Syntax***

```
- (void) addFile : (NSString *) filePath forKey : (NSString *)
key
```

### *addFile:withFileName:andContentType:forKey: method*

Adds the contents of a local file to the request.

#### *Syntax*

```
- (void) addFile : (id) data withFileName : (NSString *) fileName  
andContentType : (NSString *) contentType forKey : (NSString *)  
key
```

#### *Usage*

You can specify the content-type and file name

### *addPostValue:forKey: method*

Adds a POST variable to the request.

#### *Syntax*

```
- (void) addPostValue : (id< NSObject >) value forKey :  
(NSString *) key
```

### *encodeURL: method*

#### *Syntax*

```
- (NSString *) encodeURL : (NSString *) string
```

### *setData:forKey: method*

Adds the contents of an NSData object to the request, clearing any others with the same key.

#### *Syntax*

```
- (void) setData : (NSData *) data forKey : (NSString *) key
```

### *setData:withFileName:andContentType:forKey: method*

Same as above, but you can specify the content-type and file name.

#### *Syntax*

```
- (void) setData : (id) data withFileName : (NSString *) fileName  
andContentType : (NSString *) contentType forKey : (NSString *)  
key
```

*setFile:forKey: method*

Adds the contents of a local file to the request, clearing any others with the same key.

*Syntax*

```
- (void) setFile : (NSString *) filePath forKey : (NSString *)  
key
```

*setFile:withFileName:andContentType:forKey: method*

Adds the contents of a local file to the request, clearing any others with the same key.

*Syntax*

```
- (void) setFile : (id) data withFileName : (NSString *) fileName  
andContentType : (NSString *) contentType forKey : (NSString *)  
key
```

*Usage*

You can specify the content-type and file name

*setPostValue:forKey: method*

Sets a POST variable for this request, clearing any others with the same key.

*Syntax*

```
- (void) setPostValue : (id< NSObject >) value forKey :  
(NSString *) key
```

*SDMFunctionImportResultParser class*

Deprecated. Parses the result payload xml of a function import.

*Syntax*

```
@interface SDMFunctionImportResultParser :  
SDMGenericParser
```

*Members*

All members of SDMFunctionImportResultParser, including inherited members. **Methods**

Method	Description
- (id) initWithFunctionImport: (const SDMODataFunctionImport *const) newFunctionImport on page 2453	

**Inherited members from SDMGenericParser**

Member	Description
- (void) <i>abortParsing</i> on page 2454	
- (void) <i>characters</i> : (NSString *const) <i>string</i> on page 2454	
- (void) <i>endDocument</i> on page 2454	
- (void) <i>endElement</i> : (NSString *const) <i>elementName</i> <i>namespaceURI</i> : (NSString *const) <i>namespaceURI</i> on page 2455	
- (id) <i>init</i> on page 2455	
- (void) <i>parse</i> : (NSData *const) <i>content</i> on page 2455	Parses the passed data as XML.
- (void) <i>parseContentsOfURL</i> : (NSURL *const) <i>url</i> on page 2455	Parses the data that will be downloaded from the passed URL as XML.
- (void) <i>parser</i> : (NSXMLParser *) <i>parser didEndElement</i> : (NSString *) <i>elementName</i> <i>namespaceURI</i> : (NSString *) <i>namespaceURI qualifiedName</i> : (NSString *) <i>qName</i> on page 2455	
- (void) <i>parser</i> : (NSXMLParser *) <i>parser didStartElement</i> : (NSString *) <i>elementName</i> <i>namespaceURI</i> : (NSString *) <i>namespaceURI qualifiedName</i> : (NSString *) <i>qualifiedName</i> <i>attributes</i> : (NSDictionary *) <i>attributeDict</i> on page 2455	
- (void) <i>parser</i> : (NSXMLParser *) <i>parser foundCharacters</i> : (NSString *) <i>string</i> on page 2456	
- (void) <i>parserDidEndDocument</i> : (NSXMLParser *) <i>parser</i> on page 2456	
- (void) <i>parserDidStartDocument</i> : (NSXMLParser *) <i>parser</i> on page 2456	
- (void) <i>setDoProcessPrefixes</i> : (BOOL) <i>processPrefixes</i> on page 2456	
- (void) <i>startDocument</i> on page 2456	
- (void) <i>startElement</i> : (NSString *const) <i>elementName</i> <i>namespaceURI</i> : (NSString *const) <i>namespaceURI</i> <i>attributes</i> : (NSDictionary *const) <i>attributes</i> on page 2456	



*initWithFunctionImport: method***Syntax**

```
- (id) initWithFunctionImport : (const
SDMODataFunctionImport *const) newFunctionImport
```

**SDMGenericParser class**

Deprecated. Use ODataGenericParser instead

**Syntax**

```
@interface SDMGenericParser : NSObject
<NSXMLParserDelegate> <SDMParseDelegate>
```

**Derived classes**

- *SDMFunctionImportResultParser* on page 2451
- *SDMODataDataParser* on page 2482
- *SDMODataErrorXMLParser* on page 2491
- *SDMODataMetaDocumentParser* on page 2498
- *SDMODataServiceDocumentParser* on page 2522
- *SDMOpenSearchDescriptionXMLParser* on page 2526

**Members**

All members of SDMGenericParser, including inherited members. **Methods**

Method	Description
- (void) <i>abortParsing</i> on page 2454	
- (void) <i>characters: (NSString *const) string</i> on page 2454	
- (void) <i>endDocument</i> on page 2454	
- (void) <i>endElement: (NSString *const) element-Name namespaceURI: (NSString *const) namespaceURI</i> on page 2455	
- (id) <i>init</i> on page 2455	
- (void) <i>parse: (NSData *const) content</i> on page 2455	Parses the passed data as XML.
- (void) <i>parseContentsOfURL: (NSURL *const) url</i> on page 2455	Parses the data that will be downloaded from the passed URL as XML.

Method	Description
- (void) parser: (NSXMLParser *) parser didEndElement: (NSString *) elementName namespaceURI: (NSString *) namespaceURI qualifiedName: (NSString *) qName on page 2455	
- (void) parser: (NSXMLParser *) parser didStartElement: (NSString *) elementName namespaceURI: (NSString *) namespaceURI qualifiedName: (NSString *) qualifiedName attributes: (NSDictionary *) attributeDict on page 2455	
- (void) parser: (NSXMLParser *) parser foundCharacters: (NSString *) string on page 2456	
- (void) parserDidEndDocument: (NSXMLParser *) parser on page 2456	
- (void) parserDidStartDocument: (NSXMLParser *) parser on page 2456	
- (void) setDoProcessPrefixes: (BOOL) processPrefixes on page 2456	
- (void) startDocument on page 2456	
- (void) startElement: (NSString *const) elementName namespaceURI: (NSString *const) namespaceURI attributes: (NSDictionary *const) attributes on page 2456	

### *abortParsing method*

#### **Syntax**

- (void) abortParsing

### *characters: method*

#### **Syntax**

- (void) characters : (NSString \*const) **string**

### *endDocument method*

#### **Syntax**

- (void) endDocument

*endElement:namespaceURI: method**Syntax*

```
- (void) endElement : (NSString *const) elementName
namespaceURI : (NSString *const) namespaceURI
```

*init method**Syntax*

```
- (id) init
```

*parse: method*

Parses the passed data as XML.

*Syntax*

```
- (void) parse : (NSData *const) content
```

*parseContentsOfURL: method*

Parses the data that will be downloaded from the passed URL as XML.

*Syntax*

```
- (void) parseContentsOfURL : (NSURL *const) url
```

*parser:didEndElement:namespaceURI:qualifiedName: method**Syntax*

```
- (void) parser : (NSXMLParser *) parser didEndElement :
(NSString *) elementName namespaceURI : (NSString *) namespaceURI
qualifiedName : (NSString *) qName
```

*parser:didStartElement:namespaceURI:qualifiedName:attributes: method**Syntax*

```
- (void) parser : (NSXMLParser *) parser didStartElement :
(NSString *) elementName namespaceURI : (NSString *) namespaceURI
qualifiedName : (NSString *) qualifiedName attributes :
(NSDictionary *) attributeDict
```

*parser:foundCharacters: method*

*Syntax*

```
- (void) parser : (NSXMLParser *) parser foundCharacters :  
(NSString *) string
```

*parserDidEndDocument: method*

*Syntax*

```
- (void) parserDidEndDocument : (NSXMLParser *) parser
```

*parserDidStartDocument: method*

*Syntax*

```
- (void) parserDidStartDocument : (NSXMLParser *) parser
```

*setDoProcessPrefixes: method*

*Syntax*

```
- (void) setDoProcessPrefixes : (BOOL) processPrefixes
```

*startDocument method*

*Syntax*

```
- (void) startDocument
```

*startElement:namespaceURI:attributes: method*

*Syntax*

```
- (void) startElement : (NSString *const) elementName  
namespaceURI : (NSString *const) namespaceURI attributes :  
(NSDictionary *const) attributes
```

*SDMHttpRequest class*

Deprecated. Handles Http requests

*Syntax*

```
@interface SDMHttpRequest : NSOperation <SDMRequesting>  
<NSCopying>
```

*Derived classes*

- *SDMFormDataRequest* on page 2443

## Members

All members of `SDMHttpRequest`, including inherited members. **Methods**

Method	Description
- (void) <i>addBasicAuthenticationHeaderWithUsername: (NSString *) theUsername andPassword: (NSString *) thePassword</i> on page 2462	Constructs a basic authentication header from the username and password supplied, and adds it to the request headers Used when <code>shouldPresentCredentialsBeforeChallenge</code> is YES.
- (void) <i>addRequestHeader: (NSString *) header value: (NSString *) value</i> on page 2462	Adds a custom header to the request.
- (void) <i>appendPostData: (NSData *) data</i> on page 2462	Adds data to the post body.
- (void) <i>appendPostDataFromFile: (NSString *) file</i> on page 2462	Adds data to the post body from a file.
- (void) <i>applyAuthorizationHeader</i> on page 2463	
- (void) <i>applyCookieHeader</i> on page 2463	Called during <code>buildRequestHeaders</code> and after a redirect to create a cookie header from request cookies and the global store.
+ (unsigned long) <i>averageBandwidthUsedPerSecond</i> on page 2463	Returns a rough average (for the last 5 seconds) of how much bandwidth is being used, in bytes.
+ (NSString *) <i>base64forData: (NSData *) theData</i> on page 2463	Base64 encodes the provided <code>NSData*</code> .
- (void) <i>buildPostBody</i> on page 2463	Creates the post body.
- (void) <i>buildRequestHeaders</i> on page 2463	Populates the request headers dictionary.
- (void) <i>cancelAuthentication</i> on page 2464	Should be called by delegates when they wish to cancel authentication and stop.
+ (void) <i>clearSession</i> on page 2464	
+ (const NSDataWritingOptions) <i>dataWritingOptions</i> on page 2464	Returns a mask which determines whether the data should be stored in encrypted form.
+ (NSDate *) <i>dateFromRFC1123String: (NSString *) string</i> on page 2464	Returns a date from a string in RFC1123 format.
+ (NSString *) <i>decodeBase64: (NSString *) string_in</i> on page 2464	Decodes a base64 encoded string.

Method	Description
+ ( <i>id</i> < <i>SDMCacheDelegate</i> >) <i>defaultCache</i> on page 2464	Returns the default download cache or nil if none set at class level.
- ( <i>void</i> ) <i>enableTracing</i> : ( <i>BOOL</i> ) <i>value_in</i> on page 2464	Switches traceability status, the default is NO. If tracing is enabled, "SAP-PASSPORT" and "X-CorrelationID" headers are set and filled with values to enable SAP Passport functionality. Data is gathered to compose the Business Transaction XML, which can be uploaded via E2ETraceController sendXML API.
+ ( <i>void</i> ) <i>enableXSRF</i> : ( <i>BOOL</i> ) <i>enable</i> on page 2465	Enable XSRF support.
- ( <i>void</i> ) <i>failWithError</i> : ( <i>NSError</i> *) <i>theError</i> on page 2465	Called when a request fails, and lets the delegate know via <i>didFailSelector</i> .
+ ( <i>NSDictionary</i> *) <i>fileProtectionAttributes</i> on page 2465	Returns a dictionary of attributes used for encrypted file storage or nil if file protection has been explicitly disabled.
+ ( <i>NSInteger</i> ) <i>getMaxConcurrentHTTPRequestCount</i> on page 2465	Returns the maximum number of <i>SDMHTTPRequest</i> threads which can be executed in parallel.
- ( <i>void</i> ) <i>handleNetworkEvent</i> : ( <i>CFStreamEventType</i> ) <i>type</i> on page 2465	Handles network events as they occur.
- ( <i>SDMHttpRequest</i> *) <i>HEADRequest</i> on page 2466	Used by <i>NetworkQueue</i> to create a HEAD request appropriate for this request with the same headers (though you can use it yourself).
+ ( <i>void</i> ) <i>hideNetworkActivityIndicator</i> on page 2466	Hides the network activity spinner.
+ ( <i>void</i> ) <i>incrementBandwidthUsedInLastSecond</i> : ( <i>unsigned long</i> ) <i>bytes</i> on page 2466	Used internally to record bandwidth use, and by <i>InputStreams</i> when uploading. It's probably best if you don't mess with this.
- ( <i>void</i> ) <i>incrementDownloadSizeBy</i> : ( <i>long long</i> ) <i>length</i> on page 2466	Called when we get a content-length header and <i>shouldResetDownloadProgress</i> is true.
- ( <i>void</i> ) <i>incrementUploadSizeBy</i> : ( <i>long long</i> ) <i>length</i> on page 2466	Called when a request starts and <i>shouldResetUploadProgress</i> is true. Also called (with a negative length) to remove the size of the underlying buffer used for uploading.

Method	Description
- ( <i>id</i> ) <i>initWithURL:</i> ( <i>NSURL *</i> ) <i>newURL</i> on page 2466	Should be an HTTP or HTTPS url, may include username and password if appropriate.
+ ( <i>BOOL</i> ) <i>isBandwidthThrottled</i> on page 2467	Returns YES is bandwidth throttling is currently in use.
+ ( <i>BOOL</i> ) <i>isNetworkInUse</i> on page 2467	Indicates whether there are running requests.
+ ( <i>BOOL</i> ) <i>isNetworkReachableViaWWAN</i> on page 2467	Returns YES when an iPhone OS device is connected via WWAN, false when connected via WIFI or not connected.
- ( <i>BOOL</i> ) <i>isResponseCompressed</i> on page 2467	Returns true if the response was gzip compressed.
- ( <i>BOOL</i> ) <i>isTracingEnabled</i> on page 2467	Returns tracing status (default is NO)
+ ( <i>unsigned long</i> ) <i>maxBandwidthPerSecond</i> on page 2467	The maximum number of bytes ALL requests can send / receive in a second This is a rough figure.
+ ( <i>unsigned long</i> ) <i>maxUploadReadLength</i> on page 2468	Returns the maximum amount of data we can read as part of the current measurement period, and sleeps this thread if our allowance is used up.
+ ( <i>NSString *</i> ) <i>contentTypeForFileAtPath:</i> ( <i>NSString *</i> ) <i>path</i> on page 2468	
+ ( <i>void</i> ) <i>performSelector:</i> ( <i>SEL</i> ) <i>selector onTarget:</i> ( <i>id *</i> ) <i>target withObject:</i> ( <i>id</i> ) <i>object amount:</i> ( <i>void *</i> ) <i>amount</i> on page 2468	Helper method used for performing invocations on the main thread (used for progress)
- ( <i>void</i> ) <i>performThrottling</i> on page 2468	Perform bandwidth throttling.
+ ( <i>void</i> ) <i>removeCredentialsForHost:</i> ( <i>NSString *</i> ) <i>host port:</i> ( <i>int</i> ) <i>port protocol:</i> ( <i>NSString *</i> ) <i>protocol realm:</i> ( <i>NSString *</i> ) <i>realm</i> on page 2468	Deletes host credentials from the keychain.
+ ( <i>void</i> ) <i>removeCredentialsForProxy:</i> ( <i>NSString *</i> ) <i>host port:</i> ( <i>int</i> ) <i>port realm:</i> ( <i>NSString *</i> ) <i>realm</i> on page 2468	Deletes proxy credentials from the keychain.
- ( <i>void</i> ) <i>removeUploadProgressSoFar</i> on page 2469	Called when authorization is needed, as we only find out we don't have permission to something when the upload is complete.
+ ( <i>id</i> ) <i>requestWithURL:</i> ( <i>NSURL *</i> ) <i>newURL</i> on page 2469	Convenience constructor with url.

Method	Description
+ (id) requestWithURL: (NSURL *) newURL usingCache: (id< SDMCacheDelegate >) cache on page 2469	Convenience constructor with url and cache.
+ (id) requestWithURL: (NSURL *) newURL usingCache: (id< SDMCacheDelegate >) cache andCachePolicy: (CachePolicy) policy on page 2469	Convenience constructor with url, cache and cache policy.
- (NSData *) responseData on page 2469	Response data, automatically uncompressed where appropriate see responseString.
- (NSString *) responseString on page 2469	Returns the contents of the result as an NSString (not appropriate for binary data - used response- Data instead)
- (void) retryUsingSuppliedCredentials on page 2470	Wakes up (unlocks) the request thread so it can resume the request.
+ (void) saveCredentials: (NSURLCredential *) credentials forHost: (NSString *) host port: (int) port protocol: (NSString *) protocol realm: (NSString *) realm on page 2470	Saves host credentials to the keychain.
+ (void) saveCredentials: (NSURLCredential *) credentials forProxy: (NSString *) host port: (int) port realm: (NSString *) realm on page 2470	Saves proxy credentials to the keychain.
- (void) saveCredentialsToKeychain: (NSDic- tionary *) newCredentials on page 2470	Saves credentials for this request to the keychain.
+ (NSURLCredential *) savedCredentialsFo- rHost: (NSString *) host port: (int) port protocol: (NSString *) protocol realm: (NSString *) realm on page 2470	Returns host credentials from the keychain.
+ (NSURLCredential *) savedCredentialsFor- Proxy: (NSString *) host port: (int) port protocol: (NSString *) protocol realm: (NSString *) realm on page 2471	Returns proxy credentials from the keychain.
- (void) sendE2ETraceXML: (NSURL *) toBa- seURL on page 2471	Posts the SAP E2E Trace XML to the given url.



Method	Description
- (void) <i>setClientCertificateIdentity: (SecIdentityRef) anIdentity</i> on page 2471	Sets the identity reference (X.509 certificate + private key) for this request; used for secure connections.
+ (void) <i>setDefaultCache: (id&lt; SDMCacheDelegate &gt;) cache</i> on page 2471	Configures a default download cache which applies for all requests.
- (void) <i>setEtag: (NSString *) etag withMatch-Type: (EtagMatchType) matchType</i> on page 2471	Add etag header.
+ (void) <i>setMaxBandwidthPerSecond: (unsigned long) bytes</i> on page 2471	Sets the maximum number of bytes ALL requests can send / receive in a second.
+ (void) <i>setMaxConcurrentHTTPRequestCount: (const unsigned char) cnt</i> on page 2472	Sets the maximum number of SDMHHTTPRequest threads which can run at once.
+ (void) <i>setProtectionEnabled: (BOOL) flag_in</i> on page 2472	Controls whether the download cache should store files using protection.
+ (void) <i>setShouldThrottleBandwidthForWWAN: (BOOL) throttle</i> on page 2472	SDMHHTTPRequest can automatically turn throttling on and off as the connection type changes between WWAN and WiFi Set to YES to automatically turn on throttling when WWAN is connected, and automatically turn it off when it isn't.
+ (void) <i>setShouldUpdateNetworkActivityIndicator: (BOOL) shouldUpdate</i> on page 2472	Controls whether the request should take over updating the network activity indicator.
+ (NSOperationQueue *) <i>sharedQueue</i> on page 2472	Returns the shared queue.
+ (void) <i>showNetworkActivityIndicator</i> on page 2473	Shows the network activity spinner.
- (void) <i>startAsynchronous</i> on page 2473	Runs request in the background The client should register callback selector in order to get notified about various events (failure, completion, etc.)
- (void) <i>startSynchronous</i> on page 2473	Runs a request synchronously, and returns control when the request completes or fails.
+ (void) <i>throttleBandwidthForWWANUsingLimit: (unsigned long) limit</i> on page 2473	Turns on throttling automatically when WWAN is connected using a custom limit, and turns it off automatically when it isn't.

Method	Description
- (void) <i>updateDownloadProgress</i> on page 2473	Updates download progress (notifies the queue and/or downloadProgressDelegate of this request)
+ (void) <i>updateProgressIndicator: (id *) indicator withProgress: (unsigned long long) progress of-Total: (unsigned long long) total</i> on page 2473	Helper method for interacting with progress indicators to abstract the details of different APIs (NSProgressIndicator and UIProgressView)
- (void) <i>updateProgressIndicators</i> on page 2474	Updates the progress delegates.
- (void) <i>updateUploadProgress</i> on page 2474	Updates upload progress (notifies the queue and/or uploadProgressDelegate of this request)

***addBasicAuthenticationHeaderWithUsername:andPassword: method***

Constructs a basic authentication header from the username and password supplied, and adds it to the request headers Used when shouldPresentCredentialsBeforeChallenge is YES.

***Syntax***

```
- (void) addBasicAuthenticationHeaderWithUsername :
(NSString *) theUsername andPassword : (NSString *) thePassword
```

***addRequestHeader:value: method***

Adds a custom header to the request.

***Syntax***

```
- (void) addRequestHeader : (NSString *) header value :
(NSString *) value
```

***appendPostData: method***

Adds data to the post body.

***Syntax***

```
- (void) appendPostData : (NSData *) data
```

***Usage***

Will append to postBody when shouldStreamPostDataFromDisk is false, or write to postBodyWriteStream when true

***appendPostDataFromFile: method***

Adds data to the post body from a file.

***Syntax***

```
- (void) appendPostDataFromFile : (NSString *) file
```

*Usage*

Will append to `postBody` when `shouldStreamPostDataFromDisk` is false, or write to `postBodyWriteStream` when true

*applyAuthorizationHeader method**Syntax*

```
- (void) applyAuthorizationHeader
```

*applyCookieHeader method*

Called during `buildRequestHeaders` and after a redirect to create a cookie header from request cookies and the global store.

*Syntax*

```
- (void) applyCookieHeader
```

*averageBandwidthUsedPerSecond method*

Returns a rough average (for the last 5 seconds) of how much bandwidth is being used, in bytes.

*Syntax*

```
+ (unsigned long) averageBandwidthUsedPerSecond
```

*base64forData: method*

Base64 encodes the provided `NSData*`.

*Syntax*

```
+ (NSString *) base64forData : (NSData *) theData
```

*buildPostBody method*

Creates the post body.

*Syntax*

```
- (void) buildPostBody
```

*buildRequestHeaders method*

Populates the request headers dictionary.

*Syntax*

```
- (void) buildRequestHeaders
```

*Usage*

Called before a request is started, or by a HEAD request that needs to borrow them

### *cancelAuthentication method*

Should be called by delegates when they wish to cancel authentication and stop.

#### *Syntax*

```
- (void) cancelAuthentication
```

### *clearSession method*

#### *Syntax*

```
+ (void) clearSession
```

### *dataWritingOptions method*

Returns a mask which determines whether the data should be stored in encrypted form.

#### *Syntax*

```
+ (const NSDataWritingOptions) dataWritingOptions
```

#### *Usage*

Data will be stored in encrypted form by default

### *dateFromRFC1123String: method*

Returns a date from a string in RFC1123 format.

#### *Syntax*

```
+ (NSDate *) dateFromRFC1123String : (NSString *) string
```

### *decodeBase64: method*

Decodes a base64 encoded string.

#### *Syntax*

```
+ (NSString *) decodeBase64 : (NSString *) string_in
```

### *defaultCache method*

Returns the default download cache or nil if none set at class level.

#### *Syntax*

```
+ (id< SDMCacheDelegate >) defaultCache
```

### *enableTracing: method*

Switches traceability status, the default is NO If tracing is enabled, "SAP-PASSPORT" and "X-CorrelationID" headers are set and filled with values to enable SAP Passport functionality

data is gathered to compose the Business Transaction XML, which can be uploaded via E2ETraceController sendXML API.

#### *Syntax*

```
- (void) enableTracing : (BOOL) value_in
```

#### *enableXCSRF: method*

Enable XSRF support.

#### *Syntax*

```
+ (void) enableXCSRF : (BOOL) enable
```

#### *Usage*

It is enabled by default.

#### *failWithError: method*

Called when a request fails, and lets the delegate know via didFailSelector.

#### *Syntax*

```
- (void) failWithError : (NSError *) theError
```

#### *fileProtectionAttributes method*

Returns a attributes dictionary used for encrypted file storage or nil is file protection has been explicitly disabled.

#### *Syntax*

```
+ (NSDictionary *) fileProtectionAttributes
```

#### *getMaxConcurrentHTTPRequestCount method*

Returns the maximum number of SDMHTTPRequest threads which can be executed in parallel.

#### *Syntax*

```
+ (NSInteger) getMaxConcurrentHTTPRequestCount
```

#### *handleNetworkEvent: method*

Handles network events as they occur.

#### *Syntax*

```
- (void) handleNetworkEvent : (CFStreamEventType) type
```

#### *Usage*

Called from ReadStreamClientCallBack when one of the events requested in NETWORK\_EVENTS occurs

### *HEADRequest method*

Used by NetworkQueue to create a HEAD request appropriate for this request with the same headers (though you can use it yourself)

#### *Syntax*

```
- (SDMHttpRequest *) HEADRequest
```

### *hideNetworkActivityIndicator method*

Hides the network activity spinner.

#### *Syntax*

```
+ (void) hideNetworkActivityIndicator
```

### *incrementBandwidthUsedInLastSecond: method*

Used internally to record bandwidth use, and by InputStreams when uploading. It's probably best if you don't mess with this.

#### *Syntax*

```
+ (void) incrementBandwidthUsedInLastSecond : (unsigned long) bytes
```

### *incrementDownloadSizeBy: method*

Called when we get a content-length header and shouldResetDownloadProgress is true.

#### *Syntax*

```
- (void) incrementDownloadSizeBy : (long long) length
```

### *incrementUploadSizeBy: method*

Called when a request starts and shouldResetUploadProgress is true Also called (with a negative length) to remove the size of the underlying buffer used for uploading.

#### *Syntax*

```
- (void) incrementUploadSizeBy : (long long) length
```

### *initWithURL: method*

Should be an HTTP or HTTPS url, may include username and password if appropriate.

#### *Syntax*

```
- (id) initWithURL : (NSURL *) newURL
```

*isBandwidthThrottled method*

Returns YES is bandwidth throttling is currently in use.

*Syntax*

```
+ ( BOOL ) isBandwidthThrottled
```

*isNetworkInUse method*

Indicates whether there are running requests.

*Syntax*

```
+ ( BOOL ) isNetworkInUse
```

*Returns*

NO, if no requests are currently executing

*isNetworkReachableViaWWAN method*

Returns YES when an iPhone OS device is connected via WWAN, false when connected via WIFI or not connected.

*Syntax*

```
+ ( BOOL ) isNetworkReachableViaWWAN
```

*isResponseCompressed method*

Returns true if the response was gzip compressed.

*Syntax*

```
- ( BOOL ) isResponseCompressed
```

*isTracingEnabled method*

Returns tracing status (default is NO)

*Syntax*

```
- ( BOOL ) isTracingEnabled
```

*maxBandwidthPerSecond method*

The maximum number of bytes ALL requests can send / receive in a second This is a rough figure.

*Syntax*

```
+ ( unsigned long ) maxBandwidthPerSecond
```

*Usage*

The actual amount used will be slightly more, this does not include HTTP headers

### *maxUploadReadLength method*

Returns the maximum amount of data we can read as part of the current measurement period, and sleeps this thread if our allowance is used up.

#### *Syntax*

```
+ (unsigned long) maxUploadReadLength
```

### *mimeTypeForFileAtPath: method*

#### *Syntax*

```
+ (NSString *) mimeTypeForFileAtPath : (NSString *) path
```

### *performSelector:onTarget:withObject:amount: method*

Helper method used for performing invocations on the main thread (used for progress)

#### *Syntax*

```
+ (void) performSelector : (SEL) selector onTarget : (id *) target  
withObject : (id) object amount : (void *) amount
```

### *performThrottling method*

Perform bandwidth throttling.

#### *Syntax*

```
- (void) performThrottling
```

### *removeCredentialsForHost:port:protocol:realm: method*

Deletes host credentials from the keychain.

#### *Syntax*

```
+ (void) removeCredentialsForHost : (NSString *) host port : (int) port  
protocol : (NSString *) protocol realm : (NSString *) realm
```

### *removeCredentialsForProxy:port:realm: method*

Deletes proxy credentials from the keychain.

#### *Syntax*

```
+ (void) removeCredentialsForProxy : (NSString *) host port : (int) port  
realm : (NSString *) realm
```



*removeUploadProgressSoFar method*

Called when authorization is needed, as we only find out we don't have permission to something when the upload is complete.

*Syntax*

```
- (void) removeUploadProgressSoFar
```

*requestWithURL: method*

Convenience constructor with url.

*Syntax*

```
+ (id) requestWithURL : (NSURL *) newURL
```

*requestWithURL:usingCache: method*

Convenience constructor with url and cache.

*Syntax*

```
+ (id) requestWithURL : (NSURL *) newURL usingCache : (id<SDMCacheDelegate >) cache
```

*requestWithURL:usingCache:andCachePolicy: method*

Convenience constructor with url, cache and cache policy.

*Syntax*

```
+ (id) requestWithURL : (NSURL *) newURL usingCache : (id<SDMCacheDelegate >) cache andCachePolicy : (CachePolicy) policy
```

*responseData method*

Response data, automatically uncompressed where appropriate see responseString.

*Syntax*

```
- (NSData *) responseData
```

*responseString method*

Returns the contents of the result as an NSString (not appropriate for binary data - used responseData instead)

*Syntax*

```
- (NSString *) responseString
```

### *retryUsingSuppliedCredentials method*

Wakes up (unlocks) the request thread so it can resume the request.

#### *Syntax*

```
- (void) retryUsingSuppliedCredentials
```

#### *Usage*

Should be called by delegates when they have populated the authentication information after an authentication challenge

### *saveCredentials:forHost:port:protocol:realm: method*

Saves host credentials to the keychain.

#### *Syntax*

```
+ (void) saveCredentials : (NSURLCredential *) credentials  
forHost : (NSString *) host port : (int) port protocol :  
(NSString *) protocol realm : (NSString *) realm
```

### *saveCredentials:forProxy:port:realm: method*

Saves proxy credentials to the keychain.

#### *Syntax*

```
+ (void) saveCredentials : (NSURLCredential *) credentials  
forProxy : (NSString *) host port : (int) port realm : (NSString  
*) realm
```

### *saveCredentialsToKeychain: method*

Saves credentials for this request to the keychain.

#### *Syntax*

```
- (void) saveCredentialsToKeychain : (NSDictionary *)  
newCredentials
```

### *savedCredentialsForHost:port:protocol:realm: method*

Returns host credentials from the keychain.

#### *Syntax*

```
+ (NSURLCredential *) savedCredentialsForHost : (NSString *)  
host port : (int) port protocol : (NSString *) protocol realm : (NS  
NSString *) realm
```

*savedCredentialsForProxy:port:protocol:realm: method*

Returns proxy credentials from the keychain.

*Syntax*

```
+ (NSURLCredential *) savedCredentialsForProxy : (NSString *) host port : (int) port protocol : (NSString *) protocol realm : (NSString *) realm
```

*sendE2ETraceXML: method*

Posts the SAP E2E Trace XML to the given url.

*Syntax*

```
- (void) sendE2ETraceXML : (NSURL *) toBaseURL
```

*setClientCertificateIdentity: method*

Sets the identity reference (X.509 certificate + private key) for this request; used for secure connections.

*Syntax*

```
- (void) setClientCertificateIdentity : (SecIdentityRef) anIdentity
```

*setDefaultCache: method*

Configures a default download cache which applies for all requests.

*Syntax*

```
+ (void) setDefaultCache : (id< SDMCacheDelegate >) cache
```

*setEtag:withMatchType: method*

Add etag header.

*Syntax*

```
- (void) setEtag : (NSString *) etag withMatchType : (EtagMatchType) matchType
```

*setMaxBandwidthPerSecond: method*

Sets the maximum number of bytes ALL requests can send / receive in a second.

*Syntax*

```
+ (void) setMaxBandwidthPerSecond : (unsigned long) bytes
```

### *setMaxConcurrentHTTPRequestCount: method*

Sets the maximum number of SDMHTTPRequest threads which can run at once.

#### *Syntax*

```
+ (void) setMaxConcurrentHTTPRequestCount : (const unsigned char) cnt
```

#### *Exceptions*

- **SDMConnectivityException class** – if max allowed parallel thread is exceeded

### *setProtectionEnabled: method*

Controls whether the download cache should store files using protection.

#### *Syntax*

```
+ (void) setProtectionEnabled : (BOOL) flag_in
```

#### *Usage*

Enabled by default, applies to all instances; only available for builds targeting iOS 4.0 or above

### *setShouldThrottleBandwidthForWWAN: method*

SDMHTTPRequest can automatically turn throttling on and off as the connection type changes between WWAN and WiFi Set to YES to automatically turn on throttling when WWAN is connected, and automatically turn it off when it isn't.

#### *Syntax*

```
+ (void) setShouldThrottleBandwidthForWWAN : (BOOL) throttle
```

### *setShouldUpdateNetworkActivityIndicator: method*

Controls whether the request should take over updating the network activity indicator.

#### *Syntax*

```
+ (void) setShouldUpdateNetworkActivityIndicator : (BOOL) shouldUpdate
```

#### *Usage*

enabled by default

### *sharedQueue method*

Returns the shared queue.

#### *Syntax*

```
+ (NSOperationQueue *) sharedQueue
```

*showNetworkActivityIndicator method*

Shows the network activity spinner.

*Syntax*

```
+ (void) showNetworkActivityIndicator
```

*startAsynchronous method*

Runs request in the background The client should register callback selector in order to get notified about various events (failure, completion, etc.)

*Syntax*

```
- (void) startAsynchronous
```

*startSynchronous method*

Runs a request synchronously, and returns control when the request completes or fails.

*Syntax*

```
- (void) startSynchronous
```

*throttleBandwidthForWWANUsingLimit: method*

Turns on throttling automatically when WWAN is connected using a custom limit, and turns it off automatically when it isn't.

*Syntax*

```
+ (void) throttleBandwidthForWWANUsingLimit : (unsigned long) limit
```

*updateDownloadProgress method*

Updates download progress (notifies the queue and/or downloadProgressDelegate of this request)

*Syntax*

```
- (void) updateDownloadProgress
```

*updateProgressIndicator:withProgress:ofTotal: method*

Helper method for interacting with progress indicators to abstract the details of different APIs (NSProgressIndicator and UIProgressView)

*Syntax*

```
+ (void) updateProgressIndicator : (id *) indicator withProgress : (unsigned long long) progress ofTotal : (unsigned long long) total
```

### *updateProgressIndicators method*

Updates the progress delegates.

#### *Syntax*

```
- (void) updateProgressIndicators
```

#### *Usage*

Used by `SDMNetworkQueue`, clients should not invoke them directly

### *updateUploadProgress method*

Updates upload progress (notifies the queue and/or `uploadProgressDelegate` of this request)

#### *Syntax*

```
- (void) updateUploadProgress
```

### *SDMHttpRequestDelegate protocol*

Deprecated. Defines default delegate methods for request status related housekeeping Protocol to be adapted by client classes in order to hook in for `requestStarted` / `requestFinished` / `requestFailed` delegates

#### *Syntax*

```
@protocol SDMHttpRequestDelegate
```

#### *Derived classes*

- `SDMNetworkQueue` on page 2476

#### *Members*

All members of `SDMHttpRequestDelegate`, including inherited members. **Methods**

Method	Description
- (void) <i>authenticationNeededForRequest:</i> ( <i>SDMHttpRequest *</i> ) <i>request</i> on page 2475	Default delegate method called when credentials must be supplied for authentication.
- (void) <i>proxyAuthenticationNeededForRequest:</i> ( <i>SDMHttpRequest *</i> ) <i>request</i> on page 2475	Default delegate method called when the proxy requires credentials for authentication.
- (void) <i>request:</i> ( <i>SDMHttpRequest *</i> ) <i>request</i> <i>didReceiveData:</i> ( <i>const NSData *const</i> ) <i>data_in</i> on page 2475	Default delegate method invoked when incoming data is available.
- (void) <i>requestFailed:</i> ( <i>SDMHttpRequest *</i> ) <i>request</i> on page 2475	Default delegate method called when the request fails.

Method	Description
- (void) <i>requestFinished</i> : (SDMHttpRequest *) <i>request</i> on page 2476	Default delegate method called when the request completes.
- (void) <i>requestRedirected</i> : (SDMHttpRequest *) <i>request</i> on page 2476	Default delegate method called when the request gets redirected.
- (void) <i>requestStarted</i> : (SDMHttpRequest *) <i>request</i> on page 2476	Default delegate method called when the request starts.

*authenticationNeededForRequest*: method

Default delegate method called when credentials must be supplied for authentication.

*Syntax*

```
- (void) authenticationNeededForRequest : (SDMHttpRequest *)
request
```

*proxyAuthenticationNeededForRequest*: method

Default delegate method called when the proxy requires credentials for authentication.

*Syntax*

```
- (void) proxyAuthenticationNeededForRequest :
(SDMHttpRequest *) request
```

*request:didReceiveData*: method

Default delegate method invoked when incoming data is available.

*Syntax*

```
- (void) request : (SDMHttpRequest *) request didReceiveData :
(const NSData *const) data_in
```

*Usage*

Implementing this delegate is usually not required; otherwise you have to process all incoming bytes yourself. This means that `responseData` / `responseString` are ignored. You can override this default delegate by setting `SDMHttpRequest` `didReceiveDataSelector`.

*requestFailed*: method

Default delegate method called when the request fails.

*Syntax*

```
- (void) requestFailed : (SDMHttpRequest *) request
```

## *requestFinished: method*

Default delegate method called when the request completes.

### *Syntax*

```
- (void) requestFinished : (SDMHttpRequest *) request
```

## *requestRedirected: method*

Default delegate method called when the request gets redirected.

### *Syntax*

```
- (void) requestRedirected : (SDMHttpRequest *) request
```

## *requestStarted: method*

Default delegate method called when the request starts.

### *Syntax*

```
- (void) requestStarted : (SDMHttpRequest *) request
```

## *Usage*

implement it to get informed when the request starts You can override this default delegate by setting `SDMHttpRequest didStartSelector`

## *SDMNetworkQueue class*

### *Syntax*

```
@interface SDMNetworkQueue : NSOperationQueue  
<SDMProgressDelegate> <SDMHttpRequestDelegate> <NSCopying>
```

## *Members*

All members of `SDMNetworkQueue`, including inherited members. **Methods**

Method	Description
+ ( <i>id</i> ) <i>queue</i> on page 2478	Convenience constructor.
- ( <i>void</i> ) <i>reset</i> on page 2478	Resets the queue; it cancels all operations, clears delegates, and suspends operations.
- ( <i>void</i> ) <i>startBatch</i> on page 2478	Starts the queue.

## **Inherited members from `SDMProgressDelegate`**



Member	Description
- (void) request: (id< <i>SDMRequesting</i> >) request <i>didReceiveBytes</i> : (long long) bytes on page 2541	Delegate method called when the request receives data.
- (void) request: (id< <i>SDMRequesting</i> >) request <i>didSendBytes</i> : (long long) bytes on page 2541	Delegate method called when the request sends data.
- (void) request: (id< <i>SDMRequesting</i> >) request <i>incrementDownloadSizeBy</i> : (long long) newLength on page 2542	Delegate method called when the request needs to change the download content size.
- (void) request: (id< <i>SDMRequesting</i> >) request <i>incrementUploadSizeBy</i> : (long long) newLength on page 2542	Delegate method called when the request needs to change the length of the content to upload.
- (void) setProgress: (float) newProgress on page 2542	Delegate method called to update UIProgress-Views.

#### Inherited members from *SDMHttpRequestDelegate*

Member	Description
- (void) authenticationNeededForRequest: ( <i>SDMHttpRequest *</i> ) request on page 2475	Default delegate method called when credentials must be supplied for authentication.
- (void) proxyAuthenticationNeededForRequest: ( <i>SDMHttpRequest *</i> ) request on page 2475	Default delegate method called when the proxy requires credentials for authentication.
- (void) request: ( <i>SDMHttpRequest *</i> ) request <i>didReceiveData</i> : (const <i>NSData *</i> const) data_in on page 2475	Default delegate method invoked when incoming data is available.
- (void) requestFailed: ( <i>SDMHttpRequest *</i> ) request on page 2475	Default delegate method called when the request fails.
- (void) requestFinished: ( <i>SDMHttpRequest *</i> ) request on page 2476	Default delegate method called when the request completes.
- (void) requestRedirected: ( <i>SDMHttpRequest *</i> ) request on page 2476	Default delegate method called when the request gets redirected.
- (void) requestStarted: ( <i>SDMHttpRequest *</i> ) request on page 2476	Default delegate method called when the request starts.

### *queue method*

Convenience constructor.

### *Syntax*

```
+ (id) queue
```

### *reset method*

Resets the queue; it cancels all operations, clears delegates, and suspends operations.

### *Syntax*

```
- (void) reset
```

### *startBatch method*

Starts the queue.

### *Syntax*

```
- (void) startBatch
```

### *Usage*

SDMNetworkQueues are paused when created so that total size can be calculated before the queue starts

### *SDMODataActionLink class*

Deprecated. SAP Action Link Contains the optional parameters of the action and helper method to assemble the final URL that is required to execute the action.

### *Syntax*

```
@interface SDMODataActionLink : SDMODataLink
```

### *Members*

All members of SDMODataActionLink, including inherited members. **Methods**

Method	Description
- ( <i>NSString</i> *) <i>createActionLinkURL</i> : ( <i>NSDictionary</i> *) <i>parameters</i> on page 2479	Creates the final action link URL that can be used in an HTTP request to execute the action in the backend.
- ( <i>NSDictionary</i> *) <i>getParameters</i> on page 2479	Gets the action link parameters whose values should be set by the user.

### **Inherited members from SDMODataLink**

Member	Description
- (id) initWithHref: (NSString *const) newHref on page 2496	
- (id) initWithHref: (NSString *const) newHref andLinkRel: (NSString *const) newRel on page 2496	
- (id) initWithHref: (NSString *const) newHref andLinkRel: (NSString *const) newRel andLinkType: (NSString *const) newType on page 2496	
- (id) initWithHref: (NSString *const) newHref andLinkRel: (NSString *const) newRel andLinkType: (NSString *const) newType andLinkTitle: (NSString *const) newTitle on page 2496	
- (id) initWithHref: (NSString *const) newHref andLinkRel: (NSString *const) newRel andLinkType: (NSString *const) newType andLinkTitle: (NSString *const) newTitle andSemantic: (const enum TEN_LINK_SEMANTICS) newSemantic on page 2497	

**createActionLinkURL: method**

Creates the final action link URL that can be used in an HTTP request to execute the action in the backend.

**Syntax**

```
- (NSString *) createActionLinkURL : (NSDictionary *)
```

**parameters****Usage**

If the action link has parameters, they will be URL encoded and concatenated to the URL. The returned URL is always an absolute URL. Pass nil, if the action link has no parameters. If the "parameters" value is nil, but the action link has parameters the method adds the parameters with their default values to the final URL.

**getParameters method**

Gets the action link parameters whose values should be set by the user.

**Syntax**

```
- (NSDictionary *) getParameters
```

### Usage

The dictionary contains `SDMODDataPropertyValue...` instances. The actual type depends on the edm type of the action link parameter. For example, if the type is `Edm.String`, the parameter is typed as `SDMODDataPropertyValueString`. Use `SDMODDataPropertyValueObject` provides generic, but only string based access to values for reading and writing.

### *SDMODDataCollection* class

Deprecated. Collection information.

### Syntax

```
@interface   SDMODDataCollection   :   NSObject   <NSCoding>
```

### Members

All members of `SDMODDataCollection`, including inherited members. **Methods**

Method	Description
- (BOOL) addIcon: (const SDMODDataIconInfo *const) newIcon on page 2481	
- (BOOL) addLink: (const SDMODDataLink *const) newLink on page 2481	
- (BOOL) doesRequireFilter on page 2481	If the return value is not NO, that means the entries of the collection cannot be queried without providing a \$filter expression (if accessed without a \$filter expression, the server responds with an error message.)
- (SDMODDataLink *) getSubscriptionLink on page 2481	if the collection supports subscription, then the returned object will be an <code>SDMODDataLink</code> , otherwise nil.
- (BOOL) hasMedia on page 2481	Queries if a collection has media links or not.
- (id) initWithName: (NSString *const) newName on page 2481	
- (BOOL) isCreatable on page 2482	Queries if a collection allows creating new entries or not.
- (BOOL) isDeletable on page 2482	Queries if a collection allows deleting its entries.
- (BOOL) isSearchable on page 2482	Checks if the collection supports google-like search, where a search term is matched against several or all properties of each entry.

Method	Description
- (BOOL) <i>isTopLevel</i> on page 2482	Queries if a collection should appear on the main screen as a starting/root collection.
- (BOOL) <i>isUpdatable</i> on page 2482	Queries if a collection allows updating its entries.

*addIcon: method**Syntax*

```
- (BOOL) addIcon : (const SDMODataIconInfo *const) newIcon
```

*addLink: method**Syntax*

```
- (BOOL) addLink : (const SDMODataLink *const) newLink
```

*doesRequireFilter method*

If the return value is not NO, that means the entries of the collection cannot be queried without providing a \$filter expression (if accessed without a \$filter expression, the server responds with an error message.)

*Syntax*

```
- (BOOL) doesRequireFilter
```

*getSubscriptionLink method*

if the collection supports subscription, then the returned object will be an SDMODataLink, otherwise nil.

*Syntax*

```
- (SDMODataLink *) getSubscriptionLink
```

*hasMedia method*

Queries if a collection has media links or not.

*Syntax*

```
- (BOOL) hasMedia
```

*initWithName: method**Syntax*

```
- (id) initWithName : (NSString *const) newName
```

### *isCreatable method*

Queries if a collection allows creating new entries or not.

#### *Syntax*

```
- (BOOL) isCreatable
```

### *isDeletable method*

Queries if a collection allows deleting its entries.

#### *Syntax*

```
- (BOOL) isDeletable
```

### *isSearchable method*

Checks if the collection supports google-like search, where a search term is matched against several or all properties of each entry.

#### *Syntax*

```
- (BOOL) isSearchable
```

### *isTopLevel method*

Queries if a collection should appear on the main screen as a starting/root collection.

#### *Syntax*

```
- (BOOL) isTopLevel
```

### *isUpdatable method*

Queries if a collection allows updating its entries.

#### *Syntax*

```
- (BOOL) isUpdatable
```

### *SDMODataDataParser class*

Deprecated. Parses a feed or an entry xml.

#### *Syntax*

```
@interface   SDMODataDataParser   :   SDMGenericParser
```

#### *Members*

All members of SDMODataDataParser, including inherited members. **Methods**

Method	Description
- (id) <i>initWithEntitySchema</i> : (const <i>SDMODataEntitySchema *const</i> ) <i>newEntitySchema</i> on page 2484	
- (id) <i>initWithEntitySchema</i> : (const <i>SDMODataEntitySchema *const</i> ) <i>newEntitySchema</i> and <i>ServiceDocument</i> : (const <i>SDMODataServiceDocument *const</i> ) <i>newServiceDocument</i> on page 2484	
- (void) <i>parse</i> : ( <i>NSData *const</i> ) <i>content</i> on page 2485	Parses the passed data as XML.

### Inherited members from *SDMGenericParser*

Member	Description
- (void) <i>abortParsing</i> on page 2454	
- (void) <i>characters</i> : ( <i>NSString *const</i> ) <i>string</i> on page 2454	
- (void) <i>endDocument</i> on page 2454	
- (void) <i>endElement</i> : ( <i>NSString *const</i> ) <i>elementName</i> <i>namespaceURI</i> : ( <i>NSString *const</i> ) <i>namespaceURI</i> on page 2455	
- (id) <i>init</i> on page 2455	
- (void) <i>parseContentsOfURL</i> : ( <i>NSURL *const</i> ) <i>url</i> on page 2455	Parses the data that will be downloaded from the passed URL as XML.
- (void) <i>parser</i> : ( <i>NSXMLParser *</i> ) <i>parser</i> <i>didEndElement</i> : ( <i>NSString *</i> ) <i>elementName</i> <i>namespaceURI</i> : ( <i>NSString *</i> ) <i>namespaceURI</i> <i>qualifiedName</i> : ( <i>NSString *</i> ) <i>qName</i> on page 2455	
- (void) <i>parser</i> : ( <i>NSXMLParser *</i> ) <i>parser</i> <i>didStartElement</i> : ( <i>NSString *</i> ) <i>elementName</i> <i>namespaceURI</i> : ( <i>NSString *</i> ) <i>namespaceURI</i> <i>qualifiedName</i> : ( <i>NSString *</i> ) <i>qualifiedName</i> <i>attributes</i> : ( <i>NSDictionary *</i> ) <i>attributeDict</i> on page 2455	
- (void) <i>parser</i> : ( <i>NSXMLParser *</i> ) <i>parser</i> <i>foundCharacters</i> : ( <i>NSString *</i> ) <i>string</i> on page 2456	

Member	Description
- (void) <i>parserDidEndDocument:</i> (NSXMLParser *) <i>parser</i> on page 2456	
- (void) <i>parserDidStartDocument:</i> (NSXMLParser *) <i>parser</i> on page 2456	
- (void) <i>setDoProcessPrefixes:</i> (BOOL) <i>processPrefixes</i> on page 2456	
- (void) <i>startDocument</i> on page 2456	
- (void) <i>startElement:</i> (NSString *const) <i>elementName</i> <i>namespaceURI:</i> (NSString *const) <i>namespaceURI</i> <i>attributes:</i> (NSDictionary *const) <i>attributes</i> on page 2456	

### Usage

The array of parsed entry/entries can be accessed via the "entries" property of the parser after parsing. Any "inlined" entries or feed(s) will be parsed when service document is passed to the "initWithEntitySchema" variant that accepts service document as input. If "inlined" feed(s) or entries should not be returned pass nil as the service document parameter or use the other "initWithEntitySchema" that does not have a service document parameter.

```
NSMutableArray* entries = nil; { SMDOMDataDataParser*
dataParser = [[SMDOMDataDataParser alloc]
initWithEntitySchema: entitySchema andServiceDocument:
serviceDocument] autorelease]; [dataParser parse:
content_in]; entries = [dataParser.entries retain];
(SDMParseException* e) { //error handling... }
```

### *initWithEntitySchema:* method

#### Syntax

```
- (id) initWithEntitySchema : (const SMDOMDataEntitySchema
*const) newEntitySchema
```

### *initWithEntitySchema:andServiceDocument:* method

#### Syntax

```
- (id) initWithEntitySchema : (const SMDOMDataEntitySchema
*const) newEntitySchema andServiceDocument : (const
SMDOMDataServiceDocument *const) newServiceDocument
```



*parse: method*

Parses the passed data as XML.

*Syntax*

```
- (void) parse : (NSData *const) content
```

*SDMODataEntitySchema class*

Deprecated. Use ODataEntitySchema instead

*Syntax*

```
@interface SDMODataEntitySchema : NSObject <NSCoding>
```

*Members*

All members of SDMODataEntitySchema, including inherited members. **Methods**

Method	Description
- (NSArray *const) <i>getVisibleInDetailPathsInOrder</i> on page 2485	Gets the property paths of those properties that are visible on detail screens.
- (NSArray *const) <i>getVisibleInListPathsInOrder</i> on page 2485	Gets the property paths of those properties that are visible on list screens.
- (id) <i>init</i> on page 2486	

*getVisibleInDetailPathsInOrder method*

Gets the property paths of those properties that are visible on detail screens.

*Syntax*

```
- (NSArray *const) getVisibleInDetailPathsInOrder
```

*Usage*

These paths can be used on entry instances to get the property values in visibility order.

*getVisibleInListPathsInOrder method*

Gets the property paths of those properties that are visible on list screens.

*Syntax*

```
- (NSArray *const) getVisibleInListPathsInOrder
```

*Usage*

These paths can be used on entry instances to get the property values in visibility order.

*init method***Syntax**

```
- (id) init
```

**SDMODataEntry class**

Deprecated. Represents one entry in memory.

**Syntax**

```
@interface SDMODataEntry : NSObject <NSCoding>
```

**Members**

All members of SDMODataEntry, including inherited members. **Methods**

Method	Description
- (void) addIcon: (const SDMODataIconInfo *const) icon on page 2487	
- (void) addLink: (const SDMODataLink *const) link on page 2487	
- (NSArray *const) getActionLinks on page 2487	Returns an array of SDMODataActionLink objects.
- (NSArray *const) getInlinedRelatedEntriesForRelatedLink: (NSString *const) relatedUrl on page 2487	Gets an inlined related list of entries for a related link.
- (NSArray *) getMediaLinksForEditing on page 2488	Returns all the media entry links for editing that are associated with the entry or an empty array, if no media links are available.
- (NSArray *) getMediaLinksForReading on page 2488	Returns all the read-only media entry links that are associated with the entry or an empty array, if no media links are available.
- (SDMODataPropertyValueObject *const) getPropertyValueByPath: (NSString *const) path on page 2488	Returns a pointer to a writable property value object by path>> example: items/description \lang_code.
- (const SDMODataRelatedLink *const) getRelatedLinkByNavigationPropertyName: (NSString *const) navigationPropertyName on page 2488	Returns a related link that matches the given navigation property name or nil, if link is not found.

Method	Description
- (NSArray *const) <i>getRelatedLinks</i> on page 2488	Returns an array of SDMODDataRelatedLink objects.
- (SDMODDataLink *) <i>getSubscriptionLink</i> on page 2489	if the entry supports subscription, then the returned object will be an SDMODDataLink, otherwise nil.
- (NSDate *) <i>getUpdated</i> on page 2489	Returns the date when the entry was updated.
- (NSArray *const) <i>getVisibleDetailPropertiesInOrder</i> on page 2489	Gets the visible property value objects in details ordered by the display order attribute value.
- (NSArray *const) <i>getVisibleListPropertiesInOrder</i> on page 2489	Gets the visible property value objects in lists ordered by the display order attribute value.
- (id) <i>initWithEntitySchema: (const SDMODataEntitySchema *const) newEntitySchema</i> on page 2489	
- (BOOL) <i>isValid</i> on page 2489	Checks if all of the stored values are valid.

***addIcon: method******Syntax***

```
- (void) addIcon : (const SDMODataIconInfo *const) icon
```

***addLink: method******Syntax***

```
- (void) addLink : (const SDMODataLink *const) link
```

***getActionLinks method***

Returns an array of SDMODataActionLink objects.

***Syntax***

```
- (NSArray *const) getActionLinks
```

***getInlinedRelatedEntriesForRelatedLink: method***

Gets an inlined related list of entries for a related link.

***Syntax***

```
- (NSArray *const) getInlinedRelatedEntriesForRelatedLink : (NSString *const) relatedUri
```

### *Usage*

The related entries are present only if they appear in the original payload as inline.

### *getMediaLinksForEditing method*

Returns all the media entry links for editing that are associated with the entry or an empty array, if no media links are available.

### *Syntax*

```
- (NSArray *) getMediaLinksForEditing
```

### *getMediaLinksForReading method*

Returns all the read-only media entry links that are associated with the entry or an empty array, if no media links are available.

### *Syntax*

```
- (NSArray *) getMediaLinksForReading
```

### *getPropertyValueByPath: method*

Returns a pointer to a writable property value object by path>> example: items\description \lang\_code.

### *Syntax*

```
- (SDMODDataPropertyValueObject *const)  
getPropertyValueByPath : (NSString *const) path
```

### *getRelatedLinkByNavigationPropertyName: method*

Returns a related link that matches the given navigation property name or nil, if link is not found.

### *Syntax*

```
- (const SDMODDataRelatedLink *const)  
getRelatedLinkByNavigationPropertyName : (NSString *const)  
navigationPropertyName
```

### *getRelatedLinks method*

Returns an array of SDMODDataRelatedLink objects.

### *Syntax*

```
- (NSArray *const) getRelatedLinks
```

### *Usage*

The links are absolute links and the targetCollection property of the SDMODDataRelatedLink class defines the name of the collection of the related data. When the data is downloaded, use

this collection name to retrieve its entitySchema and pass that schema to the data parser along with the downloaded data.

#### *getSubscriptionLink method*

if the entry supports subscription, then the returned object will be an SDMODataLink, otherwise nil.

#### *Syntax*

```
- (SDMODataLink *) getSubscriptionLink
```

#### *getUpdated method*

Returns the date when the entry was updated.

#### *Syntax*

```
- (NSDate *) getUpdated
```

#### *Usage*

The return value is nil if the entry has an invalid "updated" value.

#### *getVisibleDetailPropertiesInOrder method*

Gets the visible property value objects in details ordered by the display order attribute value.

#### *Syntax*

```
- (NSArray *const) getVisibleDetailPropertiesInOrder
```

#### *getVisibleListPropertiesInOrder method*

Gets the visible property value objects in lists ordered by the display order attribute value.

#### *Syntax*

```
- (NSArray *const) getVisibleListPropertiesInOrder
```

#### *initWithEntitySchema: method*

#### *Syntax*

```
- (id) initWithEntitySchema : (const SDMODataEntitySchema *const) newEntitySchema
```

#### *isValid method*

Checks if all of the stored values are valid.

#### *Syntax*

```
- (BOOL) isValid
```

## *SDMODataEntryJSON class*

Deprecated. Contains the JSON representation of an entry and the HTTP method that must be used when issuing a request with the above mentioned JSON against the backend.

### *Syntax*

```
@interface SDMODataEntryJSON : NSObject
```

### *Members*

All members of SDMODataEntryJSON, including inherited members. **Methods**

Method	Description
- ( <i>id</i> ) <i>init</i> on page 2490	

### *init method*

### *Syntax*

```
- (id) init
```

## *SDMODataEntryXML class*

Deprecated. Contains the XML representation of an entry and the HTTP method that must be used when issuing a request with the above mentioned XML against the backend.

### *Syntax*

```
@interface SDMODataEntryXML : NSObject
```

### *Members*

All members of SDMODataEntryXML, including inherited members. **Methods**

Method	Description
- ( <i>id</i> ) <i>init</i> on page 2490	

### *init method*

### *Syntax*

```
- (id) init
```

## *SDMODataError class*

Deprecated. Stores the parsed data fields of OData error payloads.

### *Syntax*

```
@interface SDMODataError : NSObject
```

### Members

All members of `SDMODataError`, including inherited members. **Methods**

Method	Description
- ( <i>id</i> ) <i>init</i> on page 2491	

### Usage

Example error payload: `<?xml version="1.0" encoding="utf-8" standalone="yes"?> <error xmlns="http://schemas.microsoft.com/ado/2007/08/dataservices/metadata"> <message xml:lang="en-US">Resource not found for the segment 'Titles'.</message> </error>` The stored values after parsing the example payload are: `code = "" message = @"Resource not found for the segment 'Titles'." language = @"en-US"`

### *init* method

#### Syntax

```
- (id) init
```

### *SDMODataErrorXMLParser* class

Deprecated. Parses an OData error payload and returns an `SDMODataError` instance with the parsed values.

#### Syntax

```
@interface SDMODataErrorXMLParser : SDMGenericParser
```

### Members

All members of `SDMODataErrorXMLParser`, including inherited members. **Methods**

Method	Description
- ( <i>id</i> ) <i>init</i> on page 2492	

### Inherited members from `SDMGenericParser`

Member	Description
- ( <i>void</i> ) <i>abortParsing</i> on page 2454	
- ( <i>void</i> ) <i>characters:</i> ( <i>NSString *const</i> ) <i>string</i> on page 2454	
- ( <i>void</i> ) <i>endDocument</i> on page 2454	

Member	Description
- (void) endElement: (NSString *const) elementName namespaceURI: (NSString *const) namespaceURI on page 2455	
- (void) parse: (NSData *const) content on page 2455	Parses the passed data as XML.
- (void) parseContentsOfURL: (NSURL *const) url on page 2455	Parses the data that will be downloaded from the passed URL as XML.
- (void) parser: (NSXMLParser *) parser didEndElement: (NSString *) elementName namespaceURI: (NSString *) namespaceURI qualifiedName: (NSString *) qName on page 2455	
- (void) parser: (NSXMLParser *) parser didStartElement: (NSString *) elementName namespaceURI: (NSString *) namespaceURI qualifiedName: (NSString *) qualifiedName attributes: (NSDictionary *) attributeDict on page 2455	
- (void) parser: (NSXMLParser *) parser foundCharacters: (NSString *) string on page 2456	
- (void) parserDidEndDocument: (NSXMLParser *) parser on page 2456	
- (void) parserDidStartDocument: (NSXMLParser *) parser on page 2456	
- (void) setDoProcessPrefixes: (BOOL) processPrefixes on page 2456	
- (void) startDocument on page 2456	
- (void) startElement: (NSString *const) elementName namespaceURI: (NSString *const) namespaceURI attributes: (NSDictionary *const) attributes on page 2456	

*init method*

**Syntax**

- (id) init



***SDMODataFunctionImport class***

Deprecated. OData Function Import class.

**Syntax**

```
@interface   SDMODataFunctionImport   :   NSObject   <NSCoding>
```

**Members**

All members of SDMODataFunctionImport, including inherited members. **Methods**

Method	Description
- ( <i>NSString *</i> ) <i>generateFunctionImportUrl</i> : ( <i>NSString *const</i> ) <i>baseUrl</i> <i>parameters</i> : ( <i>NSDictionary *const</i> ) <i>parameters</i> on page 2493	Generates the URL that is required to execute the backend functionality that is mapped to the function import.
- ( <i>NSMutableDictionary *</i> ) <i>getWritableParameters</i> on page 2493	Creates a dictionary of property values (SDMODataPropertyValue...) that can be used as function import parameters.
- ( <i>id</i> ) <i>initWithName</i> : ( <i>NSString *const</i> ) <i>newName</i> on page 2494	Creates a function import with the name specified.

***generateFunctionImportUrl:parameters: method***

Generates the URL that is required to execute the backend functionality that is mapped to the function import.

**Syntax**

```
- (NSString *) generateFunctionImportUrl : (NSString *const)
baseUrl parameters : (NSDictionary *const) parameters
```

**Usage**

The method also generates the parameter part of the Function Import URL. For example:

```
http://www.example.com/demo.svc/FunctionImportName?
```

```
parameter='value'&numeric_param=123
```

***getWritableParameters method***

Creates a dictionary of property values (SDMODataPropertyValue...) that can be used as function import parameters.

**Syntax**

```
- (NSMutableDictionary *) getWritableParameters
```

## Usage

Set the `rawValue` property to the value you would like to send as a parameter when executing a function import. For example, the metadata defines the following parameters for the given function import: `<Parameter name="name" type="Edm.String" mode="In"> <Parameter name="index" type="Edm.Int32" mode="In">` The method will return an `NSMutableDictionary` of writable parameters as `SDMODDataPropertyValue...`. The name of the `SDMODDataPropertyValue...` instance will be the name of the parameter.

## *initWithName:* method

Creates a function import with the name specified.

## Syntax

```
- (id) initWithName : (NSString *const) newName
```

## *SDMODDataFunctionImportParameter* class

Deprecated. OData Function Import Parameter class.

## Syntax

```
@interface SDMODDataFunctionImportParameter : NSObject  
<NSCoding>
```

## Members

All members of `SDMODDataFunctionImportParameter`, including inherited members.

## Methods

Method	Description
<code>- (id) initWithMetaInfo: (const SDMODDataPropertyInfo *) newMetaInfo</code> on page 2494	

## *initWithMetaInfo:* method

## Syntax

```
- (id) initWithMetaInfo : (const SDMODDataPropertyInfo *)  
newMetaInfo
```

## *SDMODDataIconInfo* class

Deprecated. icon information

## Syntax

```
@interface SDMODDataIconInfo : NSObject <NSCoding>
```

## Members

All members of `SDMODDataIconInfo`, including inherited members. **Methods**

Method	Description
- (id) initWithUrl: (NSString *const) newUrl on page 2495	
- (id) initWithUrl: (NSString *const) newUrl andWidth: (const size_t) newWidth andHeight: (const size_t) newHeight on page 2495	

*initWithUrl: method***Syntax**

```
- (id) initWithUrl : (NSString *const) newUrl
```

*initWithUrl:andWidth:andHeight: method***Syntax**

```
- (id) initWithUrl : (NSString *const) newUrl andWidth :  
(const size_t) newWidth andHeight : (const size_t) newHeight
```

**SDMODataLink class**

Deprecated. OData Link (base)

**Syntax**

```
@interface SDMODataLink : NSObject <NSCoding>
```

*Derived classes*

- *SDMODataActionLink* on page 2478
- *SDMODataMediaResourceLink* on page 2497
- *SDMODataRelatedLink* on page 2518

**Members**

All members of SDMODataLink, including inherited members. **Methods**

Method	Description
- (id) initWithHRef: (NSString *const) newHRef on page 2496	
- (id) initWithHRef: (NSString *const) newHRef andLinkRel: (NSString *const) newRel on page 2496	

Method	Description
- (id) initWithHRef: (NSString *const) newHRef andLinkRel: (NSString *const) newRel andLinkType: (NSString *const) newType on page 2496	
- (id) initWithHRef: (NSString *const) newHRef andLinkRel: (NSString *const) newRel andLinkType: (NSString *const) newType andLinkTitle: (NSString *const) newTitle on page 2496	
- (id) initWithHRef: (NSString *const) newHRef andLinkRel: (NSString *const) newRel andLinkType: (NSString *const) newType andLinkTitle: (NSString *const) newTitle andSemantic: (const enum TEN_LINK_SEMANTICS) newSemantic on page 2497	

*initWithHRef: method*

**Syntax**

```
- (id) initWithHRef : (NSString *const) newHRef
```

*initWithHRef:andLinkRel: method*

**Syntax**

```
- (id) initWithHRef : (NSString *const) newHRef andLinkRel : (NSString *const) newRel
```

*initWithHRef:andLinkRel:andLinkType: method*

**Syntax**

```
- (id) initWithHRef : (NSString *const) newHRef andLinkRel : (NSString *const) newRel andLinkType : (NSString *const) newType
```

*initWithHRef:andLinkRel:andLinkType:andLinkTitle: method*

**Syntax**

```
- (id) initWithHRef : (NSString *const) newHRef andLinkRel : (NSString *const) newRel andLinkType : (NSString *const) newType andLinkTitle : (NSString *const) newTitle
```

*initWithHref:andLinkRel:andLinkType:andLinkTitle:andSemantic: method*

### Syntax

```
- (id) initWithHref : (NSString *const) newHref andLinkRel : (
NSString *const) newRel andLinkType : (NSString *const) newType
andLinkTitle : (NSString *const) newTitle andSemantic : (const
enum TEN_LINK_SEMANTICS) newSemantic
```

### *SDMODataMediaResourceLink class*

Deprecated. OData Media Resource Link Contains the media link resource and the concurrency token (m:etag) if present.

### Syntax

```
@interface SDMODataMediaResourceLink : SDMODataLink
```

### Members

All members of SDMODataMediaResourceLink, including inherited members. **Inherited members from SDMODataLink**

Member	Description
- (id) initWithHref: (NSString *const) newHref on page 2496	
- (id) initWithHref: (NSString *const) newHref andLinkRel: (NSString *const) newRel on page 2496	
- (id) initWithHref: (NSString *const) newHref andLinkRel: (NSString *const) newRel andLinkType: (NSString *const) newType on page 2496	
- (id) initWithHref: (NSString *const) newHref andLinkRel: (NSString *const) newRel andLinkType: (NSString *const) newType andLinkTitle: (NSString *const) newTitle on page 2496	
- (id) initWithHref: (NSString *const) newHref andLinkRel: (NSString *const) newRel andLinkType: (NSString *const) newType andLinkTitle: (NSString *const) newTitle andSemantic: (const enum TEN_LINK_SEMANTICS) newSemantic on page 2497	

*SDMODataMetaDocumentParser class*

Deprecated. Parses and matches the schema with the service document and its collections.

**Syntax**

```
@interface   SDMODataMetaDocumentParser   :
SDMGenericParser
```

**Members**

All members of SDMODataMetaDocumentParser, including inherited members. **Methods**

Method	Description
- (id) initWithServiceDocument: (SDMODataServiceDocument *const) newServiceDocument on page 2499	

**Inherited members from SDMGenericParser**

Member	Description
- (void) abortParsing on page 2454	
- (void) characters: (NSString *const) string on page 2454	
- (void) endDocument on page 2454	
- (void) endElement: (NSString *const) elementName namespaceURI: (NSString *const) namespaceURI on page 2455	
- (id) init on page 2455	
- (void) parse: (NSData *const) content on page 2455	Parses the passed data as XML.
- (void) parseContentsOfURL: (NSURL *const) url on page 2455	Parses the data that will be downloaded from the passed URL as XML.
- (void) parser: (NSXMLParser *) parser didEndElement: (NSString *) elementName namespaceURI: (NSString *) namespaceURI qualifiedName: (NSString *) qName on page 2455	

Member	Description
- (void) parser: (NSXMLParser *) parser didStartElement: (NSString *) elementName namespaceURI: (NSString *) namespaceURI qualifiedName: (NSString *) qualifiedName attributes: (NSDictionary *) attributeDict on page 2455	
- (void) parser: (NSXMLParser *) parser foundCharacters: (NSString *) string on page 2456	
- (void) parserDidEndDocument: (NSXMLParser *) parser on page 2456	
- (void) parserDidStartDocument: (NSXMLParser *) parser on page 2456	
- (void) setDoProcessPrefixes: (BOOL) processPrefixes on page 2456	
- (void) startDocument on page 2456	
- (void) startElement: (NSString *const) elementName namespaceURI: (NSString *const) namespaceURI attributes: (NSDictionary *const) attributes on page 2456	

### Usage

The parser creates the schema of the input service document's collections.

```
{ SDMODataMetaDocumentParser* metaDocParser =
[[[SDMODataMetaDocumentParser alloc] initWithServiceDocument:
serviceDocument] autorelease]; [metaDocParser parse:
content_in]; } (SDMParserException* e) { //error handling
code... }
```

### *initWithServiceDocument: method*

### Syntax

```
- (id) initWithServiceDocument : (SDMODataServiceDocument
*const) newServiceDocument
```

*SDMODDataPropertyInfo class*

Deprecated. Property information list of attributes: 7.1.5 OData Metadata Document + 3.1.9 Properties.

**Syntax**

```
@interface SDMODDataPropertyInfo : NSObject <NSCoding>
```

**Members**

All members of SDMODDataPropertyInfo, including inherited members. **Methods**

Method	Description
- (void) <i>addChildPropertyInfo: (const SDMODDataPropertyInfo *const) child</i> on page 2500	
- (SDMODDataPropertyInfo *const) <i>getPropertyInfoByPath: (NSString *const) path</i> on page 2501	Returns a pointer to a writable property info by path example path: "items\description \lang_code".
- (id) <i>initWithName: (NSString *const) propName andPropEdmType: (const enum TEN_EDM_TYPES) propEdmType</i> on page 2501	
- (BOOL) <i>isCreatable</i> on page 2501	
- (BOOL) <i>isFilterable</i> on page 2501	
- (BOOL) <i>isKey</i> on page 2501	
- (BOOL) <i>isNullable</i> on page 2501	
- (BOOL) <i>isSearchable</i> on page 2501	
- (BOOL) <i>isServerGenerated</i> on page 2502	
- (BOOL) <i>isUpdatable</i> on page 2502	
- (BOOL) <i>isVisibleInDetail</i> on page 2502	
- (BOOL) <i>isVisibleInList</i> on page 2502	

*addChildPropertyInfo: method*

**Syntax**

```
- (void) addChildPropertyInfo : (const SDMODDataPropertyInfo *const) child
```



*getPropertyInfoByPath: method*

Returns a pointer to a writable property info by path example path: "items\description\nlang\_code".

*Syntax*

```
- (SDMODataPropertyInfo *const) getPropertyInfoByPath :
(NSString *const) path
```

*initWithName:andPropEdmType: method**Syntax*

```
- (id) initWithName : (NSString *const) propName
andPropEdmType : (const enum TEN_EDM_TYPES) propEdmType
```

*isCreatable method**Syntax*

```
- (BOOL) isCreatable
```

*isFilterable method**Syntax*

```
- (BOOL) isFilterable
```

*isKey method**Syntax*

```
- (BOOL) isKey
```

*isNullable method**Syntax*

```
- (BOOL) isNullable
```

*isSearchable method**Syntax*

```
- (BOOL) isSearchable
```

*isServerGenerated method*

**Syntax**

- ( BOOL ) isServerGenerated

*isUpdatable method*

**Syntax**

- ( BOOL ) isUpdatable

*isVisibleInDetail method*

**Syntax**

- ( BOOL ) isVisibleInDetail

*isVisibleInList method*

**Syntax**

- ( BOOL ) isVisibleInList

*SDMODDataPropertyValueBinary class*

Deprecated. Binary.

**Syntax**

```
@interface   SDMODDataPropertyValueBinary   :
SDMODDataPropertyValueObject
```

**Members**

All members of SDMODDataPropertyValueBinary, including inherited members. **Methods**

Method	Description
- (NSMutableData *) getBinaryData on page 2503	Decodes the stored base64 string and returns the decoded data (mutable)
- (void) setBinaryData: (NSData *) new Value on page 2503	Base64 encodes the passed data and stores the result as string.

**Inherited members from SDMODDataPropertyValueObject**

Member	Description
- (NSString *const) getDefault Value on page 2514	Returns the default value of the given EDM type.

Member	Description
- ( <i>NSString *const</i> ) <i>getHTMLEncodedValue</i> on page 2514	Returns the HTML encoded value of the stored value.
- ( <i>id</i> ) <i>initWithPropertyInfo:(const SDMODataPropertyInfo *const) propInfo</i> on page 2514	
- ( <i>id</i> ) <i>initWithPropertyInfo:(const SDMODataPropertyInfo *const) propInfo and Value:(NSString *const) initialValue</i> on page 2514	
- ( <i>BOOL</i> ) <i>isValid</i> on page 2515	Checks if the object stores a valid value.

### *getBinaryData* method

Decodes the stored base64 string and returns the decoded data (mutable)

#### Syntax

```
- (NSMutableData *) getBinaryData
```

### *setBinaryData:* method

Base64 encodes the passed data and stores the result as string.

#### Syntax

```
- (void) setBinaryData : (NSData *) newValue
```

### *SDMODataPropertyValueBoolean* class

Deprecated. Boolean.

#### Syntax

```
@interface SDMODataPropertyValueBoolean :
SDMODataPropertyValueObject
```

### Members

All members of *SDMODataPropertyValueBoolean*, including inherited members. **Methods**

Method	Description
- ( <i>NSNumber *</i> ) <i>getBoolean Value</i> on page 2504	Since OData can define a nullable bool property that means the return type <i>BOOL</i> would not be sufficient.
- ( <i>void</i> ) <i>setBoolean Value:(NSNumber *) newValue</i> on page 2504	

### Inherited members from *SDMODataPropertyValueObject*

Member	Description
- ( <i>NSString *const</i> ) <i>getDefaultValue</i> on page 2514	Returns the default value of the given EDM type.
- ( <i>NSString *const</i> ) <i>getHTMLEncodedValue</i> on page 2514	Returns the HTML encoded value of the stored value.
- ( <i>id</i> ) <i>initWithPropertyInfo:(const SDMODataPropertyInfo *const) propInfo</i> on page 2514	
- ( <i>id</i> ) <i>initWithPropertyInfo:(const SDMODataPropertyInfo *const) propInfo andValue:(NSString *const) initialValue</i> on page 2514	
- ( <i>BOOL</i> ) <i>isValid</i> on page 2515	Checks if the object stores a valid value.

***getBooleanValue* method**

Since OData can define a nullable bool property that means the return type BOOL would not be sufficient.

***Syntax***

```
- (NSNumber *) getBooleanValue
```

***Usage***

Therefore the function returns a boxed bool value (with values YES/NO) or nil, if the property value is nullable and stores "null".

***setBooleanValue: method******Syntax***

```
- (void) setBooleanValue : (NSNumber *) newValue
```

***SDMODataPropertyValueComplex class***

Deprecated. Complex value.

***Syntax***

```
@interface SDMODataPropertyValueComplex :  
SDMODataPropertyValueObject
```

***Members***

All members of SDMODataPropertyValueComplex, including inherited members. **Methods**

Method	Description
- ( <i>NSString *const</i> ) <i>getDefaultValue</i> on page 2505	Returns the default value of the given EDM type.
- ( <i>NSString *const</i> ) <i>getHTMLEncodedValue</i> on page 2505	Returns the HTML encoded value of the stored value.

### Inherited members from *SDMODataPropertyValueObject*

Member	Description
- ( <i>id</i> ) <i>initWithPropertyInfo:(const SDMODataPropertyInfo *const) propInfo</i> on page 2514	
- ( <i>id</i> ) <i>initWithPropertyInfo:(const SDMODataPropertyInfo *const) propInfo andValue:(NSString *const) initialValue</i> on page 2514	
- ( <i>BOOL</i> ) <i>isValid</i> on page 2515	Checks if the object stores a valid value.

#### *getDefaultValue* method

Returns the default value of the given EDM type.

#### Syntax

```
- (NSString *const) getDefaultValue
```

#### *getHTMLEncodedValue* method

Returns the HTML encoded value of the stored value.

#### Syntax

```
- (NSString *const) getHTMLEncodedValue
```

#### Usage

Required by the XML serializer.

#### *SDMODataPropertyValueDateTime* class

Deprecated. *DateTime*.

#### Syntax

```
@interface SDMODataPropertyValueDateTime :
SDMODataPropertyValueObject
```

#### Derived classes

- *SDMODataPropertyValueDateTimeOffset* on page 2506

### Members

All members of `SDMODDataPropertyValueDateTime`, including inherited members. **Methods**

Method	Description
- ( <i>NSDate *</i> ) <i>getDate Value</i> on page 2506	
- ( <i>void</i> ) <i>setDate Value: (NSDate *) new Value</i> on page 2506	

### Inherited members from `SDMODDataPropertyValueObject`

Member	Description
- ( <i>NSString *const</i> ) <i>getDefault Value</i> on page 2514	Returns the default value of the given EDM type.
- ( <i>NSString *const</i> ) <i>getHTMLEncodedValue</i> on page 2514	Returns the HTML encoded value of the stored value.
- ( <i>id</i> ) <i>initWithPropertyInfo: (const SDMODDataPropertyInfo *const) propInfo</i> on page 2514	
- ( <i>id</i> ) <i>initWithPropertyInfo: (const SDMODDataPropertyInfo *const) propInfo and Value: (NSString *const) initialValue</i> on page 2514	
- ( <i>BOOL</i> ) <i>isValid</i> on page 2515	Checks if the object stores a valid value.

### *getDate Value* method

#### Syntax

```
- ( NSDate * ) getDateValue
```

### *setDate Value: method*

#### Syntax

```
- ( void ) setDateValue : ( NSDate * ) newValue
```

### *SDMODDataPropertyValueDateTimeOffset* class

Deprecated. `Edm.DateTimeOffset`.

#### Syntax

```
@interface SDMODDataPropertyValueDateTimeOffset :  
SDMODDataPropertyValueDateTime
```

### Members

All members of `SDMODDataPropertyValueDateTimeOffset`, including inherited members.

#### Inherited members from `SDMODDataPropertyValueDateTime`

Member	Description
- ( <i>NSDate *</i> ) <i>getDate Value</i> on page 2506	
- ( <i>void</i> ) <i>setDate Value: (NSDate *) newValue</i> on page 2506	

#### Inherited members from `SDMODDataPropertyValueObject`

Member	Description
- ( <i>NSString *const</i> ) <i>getDefault Value</i> on page 2514	Returns the default value of the given EDM type.
- ( <i>NSString *const</i> ) <i>getHTMLEncodedValue</i> on page 2514	Returns the HTML encoded value of the stored value.
- ( <i>id</i> ) <i>initWithPropertyInfo: (const SDMODDataPropertyInfo *const) propInfo</i> on page 2514	
- ( <i>id</i> ) <i>initWithPropertyInfo: (const SDMODDataPropertyInfo *const) propInfo and Value: (NSString *const) initialValue</i> on page 2514	
- ( <i>BOOL</i> ) <i>isValid</i> on page 2515	Checks if the object stores a valid value.

### *SDMODDataPropertyValueDecimal* class

Deprecated. Decimal See the following for more details on certain limitations: <http://social.msdn.microsoft.com/Forums/en/adodotnetdataservices/thread/832edcc7-d6ef-4551-bc81-98efb15d9ac0> XMLSCHEMA2: <http://www.w3.org/TR/2001/REC-xmlschema-2-20010502/#decimal> SDM Library limitations since it uses `NSDecimalNumber`: An instance can represent any number that can be expressed as mantissa x 10<sup>exponent</sup> where mantissa is a decimal integer up to 38 digits long, and exponent is an integer from -128 through 127.

### Syntax

```
@interface SDMODDataPropertyValueDecimal :
SDMODDataPropertyValueObject
```

### Members

All members of `SDMODDataPropertyValueDecimal`, including inherited members. **Methods**

Method	Description
- (NSDecimalNumber *) <i>getDecimalValue</i> on page 2508	
- (void) <i>setDecimalValue:</i> (NSDecimalNumber *) <i>newValue</i> on page 2508	

### Inherited members from **SDMODataPropertyValueObject**

Member	Description
- (NSString *const) <i>getDefaultValue</i> on page 2514	Returns the default value of the given EDM type.
- (NSString *const) <i>getHTMLEncodedValue</i> on page 2514	Returns the HTML encoded value of the stored value.
- (id) <i>initWithPropertyInfo:</i> (const SDMODataPropertyInfo *const) <i>propInfo</i> on page 2514	
- (id) <i>initWithPropertyInfo:</i> (const SDMODataPropertyInfo *const) <i>propInfo</i> and <i>Value:</i> (NSString *const) <i>initialValue</i> on page 2514	
- (BOOL) <i>isValid</i> on page 2515	Checks if the object stores a valid value.

### Usage

That means Precision and Scale attributes are limited to 38. That is because Precision is defined as: "a positive integer that specifies the maximum number of decimal digits that an instance of the decimal type can have, both to the left and to the right of the decimal point.

### *getDecimalValue* method

#### Syntax

```
- (NSDecimalNumber *) getDecimalValue
```

### *setDecimalValue:* method

#### Syntax

```
- (void) setDecimalValue : (NSDecimalNumber *) newValue
```



***SDMODataPropertyValueDouble* class**

Deprecated. Double.

**Syntax**

```
@interface   SDMODataPropertyValueDouble   :
SDMODataPropertyValueObject
```

**Members**

All members of *SDMODataPropertyValueDouble*, including inherited members. **Methods**

Method	Description
- ( <i>NSNumber *</i> ) <i>getDoubleValue</i> on page 2509	Since OData can define a nullable double property that means the return type double would not be sufficient.
- ( <i>void</i> ) <i>setDoubleValue:</i> ( <i>NSNumber *</i> ) <i>newValue</i> on page 2510	

**Inherited members from *SDMODataPropertyValueObject***

Member	Description
- ( <i>NSString *const</i> ) <i>getDefaultValue</i> on page 2514	Returns the default value of the given EDM type.
- ( <i>NSString *const</i> ) <i>getHTMLEncodedValue</i> on page 2514	Returns the HTML encoded value of the stored value.
- ( <i>id</i> ) <i>initWithPropertyInfo:</i> ( <i>const SDMODataPropertyInfo *const</i> ) <i>propInfo</i> on page 2514	
- ( <i>id</i> ) <i>initWithPropertyInfo:</i> ( <i>const SDMODataPropertyInfo *const</i> ) <i>propInfo</i> and <i>Value:</i> ( <i>NSString *const</i> ) <i>initialValue</i> on page 2514	
- ( <i>BOOL</i> ) <i>isValid</i> on page 2515	Checks if the object stores a valid value.

***getDoubleValue* method**

Since OData can define a nullable double property that means the return type double would not be sufficient.

**Syntax**

```
- ( NSNumber * ) getDoubleValue
```

## Usage

Therefore the function returns a boxed double value or nil, if the property value is nullable and stores "null".

## setDoubleValue: method

### Syntax

```
- (void) setDoubleValue : (NSNumber *) newValue
```

## SDMODataPropertyValueFactory class

Deprecated. Property value factory Creates the proper property value object instance based on the incoming property info.

### Syntax

```
@interface SDMODataPropertyValueFactory : NSObject
```

## Members

All members of SDMODataPropertyValueFactory, including inherited members. **Methods**

Method	Description
<p><i>+ (SDMODataPropertyValueObject *) createPropertyValueFromPropertyInfoWithValue:(const SDMODataPropertyInfo *const) propInfo initialValue:(NSString *const) initialValue creationFlags:(const uint16_t) creationFlags customFactoryFunction:(PFNCUSTOMPROPERTYVALUEFROMPROPERTYINFOWITHVALUE) customFactoryFunction</i> on page 2510</p>	<p>Creates a property value from its metadata if initial value is nil, the initWith...</p>

## createPropertyValueFromPropertyInfoWithValue:initialValue:creationFlags:customFactoryFunction: method

Creates a property value from its metadata if initial value is nil, the initWith...

### Syntax

```
+ (SDMODataPropertyValueObject *)
createPropertyValueFromPropertyInfoWithValue : (const
SDMODataPropertyInfo *const) propInfo initialValue : (NSString
*const) initialValue creationFlags : (const uint16_t) creationFlags
customFactoryFunction :
(PFNCUSTOMPROPERTYVALUEFROMPROPERTYINFOWITHVALUE )
customFactoryFunction
```

### Usage

method of the PropertyValuexxx object will set the default value of the object! the 4th parameter can be NULL, if no custom types/custom semantics are used

### SDMODataPropertyValueGuid class

Deprecated. GUID.

### Syntax

```
@interface   SDMODataPropertyValueGuid   :
SDMODataPropertyValueObject
```

### Members

All members of SDMODataPropertyValueGuid, including inherited members. **Inherited members from SDMODataPropertyValueObject**

Member	Description
- (NSString *const) getDefaultValue on page 2514	Returns the default value of the given EDM type.
- (NSString *const) getHTMLEncodedValue on page 2514	Returns the HTML encoded value of the stored value.
- (id) initWithPropertyInfo: (const SDMODataPropertyInfo *const) propInfo on page 2514	
- (id) initWithPropertyInfo: (const SDMODataPropertyInfo *const) propInfo and Value: (NSString *const) initialValue on page 2514	
- (BOOL) isValid on page 2515	Checks if the object stores a valid value.

### SDMODataPropertyValueInt class

Deprecated. Int field value (Byte, SByte, Int16, Int32, Int64)

### Syntax

```
@interface   SDMODataPropertyValueInt   :
SDMODataPropertyValueObject
```

### Members

All members of SDMODataPropertyValueInt, including inherited members. **Methods**

Method	Description
- (NSString *const) getHTMLEncodedValue on page 2512	Returns the HTML encoded value of the stored value.

Method	Description
- ( <i>NSNumber *</i> ) <i>getIntValue</i> on page 2512	
- ( <i>id</i> ) <i>initWithPropertyInfo:</i> ( <i>const SDMODataPropertyInfo *const</i> ) <i>propInfo</i> on page 2512	
- ( <i>id</i> ) <i>initWithPropertyInfo:</i> ( <i>const SDMODataPropertyInfo *const</i> ) <i>propInfo</i> and <i>Value:</i> ( <i>NSString *const</i> ) <i>initialValue</i> on page 2513	
- ( <i>void</i> ) <i>setIntValue:</i> ( <i>NSNumber *</i> ) <i>newValue</i> on page 2513	
- ( <i>void</i> ) <i>setValue:</i> ( <i>NSString *</i> ) <i>newValue</i> on page 2513	

### Inherited members from **SDMODataPropertyValueObject**

Member	Description
- ( <i>NSString *const</i> ) <i>getDefaultValue</i> on page 2514	Returns the default value of the given EDM type.
- ( <i>BOOL</i> ) <i>isValid</i> on page 2515	Checks if the object stores a valid value.

#### *getHTMLEncodedValue* method

Returns the HTML encoded value of the stored value.

#### *Syntax*

```
- (NSString *const) getHTMLEncodedValue
```

#### *Usage*

Required by the XML serializer.

#### *getIntValue* method

#### *Syntax*

```
- (NSNumber *) getIntValue
```

#### *initWithPropertyInfo:* method

#### *Syntax*

```
- (id) initWithPropertyInfo : (const SDMODataPropertyInfo *const) propInfo
```

*initWithPropertyInfo:andValue: method***Syntax**

```
- (id) initWithPropertyInfo : (const SDMODataPropertyInfo
*const) propInfo andValue : (NSString *const) initialValue
```

*setIntValue: method***Syntax**

```
- (void) setIntValue : (NSNumber *) newValue
```

*setValue: method***Syntax**

```
- (void) setValue : (NSString *) newValue
```

**SDMODataPropertyValueObject class**

Deprecated. Base field value.

**Syntax**

```
@interface SDMODataPropertyValueObject : NSObject
<NSCoding>
```

**Derived classes**

- *SDMODataPropertyValueBinary* on page 2502
- *SDMODataPropertyValueBoolean* on page 2503
- *SDMODataPropertyValueComplex* on page 2504
- *SDMODataPropertyValueDateTime* on page 2505
- *SDMODataPropertyValueDecimal* on page 2507
- *SDMODataPropertyValueDouble* on page 2509
- *SDMODataPropertyValueGuid* on page 2511
- *SDMODataPropertyValueInt* on page 2511
- *SDMODataPropertyValueSingle* on page 2515
- *SDMODataPropertyValueString* on page 2516
- *SDMODataPropertyValueTime* on page 2517

**Members**

All members of SDMODataPropertyValueObject, including inherited members. **Methods**

Method	Description
- ( <i>NSString *const</i> ) <i>getDefaultValue</i> on page 2514	Returns the default value of the given EDM type.
- ( <i>NSString *const</i> ) <i>getHTMLEncodedValue</i> on page 2514	Returns the HTML encoded value of the stored value.
- ( <i>id</i> ) <i>initWithPropertyInfo:(const SDMODataPropertyInfo *const) propInfo</i> on page 2514	
- ( <i>id</i> ) <i>initWithPropertyInfo:(const SDMODataPropertyInfo *const) propInfo andValue:(NSString *const) initialValue</i> on page 2514	
- ( <i>BOOL</i> ) <i>isValid</i> on page 2515	Checks if the object stores a valid value.

***getDefaultValue* method**

Returns the default value of the given EDM type.

**Syntax**

```
- (NSString *const) getDefaultValue
```

***getHTMLEncodedValue* method**

Returns the HTML encoded value of the stored value.

**Syntax**

```
- (NSString *const) getHTMLEncodedValue
```

**Usage**

Required by the XML serializer.

***initWithPropertyInfo:* method****Syntax**

```
- (id) initWithPropertyInfo : (const SDMODataPropertyInfo *const) propInfo
```

***initWithPropertyInfo:andValue:* method****Syntax**

```
- (id) initWithPropertyInfo : (const SDMODataPropertyInfo *const) propInfo andValue : (NSString *const) initialValue
```

*isValid method*

Checks if the object stores a valid value.

*Syntax*

```
- (BOOL) isValid
```

*Usage*

: When validation is disabled, the return value is always YES!

*SDMODataPropertyValueSingle class*

Deprecated. Single.

*Syntax*

```
@interface SDMODataPropertyValueSingle :  
SDMODataPropertyValueObject
```

*Members*

All members of SDMODataPropertyValueSingle, including inherited members. **Methods**

Method	Description
- (NSNumber *) <i>getSingleValue</i> on page 2516	Since OData can define a nullable single property that means the return type float would not be sufficient.
- (void) <i>setSingleValue:(NSNumber *) newValue</i> on page 2516	

**Inherited members from SDMODataPropertyValueObject**

Member	Description
- (NSString *const) <i>getDefaultValue</i> on page 2514	Returns the default value of the given EDM type.
- (NSString *const) <i>getHTMLEncodedValue</i> on page 2514	Returns the HTML encoded value of the stored value.
- (id) <i>initWithPropertyInfo:(const SDMODataPropertyInfo *const) propInfo</i> on page 2514	
- (id) <i>initWithPropertyInfo:(const SDMODataPropertyInfo *const) propInfo and Value:(NSString *const) initialValue</i> on page 2514	
- (BOOL) <i>isValid</i> on page 2515	Checks if the object stores a valid value.

*getSingleValue method*

Since OData can define a nullable single property that means the return type float would not be sufficient.

*Syntax*

- (NSNumber \*) getSingleValue

*Usage*

Therefore the function returns a boxed float value or nil, if the property value is nullable and stores "null".

*setSingleValue: method*

*Syntax*

- (void) setSingleValue : (NSNumber \*) **newValue**

*SDMODataPropertyValueString class*

Deprecated. String.

*Syntax*

```
@interface   SDMODataPropertyValueString   :
SDMODataPropertyValueObject
```

*Members*

All members of SDMODataPropertyValueString, including inherited members. **Inherited members from SDMODataPropertyValueObject**

Member	Description
- (NSString *const) getDefaultValue on page 2514	Returns the default value of the given EDM type.
- (NSString *const) getHTMLEncodedValue on page 2514	Returns the HTML encoded value of the stored value.
- (id) initWithPropertyInfo: (const SDMODataPropertyInfo *const) propInfo on page 2514	
- (id) initWithPropertyInfo: (const SDMODataPropertyInfo *const) propInfo and Value: (NSString *const) initialValue on page 2514	
- (BOOL) isValid on page 2515	Checks if the object stores a valid value.



*SDMODataPropertyValueTime* class

Deprecated. Edm.Time.

**Syntax**

```
@interface   SDMODataPropertyValueTime   :
SDMODataPropertyValueObject
```

**Members**

All members of *SDMODataPropertyValueTime*, including inherited members. **Methods**

Method	Description
- ( <i>SDMDuration *</i> ) <i>getTimeValue</i> on page 2517	Gets the time duration value.
- ( <i>void</i> ) <i>setTimeValue</i> : ( <i>const SDMDuration *</i> ) <i>newValue</i> on page 2518	Sets the time duration value using <i>SDMDuration</i> .

**Inherited members from *SDMODataPropertyValueObject***

Member	Description
- ( <i>NSString *const</i> ) <i>getDefaultValue</i> on page 2514	Returns the default value of the given EDM type.
- ( <i>NSString *const</i> ) <i>getHTMLEncodedValue</i> on page 2514	Returns the HTML encoded value of the stored value.
- ( <i>id</i> ) <i>initWithPropertyInfo</i> : ( <i>const SDMODataPropertyInfo *const</i> ) <i>propInfo</i> on page 2514	
- ( <i>id</i> ) <i>initWithPropertyInfo</i> : ( <i>const SDMODataPropertyInfo *const</i> ) <i>propInfo</i> and <i>Value</i> : ( <i>NSString *const</i> ) <i>initialValue</i> on page 2514	
- ( <i>BOOL</i> ) <i>isValid</i> on page 2515	Checks if the object stores a valid value.

***getTimeValue* method**

Gets the time duration value.

**Syntax**

```
- (SDMDuration *) getTimeValue
```

*setTimeValue: method*

Sets the time duration value using `SDMDuration`.

**Syntax**

```
- (void) setTimeValue : (const SDMDuration *) newValue
```

***SDMODataRelatedLink class***

Deprecated. OData Related Link When the payload is downloaded from the address stored by the href property, parse the entries with the entity schema that belongs to the collection stored by the targetCollection property of this class!

**Syntax**

```
@interface SDMODataRelatedLink : SDMODataLink
```

**Members**

All members of `SDMODataRelatedLink`, including inherited members. **Methods**

Method	Description
- (id) initWithHref: (NSString *const) newHref andLinkRel: (NSString *const) newRel on page 2519	
- (id) initWithHref: (NSString *const) newHref andLinkRel: (NSString *const) newRel andLinkType: (NSString *const) newType on page 2519	
- (id) initWithHref: (NSString *const) newHref andLinkRel: (NSString *const) newRel andLinkType: (NSString *const) newType andLinkTitle: (NSString *const) newTitle on page 2519	
- (id) initWithHref: (NSString *const) newHref andLinkRel: (NSString *const) newRel andLinkType: (NSString *const) newType andLinkTitle: (NSString *const) newTitle andSemantic: (const enum TEN_LINK_SEMANTICS) newSemantic on page 2519	

**Inherited members from `SDMODataLink`**

Member	Description
- (id) initWithHRef: (NSString *const) newHRef on page 2496	

*initWithHRef:andLinkRel: method*

*Syntax*

```
- (id) initWithHRef : (NSString *const) newHRef andLinkRel : (
NSString *const) newRel
```

*initWithHRef:andLinkRel:andLinkType: method*

*Syntax*

```
- (id) initWithHRef : (NSString *const) newHRef andLinkRel : (
NSString *const) newRel andLinkType : (NSString *const)
newType
```

*initWithHRef:andLinkRel:andLinkType:andLinkTitle: method*

*Syntax*

```
- (id) initWithHRef : (NSString *const) newHRef andLinkRel : (
NSString *const) newRel andLinkType : (NSString *const) newType
andLinkTitle : (NSString *const) newTitle
```

*initWithHRef:andLinkRel:andLinkType:andLinkTitle:andSemantic: method*

*Syntax*

```
- (id) initWithHRef : (NSString *const) newHRef andLinkRel : (
NSString *const) newRel andLinkType : (NSString *const) newType
andLinkTitle : (NSString *const) newTitle andSemantic : (const
enum TEN_LINK_SEMANTICS) newSemantic
```

*SDMODataSchema class*

Deprecated. OData Schema.

*Syntax*

```
@interface SDMODataSchema : NSObject <NSCoding>
```

*Members*

All members of SDMODataSchema, including inherited members. **Methods**

Method	Description
- (BOOL) <i>addWorkspace:</i> (const <i>SDMODDataWorkspace *const</i> ) <i>newWorkspace</i> on page 2520	
- ( <i>SDMODDataCollection *</i> ) <i>getCollectionByName:</i> (NSString *const) <i>collectionName</i> on page 2520	returns a collection by name (href)
- ( <i>SDMODDataCollection *</i> ) <i>getCollectionByName:</i> (NSString *const) <i>collectionName workspaceOfCollection:</i> ( <i>SDMODDataWorkspace **</i> ) <i>workspaceOfCollection</i> on page 2521	returns a collection by name (href) and its workspace, if required.
- (NSArray *) <i>getWorkspacesBySemantic:</i> (const enum <i>TEN_WORKSPACE_SEMANTICS</i> ) <i>workspaceSemantic</i> on page 2521	returns an array of workspaces ( <i>SDMODDataWorkspace</i> instances) by semantic, if available, returns nil otherwise
- ( <i>id</i> ) <i>init</i> on page 2521	
- (void) <i>setOpenSearchDescriptionForCollection:</i> (NSString *const) <i>collectionName openSearchDescription:</i> (const <i>SDMOpenSearchDescription *const</i> ) <i>openSearchDescription</i> on page 2521	Adds an <i>OpenSearchDescription</i> instance to the collection.

***addWorkspace: method*****Syntax**

```
- (BOOL) addWorkspace : (const SDMODDataWorkspace *const)
newWorkspace
```

***getCollectionByName: method***

returns a collection by name (href)

**Syntax**

```
- (SDMODDataCollection *) getCollectionByName : (NSString
*const) collectionName
```

*getCollectionByName:workspaceOfCollection: method*

returns a collection by name (href) and its workspace, if required.

*Syntax*

```
- (SDMODataCollection *) getCollectionByName : (NSString
*const) collectionName workspaceOfCollection : (SDMODataWorkspace
**) workspaceOfCollection
```

*Usage*

If not, pass nil.

*getWorkspacesBySemantic: method*

returns an array of workspaces (SDMODataWorkspace instances) by semantic, if available, returns nil otherwise

*Syntax*

```
- (NSArray *) getWorkspacesBySemantic : (const enum
TEN_WORKSPACE_SEMANTICS) workspaceSemantic
```

*init method**Syntax*

```
- (id) init
```

*setOpenSearchDescriptionForCollection:openSearchDescription: method*

Adds an OpenSearchDescription instance to the collection.

*Syntax*

```
- (void) setOpenSearchDescriptionForCollection : (NSString
*const) collectionName openSearchDescription : (const
SDMOpenSearchDescription *const) openSearchDescription
```

*SDMODataServiceDocument class*

Deprecated. Service Document class.

*Syntax*

```
@interface SDMODataServiceDocument : NSObject
<NSCoding>
```

*Members*

All members of SDMODataServiceDocument, including inherited members. **Methods**

Method	Description
- ( <i>id</i> ) <i>init</i> on page 2522	

*init method***Syntax**

```
- (id) init
```

**SDMODataServiceDocumentParser class**

Deprecated. Parses the service document xml and converts it to an Obj-C service document object.

**Syntax**

```
@interface SDMODataServiceDocumentParser :
SDMGenericParser
```

**Members**

All members of SDMODataServiceDocumentParser, including inherited members. **Methods**

Method	Description
- ( <i>id</i> ) <i>init</i> on page 2523	

**Inherited members from SDMGenericParser**

Member	Description
- ( <i>void</i> ) <i>abortParsing</i> on page 2454	
- ( <i>void</i> ) <i>characters: (NSString *const) string</i> on page 2454	
- ( <i>void</i> ) <i>endDocument</i> on page 2454	
- ( <i>void</i> ) <i>endElement: (NSString *const) elementName namespaceURI: (NSString *const) namespaceURI</i> on page 2455	
- ( <i>void</i> ) <i>parse: (NSData *const) content</i> on page 2455	Parses the passed data as XML.
- ( <i>void</i> ) <i>parseContentsOfURL: (NSURL *const) url</i> on page 2455	Parses the data that will be downloaded from the passed URL as XML.

Member	Description
- (void) parser: (NSXMLParser *) parser didEndElement: (NSString *) elementName namespaceURI: (NSString *) namespaceURI qualifiedName: (NSString *) qName on page 2455	
- (void) parser: (NSXMLParser *) parser didStartElement: (NSString *) elementName namespaceURI: (NSString *) namespaceURI qualifiedName: (NSString *) qualifiedName attributes: (NSDictionary *) attributeDict on page 2455	
- (void) parser: (NSXMLParser *) parser foundCharacters: (NSString *) string on page 2456	
- (void) parserDidEndDocument: (NSXMLParser *) parser on page 2456	
- (void) parserDidStartDocument: (NSXMLParser *) parser on page 2456	
- (void) setDoProcessPrefixes: (BOOL) processPrefixes on page 2456	
- (void) startDocument on page 2456	
- (void) startElement: (NSString *const) elementName namespaceURI: (NSString *const) namespaceURI attributes: (NSDictionary *const) attributes on page 2456	

### Usage

The service document instance can be accessed via the "serviceDocument" property of the parser after parsing. `SDMODataServiceDocument* svcDoc = nil;`

```
{ SDMODataServiceDocumentParser* svcDocParser =
[[[SDMODataServiceDocumentParser alloc] init] autorelease];
[svcDocParser parse: content_in]; svcDoc =
[svcDocParser.serviceDocument retain]; } (SDMParserException*
e) { //error handling code... }
```

### init method

#### Syntax

```
- (id) init
```

*SDMODataWorkspace class*

Deprecated. OData Workspace.

*Syntax*

```
@interface   SDMODataWorkspace   :   NSObject <NSCoding>
```

*Members*

All members of SDMODataWorkspace, including inherited members. **Methods**

Method	Description
- (BOOL) addCollection: (const SDMODataCollection *const) newCollection on page 2524	
- (id) init on page 2524	

*addCollection: method*

*Syntax*

```
- (BOOL) addCollection : (const SDMODataCollection *const )
```

**newCollection**

*init method*

*Syntax*

```
- (id) init
```

*SDMOpenSearchDescription class*

Open Search Description representation.

*Syntax*

```
@interface   SDMOpenSearchDescription   :   NSObject <NSCoding>
```

*Members*

All members of SDMOpenSearchDescription, including inherited members. **Methods**

Method	Description
- (void) addUrlTemplate: (const SDMOpenSearchDescriptionURLTemplate *const) newTemplate on page 2525	
- (id) init on page 2525	



*addUrlTemplate: method***Syntax**

```
- (void) addUrlTemplate : (const
SDMOpenSearchDescriptionURLTemplate *const) newTemplate
```

*init method***Syntax**

```
- (id) init
```

*SDMOpenSearchDescriptionURLTemplate class*

Deprecated. Open Search template URL.

**Syntax**

```
@interface SDMOpenSearchDescriptionURLTemplate : NSObject
<NSCoding>
```

**Members**

All members of SDMOpenSearchDescriptionURLTemplate, including inherited members.

**Methods**

Method	Description
- (NSString *) createUrlWithParameters: (NSDictionary *) parameters on page 2525	Creates an URL from the template URL assigning values to the parameters that appear in the template.
- (id) initWithUrlTemplate: (NSString *const) newUrlTemplate andType: (NSString *const) newType on page 2526	

*createUrlWithParameters: method*

Creates an URL from the template URL assigning values to the parameters that appear in the template.

**Syntax**

```
- (NSString *) createUrlWithParameters : (NSDictionary *)  
parameters
```

**Usage**

The parameters are passed as a dictionary, the key is the parameter name, the value is the value of the parameter. The function URL encodes the parameter values. An exception is thrown if a mandatory parameter cannot be found in the dictionary.

*initWithUrlTemplate:andType:* method

#### Syntax

```
- (id) initWithUrlTemplate : (NSString *const) newUriTemplate
andType : (NSString *const) newType
```

#### *SDMOpenSearchDescriptionXMLParser* class

Deprecated. Parses an OpenSearch description document and creates its ObjC representation that can be accessed via the `openSearchDescription` property of the class instance after parsing.

#### Syntax

```
@interface SDMOpenSearchDescriptionXMLParser :
SDMGenericParser
```

#### Members

All members of `SDMOpenSearchDescriptionXMLParser`, including inherited members.

#### Methods

Method	Description
- (id) <i>init</i> on page 2527	

#### Inherited members from `SDMGenericParser`

Member	Description
- (void) <i>abortParsing</i> on page 2454	
- (void) <i>characters: (NSString *const) string</i> on page 2454	
- (void) <i>endDocument</i> on page 2454	
- (void) <i>endElement: (NSString *const) elementName namespaceURI: (NSString *const) namespaceURI</i> on page 2455	
- (void) <i>parse: (NSData *const) content</i> on page 2455	Parses the passed data as XML.
- (void) <i>parseContentsOfURL: (NSURL *const) url</i> on page 2455	Parses the data that will be downloaded from the passed URL as XML.

Member	Description
- (void) parser: (NSXMLParser *) parser didEndElement: (NSString *) elementName namespaceURI: (NSString *) namespaceURI qualifiedName: (NSString *) qName on page 2455	
- (void) parser: (NSXMLParser *) parser didStartElement: (NSString *) elementName namespaceURI: (NSString *) namespaceURI qualifiedName: (NSString *) qualifiedName attributes: (NSDictionary *) attributeDict on page 2455	
- (void) parser: (NSXMLParser *) parser foundCharacters: (NSString *) string on page 2456	
- (void) parserDidEndDocument: (NSXMLParser *) parser on page 2456	
- (void) parserDidStartDocument: (NSXMLParser *) parser on page 2456	
- (void) setDoProcessPrefixes: (BOOL) processPrefixes on page 2456	
- (void) startDocument on page 2456	
- (void) startElement: (NSString *const) elementName namespaceURI: (NSString *const) namespaceURI attributes: (NSDictionary *const) attributes on page 2456	

### Usage

```
SDMOpenSearchDescription* osd = nil;
{ SDMOpenSearchDescriptionXMLParser* osdParser =
[[[SDMOpenSearchDescriptionXMLParser alloc] init]
autorelease]; [osdParser parse: content_in]; osd =
[osdParser.openSearchDescription retain]; }
(SDMParseException* e) { //error handling... }
```

### init method

#### Syntax

```
- (id) init
```

*SDMParserDelegate protocol*

Deprecated. Use ODataParserDelegate instead

*Syntax*

```
@protocol SDMParserDelegate
```

*Derived classes*

- *SDMGenericParser* on page 2453

*Members*

All members of SDMParserDelegate, including inherited members. **Methods**

Method	Description
- (void) characters: (NSString *const) string on page 2528	
- (void) endDocument on page 2528	
- (void) endElement: (NSString *const) elementName namespaceURI: (NSString *const) namespaceURI on page 2528	
- (void) startDocument on page 2529	
- (void) startElement: (NSString *const) elementName namespaceURI: (NSString *const) namespaceURI attributes: (NSDictionary *const) attributes on page 2529	

*characters: method*

*Syntax*

```
- (void) characters : (NSString *const) string
```

*endDocument method*

*Syntax*

```
- (void) endDocument
```

*endElement:namespaceURI: method*

*Syntax*

```
- (void) endElement : (NSString *const) elementName  
namespaceURI : (NSString *const) namespaceURI
```

*startDocument method***Syntax**

```
- (void) startDocument
```

*startElement:namespaceURI:attributes: method***Syntax**

```
- (void) startElement : (NSString *const) elementName
namespaceURI : (NSString *const) namespaceURI attributes :
(NSDictionary *const) attributes
```

*SDMParserException class*

Deprecated. SDMParserException.

**Syntax**

```
@interface SDMParserException : NSEnvironment
```

**Members**

All members of SDMParserException, including inherited members. **Methods**

Method	Description
- (id) <i>init</i> on page 2529	
- (id) <i>initWithError: (NSString *) error_in detailedError: (NSString *) details_in</i> on page 2529	
- (id) <i>initWithError: (NSString *) error_in detailedError: (NSString *) details_in statusCode: (NSInteger) statusCode_in</i> on page 2530	

*init method***Syntax**

```
- (id) init
```

*initWithError:detailedError: method***Syntax**

```
- (id) initWithError : (NSString *) error_in detailedError : (
NSString *) details_in
```

*initWithError:detailedError:statusCode: method*

**Syntax**

```
- (id) initWithError : (NSString *) error_in detailedError : (
NSString *) details_in statusCode : (NSInteger) statusCode_in
```

**SDMPerformanceUtil class**

Deprecated. Use PerformanceUtil instead

**Syntax**

```
@interface SDMPerformanceUtil : NSObject
```

**Members**

All members of SDMPerformanceUtil, including inherited members. **Methods**

Method	Description
+ (void) enableParserPerformanceLog: (BOOL) value_in on page 2530	
+ (BOOL) isParserPerfLogEnabled on page 2530	

*enableParserPerformanceLog: method*

**Syntax**

```
+ (void) enableParserPerformanceLog : (BOOL) value_in
```

*isParserPerfLogEnabled method*

**Syntax**

```
+ (BOOL) isParserPerfLogEnabled
```

**SDMPerfTimer class**

High Precision Timer Class.

**Syntax**

```
@interface SDMPerfTimer : NSObject
```

**Members**

All members of SDMPerfTimer, including inherited members. **Methods**

Method	Description
- (uint64_t) <i>getTimeElapsedInMillisec</i> on page 2531	Retrieves the time elapsed after calling startTimer, resetTimer or between two consecutive getTimeElapsedInMillisec calls.
- (void) <i>reset</i> on page 2531	Resets the timer.
- (void) <i>start</i> on page 2531	Initializes the timer.

### Usage

The timer class should be used for accurate performance measurements. SDMPerfTimer uses low level Mach timing functions, therefore it is reliable and lightweight.

Sample usage:

```
// instantiate the timer and start it
SDMPerfTimer* perfTimer = [[SDMPerfTimer alloc] initWithStart];
[perfTimer start];
...
// invoke when and from wherever needed (must not be the same scope
// as the start or reset message)
double elapsedTime = [perfTimer getTimeElapsedInMillisec];
NSLog(@"Time elapsed: [f ms], [f s]", elapsedTime, (elapsedTime /
1000.f) );
// release the timer when you do not need it anymore
[perfTimer release];
```

### *getTimeElapsedInMillisec* method

Retrieves the time elapsed after calling startTimer, resetTimer or between two consecutive getTimeElapsedInMillisec calls.

#### Syntax

```
- (uint64_t) getTimeElapsedInMillisec
```

### *reset* method

Resets the timer.

#### Syntax

```
- (void) reset
```

### *start* method

Initializes the timer.

#### Syntax

```
- (void) start
```

**SDMPersistence class**

Deprecated. Default Persistence implementation.

**Syntax**

```
@interface SDMPersistence : NSObject <SDMPersisting>
```

**Members**

All members of SDMPersistence, including inherited members. **Methods**

Method	Description
- (void) clear on page 2533	Wipes out all persisted content.
+ (id) instance on page 2533	Static Persistence instance.
- (id< SDMCaching >) loadCache: (NSString *) uid_in on page 2534	Loads a previously persisted data based on it's unique identifier.
- (NSData *) loadData: (NSString *) uid_in on page 2534	Loads a previously persisted data based on it's unique identifier.
- (id< NSCoding >) loadSerializable: (NSString *) uid_in on page 2534	Loads a previously persisted object which adopts the NSCodering protocol based on it's unique identifier The UID is returned upon successfully persisting the data; it has to be managed by the caller in order to retrieve the persisted data or to overwrite it later on.
- (void) removeCacheWithId: (NSString *) uid_in on page 2535	Wipes out a persisted cache content.
- (StoragePolicy) storagePolicy on page 2535	Returns the default storage policy For builds targeting iOS4.0+ the default should be FullProtectionStoragePolicy.
- (NSString *) storeCache: (id< SDMCaching >) cache_in on page 2535	Stores the data to the app's sandbox, returning a unique identifier.
- (NSString *) storeData: (NSData *) data_in withId: (NSString *) uid_in on page 2535	Stores the data to the app's sandbox, returning a unique identifier.
- (NSString *) storeSerializable: (id< NSCodering >) serializable_in withId: (NSString *) uid_in on page 2536	Stores serializable data to the app's sandbox, returning a unique identifier The returned UID has to be managed by the caller in order to retrieve the persisted data or to overwrite the contents using a successive storeCache: call.



### Usage

Usage

```

// 1. Store some data
// retrieve the singleton instance
SDMPersistence* persistence = [SDMPersistence instance];
// persist some NSData, and store the uid returned by the method
NSString* uid = [persistence storeData:data];
// if no valid uid is returned, there was a problem while trying to
store the data
if( !uid )
{
    NSLog(@"", "Data could not be persisted!");
    // error handling goes here
    ...
}
else
{
    // store the uid
    ...
}

// 2. Retrieve the persisted data
// retrieve the singleton instance
SDMPersistence* persistence = [SDMPersistence instance];

// retrieve the previously persisted NSData, based on the uid we
received when calling the storeData: API
NSData* data = [persistence loadData:uid];

```

### *clear method*

Wipes out all persisted content.

### *Syntax*

- (void) clear

### *Usage*

Handle with care. It permanently deletes all stored data from the persistence.

### *instance method*

Static Persistence instance.

### *Syntax*

+ (id) instance

### *loadCache: method*

Loads a previously persisted data based on it's unique identifier.

#### *Syntax*

```
- (id< SDMCaching >) loadCache : (NSString *) uid_in
```

#### *Parameters*

- **uid\_in** – the unique identifier for the persisted cache object

#### *Returns*

valid cache object or nil if none found

### *loadData: method*

Loads a previously persisted data based on it's unique identifier.

#### *Syntax*

```
- (NSData *) loadData : (NSString *) uid_in
```

#### *Parameters*

- **uid\_in** – the unique identifier for the persisted data

#### *Returns*

valid data or nil if none found The returned uid has to be managed by the caller in order to retrieve the persisted data or to overwrite the contents using a successive storeData: call

### *loadSerializable: method*

Loads a previously persisted object which adopts the NSCodering protocol based on it's unique identifier The UID is returned upon successfully persisting the data; it has to be managed by the caller in order to retrieve the persisted data or to overwrite it later on.

#### *Syntax*

```
- (id< NSCodering >) loadSerializable : (NSString *) uid_in
```

#### *Parameters*

- **uid\_in** – the unique identifier for the persisted object

#### *Returns*

valid object (implementing NSCodering) or nil if none found

*removeCacheWithId: method*

Wipes out a persisted cache content.

*Syntax*

```
- (void) removeCacheWithId : (NSString *) uid_in
```

*Parameters*

- **an** – existing ID to delete previously stored content

*storagePolicy method*

Returns the default storage policy For builds targeting iOS4.0+ the default should be FullProtectionStoragePolicy.

*Syntax*

```
- (StoragePolicy) storagePolicy
```

*Usage*

Lower iOS versions do not have secure storage support, therefore in this case the default storage policy should be NoProtectionStoragePolicy, with no possibility to change this setting Custom SDMPersistence implementations might provide a way to alter the storage policy for iOS4.0+, superceding the default setting

*storeCache: method*

Stores the data to the app's sandbox, returning a unique identifier.

*Syntax*

```
- (NSString *) storeCache : (id< SDMCaching >) cache_in
```

*Parameters*

- **cache\_in** – cache object to be persisted

*Returns*

cache unique identifier The returned uid has to be managed by the caller in order to retrieve the persisted data

*storeData:withId: method*

Stores the data to the app's sandbox, returning a unique identifier.

*Syntax*

```
- (NSString *) storeData : (NSData *) data_in withId :  
(NSString *) uid_in
```

## Parameters

- **data\_in** – data to be persisted
- **id\_in** – should be nil when storing data for the first time, or an existing ID to overwrite previously stored content

## Returns

unique identifier

## *storeSerializable:withId: method*

Stores serializable data to the app's sandbox, returning a unique identifier The returned UID has to be managed by the caller in order to retrieve the persisted data or to overwrite the contents using a successive storeCache: call.

## Syntax

```
- (NSString *) storeSerializable : (id< NSCoding >)  
serializable_in withId : (NSString *) uid_in
```

## Parameters

- **serializable\_in** – object adopting the NSCoding protocol to be persisted
- **id\_in** – should be nil when storing an object adopting the NSCoding protocol for the first time, or an existing ID to overwrite previously stored content

## Returns

unique identifier (has to be managed by the caller in order to retrieve the persisted data)

## *SDMPersisting protocol*

Deprecated. Declares the Persistence protocol (interface) Protocol to be adapted by client classes in order to achieve the Persistence functionality.

## Syntax

```
@protocol SDMPersisting
```

## Derived classes

- *SDMPersistence* on page 2532

## Members

All members of SDMPersisting, including inherited members. **Methods**

Method	Description
- (void) clear on page 2538	Should wipe out all persisted content.

Method	Description
- ( <i>id</i> < <i>SDMCaching</i> >) <i>loadCache</i> : ( <i>NSString</i> *) <i>uid_in</i> on page 2538	Should load a previously persisted data based on its unique identifier The UID is returned upon successfully persisting the data; it has to be managed by the caller in order to retrieve the persisted data or to overwrite it later on.
- ( <i>NSData</i> *) <i>loadData</i> : ( <i>NSString</i> *) <i>uid_in</i> on page 2538	Should load a previously persisted data based on its unique identifier The UID is returned upon successfully persisting the data; it has to be managed by the caller in order to retrieve the persisted data.
- ( <i>id</i> < <i>NSCoding</i> >) <i>loadSerializable</i> : ( <i>NSString</i> *) <i>uid_in</i> on page 2538	Should load a previously persisted object which adopts the <i>NSCoding</i> protocol based on its unique identifier The UID is returned upon successfully persisting the data; it has to be managed by the caller in order to retrieve the persisted data or to overwrite it later on.
- ( <i>StoragePolicy</i> ) <i>storagePolicy</i> on page 2539	Should return the default storage policy For builds targeting iOS4.0+ the default should be <i>FullProtectionStoragePolicy</i> .
- ( <i>NSString</i> *) <i>storeCache</i> : ( <i>id</i> < <i>SDMCaching</i> >) <i>cache_in</i> on page 2539	Should store the data to the app's sandbox, returning a unique identifier The returned UID has to be managed by the caller in order to retrieve the persisted data or to overwrite the contents using a successive <i>storeCache</i> : call.
- ( <i>NSString</i> *) <i>storeData</i> : ( <i>NSData</i> *) <i>data_in</i> withId: ( <i>NSString</i> *) <i>uid_in</i> on page 2539	Should store the data to the app's filesystem (sandbox), returning a unique identifier The returned UID has to be managed by the caller in order to retrieve the persisted data or to overwrite the contents using a successive <i>storeData</i> : call.
- ( <i>NSString</i> *) <i>storeSerializable</i> : ( <i>id</i> < <i>NSCoding</i> >) <i>serializable_in</i> withId: ( <i>NSString</i> *) <i>uid_in</i> on page 2540	Should store serializable data to the app's sandbox, returning a unique identifier The returned UID has to be managed by the caller in order to retrieve the persisted data or to overwrite the contents using a successive <i>storeCache</i> : call.

### *clear method*

Should wipe out all persisted content.

### *Syntax*

```
- (void) clear
```

### *loadCache: method*

Should load a previously persisted data based on its unique identifier The UID is returned upon successfully persisting the data; it has to be managed by the caller in order to retrieve the persisted data or to overwrite it later on.

### *Syntax*

```
- (id< SDMCaching >) loadCache : (NSString *) uid_in
```

### *Parameters*

- **uid\_in** – the unique identifier for the persisted cache object

### *Returns*

valid cache object or nil if none found

### *loadData: method*

Should load a previously persisted data based on its unique identifier The UID is returned upon successfully persisting the data; it has to be managed by the caller in order to retrieve the persisted data.

### *Syntax*

```
- (NSData *) loadData : (NSString *) uid_in
```

### *Parameters*

- **uid\_in** – the unique identifier for the persisted data

### *Returns*

valid data or nil if none found

### *loadSerializable: method*

Should load a previously persisted object which adopts the NSCoder protocol based on its unique identifier The UID is returned upon successfully persisting the data; it has to be managed by the caller in order to retrieve the persisted data or to overwrite it later on.

### *Syntax*

```
- (id< NSCoder >) loadSerializable : (NSString *) uid_in
```

*Parameters*

- **uid\_in** – the unique identifier for the persisted object

*Returns*

valid object (implementing NSCodering) or nil if none found

*storagePolicy method*

Should return the default storage policy For builds targeting iOS4.0+ the default should be FullProtectionStoragePolicy.

*Syntax*

```
- (StoragePolicy) storagePolicy
```

*Usage*

Lower iOS versions do not have secure storage support, therefore in this case the default storage policy should be NoProtectionStoragePolicy, with no possibility to change this setting Custom SDMPersistence implementations might provide a way to alter the storage policy for iOS4.0+, superceding the default setting

*storeCache: method*

Should store the data to the app's sandbox, returning a unique identifier The returned UID has to be managed by the caller in order to retrieve the persisted data or to overwrite the contents using a successive storeCache: call.

*Syntax*

```
- (NSString *) storeCache : (id< SDMCaching >) cache_in
```

*Parameters*

- **cache\_in** – cache object to be persisted

*Returns*

unique identifier (has to be managed by the caller in order to retrieve the persisted data)

*storeData:withId: method*

Should store the data to the app's filesystem (sandbox), returning a unique identifier The returned UID has to be managed by the caller in order to retrieve the persisted data or to overwrite the contents using a successive storeData: call.

*Syntax*

```
- (NSString *) storeData : (NSData *) data_in withId :  
(NSString *) uid_in
```

### *Parameters*

- **data\_in** – data to be persisted
- **id\_in** – should be nil when storing the data for the first time, or an existing ID to overwrite previously stored content

### *Returns*

unique identifier (has to be managed by the caller in order to retrieve the persisted data)

### *storeSerializable:withId: method*

Should store serializable data to the app's sandbox, returning a unique identifier The returned UID has to be managed by the caller in order to retrieve the persisted data or to overwrite the contents using a successive storeCache: call.

### *Syntax*

```
- (NSString *) storeSerializable : (id< NSCoding >)  
serializable_in withId : (NSString *) uid_in
```

### *Parameters*

- **serializable\_in** – object adopting the NSCoding protocol to be persisted
- **id\_in** – should be nil when storing an object adopting the NSCoding protocol for the first time, or an existing ID to overwrite previously stored content

### *Returns*

unique identifier (has to be managed by the caller in order to retrieve the persisted data)

### *SDMProgressDelegate protocol*

Deprecated. Defines default delegate methods for upload and download progress notification Protocol to be adapted by client classes in order to hook in for didReceiveBytes / didSendBytes / incrementDownloadSizeBy / incrementUploadSizeBy delegates

### *Syntax*

```
@protocol SDMProgressDelegate
```

### *Derived classes*

- *SDMNetworkQueue* on page 2476

### *Members*

All members of SDMProgressDelegate, including inherited members. **Methods**



Method	Description
- (void) request: (id< SDMRequesting >) request didReceiveBytes: (long long) bytes on page 2541	Delegate method called when the request receives data.
- (void) request: (id< SDMRequesting >) request didSendBytes: (long long) bytes on page 2541	Delegate method called when the request sends data.
- (void) request: (id< SDMRequesting >) request incrementDownloadSizeBy: (long long) newLength on page 2542	Delegate method called when the request needs to change the download content size.
- (void) request: (id< SDMRequesting >) request incrementUploadSizeBy: (long long) newLength on page 2542	Delegate method called when the request needs to change the length of the content to upload.
- (void) setProgress: (float) newProgress on page 2542	Delegate method called to update UIProgress-Views.

**request:didReceiveBytes: method**

Delegate method called when the request receives data.

**Syntax**

```
- (void) request : (id< SDMRequesting >) request  
didReceiveBytes : (long long) bytes
```

**Parameters**

- **request** – the request object which received data
- **bytes** – number of bytes received

**request:didSendBytes: method**

Delegate method called when the request sends data.

**Syntax**

```
- (void) request : (id< SDMRequesting >) request didSendBytes :  
(long long) bytes
```

**Parameters**

- **request** – the request object which sent the data
- **bytes** – number of bytes sent; it can be a negative value if the request has to remove the upload progress (i.e. it has to run again)

### *request:incrementDownloadSizeBy: method*

Delegate method called when the request needs to change the download content size.

#### *Syntax*

```
- (void) request : (id< SDMRequesting >) request  
incrementDownloadSizeBy : (long long) newLength
```

#### *Parameters*

- **request** – the request object which sent the data
- **bytes** – number of bytes sent; it can be a negative value if the request has to remove the upload progress (i.e. it has to run again)

### *request:incrementUploadSizeBy: method*

Delegate method called when the request needs to change the length of the content to upload.

#### *Syntax*

```
- (void) request : (id< SDMRequesting >) request  
incrementUploadSizeBy : (long long) newLength
```

#### *Parameters*

- **request** – the request object which sent the data
- **bytes** – number of uploaded bytes; it can be a negative value if the request needs to remove the size of the internal buffer from progress tracking

### *setProgress: method*

Delegate method called to update UIProgressViews.

#### *Syntax*

```
- (void) setProgress : (float) newProgress
```

#### *Usage*

As an alternative, you might want to consider implementing `didReceiveBytes / didSendBytes` delegate methods

### *SDMRequestBuilder class*

Deprecated. Acts as a configuration based runtime switch between `SDMHttpRequest` or `SUPRequest`.

#### *Syntax*

```
@interface SDMRequestBuilder : NSObject
```

## Members

All members of `SDMRequestBuilder`, including inherited members. **Methods**

Method	Description
<i>+ (void) cancelAllRequestsInQueue</i> on page 2543	This is an API to help clear the Queue of all queued requests.
<i>+ (void) enableTracing: (BOOL) value_in</i> on page 2544	Switches traceability status, the default is NO.
<i>+ (void) enableXCSRF: (BOOL) enable</i> on page 2544	Enable XCSRF support.
<i>+ (int) getTraceLevel</i> on page 2544	Helper method to retrieve the trace level.
<i>+ (BOOL) isTracingEnabled</i> on page 2544	Returns tracing status (default is NO).
<i>+ (id&lt; SDMRequesting &gt;) requestWithURL: (NSURL *) newURL</i> on page 2545	Factory method with url.
<i>+ (id&lt; SDMRequesting &gt;) requestWithURL: (NSURL *) newURL usingCache: (id&lt; SDMCacheDelegate &gt;) cache</i> on page 2545	Factory method with url and cache.
<i>+ (id&lt; SDMRequesting &gt;) requestWithURL: (NSURL *) newURL usingCache: (id&lt; SDMCacheDelegate &gt;) cache andCachePolicy: (CachePolicy) policy</i> on page 2545	Factory method with url, cache and a cache policy.
<i>+ (enum ERequestType) retrieveRequestType</i> on page 2546	Helper method to retrieve the request type.
<i>+ (void) setRequestType: (const enum ERequestType) type_in</i> on page 2546	Helper method to store the request type to be instantiated; the builder decides which class ( <code>SDMHttpRequest</code> or <code>SUPRequest</code> ) should be instantiated based on this value.
<i>+ (void) setTraceLevel: (Level) value_in</i> on page 2546	Set the trace level, default is MEDIUM.

### *cancelAllRequestsInQueue* method

This is an API to help clear the Queue of all queued requests.

### Syntax

```
+ (void) cancelAllRequestsInQueue
```

```
[SDMRequestBuilder cancelAllRequestsInQueue];
```

### *enableTracing: method*

Switches traceability status, the default is NO.

#### *Syntax*

```
+ (void) enableTracing : (BOOL) value_in
```

```
// set the request type
[SDMRequestBuilder setRequestType:HTTPRequestType];
// enable tracing before instantiating the request
[SDMRequestBuilder enableTracing:YES];
// instantiate the request
self.request = [SDMRequestBuilder requestWithURL:demoUrl];
...
```

#### *Usage*

If tracing is enabled, "SAP-PASSPORT" and "X-CorrelationID" headers are set and filled with values to enable SAP Passport functionality.

### *enableXCSRF: method*

Enable XCSRF support.

#### *Syntax*

```
+ (void) enableXCSRF : (BOOL) enable
```

```
// enable xcsrf before instantiating the request
[SDMRequestBuilder enableXCSRF:YES];
// instantiate the request
self.request = [SDMRequestBuilder requestWithURL:demoUrl];
...
```

#### *Usage*

It is disabled by default.

### *getTraceLevel method*

Helper method to retrieve the trace level.

#### *Syntax*

```
+ (int) getTraceLevel
```

### *isTracingEnabled method*

Returns tracing status (default is NO).

#### *Syntax*

```
+ (BOOL) isTracingEnabled
```

*requestWithURL: method*

Factory method with url.

*Syntax*

```
+ (id<SDMRequesting >) requestWithURL : (NSURL *) newURL
```

*Parameters*

- **newURL** – Object of NSURL class.

```
id<SDMRequesting> request = [SDMRequestBuilder requestWithURL:
[[NSURL alloc] initWithString:"http://vmw3815.wdf.sap.corp:50009/
sap/opu/odata/iwfnd/RMTSAMPLEFLIGHT/"]];
```

*requestWithURL:usingCache: method*

Factory method with url and cache.

*Syntax*

```
+ (id<SDMRequesting >) requestWithURL : (NSURL *) newURL
usingCache : (id<SDMCacheDelegate >) cache
```

*Parameters*

- **newURL** – Object of NSURL class.
- **cache** – Object of class implementing SDMCacheDelegate protocol.

```
id<SDMRequesting> request = [SDMRequestBuilder requestWithURL:
[[NSURL alloc] initWithString:"http://vmw3815.wdf.sap.corp:50009/
sap/opu/odata/iwfnd/RMTSAMPLEFLIGHT/" usingCache:cache];
```

*requestWithURL:usingCache:andCachePolicy: method*

Factory method with url, cache and a cache policy.

*Syntax*

```
+ (id<SDMRequesting >) requestWithURL : (NSURL *) newURL
usingCache : (id<SDMCacheDelegate >) cache andCachePolicy : (
CachePolicy) policy
```

*Parameters*

- **newURL** – Object of NSURL class.
- **cache** – Object of class implementing SDMCacheDelegate protocol.
- **policy** – CachePolicy enum value.

```
id<SDMRequesting> request = [SDMRequestBuilder requestWithURL:
[[NSURL alloc] initWithString:"http://vmw3815.wdf.sap.corp:50009/
sap/opu/odata/iwfnd/RMTSAMPLEFLIGHT/" usingCache:cache
andCachePolicy:ReloadIfDifferentCachePolicy];
```

### *retrieveRequestType* method

Helper method to retrieve the request type.

#### *Syntax*

```
+ (enum ERequestType) retrieveRequestType
```

#### *Returns*

ERequest\_Type enum value.

### *setRequestType: method*

Helper method to store the request type to be instantiated; the builder decides which class (SDMHttpRequest or SUPRequest) should be instantiated based on this value.

#### *Syntax*

```
+ (void) setRequestType : (const enum ERequestType) type_in
```

#### *Parameters*

- **type\_in** – RequestType enum value.

### *setTraceLevel: method*

Set the trace level, default is MEDIUM.

#### *Syntax*

```
+ (void) setTraceLevel : (Level) value_in
```

```
// enable tracing before instantiating the request
[SDMRequestBuilder enableTracing:YES];
// set the trace level
[SDMRequestBuilder setTraceLevel:HIGH];
// instantiate the request
self.request = [SDMRequestBuilder requestWithURL:demoUrl];
...
```

### *SDMRequesting* protocol

Deprecated. Defines the connectivity APIs Protocol to be adapted by Connectivity classes

#### *Syntax*

```
@protocol SDMRequesting
```

#### *Derived classes*

- *SDMHttpRequest* on page 2456

#### *Members*

All members of SDMRequesting, including inherited members. **Methods**

Method	Description
- (void) <i>addBasicAuthenticationHeaderWithUsername: (NSString *) theUsername andPassword: (NSString *) thePassword</i> on page 2552	Constructs a basic authentication header from the username and password supplied, and adds it to the request headers Used when shouldPresentCredentialsBeforeChallenge is YES.
- (void) <i>addRequestHeader: (NSString *) header value: (NSString *) value</i> on page 2552	Adds a custom header to the request.
- (void) <i>appendPostData: (NSData *) data</i> on page 2552	Adds data to the post body.
- (void) <i>appendPostDataFromFile: (NSString *) file</i> on page 2553	Adds data to the post body from a file.
- (void) <i>applyAuthorizationHeader</i> on page 2553	
- (void) <i>applyCookieHeader</i> on page 2553	Called during buildRequestHeaders and after a redirect to create a cookie header from request cookies and the global store.
+ (unsigned long) <i>averageBandwidthUsedPerSecond</i> on page 2554	Returns a rough average (for the last 5 seconds) of how much bandwidth is being used, in bytes.
+ (NSString *) <i>base64forData: (NSData *) theData</i> on page 2554	Base64 encodes the provided NSData*.
- (void) <i>buildPostBody</i> on page 2554	Creates the post body.
- (void) <i>buildRequestHeaders</i> on page 2554	Populates the request headers dictionary.
- (void) <i>cancelAuthentication</i> on page 2554	Should be called by delegates when they wish to cancel authentication and stop.
+ (void) <i>clearSession</i> on page 2554	
+ (const NSDataWritingOptions) <i>dataWritingOptions</i> on page 2555	Returns a mask which determines whether the data should be stored in encrypted form.
+ (NSDate *) <i>dateFromRFC1123String: (NSString *) string</i> on page 2555	Returns a date from a string in RFC1123 format.
+ (NSString *) <i>decodeBase64: (NSString *) string_in</i> on page 2555	Decodes a base64 encoded string.
+ (id<SDMCacheDelegate >) <i>defaultCache</i> on page 2555	Returns the default download cache or nil if none set at class level.

Method	Description
- (void) <i>enableTracing: (BOOL) value_in</i> on page 2555	Switches traceability status, the default is NO. If tracing is enabled, "SAP-PASSPORT" and "X-CorrelationID" headers are set and filled with values to enable SAP Passport functionality. Data is gathered to compose the Business Transaction XML, which can be uploaded via SUPE2ETraceController sendXML API.
+ (void) <i>enableXCSRF: (BOOL) enable</i> on page 2555	Enable XSRF support for the session of the application.
- (void) <i>failWithError: (NSError *) theError</i> on page 2556	Called when a request fails, and lets the delegate know via didFailSelector.
+ (NSDictionary *) <i>fileProtectionAttributes</i> on page 2556	Returns a attributes dictionary used for encrypted file storage or nil if file protection has been explicitly disabled.
+ (NSInteger) <i>getMaxConcurrentHTTPRequestCount</i> on page 2556	Returns the maximum number of SDMHTTPRequest threads which can be executed in parallel.
- (void) <i>handleNetworkEvent: (CFStreamEventType) type</i> on page 2556	Handles network events as they occur.
- (id<SDMRequesting>) <i>HEADRequest</i> on page 2556	Used by NetworkQueue to create a HEAD request appropriate for this request with the same headers (though you can use it yourself)
+ (void) <i>hideNetworkActivityIndicator</i> on page 2557	Hides the network activity spinner.
+ (void) <i>incrementBandwidthUsedInLastSecond: (unsigned long) bytes</i> on page 2557	Used internally to record bandwidth use, and by InputStreams when uploading. It's probably best if you don't mess with this.
- (void) <i>incrementDownloadSizeBy: (long long) length</i> on page 2557	Called when we get a content-length header and shouldResetDownloadProgress is true.
- (void) <i>incrementUploadSizeBy: (long long) length</i> on page 2557	Called when a request starts and shouldResetUploadProgress is true. Also called (with a negative length) to remove the size of the underlying buffer used for uploading.
- (id) <i>initWithURL: (NSURL *) newURL</i> on page 2557	Should be an HTTP or HTTPS url, may include username and password if appropriate.



Method	Description
+ (BOOL) <i>isBandwidthThrottled</i> on page 2557	Returns YES is bandwidth throttling is currently in use.
+ (BOOL) <i>isNetworkInUse</i> on page 2558	Indicates whether there are running requests.
+ (BOOL) <i>isNetworkReachable Via WWAN</i> on page 2558	Returns YES when an iPhone OS device is connected via WWAN, false when connected via WIFI or not connected.
- (BOOL) <i>isResponseCompressed</i> on page 2558	Returns true if the response was gzip compressed Usage <code>id&lt;SDMRequesting&gt; m_Request = [SDMRequestBuilder requestWithURL:url]; ...</code>
- (BOOL) <i>isTracingEnabled</i> on page 2558	Returns tracing status (default is NO)
+ (unsigned long) <i>maxBandwidthPerSecond</i> on page 2558	The maximum number of bytes ALL requests can send / receive in a second This is a rough figure.
+ (unsigned long) <i>maxUploadReadLength</i> on page 2559	Returns the maximum amount of data we can read as part of the current measurement period, and sleeps this thread if our allowance is used up.
+ (NSString *) <i>mimeTypeForFileAtPath: (NSString *) path</i> on page 2559	
+ (void) <i>performSelector: (SEL) selector onTarget: (id *) target withObject: (id) object amount: (void *) amount</i> on page 2559	Helper method used for performing invocations on the main thread (used for progress)
- (void) <i>performThrottling</i> on page 2559	Perform bandwidth throttling.
+ (void) <i>removeCredentialsForHost: (NSString *) host port: (int) port protocol: (NSString *) protocol realm: (NSString *) realm</i> on page 2559	Deletes host credentials from the keychain.
+ (void) <i>removeCredentialsForProxy: (NSString *) host port: (int) port realm: (NSString *) realm</i> on page 2559	Deletes proxy credentials from the keychain.
- (void) <i>removeUploadProgressSoFar</i> on page 2560	Called when authorization is needed, as we only find out we don't have permission to something when the upload is complete.
+ (id) <i>requestWithURL: (NSURL *) newURL</i> on page 2560	Convenience constructor with url.

Method	Description
+ (id) requestWithURL: (NSURL *) newURL usingCache: (id< SDMCacheDelegate >) cache on page 2560	Convenience constructor with url and cache.
+ (id) requestWithURL: (NSURL *) newURL usingCache: (id< SDMCacheDelegate >) cache andCachePolicy: (CachePolicy) policy on page 2560	Convenience constructor with url, cache and cache policy.
- (NSData *) responseData on page 2560	Response data, automatically uncompressed where appropriate.
- (NSString *) responseString on page 2561	Returns the contents of the result as an NSString (not appropriate for binary data - used response- Data instead)
- (void) retryUsingSuppliedCredentials on page 2561	Wakes up (unlocks) the request thread so it can resume the request.
+ (void) saveCredentials: (NSURLCredential *) credentials forHost: (NSString *) host port: (int) port protocol: (NSString *) protocol realm: (NSString *) realm on page 2561	Saves host credentials to the keychain.
+ (void) saveCredentials: (NSURLCredential *) credentials forProxy: (NSString *) host port: (int) port realm: (NSString *) realm on page 2561	Saves proxy credentials to the keychain.
- (void) saveCredentialsToKeychain: (NSDic- tionary *) newCredentials on page 2561	Saves credentials for this request to the keychain.
+ (NSURLCredential *) savedCredentialsFo- rHost: (NSString *) host port: (int) port protocol: (NSString *) protocol realm: (NSString *) realm on page 2562	Returns host credentials from the keychain.
+ (NSURLCredential *) savedCredentialsFor- Proxy: (NSString *) host port: (int) port protocol: (NSString *) protocol realm: (NSString *) realm on page 2562	Returns proxy credentials from the keychain.
- (void) sendE2ETraceXML: (NSURL *) toBa- seURL on page 2562	Posts the SAP E2E Trace XML to the given url.

Method	Description
- (void) <i>setClientCertificateIdentity:</i> ( <i>SecIdentityRef</i> ) <i>anIdentity</i> on page 2562	Sets the identity reference (X.509 certificate + private key) for this request; used for secure connections.
+ (void) <i>setDefaultCache:</i> ( <i>id</i> < <i>SDMCacheDelegate</i> >) <i>cache</i> on page 2562	Configures a default download cache which applies for all requests.
- (void) <i>setEtag:</i> ( <i>NSString *</i> ) <i>etag</i> with <i>MatchType:</i> ( <i>EtagMatchType</i> ) <i>matchType</i> on page 2562	Add If-Match or If-None-Match or If-Range header*.
+ (void) <i>setMaxBandwidthPerSecond:</i> ( <i>unsigned long</i> ) <i>bytes</i> on page 2563	Sets the maximum number of bytes ALL requests can send / receive in a second.
+ (void) <i>setMaxConcurrentHTTPRequestCount:</i> ( <i>const unsigned char</i> ) <i>cnt</i> on page 2563	Sets the maximum number of SDMHTTPRequest threads which can run at once.
+ (void) <i>setProtectionEnabled:</i> ( <i>BOOL</i> ) <i>flag_in</i> on page 2563	Controls whether the download cache should store files using protection.
+ (void) <i>setShouldThrottleBandwidthForWWAN:</i> ( <i>BOOL</i> ) <i>throttle</i> on page 2563	SDMHTTPRequest can automatically turn throttling on and off as the connection type changes between WWAN and WiFi Set to YES to automatically turn on throttling when WWAN is connected, and automatically turn it off when it isn't.
+ (void) <i>setShouldUpdateNetworkActivityIndicator:</i> ( <i>BOOL</i> ) <i>shouldUpdate</i> on page 2564	Controls whether the request should take over updating the network activity indicator.
+ ( <i>NSOperationQueue *</i> ) <i>sharedQueue</i> on page 2564	Returns the shared queue.
+ (void) <i>showNetworkActivityIndicator</i> on page 2564	Shows the network activity spinner.
- (void) <i>startAsynchronous</i> on page 2564	Runs request in the background The client should register callback selector in order to get notified about various events (failure, completion, etc.) Usage <code>id&lt;SDMRequesting&gt; m_Request = [SDMRequestBuilder requestWithURL:url]; [m_Request setDelegate:self]; [m_Request setDidFinishSelector:(serviceDocFetchComplete:)]; [m_Request setDidFailSelector:(serviceDocFetchFailed:)]; [m_Request startAsynchronous];</code>

Method	Description
- (void) <i>startSynchronous</i> on page 2564	Runs a request synchronously, and returns control when the request completes or fails Usage id<SDMRequesting> m_Request = [SDMRequestBuilder requestWithURL:url]; ...
+ (void) <i>throttleBandwidthForWWANUsingLimit</i> : (unsigned long) <i>limit</i> on page 2565	Turns on throttling automatically when WWAN is connected using a custom limit, and turns it off automatically when it isn't.
- (void) <i>updateDownloadProgress</i> on page 2565	Updates download progress (notifies the queue and/or downloadProgressDelegate of this request)
+ (void) <i>updateProgressIndicator</i> : (id *) <i>indicator</i> withProgress: (unsigned long long) <i>progress of-Total</i> : (unsigned long long) <i>total</i> on page 2565	Helper method for interacting with progress indicators to abstract the details of different APIs (NSProgressIndicator and UIProgressView)
- (void) <i>updateProgressIndicators</i> on page 2565	Updates the progress delegates.
- (void) <i>updateUploadProgress</i> on page 2565	Updates upload progress (notifies the queue and/or uploadProgressDelegate of this request)

***addBasicAuthenticationHeaderWithUsername:andPassword: method***

Constructs a basic authentication header from the username and password supplied, and adds it to the request headers Used when shouldPresentCredentialsBeforeChallenge is YES.

***Syntax***

```
- (void) addBasicAuthenticationHeaderWithUsername :
(NSString *) theUsername andPassword : (NSString *) thePassword
```

***addRequestHeader:value: method***

Adds a custom header to the request.

***Syntax***

```
- (void) addRequestHeader : (NSString *) header value :
(NSString *) value
```

***appendPostData: method***

Adds data to the post body.

***Syntax***

```
- (void) appendPostData : (NSData *) data
```

*Usage*

Will append to `postBody` when `shouldStreamPostDataFromDisk` is false, or write to `postBodyWriteStream` when true. Adds data to the post body. Will append to `postBody` when `shouldStreamPostDataFromDisk` is false, or write to `postBodyWriteStream` when true.

*Usage*

```
id<SDMRequesting> m_Request = [SDMRequestBuilder
requestWithURL:url];
NSData* postBody = <data>;
[m_Request appendPostData:data];
...
```

*appendPostDataFromFile: method*

Adds data to the post body from a file.

*Syntax*

```
- (void) appendPostDataFromFile : (NSString *) file
```

*Usage*

Will append to `postBody` when `shouldStreamPostDataFromDisk` is false, or write to `postBodyWriteStream` when true.

*applyAuthorizationHeader method**Syntax*

```
- (void) applyAuthorizationHeader
```

*applyCookieHeader method*

Called during `buildRequestHeaders` and after a redirect to create a cookie header from request cookies and the global store.

*Syntax*

```
- (void) applyCookieHeader
```

*Usage**Usage*

```
id<SDMRequesting> m_Request = [SDMRequestBuilder
requestWithURL:url];
[m_Request applyCookieHeader];
...
```

### *averageBandwidthUsedPerSecond method*

Returns a rough average (for the last 5 seconds) of how much bandwidth is being used, in bytes.

#### *Syntax*

```
+ (unsigned long) averageBandwidthUsedPerSecond
```

### *base64forData: method*

Base64 encodes the provided NSData\*.

#### *Syntax*

```
+ (NSString *) base64forData : (NSData *) theData
```

### *buildPostBody method*

Creates the post body.

#### *Syntax*

```
- (void) buildPostBody
```

### *buildRequestHeaders method*

Populates the request headers dictionary.

#### *Syntax*

```
- (void) buildRequestHeaders
```

### *Usage*

Called before a request is started, or by a HEAD request that needs to borrow them

### *cancelAuthentication method*

Should be called by delegates when they wish to cancel authentication and stop.

#### *Syntax*

```
- (void) cancelAuthentication
```

### *clearSession method*

#### *Syntax*

```
+ (void) clearSession
```

*dataWritingOptions method*

Returns a mask which determines whether the data should be stored in encrypted form.

*Syntax*

```
+ (const NSDataWritingOptions) dataWritingOptions
```

*Usage*

Data will be stored in encrypted form by default

*dateFromRFC1123String: method*

Returns a date from a string in RFC1123 format.

*Syntax*

```
+ (NSDate *) dateFromRFC1123String : (NSString *) string
```

*decodeBase64: method*

Decodes a base64 encoded string.

*Syntax*

```
+ (NSString *) decodeBase64 : (NSString *) string_in
```

*defaultCache method*

Returns the default download cache or nil if none set at class level.

*Syntax*

```
+ (id< SDMCachedDelegate >) defaultCache
```

*enableTracing: method*

Switches traceability status, the default is NO. If tracing is enabled, "SAP-PASSPORT" and "X-CorrelationID" headers are set and filled with values to enable SAP Passport functionality. Data is gathered to compose the Business Transaction XML, which can be uploaded via SUPE2ETraceController sendXML API.

*Syntax*

```
- (void) enableTracing : (BOOL) value_in
```

*enableXCSRF: method*

Enable XSRF support for the session of the application.

*Syntax*

```
+ (void) enableXCSRF : (BOOL) enable
```

### *Usage*

Need to be set again in case of application restart  
`Usage [SDMRequestBuilder enableXCSRF:YES]; id<SDMRequesting> m_Request = [SDMRequestBuilder requestWithURL:url]; ...`

### *failWithError: method*

Called when a request fails, and lets the delegate know via `didFailSelector`.

### *Syntax*

```
- (void) failWithError : (NSError *) theError
```

### *fileProtectionAttributes method*

Returns a attributes dictionary used for encrypted file storage or nil is file protection has been explicitly disabled.

### *Syntax*

```
+ (NSDictionary *) fileProtectionAttributes
```

### *getMaxConcurrentHTTPRequestCount method*

Returns the maximum number of `SDMHTTPRequest` threads which can be executed in parallel.

### *Syntax*

```
+ (NSInteger) getMaxConcurrentHTTPRequestCount
```

### *handleNetworkEvent: method*

Handles network events as they occur.

### *Syntax*

```
- (void) handleNetworkEvent : (CFStreamEventType) type
```

### *Usage*

Called from `ReadStreamClientCallBack` when one of the events requested in `NETWORK_EVENTS` occurs

### *HEADRequest method*

Used by `NetworkQueue` to create a `HEAD` request appropriate for this request with the same headers (though you can use it yourself)

### *Syntax*

```
- (id<SDMRequesting >) HEADRequest
```



*hideNetworkActivityIndicator method*

Hides the network activity spinner.

*Syntax*

```
+ (void) hideNetworkActivityIndicator
```

*incrementBandwidthUsedInLastSecond: method*

Used internally to record bandwidth use, and by `InputStreams` when uploading. It's probably best if you don't mess with this.

*Syntax*

```
+ (void) incrementBandwidthUsedInLastSecond : (unsigned long) bytes
```

*incrementDownloadSizeBy: method*

Called when we get a content-length header and `shouldResetDownloadProgress` is true.

*Syntax*

```
- (void) incrementDownloadSizeBy : (long long) length
```

*incrementUploadSizeBy: method*

Called when a request starts and `shouldResetUploadProgress` is true Also called (with a negative length) to remove the size of the underlying buffer used for uploading.

*Syntax*

```
- (void) incrementUploadSizeBy : (long long) length
```

*initWithURL: method*

Should be an HTTP or HTTPS url, may include username and password if appropriate.

*Syntax*

```
- (id) initWithURL : (NSURL *) newURL
```

*isBandwidthThrottled method*

Returns YES is bandwidth throttling is currently in use.

*Syntax*

```
+ (BOOL) isBandwidthThrottled
```

### *isNetworkInUse method*

Indicates whether there are running requests.

#### *Syntax*

```
+ ( BOOL ) isNetworkInUse
```

#### *Returns*

NO, if no requests are currently executing

### *isNetworkReachableViaWWAN method*

Returns YES when an iPhone OS device is connected via WWAN, false when connected via WIFI or not connected.

#### *Syntax*

```
+ ( BOOL ) isNetworkReachableViaWWAN
```

### *isResponseCompressed method*

Returns true if the response was gzip compressed Usage `id<SDMRequesting> m_Request = [SDMRequestBuilder requestWithURL:url]; ...`

#### *Syntax*

```
- ( BOOL ) isResponseCompressed
```

#### *Usage*

```
[m_Request startSynchronous]; If([m_Request isResponseCompressed]) ...// Further operations
```

### *isTracingEnabled method*

Returns tracing status (default is NO)

#### *Syntax*

```
- ( BOOL ) isTracingEnabled
```

### *maxBandwidthPerSecond method*

The maximum number of bytes ALL requests can send / receive in a second This is a rough figure.

#### *Syntax*

```
+ ( unsigned long ) maxBandwidthPerSecond
```

#### *Usage*

The actual amount used will be slightly more, this does not include HTTP headers

*maxUploadReadLength method*

Returns the maximum amount of data we can read as part of the current measurement period, and sleeps this thread if our allowance is used up.

*Syntax*

```
+ (unsigned long) maxUploadReadLength
```

*mimeTypeForFileAtPath: method**Syntax*

```
+ (NSString *) mimeTypeForFileAtPath : (NSString *) path
```

*performSelector:onTarget:withObject:amount: method*

Helper method used for performing invocations on the main thread (used for progress)

*Syntax*

```
+ (void) performSelector : (SEL) selector onTarget : (id *) target
withObject : (id) object amount : (void *) amount
```

*performThrottling method*

Perform bandwidth throttling.

*Syntax*

```
- (void) performThrottling
```

*removeCredentialsForHost:port:protocol:realm: method*

Deletes host credentials from the keychain.

*Syntax*

```
+ (void) removeCredentialsForHost : (NSString *) host port : (
int) port protocol : (NSString *) protocol realm : (NSString *)
realm
```

*removeCredentialsForProxy:port:realm: method*

Deletes proxy credentials from the keychain.

*Syntax*

```
+ (void) removeCredentialsForProxy : (NSString *) host port :
(int) port realm : (NSString *) realm
```

### *removeUploadProgressSoFar method*

Called when authorization is needed, as we only find out we don't have permission to something when the upload is complete.

#### *Syntax*

```
- (void) removeUploadProgressSoFar
```

### *requestWithURL: method*

Convenience constructor with url.

#### *Syntax*

```
+ (id) requestWithURL : (NSURL *) newURL
```

### *requestWithURL:usingCache: method*

Convenience constructor with url and cache.

#### *Syntax*

```
+ (id) requestWithURL : (NSURL *) newURL usingCache : (id<SDMCacheDelegate >) cache
```

#### *Usage*

ODPRequest will not have a download cache

### *requestWithURL:usingCache:andCachePolicy: method*

Convenience constructor with url, cache and cache policy.

#### *Syntax*

```
+ (id) requestWithURL : (NSURL *) newURL usingCache : (id<SDMCacheDelegate >) cache andCachePolicy : (CachePolicy) policy
```

#### *Usage*

ODPRequest will not have a download cache

### *responseData method*

Response data, automatically uncompressed where appropriate.

#### *Syntax*

```
- (NSData *) responseData
```

*responseString method*

Returns the contents of the result as an NSString (not appropriate for binary data - used responseData instead)

*Syntax*

```
- (NSString *) responseString
```

*retryUsingSuppliedCredentials method*

Wakes up (unlocks) the request thread so it can resume the request.

*Syntax*

```
- (void) retryUsingSuppliedCredentials
```

*Usage*

Should be called by delegates when they have populated the authentication information after an authentication challenge

*saveCredentials:forHost:port:protocol:realm: method*

Saves host credentials to the keychain.

*Syntax*

```
+ (void) saveCredentials : (NSURLCredential *) credentials
forHost : (NSString *) host port : (int) port protocol :
(NSString *) protocol realm : (NSString *) realm
```

*saveCredentials:forProxy:port:realm: method*

Saves proxy credentials to the keychain.

*Syntax*

```
+ (void) saveCredentials : (NSURLCredential *) credentials
forProxy : (NSString *) host port : (int) port realm : (NSString
*) realm
```

*saveCredentialsToKeychain: method*

Saves credentials for this request to the keychain.

*Syntax*

```
- (void) saveCredentialsToKeychain : (NSDictionary *)
newCredentials
```

### *savedCredentialsForHost:port:protocol:realm: method*

Returns host credentials from the keychain.

#### *Syntax*

```
+ (NSURLCredential *) savedCredentialsForHost : (NSString *)  
host port : (int) port protocol : (NSString *) protocol realm : (  
NSString *) realm
```

### *savedCredentialsForProxy:port:protocol:realm: method*

Returns proxy credentials from the keychain.

#### *Syntax*

```
+ (NSURLCredential *) savedCredentialsForProxy : (NSString  
*) host port : (int) port protocol : (NSString *) protocol realm : (  
NSString *) realm
```

### *sendE2ETraceXML: method*

Posts the SAP E2E Trace XML to the given url.

#### *Syntax*

```
- (void) sendE2ETraceXML : (NSURL *) toBaseURL
```

### *setClientCertificateIdentity: method*

Sets the identity reference (X.509 certificate + private key) for this request; used for secure connections.

#### *Syntax*

```
- (void) setClientCertificateIdentity : (SecIdentityRef)  
anIdentity
```

### *setDefaultCache: method*

Configures a default download cache which applies for all requests.

#### *Syntax*

```
+ (void) setDefaultCache : (id< SDMCacheDelegate >) cache
```

### *setEtag:withMatchType: method*

Add If-Match or If-None-Match or If-Range header\*.

#### *Syntax*

```
- (void) setEtag : (NSString *) etag withMatchType :  
( EtagMatchType ) matchType
```

## Usage

```
Usage
id<SDMRequesting> m_Request = [SDMRequestBuilder
requestWithURL:url];
[m_Request setEtag:"value" withMatchType:EtagIfMatch];
...
```

### *setMaxBandwidthPerSecond: method*

Sets the maximum number of bytes ALL requests can send / receive in a second.

### *Syntax*

+ (void) setMaxBandwidthPerSecond : (unsigned long) **bytes**

### *setMaxConcurrentHTTPRequestCount: method*

Sets the maximum number of SDMHTTPRequest threads which can run at once.

### *Syntax*

+ (void) setMaxConcurrentHTTPRequestCount : (const unsigned char) **cnt**

### *Exceptions*

- **SDMConnectivityException class** – if max allowed parallel thread is exceeded

### *setProtectionEnabled: method*

Controls whether the download cache should store files using protection.

### *Syntax*

+ (void) setProtectionEnabled : (BOOL) **flag\_in**

### *Usage*

Enabled by default, applies to all instances; only available for builds targeting iOS 4.0 or above

### *setShouldThrottleBandwidthForWWAN: method*

SDMHTTPRequest can automatically turn throttling on and off as the connection type changes between WWAN and WiFi Set to YES to automatically turn on throttling when WWAN is connected, and automatically turn it off when it isn't.

### *Syntax*

+ (void) setShouldThrottleBandwidthForWWAN : (BOOL) **throttle**

### *setShouldUpdateNetworkActivityIndicator: method*

Controls whether the request should take over updating the network activity indicator.

#### *Syntax*

```
+ (void) setShouldUpdateNetworkActivityIndicator : (BOOL)
shouldUpdate
```

#### *Usage*

enabled by default

### *sharedQueue method*

Returns the shared queue.

#### *Syntax*

```
+ (NSOperationQueue *) sharedQueue
```

### *showNetworkActivityIndicator method*

Shows the network activity spinner.

#### *Syntax*

```
+ (void) showNetworkActivityIndicator
```

### *startAsynchronous method*

Runs request in the background The client should register callback selector in order to get notified about various events (failure, completion, etc.) Usage `id<SDMRequesting> m_Request = [SDMRequestBuilder requestWithURL:url]; [m_Request setDelegate:self]; [m_Request setDidFinishSelector:(serviceDocFetchComplete:)]; [m_Request setDidFailSelector:(serviceDocFetchFailed:)]; [m_Request startAsynchronous];`

#### *Syntax*

```
- (void) startAsynchronous
```

### *startSynchronous method*

Runs a request synchronously, and returns control when the request completes or fails Usage `id<SDMRequesting> m_Request = [SDMRequestBuilder requestWithURL:url]; ...`

#### *Syntax*

```
- (void) startSynchronous
```

#### *Usage*

```
[m_Request startSynchronous];
```



*throttleBandwidthForWWANUsingLimit: method*

Turns on throttling automatically when WWAN is connected using a custom limit, and turns it off automatically when it isn't.

*Syntax*

```
+ (void) throttleBandwidthForWWANUsingLimit : (unsigned long) limit
```

*updateDownloadProgress method*

Updates download progress (notifies the queue and/or downloadProgressDelegate of this request)

*Syntax*

```
- (void) updateDownloadProgress
```

*updateProgressIndicator:withProgress:ofTotal: method*

Helper method for interacting with progress indicators to abstract the details of different APIs (NSProgressIndicator and UIProgressView)

*Syntax*

```
+ (void) updateProgressIndicator : (id *) indicator withProgress : (unsigned long long) progress ofTotal : (unsigned long long) total
```

*updateProgressIndicators method*

Updates the progress delegates.

*Syntax*

```
- (void) updateProgressIndicators
```

*Usage*

Used by SDMMNetworkQueue, clients should not invoke them directly

*updateUploadProgress method*

Updates upload progress (notifies the queue and/or uploadProgressDelegate of this request)

*Syntax*

```
- (void) updateUploadProgress
```

*SDMSubscriptionInfo class*

Deprecated. Use ODataSubscriptionInfo instead

*Syntax*

```
@interface SDMSubscriptionInfo : NSObject
```

*Members*

All members of SDMSubscriptionInfo, including inherited members. **Methods**

Method	Description
- (id) initWithCollection: (const SDMODataCollection *const) newCollection on page 2566	subscribe to a collection
- (id) initWithCollection: (const SDMODataCollection *const) newCollection andEntry: (const SDMODataEntry *const) newEntry on page 2566	subscribe to a collection's entry

*initWithCollection: method*

subscribe to a collection

*Syntax*

```
- (id) initWithCollection : (const SDMODataCollection *const) newCollection
```

*initWithCollection:andEntry: method*

subscribe to a collection's entry

*Syntax*

```
- (id) initWithCollection : (const SDMODataCollection *const) newCollection andEntry : (const SDMODataEntry *const) newEntry
```

*SDMSubscriptionXML class*

Deprecated. Contains the xml representation of a subscription info, the http method to be used and the headers that should be added to the http request when subscribing.

*Syntax*

```
@interface SDMSubscriptionXML : NSObject
```

*Members*

All members of SDMSubscriptionXML, including inherited members. **Methods**

Method	Description
- ( <i>id</i> ) <i>init</i> on page 2567	

*init method***Syntax**

```
- (id) init
```

*buildSubscriptionXML method*

Creates the xml representation of a SubscriptionInfo instance.

**Syntax**

```
- (ODataSubscriptionXML *) buildSubscriptionXML : (const ODataSubscriptionInfo *const) info
```

*sdmBuildSubscriptionXML method*

Creates the xml representation of a SubscriptionInfo instance.

**Syntax**

```
- (SDMSubscriptionXML *) sdmBuildSubscriptionXML : (const SDMSubscriptionInfo *const) info
```

**Developing with MAF Logon**

MAF logon components consist of MAF Logon UI and MAF Logon Manager and support user onboarding.

MAF logon includes:

- User-initiated registration requests to a specified security infrastructure
- Locking and unlocking the secure store to protect sensitive information
- Changing secure store and back-end passwords to enhance security in an enterprise environment
- Various customization options

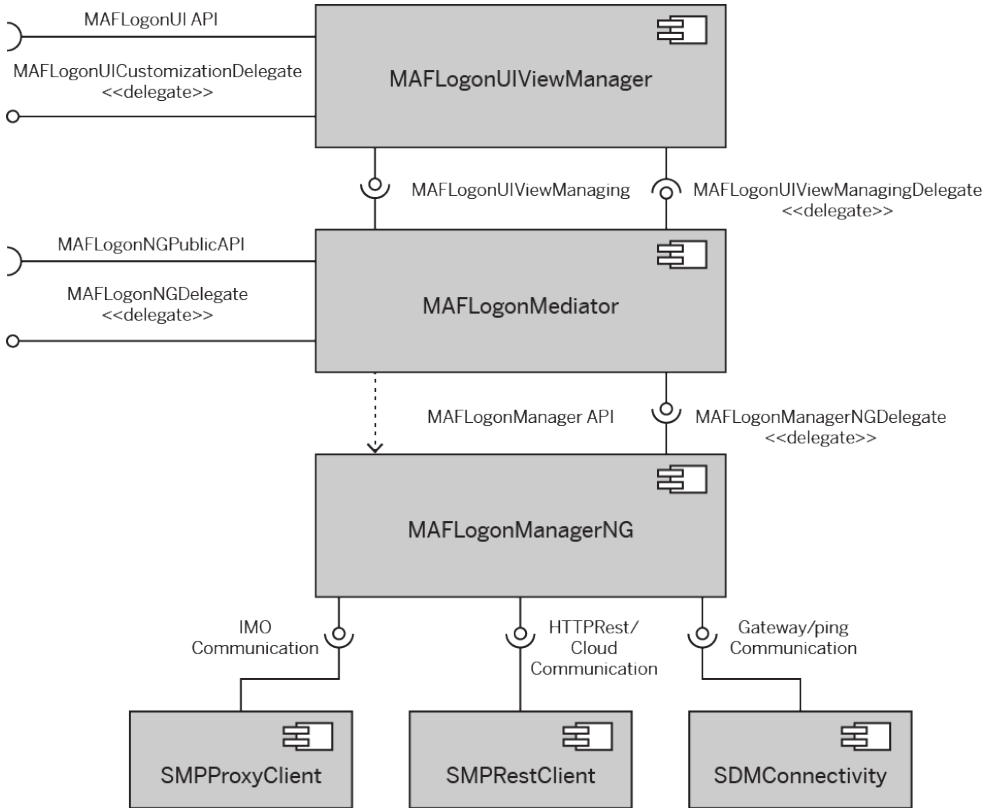
MAF Logon UI presents logon screens on the device, providing easy integration for applications that use default logon UI behavior. While MAF Logon UI constructs a dynamic UI from context elements, MAF Logon Manager executes operations and constructs UI contexts to be presented by MAF Logon UI. Thus, MAF Logon Manager handles all UI-related configurations.

**Architectural Overview**

MAFLogonUING provides an out-of-the-box logon user interface that uses the default implementation of MAFLogonUIViewControllerAnimatedTransitioning. This class handles navigation between

various logon screens using the `MAFLogonUIContextViewManager`, which builds dynamic screen content from `MAFLogonUIContext` objects.

`MAFLogonUIContext` objects describe general screen data, such as header, footer, groups, fields, and action items. The information about the screen is delivered in an array of objects. `MAFLogonMutableArrayHelper` handles arrays without a type as typed objects. You can treat this helper class as an `NSMutableArray` object.



`MAFLogonMediator` creates the content of this array. The logon manager provisions the logon UI to present all the necessary information to execute the next step of a selected process. The logon process can receive challenges, for example, an authentication challenge from the server. In such cases, the `MAFLogonMediator` may need additional information from the application. To get it, the `MAFLogonMediator` issues a new `UIContext` object and passes it to the logon UI. The logon UI can then present it to the device end user, who must provide the missing information. The input provided by an end user is handled in other context objects, such as the `MAFLogonOperationContext`, and `MAFLogonChallengeContext`.

### MAF Logon Example

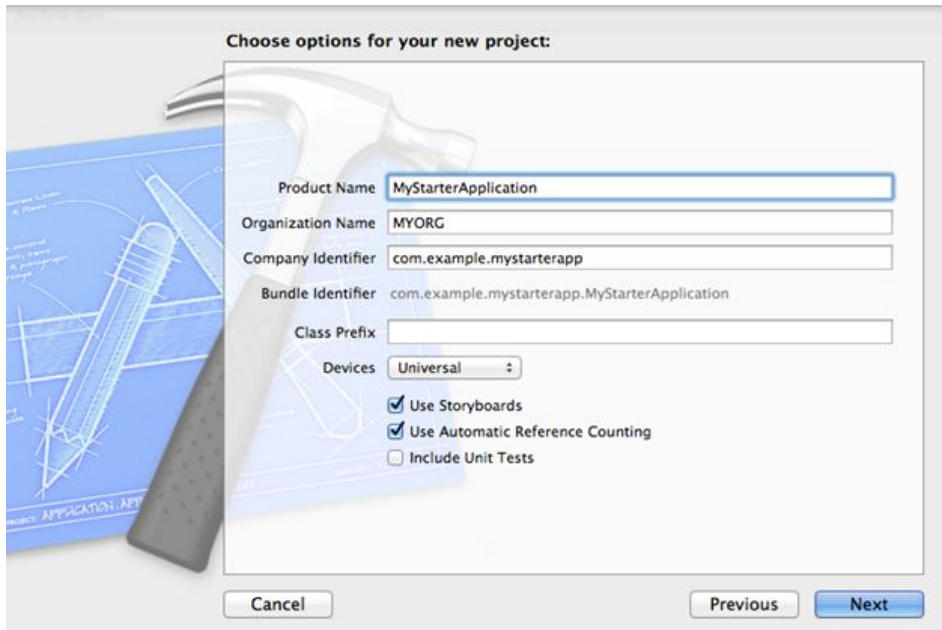
Create a new xcode project. If you already have an existing project, check if it is configured correctly.

MAF Logon is distributed in separate libraries, resource bundles and header files:

- **Libraires:**
  - libMAFLogger.a: logging helper classes
  - libMAFLogonManagerNG.a: Logon Core components implementing registration logic
  - libMAFUIHelper.a: utility UI components
  - libMAFZipHelper.a: zip utilities
  - libMAFLogonUING.a: Logon integration API with default Logon UI.
  - libMAFUIComponents.a: Skinnable controls library
- **Bundles:**
  - MAFLogonManagerNG.bundle: configuration of Logon Core functionalities and localization
  - MAFLogonUING: default Logon UI configuration
  - MAFUIComponents.bundle: skinning configuration and default resources
- Various header folders.

### *Create iOS Starter Application*

1. Apple Xcode 4.6 or later and click **File > New > Project**. The Choose a template for your new project view appears.
2. Select the Single View Application template, and click **Next**.
3. Specify the project details and click **Next**.



4. Specify where to save the starter application, then click **Create**.

Xcode opens your empty, view based application project.

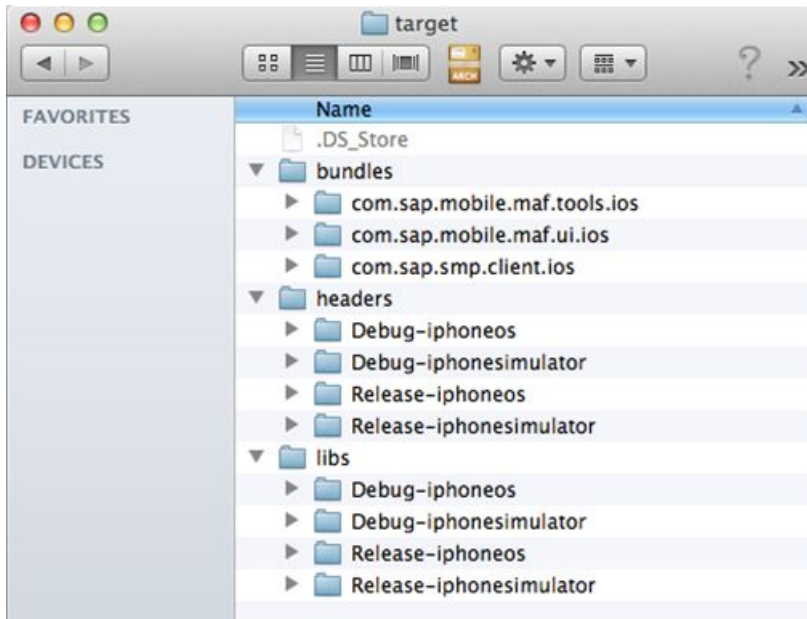
### *Adding MAF Libraries to the iOS Starter Application*

Add MAF libraries to your view based application project.

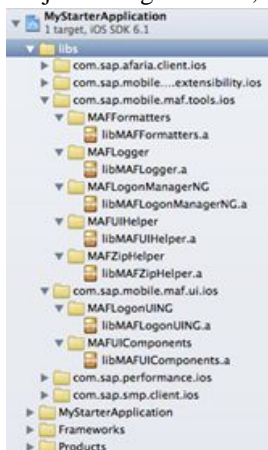
MAF contains statically linked libraries accompanied by resource bundles. The libraries are located in the installation a folder created by the SAP Mobile Platform SDK installer.

to add MAF libraries to your project:

1. Locate MAF libraries on your disk. During the installation of SAP Mobile Platform SDK, the installer created a folder on your hard drive:



2. Add all libraries from the libs folder to your Xcode project. There are four distinct versions of the libraries, because they are built for two platforms (iphonios and iphonesimulator) and both for debug and release. Add only one set of these libraries, and Xcode searches for the correct version for your current build setup. Add the Debug-iphonios version. Copy all of the client side SAP Mobile Platform libraries into the `dependencies` folder in the root of your project. To add the libraries, drag and drop them into your Xcode windows Project Navigator view, which results in a similar structure:



3. Repeat steps 1 and 2 to add all necessary dependencies for SAP Mobile Platform iOS libraries HTTP REST setup:
  - `libAfarialSL.a`

- libConnectivity.a
  - libCoreServices.a
  - libDatavault.a
  - libPerformanceLib.a
  - libRequest.a
  - libE2ETrace.a
  - libParser.a
  - libLogger.a
  - libCache.a
  - libSqlcipher.a
  - libClientHubSLL.a
4. Adjust the library and header search paths to point to the folder where your libraries and headers are located. In this example, all libraries are copied to a folder called `dependencies/libs` and all headers to a folder called `dependencies/headers`. The dependency folder is located in your Xcode project dir. In the `headers` and `libs` subfolders, maintain the “`$(BUILD_STYLE)-$(PLATFORM_NAME)/`” structure, and copy corresponding libraries, and headers to the appropriate folder. To adjust the search paths of your Xcode project, select your project in the Project Navigator view, then select the build settings tab in the main area of Xcode. Make sure that you have all settings selected and not filtered to only basic settings. Use the search field and enter “Search Paths”.
  5. Specify this string as the header search path:  
“`$(PROJECT_DIR)/dependencies/headers/$(BUILD_STYLE)-$(PLATFORM_NAME)/**`”
  6. Specify this string as the library search path:  
“`$(PROJECT_DIR)/dependencies/libs/$(BUILD_STYLE)-$(PLATFORM_NAME)/**`”
  7. Set other linker flags to “`-all_load -ObjC`”. You can locate it in the build settings of your project, similarly to the search paths.
  8. To build your project, add these ObjC frameworks:
    - `MessageUI.framework`
    - `SystemConfiguration.framework`
    - `Security.framework`
    - `QuartzCore.framework`
    - `MobileCoreServices.framework`
    - `Libz.dylib`
    - `Libstdc++.dylib`
    - `CFNetwork.framework`
    - `UIKit.framework`
    - `Foundation.framework`



- CoreGraphics.framework

Your starter application is ready for using it.

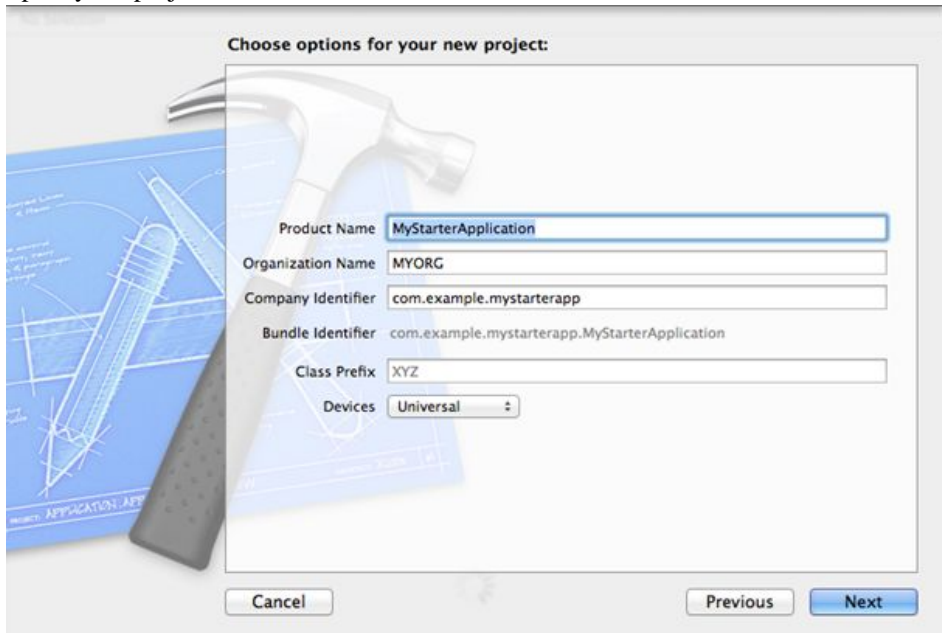
### *Project Setup*

Set up your project.

### *Creating iOS Starter Application*

Create a new Xcode project. If you have already created a project, verify that it is configured correctly.

1. Start Xcode and select **File > New > Project**. The Choose a template for your new project view appears.
2. Select **Single View Application**, and click **Next**.
3. Specify the project details, and click **Next**.



4. Specify where to save the application, then click **Create**.

Xcode opens your new project.

### *Prepare the Project Structure and Copy Dependencies to Your Project*

Add MAF libraries to the empty project. MAF includes statically linked libraries with resource bundles. Prepare a folder structure for the dependencies.

1. Locate MAF libraries in the SAP Mobile Platform SDK installation a folder, in the NativeSDK/MAFReuse/iOS and NativeSDK/ODataFramework subfolders.
2. In the root of your Xcode project, create these folders and subfolders:
  - dependencies/libraries
  - dependencies/includes
  - dependencies/bundles
3. Copy the libMAFUIComponents.a library from NativeSDK/MAFReuse/iOS/libraries/Debug-universal to dependencies/libraries/Debug-universal.
4. Copy the libMAFUIComponents.a library from NativeSDK/MAFReuse/iOS/libraries/Release-universal to dependencies/libraries/Release-universal.
5. Copy the MAFUIComponents folder from NativeSDK/MAFReuse/iOS/includes/public/ to dependencies/includes.
6. Copy the MAFUIComponents.bundle from NativeSDK/MAFReuse/iOS/includes/bundles to dependencies/bundles.
7. Copy these libraries from NativeSDK/ODataFramework/iOS/libraries/Debug-universal to dependencies/libraries/Debug-universal:
  - libMAFLogger.a
  - libMAFLogonManagerNG.a
  - libMAFLogonUING.a
  - libMAFUIHelper.a
  - libAfarialSL.a
  - libConnectivity.a
  - libCoreServices.a
  - libDatavault.a
  - libPerformanceLib.a
  - libRequest.a
  - libE2ETrace.a
  - libParser.a
  - libLogger.a
  - libCache.a
  - libClientHubSL.a
  - libsqlcipher.a

8. Copy these libraries from `NativeSDK/ODataFramework/iOS/libraries/Release-universal` to `dependencies/libraries/Release-universal`:
  - `libMAFLogger.a`
  - `libMAFLogonManagerNG.a`
  - `libMAFLogonUING.a`
  - `libMAFUIHelper.a`
  - `libAfariaSSL.a`
  - `libConnectivity.a`
  - `libCoreServices.a`
  - `libDatavault.a`
  - `libPerformanceLib.a`
  - `libRequest.a`
  - `libE2ETrace.a`
  - `libParser.a`
  - `libLogger.a`
  - `libCache.a`
  - `libClientHubSSL.a`
  - `libsqlcipher.a`
9. Copy these folders from `NativeSDK/ODataFramework/iOS/includes/public/` to `dependencies/includes`:
  - `MAFLogonManagerNG`
  - `MAFLogonUING`
  - `MAFLogger Request`
10. Copy these bundles from `NativeSDK/ODataFramework/iOS/includes/bundles` to `dependencies/bundles`:
  - `MAFLogonManagerNG.bundle`
  - `MAFLogonUING.bundle`
  - `MAFLogger.bundle`

### *Configure Your Xcode Project*

Add the copied dependencies to your Xcode project, and change project settings.

1. With your Xcode project open, drag and drop all the files from `dependencies/libraries` and `dependencies/bundles` to the Xcode Project Navigator view.
2. Select the root node of your project in Project Navigator view. You should see the General project settings in the main area of your Xcode window.
3. Select **main target** from the Targets view.
4. Select **Build Settings** tab and select **All** from the header of the Build Settings page.
5. In the search field, enter `search paths`.

6. Add this string as the Header search path: `$(PROJECT_DIR)/dependencies/includes/`. Make sure the path is marked as recursive.
7. Add this string as the Library search path: `$(PROJECT_DIR)/dependencies/libraries/$(BUILD_STYLE)-universal`. Make sure the path is marked as recursive.
8. Clear the search field on the Build Settings page and enter other linker flags.
9. Set other linker flags to `-all_load` and `-ObjC`.
10. On the Build Settings page, clear the search field and enter `ios deployment target`.
11. Set the iOS deployment target to iOS 6.0.

### *Build Configuration*

To build your project, add ObjC frameworks to your Xcode project.

- `CFNetwork.framework`
- `CoreData.framework`
- `MessageUI.framework`
- `Security.framework`
- `QuartzCore.framework`
- `Libstdc++.dylib`
- `libz.dylib`
- `MobileCoreServices.framework`
- `SystemConfiguration.framework`
- `UIKit.framework`
- `Foundation.framework`
- `CoreGraphics.framework`

Your application is now ready for use.

### *Create Your Logon Handler*

Create a central class for logon-related work, so your code remains clean.

This example is a simple interface of the logon handler:

```
#import <Foundation/Foundation.h>
#import "MAFLogonNGPublicAPI.h"
#import "MAFLogonManagerNG.h"
#import "MAFLogonUIViewModel.h"
#import "MAFLogonNGDelegate.h"

@interface MyLogonHandler : NSObject <MAFLogonNGDelegate>

@property (strong, nonatomic) MAFLogonUIViewModel
*logonUIViewModel;
@property (strong, nonatomic) NSObject<MAFLogonNGPublicAPI>
*logonManager;
```

```
@end
```

This class implements `MAFLogonNGDelegate` and exposes an instance of `MAFLogonUIViewControllerAnimated`.

This is an example implementation (`MyLogonHandler.m`) of the logon handler:

```
#import "MyLogonHandler.h"

@implementation MyLogonHandler

-(id) init{
    self = [super init];
    if(self){
        self.logonUIViewControllerAnimated = [[[MAFLogonUIViewControllerAnimated alloc]
init] autorelease];
        // save reference to LogonManager for code readability
        self.logonManager = self.logonUIViewControllerAnimated.logonManager;
#warning You must set your own application id. The application id can
be specified in the info.plist file.
        // set up the logon delegate
        [self.logonManager setLogonDelegate:self];
    }
    return self;
}

@end
```

In the `info.plist` file of your xcode project, add these lines:

```
<?xml version="1.0" encoding="UTF-8"?>
<!DOCTYPE plist PUBLIC "-//Apple//DTD PLIST 1.0//EN" "http://
www.apple.com/DTDs/PropertyList-1.0.dtd">
<plist version="1.0">
<dict>
    <key>keyMAFLogonApplicationId</key>
    <string>com.example.ios.app</string>
</dict>
</plist>
```

You must implement all `MAFLogonNGDelegate` methods in `MyLogonHandler`:

```
#pragma mark - MAFLogonNGDelegate implementation

-(void) logonFinishedWithError:(NSError*)anError {
    NSLog(@"logonFinishedWithError:%@", anError);
}

-(void) lockSecureStoreFinishedWithError:(NSError*)anError {
    NSLog(@"lockSecureStoreFinishedWithError:%@", anError);
}

-(void) updateApplicationSettingsFinishedWithError:
(NSError*)anError
{ NSLog(@"updateApplicationSettingsFinishedWithError:%@", anError);
}

-(void) uploadTraceFinishedWithError:(NSError *)anError {
    NSLog(@"uploadTraceFinishedWithError:%@", anError);
}
```

```
}
-(void) changeBackendPasswordFinishedWithError:(NSError*)anError {
    NSLog(@"Password change with error:%@", anError);
}
-(void) deleteUserFinishedWithError:(NSError*)anError {
    NSLog(@"deleteUserFinishedWithError:%@", anError);
}
-(void) changeSecureStorePasswordFinishedWithError:
(NSError*)anError {
    NSLog(@"changeSecureStorePasswordFinishedWithError:%@",
anError);
}
-(void) registrationInfoFinishedWithError:(NSError*)anError {
    NSLog(@"registrationInfoFinishedWithError:%@", anError);
}
-(void) startDemoMode {
    NSLog(@"startDemoMode");
}
```

### *Integrate Logon Handler in Your App*

After implementing your logon handler, use a property to hold a reference to it in your AppDelegate singleton

```
#import <UIKit/UIKit.h>
#import "MyLogonHandler.h"
#import "MAFUIStyleParser.h"

@interface AppDelegate : UIResponder <UIApplicationDelegate>

@property (strong, nonatomic) UIWindow *window;
@property (strong, nonatomic) MyLogonHandler *logonHandler;

@end
```

For example, you can implement the AppDelegate.m file using code similar to:

```
#import "AppDelegate.h"
#import "MAFUIStyleParser.h"

@implementation AppDelegate

- (void)dealloc
{
    [_window release];
    [_logonHandler release];
    [super dealloc];
}

- (BOOL)application:(UIApplication *)application
didFinishLaunchingWithOptions:(NSDictionary *)launchOptions
{
    // Load the styles for the customizable controls, should be called
before any MAF* control and MAFLogonUI created
    [MAFUIStyleParser loadSAPDefaultStyle];
    self.logonHandler = [[MyLogonHandler alloc] init];
}
```

```

    return YES;
}

- (void)applicationDidBecomeActive:(UIApplication *)application
{
    // Execute logon operation, which will automatically present
    logon screen if needed.
    [self.logonHandler.logonManager logon];
}
...
@end

```

### *Present the Logon Screen*

To present the MAF Logon UI, adjust your root view controller; however, do not change your root view controller interface.

This example shows how to implement the view controller (ViewController.m). It first gets the logonHandler from the AppDelegate singleton, and then sets the parentViewController property of the MAFLogonUIViewModel class to point to the root view controller (self):

```

#import "ViewController.h"
#import "MyLogonHandler.h"
#import "AppDelegate.h"

@interface ViewController ()
@property (nonatomic, retain) MyLogonHandler *logonHandler;
@end;

@implementation ViewController

- (void)viewDidLoad
{
    [super viewDidLoad];
    AppDelegate* appDelegate = [[UIApplication sharedApplication]
delegate];
    self.logonHandler = appDelegate.logonHandler;
    self.logonHandler.logonUIViewModel.parentViewController =
self;
}

@end

```

The view controller (MainViewController.m) is only responsible for setting the self reference as the parentViewController property of the MAFLogonUIViewModel. The Logon UI is presented using the parentViewController reference.

You can now run the project to see the default MAF logon UI. The Logon UI appears if you call the logon selector on the Logon Manager from the appDelegate when the application becomes active.

### Executing Logon Operations

After you initialize `MAFLogonUIViewManager`, present the MAF logon UI screens. The View Manager maintains a reference to the `LogonMediator` (which, in the code examples, may also be called the `logonManager`). To present a particular screen, call the corresponding operation on the `LogonMediator`, which notifies the View Manager of `MAFLogonUING` that the action requires input. The View Manager generates and presents the input screen. The View Manager then calls back the `LogonMediator` in `MAFLogonManagerNG` and executes the next step of the requested operation.

### *Logon*

To present the logon screen, call the `MAFViewManager` `logon` method:

```
// call this method from any place in your application code
- (void)doLogon {
    [logonUIViewManager.logonManager logon];
}
```

This presents the default logon screen.

Enter the input that corresponds to your onboarding scenario. Tap the Log In button to trigger the registration process, which has these possible outcomes :

- The request fails with an error message.
- Registration succeeds and the success delegate is called on `MAFLogonNGDelegate`.
- Registration succeeds and the App Passcode screen is presented.

The `MAFLogonManagerNG` provides a build-time configuration of the structure and content of the MAF logon UI. You can:

- Hide the advanced registration section
- Hide each field individually
- Set a default value for each field individually

Users cannot change the default values of hidden fields, but the onboarding process uses these values.

### *App Passcode*

Upon successful registration, the device user sees the Set Passcode screen. This is the second screen of the logon process, unless the Afaria configuration prohibits the usage of app passcodes, or if the password policy is disabled on SAP Mobile Platform. The password policy is set for the application connection template on the SAP Mobile Platform server by the IT administrator. The confirmation must match the app passcode, and the app passcode must match the password policy. This screen appears only if the password policy is enabled. The `MAFLogonUING` checks the password policy and presents the screen as appropriate.

### *Delete Registration*

Call the `deleteUser` operation to delete all registration information from the device, so the user can start using the application anew.



```
// call this method from any place in your application code
- (void)doDelete {
    [logonUIViewModel.logonManager deleteUser];
}
```

When you call the logon manager's `deleteUser` method, the Delete Registration Confirmation `UIAlertView` is presented.

### *Lock Secure Store*

To close the secure store and present the App Passcode Unlock screen, call `lockSecureStore` from your application:

```
// call this method from any place in your application code
- (void)doLockSecureStore {
    [logonUIViewModel.logonManager lockSecureStore];
}
```

### *Change App Passcode*

To update the secure store passcode, present the Change App Passcode screen:

```
// call this method from any place in your application code
- (void)doChangeAppPasscode {
    [logonUIViewModel.logonManager changeSecureStorePassword];
}
```

### *Update Back-End Password*

When device users change their back-end passwords, MAF Logon Manager must get the new passwords:

```
// call this method from any place in your application code
- (void)doChangeBackendPassword {
    [logonUIViewModel.logonManager changeBackendPassword];
}
```

This method call displays the Update Backend Password screen.

### *Reviewing Login Data*

To review registration information, present the Login Data screen by executing the Login Data operation:

```
// call this method from any place in your application code
- (void)doPresentRegInfo {
    [logonUIViewModel.logonManager registrationInfo];
}
```

This method call displays the Registration Information Screen. This screen displays, in read-only mode, every input for the login screen during registration.

### Data Requests

After you complete the registration and initialize the secure store, you can request data from the back end.

Application developers can get information about the registration data with this MAF Logon Integration API call:

```
NSError* localError = nil;
MAFLogonRegistrationData* data = [self.logonManager
registrationDataWithError:&localError];

if (localError) {
    //handle error
} else {
    //access registration data, like:
    self.communicatorId = data.communicatorId;
    self.appEndpoint = data.applicationEndpointURL;
}
```

Create a request object. Set the request object's properties based on the content of MAFLogonRegistrationData:

```
/*
 * returns an Request instance for the url
 */
-(id<Requesting>) requestWithURL:(NSURL *) url withMethodType:
(NSString *)methodType{
    id<Requesting> request = nil;

    //getting the request object from SMP OData client library.
    request = [RequestBuilder requestWithURL:url];

    [request setUsername:self.registrationData.backendUserName];
    [request setPassword:self.registrationData.backendPassword];

    [request setRequestMethod:methodType];
    if([self.registrationData.communicatorId
isEqualToString:idMAFLogonCommunicator_SMPHTTPREST]){
        [request addRequestHeader:@"X-SUP-APPCID"
value:self.registrationData.applicationConnectionId];
        [request addRequestHeader:@"X-SMP-APPCID"
value:self.registrationData.applicationConnectionId];
    }

    return request;
}
```

You must add the X-SUP-APPCID and X-SMP-APPCID headers to the request if the communicatorId property is idMAFLogonCommunicator\_SMPHTTPREST, otherwise the the SAP Mobile Platform server rejects the request.

Initialize the URL passed to the above method according to the registration type chosen by MAF Logon. The MAFLogonRegistrationData object contains the applicationEndpointURL property. Use this property as-is to initialize the URL object in all registration types, except the

Direct Gateway. When you log on to a Gateway system directly, MAF uses the Gateway ping URL to verify the connection instead of the Gateway content. If the request to the Gateway ping URL succeeds, the logon succeeds. Therefore, if the communicatorId is idMAFLogonCommunicator\_GatewayOnly, the application needs to store the unique Gateway content URL suffix and concatenate it after the applicationEndpointURL property value:

```
NSString* fullEndpoint = self.applicationEndpoint;
    if([self.communicatorId
isEqualToString:idMAFLogonCommunicator_GatewayOnly]){
        NSString* serviceDocumentFormat = @"";
        if([fullEndpoint hasSuffix:@"/*"]){
            serviceDocumentFormat = @"sap/opu/odata/GBHCM/
LEAVEREQUEST/";
        }
        else{
            serviceDocumentFormat = @"/sap/opu/odata/GBHCM/
LEAVEREQUEST/";
        }

        fullEndpoint = [fullEndpoint
stringByAppendingString:serviceDocumentFormat];
        self.applicationEndpoint = fullEndpoint;
    }
```

### Mutual Certificate Handling

MAF supports mutual certificate based data requests.

To execute requests with certificates, set an identity into the SAP Mobile Platform RequestManager. You can get the identity from MAF Logon after the registration has been finished:

```
SecIdentityRef identity = nil;
[logonUIViewManager.logonManager getClientIdentity:&identity
error:&localError];
```

Once you received an identity from MAF Logon Manger, set it to each request before starting it:

```
if (identity!=nil) {
[request setClientCertificateIdentity:identity];
}
```

The request executes and authenticates with the certificate if these prerequisites are met:

- The user creation policy is set to certificate.
- SAP Mobile Platform server side security configuration used during registration is set to support mutual certificate handling.

### Handling Delegate Calls

The MAFLogonUING notifies applications about the result of each MAFLogonManagerNG operation it executes. The MAFLogonNGDelegate protocol must be implemented by your application's View Controller.

Use these methods to implement your application logic. This code calls a local method call to present a UIAlertView:

```
#pragma mark - MAFLogonNGDelegate impolementation
/**
 * Called when the logon finished either with success or error.
 */
-(void) logonFinishedWithError:(NSError*)anError {
    [self showAlertView:@"Logon" withError:anError];
}
/**
 * Called when the lockSecureStore method call finished either with
 * success or error.
 */
-(void) lockSecureStoreFinishedWithError:(NSError*)anError {
    [self showAlertView:@"DataVault lock" withError:anError];
}
/**
 * Called when the updateApplicationSettings method call finished
 * either with success or error.
 */
-(void) updateApplicationSettingsFinishedWithError:
(NSError*)anError {
    [self showAlertView:@"Update app. settings" withError:anError];
}
/**
 * Called when the changeBackendPassword method call finished either
 * with success or error.
 */
-(void) changeBackendPasswordFinishedWithError:(NSError*)anError {
    [self showAlertView:@"Password change" withError:anError];
}
/**
 * Called when the deleteUser method call finished either with success
 * or error.
 */
-(void) deleteUserFinishedWithError:(NSError*)anError {
    [self showAlertView:@"Delete user" withError:anError];
}
/**
 * Called when the changeSecureStorePassword method call finished
 * either with success or error.
 */
-(void) changeSecureStorePasswordFinishedWithError:
(NSError*)anError {
    [self showAlertView:@"DataVault password change"
withError:anError];
}
/**
```

```

    Called when the registrationInfo method call finished either with
    success or error.
    */
    -(void) registrationInfoFinishedWithError:(NSError*)anError {
        [self showAlertView:@"Display registration info"
        withError:anError];
    }

```

### Error Handling

MAFLogonManagerNG communicates errors using iOS-standard NSError objects. If the passed NSError object is not nil, an error is generated. MAF provides an error-handling method for these; the NSError instance contains the localized error description, the error domain, and the error code.

For a description of the error messages that MAFLogonManagerNG can send, check the API documentation for these header files:

- MAFSecureStoreManagerErrors.h
- MAFLogonManagerNGErrors.h

### Customizing the Logon UI

To be able to use the customization options MAF Logon UI provides, implement MAFLogonUICustomizationDelegate in one of your classes.

Use this code to implement it:

```

#import <UIKit/UIKit.h>
#import "MAFLogonNGDelegate.h"
#import "MAFLogonUICustomizationDelegate.h"

@interface MAFLogonNGSampleViewController : UIViewController
<MAFLogonNGDelegate, MAFLogonUICustomizationDelegate>

@end

```

You can decide whether to provide your own UIView subclass for the header and the footer views. This is the most flexible way of customizing the screens. The UIView subclass can contain any layout and elements you wish. To provide a custom UIView, use a code similar to this:

```

- (void) willRenderHeaderFooterFromCustomContext:
(MAFLogonUICustomizationContext*) aCustomContext{

    // the current screen can be determined using
    aCustomContext.screenType property

    if ([[UIDevice currentDevice] userInterfaceIdiom] ==
    UIUserInterfaceIdiomPhone)) {
        if (UIDeviceOrientationIsLandscape ([[UIApplication
        sharedApplication] statusBarOrientation])){
            aCustomContext.headerView = [[[UIImageView alloc]
            initWithImage:[UIImage imageNamed:@"iPhone_landscape_header"]]
            autorelease] ;
            aCustomContext.footerView = [[[UIImageView alloc]

```

```
initWithImage:[UIImage imageNamed:@"iPhone_landscape_footer"]
autorelease];
    }
    else{
        aCustomContext.headerView = [[[UIImageView alloc]
initWithImage:[UIImage imageNamed:@"iPhone_portrait_header"]]
autorelease] ;
        aCustomContext.footerView = [[[UIImageView alloc]
initWithImage:[UIImage imageNamed:@"iPhone_portrait_footer"]]
autorelease];
    }
}
else{
    if (UIDeviceOrientationIsLandscape ([[UIApplication
sharedApplication] statusBarOrientation])){
        aCustomContext.headerView = [[[UIImageView alloc]
initWithImage:[UIImage imageNamed:@"iPad_landscape_header"]]
autorelease] ;
        aCustomContext.footerView = [[[UIImageView alloc]
initWithImage:[UIImage imageNamed:@"iPad_landscape_footer"]]
autorelease];
    }
    else{
        aCustomContext.headerView = [[[UIImageView alloc]
initWithImage:[UIImage imageNamed:@"iPad_portrait_header"]]
autorelease] ;
        aCustomContext.footerView = [[[UIImageView alloc]
initWithImage:[UIImage imageNamed:@"iPad_portrait_footer"]]
autorelease];
    }
}
}
```

MAF provides a more basic customization option with the `willRenderUIFromContext` delegate. Use this delegate to provide localized titles and descriptions for any of the logon UI screens:

```
-(void)willRenderUIFromUIContext:(MAFLogonUIContext *)aUIContext{
aUIContext.title=[NSString stringWithFormat:@"Custom Title"];
aUIContext.headerTitle=[NSString stringWithFormat:@"Custom Header
Title"];
aUIContext.headerDescription=[NSString stringWithFormat:@"Custom
Header Description"];
aUIContext.footerDescription=[NSString stringWithFormat:@"Custom
Footer Description"];
}
```

You can also check which screen is presented, and perform the customization per screen.

Logon Screen Configuration Options

To change the behavior of MAFLogonManagerNG, adjust the feature and default values configuration files at build time. The plist format configuration files are located in the MAFLogonManagerNG.bundle folder. plist is an XML format that can be adjusted in Xcode or in any text editor.

Feature Configuration

To change the behavior of the component, adjust the MAFLogonManagerOptions.plist file, which is in the MAFLogonManagerNG bundle folder in your project.

Key	Value Type	Description	Default Value
keyMAFUrl-SchemeForAfar- ria	String	Changes the default URL Scheme of the Afaria application.	EMPTY
keyMAFUseAfar- ria	BOOL	Determines whether to use Afaria.  NO - the Afaria client application is not called, even if it is present on the iOS device  YES - Afaria client application is always called.	YES

You can also declare resources with the MAFLogonUIOptions.plist feature configuration, which is in the MAFLogonUING bundle.

Key	Value Type	Description	Default Value
keyMAFLogonU- seFlowMode	BOOL	YES - Logon Core tries to find a suitable communicator implementation for the infrastructure used. It analyses the input provided by the user and triggers test requests to test the various onboarding scenarios.	YES

Key	Value Type	Description	Default Value
keyMAFLogonAllowAutomaticSecureStoreCreation	BOOL	Whether to allow the creation of the secure store automatically.  NO - the secure store should be provided/created before the logon component is initialized.	YES
keyMAFLogonUseSplashScreen	BOOL	Determines whether to present splash screen when logon operation is called for the first time.	YES
keyMAFLogonOperationContextHideRegistrationFields	BOOL	Defines which fields to show on the registration screen.	Multiple values

### *Default Values Configuration*

The MAFLogonManagerNG.bundle folder contains the MAFLogonOperationContextDefaultValues.plist file, which declares the configuration structure. The plist defines the keys that are used to set default values for the logon scenarios. keyMAFLogonOperationContextDefaultValues is the main key in the default values dictionary. The only screen that supports default values is the registration screen. You can set the default values for the registration screen can be set in the idMAFLogonOperationContextTypeRegister key. Use these keys to set default values for the individual input fields:

Key	Value Type	Description	Default Value
keyMAFLogonOperationContextServerPortNonSecure	Number	Non secure port	8000
keyMAFLogonOperationContextServerPortSecure	Number	Secure port	443



Key	Value Type	Description	Default Value
keyMAFLogonOperationContextServerHost	String	Server host name without protocol or port or suffixes	EMPTY
keyMAFLogonOperationContextServerPort	Number	Server port	EMPTY
keyMAFLogonOperationContextIsHttps	BOOL	Whether to use secure channel	YES
keyMAFLogonOperationContextServerDomain	String	The default domain to use. Only used when an SAP Mobile Platform server is present. The domain separation should be supported by the used SAP Mobile Platform server.	default
keyMAFLogonOperationContextFarmId	String	The default farm ID name to be used if a Relay server is included.	EMPTY
keyMAFLogonOperationContextSecurityConfig	String	The default security configuration name to use.	EMPTY
keyMAFLogonOperationContextGatewayClient	String	The default sap-client to be used when communicating with the GW.	EMPTY
keyMAFLogonOperationContextGatewayPingPath	String	The default GW ping path to be used.	sap/bc/ping

Key	Value Type	Description	Default Value
keyMAFLogonOperationContextResourcePath	String	The default path to be used for routing through the reverse proxy if any exists	EMPTY
keyMAFLogonOperationContextBackendUserName	String	The default GW user-name to be used	EMPTY
keyMAFLogonOperationContextPasswordPolicy	Dictionary	The default password policy to apply if no server side policy was provided.	Default password policy

To set these values, use a code similar to this:

```
//replace this with your way of accessing MAFLogonUIViewManager-
>NSObject<MAFLogonNGPublicAPI> (the logon manager public API)
NSMutableDictionary* defaultValues =
[logonUIViewManager.logonManager defaultValues];

NSMutableDictionary* contextDefaultValues = [defaultValues
objectForKey:@"keyMAFLogonOperationContextDefaultValues"];
NSMutableDictionary* registerContextType = [contextDefaultValues
objectForKey:@"idMAFLogonOperationContextTypeRegister"];

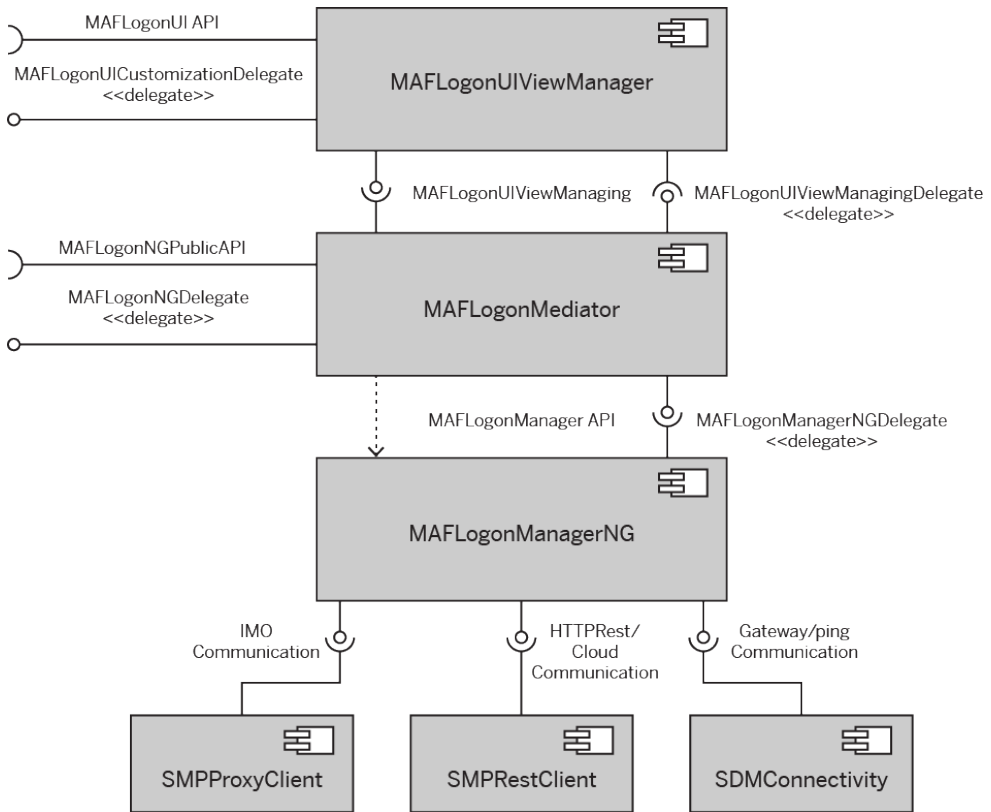
[registerContextType setObject:@"300" forKey:@"
keyMAFLogonOperationContextGatewayClient"];

[defaultValues setObject:contextDefaultValues
forKey:@"keyMAFLogonOperationContextDefaultValues"];
```

### *Integrating Directly with Logon Manager*

MAFLogonManagerNG is an Objective-C library that you can integrate with any UI implementation. MAF includes a default native Logon UI, but you can also build your own UI.

This image shows a possible architecture of an application integrating directly with MAFLogonManagerNG without using MAFLogonUING:



You can integrate your own UI solution through the MAFLogonMediator by implementing your own LogonUIViewManager. This is similar to using the default MAFLogonUING implementation, because MAFLogonManagerNG uses context objects to construct the UI:

```

#import <UIKit/UIKit.h>

@protocol MAFLogonNGPublicAPI;
@protocol MAFLogonUICustomizationDelegate;

/**
 * This class handles the navigation between the screens
 */
@interface MAFLogonUIViewManager : NSObject <MAFLogonUIViewManaging,
MAFLogonUIViewManagingDelegate>

/**
 * The logonMediator where the operations can be initiated. One has to
 * set up the @see logonDelegate to be notified about the result of the
 * operations
 */
@property (readonly) NSObject<MAFLogonNGPublicAPI> *logonMediator;

/**

```

```
The actually presented viewController of the application. This will be used to present the logon related screens.
```

```
*/  
@property (nonatomic, retain) UIViewController*  
parentViewController;
```

The LogonUIViewManager must store a reference to the LogonMediator and the presenting ViewController. The second property presents or dismisses a modal view. To initialize LogonUIViewManager, use:

```
- (id)init {  
    self = [super init];  
    if (self) {  
        self.logonMediator = [[MAFLogonMediator alloc] init];  
        self.logonMediator.logonUIViewManager = self;  
    }  
    return self;  
}
```

To execute a logon operation, call:

```
- (IBAction)logonButtonTapped:(id)sender {  
    [logonUIViewManager.logonManager logon];  
}
```

MAFLogonManagerNG responds to the request through the MAFLogonUIViewManaging interface:

```
#pragma mark - MAFLogonUIViewManaging methods  
  
-(void) showViewWithUIContext:(NSMutableDictionary *)aUIContext{  
    if([[NSThread currentThread] isMainThread]){  
        [self doShowViewWithUIContext:aUIContext];  
    }  
    else{  
        dispatch_sync(dispatch_get_main_queue(), ^{  
            [self doShowViewWithUIContext:aUIContext]; //do your  
custom UI building here!  
        });  
    }  
}  
  
-(void) operationRespondsWithOperationContext:(NSMutableDictionary *)anOperationContext error:(NSError *)anError {  
    [currentViewManager  
operationRespondsWithOperationContext:anOperationContext  
error:anError];  
}  
  
-(void) closeUI {  
    [currentViewManager release];  
    currentViewManager = nil;  
    currentOperationContextType = @"";  
  
    [[self baseViewController] popToRootViewControllerAnimated:NO];  
    [self.parentViewController dismissViewControllerAnimated:YES  
completion:^(void) {  
    }];  
}
```

```
}  
  
#pragma mark - MAFLogonUIViewManaging  
- (void) operationRespondsWithOperationContext:(NSMutableDictionary  
*)anOperationContext error:(NSError *)anError {  
    [self hideActivityIndicator];  
    if (anError != nil && anError.code!=0) {  
        [self presentError:anError];  
    }  
}
```

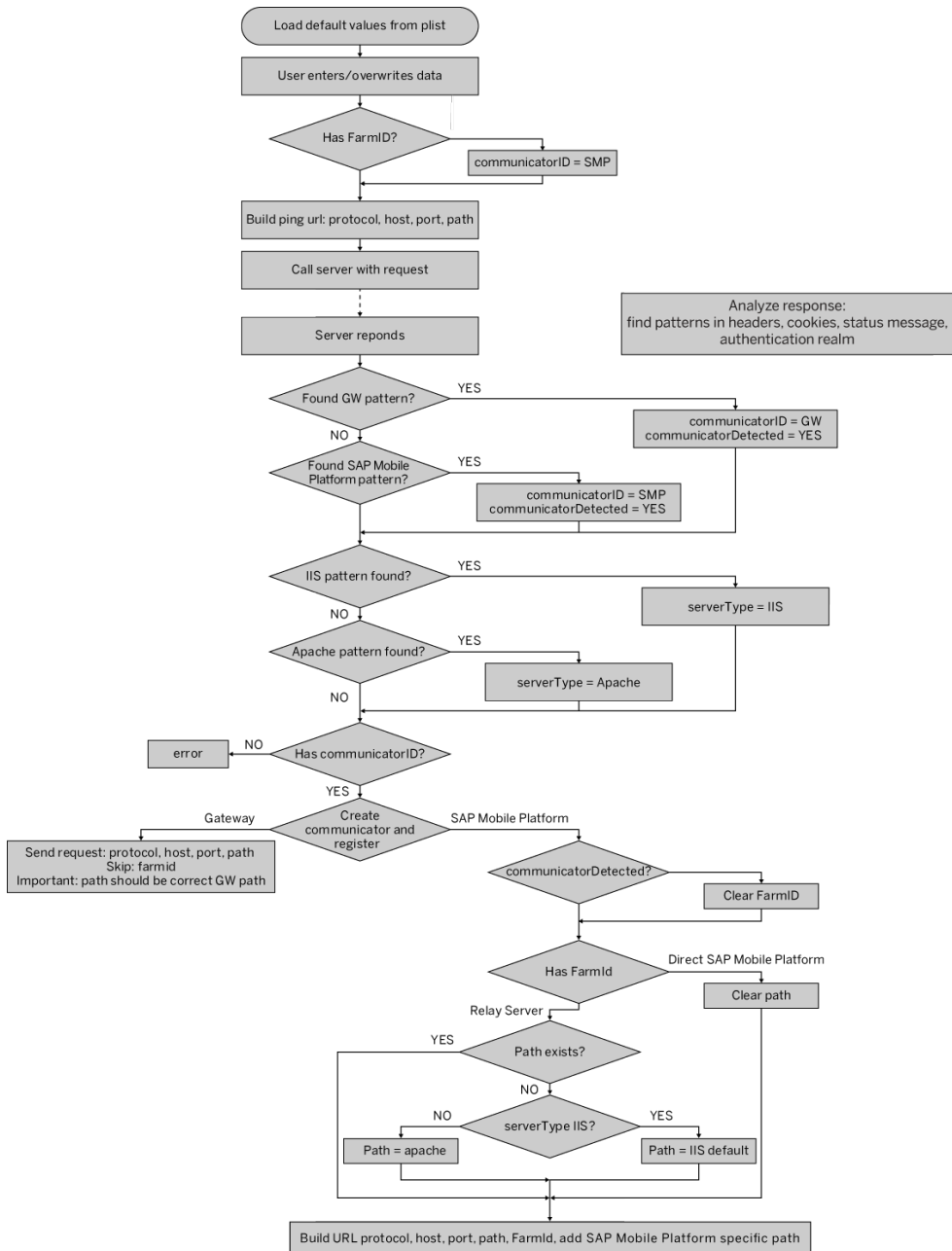
### *Supported Onboarding Scenarios*

The MAFLogonManagerNG supports multiple onboarding scenarios, based on the most common infrastructure setups supported by enterprise mobile applications. The company IT of the customer can have SAP Mobile Platform installed and use relay server to route Internet requests to intranet-hosted Gateway systems. Another possibility is to have SAP Mobile Platform, but replace the relay server with IIS or Apache and use it as a reverse proxy.

### *Logon Method Selection*

MAFLogonManagerNG determines the target infrastructure, which can be SAP Mobile Platform or Gateway. It uses this logic:

# Native OData App Development



The operation context object, which contains all information entered by the end user, passes the information to MAFLogonManagerNG. Based on the information, MAFLogonManagerNG decides whether the device user wants to use SAP Mobile Platform

server. If the user provides a farm ID, the logon manager constructs and sends an SAP Mobile Platform server communicator-based test request.

Based on the test request response headers, code and cookies, the logon manager decides to use one of these scenarios:

- Direct Gateway
- Direct SAP Mobile Platform server
- SAP Mobile Platform server with relay server
- SAP Mobile Platform server with third-party reverse proxy

If none of these scenarios are true, MAFLogonManagerNG cannot identify the communicator, and generates an error message.

Additionally, MAFLogonManagerNG searches for any information in the context and selects a method based on all of this information. The context can have default values that are configured by the application developer.

### *Success and Failure Handling*

Onboarding consists of two steps. The first is registration, where MAFLogonManagerNG uses input from the device user to contact the server and register. If this step is successful, your application can send requests to the GW server and obtain data. The second step is to create a data vault on the user device, in which to securely store user credentials and other sensitive information. The data vault must be secured with a passcode and satisfy the requirements of the password policy.

Both of these steps can generate success and failure messages. Error messages are identified by an error code and an error domain, which fits into the iOS error message handling method. You can find definitions for error messages and error codes in the MAFLogonManagerNGErrors.h header file.

```
#define kErrorDomainLogonManager @"MAFLogonManagerNGErrorDomain"

#define errMAFLogonManagerErrorOperationCancelled 0
#define errMAFLogonManagerErrorInvalidParameter 1
#define errMAFLogonManagerErrorInvalidOperationCode 2
#define errMAFLogonManagerErrorCommunicationManagerError 3
#define errMAFLogonManagerErrorUserAlreadyLoggedIn 4
#define errMAFLogonManagerErrorOperationExecutionInProgress 5
#define errMAFLogonManagerErrorInvalidOperationContext 6
#define errMAFLogonManagerErrorInvalidCommunicatorId 7
#define errMAFLogonManagerErrorInvalidActionItemId 8
#define errMAFLogonManagerErrorCouldNotDecideCommunicator 9
#define errMAFLogonManagerErrorPasswordsNotEqual 10
#define errMAFLogonManagerErrorOperationNotAllowed 11
#define errMAFLogonManagerErrorInvalidServerHost 12
#define errMAFLogonManagerErrorInvalidBackendPassword 13
#define errMAFLogonManagerErrorPasscodeChangeNotEnabled 14
#define errMAFLogonManagerErrorUploadTraceFailed 15
```

*Data Vault Life Cycle*

If SAP Mobile Platform server is used, an SAP Mobile Platform administrator can enable the password policy. If enabled, the user must satisfy each rule. If “Allow Default Password” is enabled in the password policy, the Set Passcode screen does not appear, but the user can enable the app passcode using the Change Passcode option.

*Logon Manager Default Password Policy*

If the password policy is disabled, or if communication is not through the SAP Mobile Platform, MAFLogonManagerNG applies the default password policy. You can configure the default password policy from the MAFLogonOperationsDefaultValues.plist located in the MAFLogonManagerNG.bundle folder of your project.

**Table 1. Default Password Policy Rules**

<b>Rule Name</b>	<b>Description</b>	<b>Default Value</b>
keyMAFLogonPasswordPolicyIsEnabled	Whether a password policy is provided	True
keyMAFLogonPasswordPolicyExpirationDays	Number of days after which the password policy expires	0 ~ infinite
keyMAFLogonPasswordPolicyHasDigits	Whether the password requires one or more numeric digit	NO
keyMAFLogonPasswordPolicyHasLowerCaseLetters	Whether the password requires one or more lowercase letters	NO
keyMAFLogonPasswordPolicyHasSpecialLetters	Whether the password requires one or more special characters	NO
keyMAFLogonPasswordPolicyHasUpperCaseLetters	Whether the password requires one or more uppercase letters	NO
keyMAFLogonPasswordPolicyIsDefaultPasswordAllowed	Allows the device user to switch off custom app passcode	YES
keyMAFLogonPasswordPolicyIsDefaultPasswordUsageOn-ByDefault	If a default password is allowed, whether the switch on the device is, by default, on	NO
keyMAFLogonPasswordPolicyLockTimeout	Length of time, in seconds, after which the secure store is locked	0 ~ infinite
keyMAFLogonPasswordPolicyMinLength	Minimum length of the password	8



Rule Name	Description	Default Value
keyMAFLogonPasswordPolicyMinUniqueChars	Minimum number of unique characters in password	0 ~ none
keyMAFLogonPasswordPolicyRetryLimit	Maximum number of retries before the secure store is erased	0 ~ infinite

### *Creating the Data Vault*

The data vault is created after a successful registration. If device users are allowed to do so, they can switch off the data vault passcode. Even if the the user does not specify a passcode, the data is secured with a default datavault passcode.

### *Protecting the Data Vault*

If the data vault is locked with a custom passcode, the logon UI is presented with an Unlock screen. Users can unlock the data vault with the passcode they have set. If the user provides a wrong passcode multiple times, the data vault deletes itself. You can determine the maximum number of tries by a data vault property, which you can set in the password policy.

### *Setting a Data Vault Timeout*

You can set the data vault timeout in the password policy. MAFLogonManagerNG downloads it from the SAP Mobile Platform server during registration.

### *Forgotten Passcode*

When device users forget their passcodes, they can tap the Forgot passcode button on the Unlock screen, which erases all client-side data.

If there is an SAP Mobile Platform server in the landscape, tapping the Forgot passcode button deletes both the client- and server-side registrations. This works only when the device is connected to a network where the SAP Mobile Platform server is reachable. Otherwise, an administrator must manually remove the server-side registration.

### *Updating Data Vault Properties*

MAFLogonManagerNG does not currently support policy changes. That is, if the password policy is changed on the SAP Mobile Platform server after a device user registers, MAFLogonManagerNG does not download and apply the new policy.

### *Error Messages*

Data vault creation has a set of error codes and error messages that the MAFLogonManagerNG can report. You can find the error codes and messages in the MAFSecureStoreManagerErrors.h file.

```
#define kErrorDomainMAFSecureStoreManager
@"MAFSecureStoreManagerErrorDomain"

#define keyMAFSecureStoreManagerErrorDescriptionParameters
```

```
@"errorDescriptionParameters"
#define keyMAFSecureStoreManagerErrorExceptionName
@"exceptionName"
#define keyMAFSecureStoreManagerErrorExceptionReason
@"exceptionReason"

#define errMAFSecureStoreManagerErrorUnknown 0
#define errMAFSecureStoreManagerErrorAlreadyExists 1
#define errMAFSecureStoreManagerErrorDataTypeError 2
#define errMAFSecureStoreManagerErrorDoesNotExist 3
#define errMAFSecureStoreManagerErrorInvalidArg 4
#define errMAFSecureStoreManagerErrorInvalidPassword 5
#define errMAFSecureStoreManagerErrorLocked 6
#define errMAFSecureStoreManagerErrorOutOfMemory 7
#define errMAFSecureStoreManagerErrorPasswordExpired 8
#define errMAFSecureStoreManagerErrorPasswordRequired 9
#define errMAFSecureStoreManagerErrorPasswordRequiresDigit 10
#define errMAFSecureStoreManagerErrorPasswordRequiresLower 11
#define errMAFSecureStoreManagerErrorPasswordRequiresSpecial 12
#define errMAFSecureStoreManagerErrorPasswordRequiresUpper 13
#define errMAFSecureStoreManagerErrorPasswordUnderMinLength 14
#define errMAFSecureStoreManagerErrorPasswordUnderMinUniqueChars 15
```

### *Handling Timeout with MAF Logon Components*

MAF manages Secure Store lock timeout in the following ways:

- It keeps the Secure Store open until the application is in the foreground. This way you can avoid data request failures happening because the application cannot read the necessary sensitive information (such as username and password) from the Secure Store.
- When the application is sent to the background, MAF sets the Secure Store lock timeout to a specified value. When the application is brought to the foreground again, the Secure Store can be either open or closed, depending on the amount of time the application spent in the background.

When the Secure Store is closed and the application calls the `logonManager logon` API, MAF presents the MAF Logon UI and the user can unlock the Secure Store with the app passcode provided at registration time.

The system administrator can have the user specify a custom app passcode, or can let the user have the option to switch off the passcode functionality. If the user switches off this functionality, the Secure Store is protected with the default password provided by the underlying component. The system administrator can specify this behavior per application or per connection type by adjusting the SAP Mobile Platform Server side password policy.

If the password policy is not set on the server, the default password policy is enforced:

- The password must be minimum 8 characters, regardless of the type of characters.
- The user can switch off the app passcode.
- Immediate timeout when the application is sent into background.

### Afaria Support

MAFLogonManagerNG fully supports Afaria-based configuration management, which is built into the library.

To enable full Afaria integration, forward openUrl requests from AppDelegate to MAFLogonManager:

```
/**
 * Needed because of Afaria initialization.
 */
- (BOOL)application:(UIApplication *)application openURL:(NSURL
*)url sourceApplication:(NSString *)sourceApplication annotation:
(id)annotation{
    [self.logonUIViewControllerAnimated setUrl:url];
    return YES;
}
```

### MAF Onboarding Scenarios

The MAF logon manager supports multiple onboarding scenarios, based on the most common infrastructure setups supported by enterprise mobile applications.

For example, an enterprise might have SAP Mobile Platform installed and use reverse proxy to route Internet requests to intranet-hosted Gateway systems. An alternate scenario also uses SAP Mobile Platform, but does not use reverse proxy, and only allows intranet access to the Gateway.

---

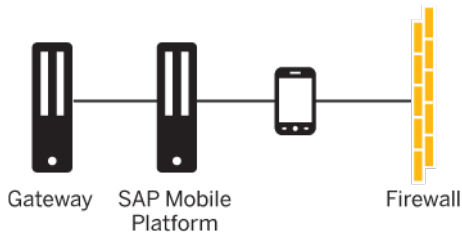
**Note:** You can test HTTPS connections only by using actual iOS devices. Additionally, the root CA certificate and all intermediate CA certificates that are used to sign the SAP Mobile Platform or reverse proxy certificates must be installed on the device. The iOS simulator does not contain the full implementation of the iOS Security Framework, and the server's SSL certificate cannot be validated by the iOS CFNetwork Framework.

---

### Direct SAP Mobile Platform

The direct SAP Mobile Platform landscape contains an SAP NetWeaver Gateway (subsequently referred to as Gateway) server. SAP Mobile Platform server is installed and configured to connect to the Gateway server. Connections are accepted only from the company intranet.

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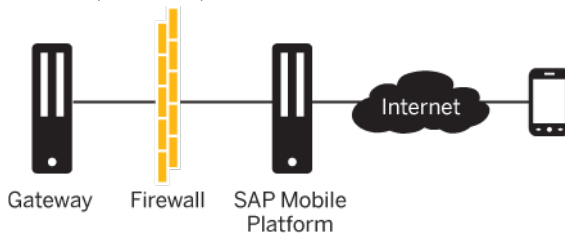
This table shows the information that users must provide, in the MAF logon UI, to use this type of connection. The parameter values depend on the configuration the administrators set.

Parameter Name	Example Value
Server Host	<SMP_HOST_NAME>
User Name	<USERNAME>
Password	<PASSWORD>
Server Port	<SMP_SERVER_HTTP(S)_PORT>
Secured Connection	ON - DEFAULT
Security Configuration	EMPTY - DEFAULT <SMP_SECURITY_CONFIG_NAME>

By default, the secured connection (HTTPS) is ON, so also by default, the connection type is HTTPS.

### Cloud-Based SAP Mobile Platform

The cloud-based SAP Mobile Platform landscape is similar to the direct SAP Mobile Platform scenario; however, the SAP Mobile Platform server is installed in the cloud.



This table shows the information that users must provide, in the MAF logon UI, to use this type of connection. The parameter values depend on the configuration the administrators set.

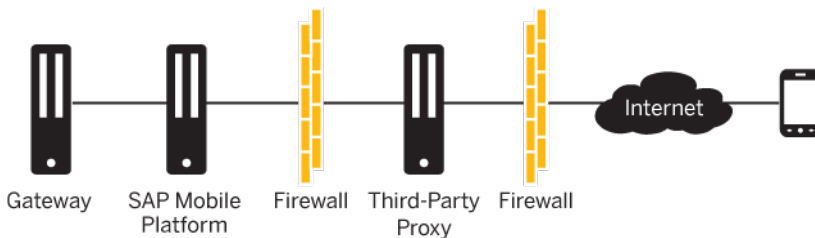
Parameter Name	Example Value
Server Host	< SMP_SERVER_HOST_NAME>
User Name	<USERNAME>

Parameter Name	Example Value
Password	<PASSWORD>
Server Port	< SMP_SERVER_HTTPS_PORT>
Secured Connection	ON - DEFAULT
Security Configuration	EMPTY - DEFAULT <SMP_SERVER_SECURITY_CONFIG_NAME>

By default, the secured connection (HTTPS) is ON, so also by default, the connection type is HTTPS.

### *SAP Mobile Platform with Third-Party Proxy*

The SAP Mobile Platform with third party proxy landscape is similar to the direct SAP Mobile Platform scenario, but you can access the SAP Mobile Platform server from both the Internet and intranet. The reverse proxy enables the mobile device to access the landscape from the Internet.



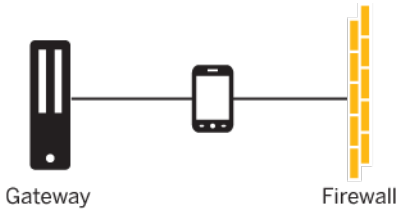
This table shows the information that users must provide, in the MAF logon UI, to use this type of connection. The parameter values depend on the configuration the administrators set.

Parameter Name	Example Value
Server Host	<PROXY_HOST_NAME>
User Name	<USERNAME>
Password	<PASSWORD>
Server Port	<PROXY_HTTP(S)_PORT>
Secured Connection	ON
Security Configuration	EMPTY - DEFAULT <SMP_SERVER_SECURITY_CONFIG_NAME>

By default, the secured connection (HTTPS) is ON, and is set to port 443. When the secured connection is OFF, the default port used is 80.

**Direct Gateway**

The direct Gateway landscape contains only the Gateway system, and restricts access to the intranet. The mobile device must connect to the intranet via internal Wi-Fi or through VPN.



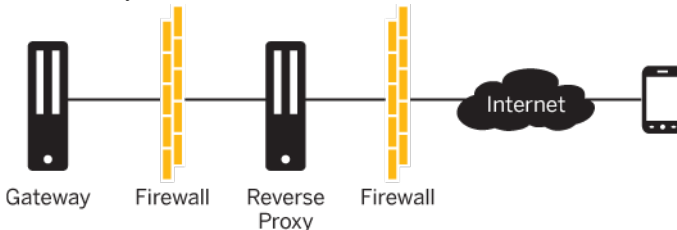
This table shows the information that users must provide, in the MAF logon UI, to use this type of connection. The parameter values depend on the configuration the administrators set.

Parameter Name	Example Value
Server Host	<GATEWAY_HOST_NAME>
User Name	<GATEWAY_USERNAME>
Password	<GATEWAY_PASSWORD>
Path	<PATH_TO_GATEWAY_CONTENT>
Server Port	<GATEWAY_HTTP(S)_PORT_NUMBER>
Secured Connection	ON - DEFAULT

The default value of the path is the ping URL of the Gateway server (*https://gwhost:gwport/sap/bc/ping*). You can customize the path by modifying the MAFLogonManagerNG.bundle/MAFLogonOperationsDefaultValues.plist default value of keyMAFLogonOperationContextResourcePath. If you modify this file in the application’s IPA file, you must resign the file with a valid signing key before you can distribute it.

**Gateway with Third-Party Proxy**

The Gateway with third-party proxy landscape contains a Gateway server that resides inside the company intranet, and a third-party reverse proxy that enables the mobile device to access the Gateway from the Internet.



This table shows the information that users must provide, in the MAF logon UI, to use this type of connection. The parameter values depend on the configuration the administrators set.

Parameter Name	Example Value
Server Host	<GATEWAY_HOST_NAME>
User Name	<GATEWAY_USERNAME>
Password	<GATEWAY_PASSWORD>
Server Port	<GATEWAY_HTTPS_PORT_NUMBER>
Secured Connection	ON - DEFAULT

The default value of the path is the ping URL of the Gateway server (*https://gwhost:gwport/sap/bc/ping*). You can customize the path by modifying the MAFLogonManagerNG.bundle/MAFLogonOperationsDefaultValues.plist default value of keyMAFLogonOperationContextResourcePath. If you modify this file in the application's IPA file, you must resign the file with a valid signing key before you can distribute it.

#### *Other Configuration Prerequisites for Onboarding Scenarios*

You must properly configure the Gateway system so the MAF logon UI component can detect the direct Gateway setup.

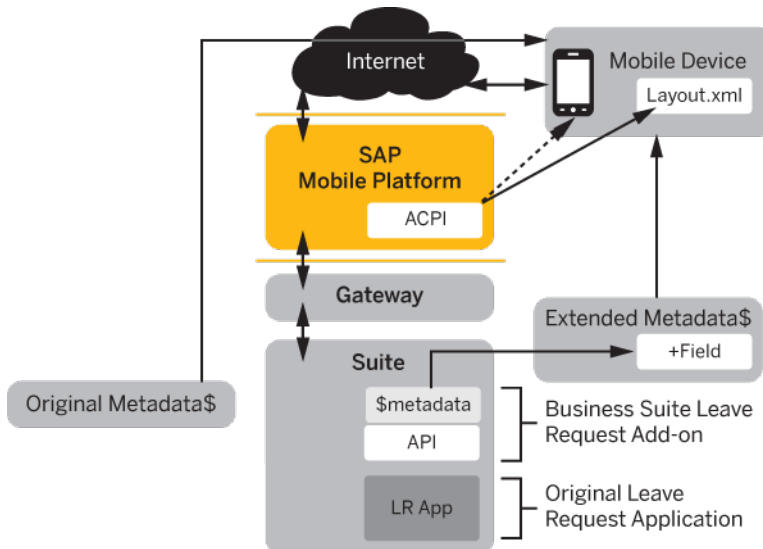
- Back-end users must have authorization to access the Gateway systems ping URL.
- The `is/HTTP/show_server_header` property must be enabled in SMICM transaction (ICM@SAPNetweaver). See [http://help.sap.com/saphelp\\_nw73ehp1/helpdata/en/48/49e4dd2e3131c3e10000000a42189d/frameset.htm](http://help.sap.com/saphelp_nw73ehp1/helpdata/en/48/49e4dd2e3131c3e10000000a42189d/frameset.htm).

All requests in all onboarding scenarios go through the default sap-client (client 100). To change that, adjust your ICF configuration for the server (SICF transaction in Gateway System). See [http://help.sap.com/saphelp\\_nw73ehp1/helpdata/en/48/cae5cc356c3254e10000000a42189b/frameset.htm](http://help.sap.com/saphelp_nw73ehp1/helpdata/en/48/cae5cc356c3254e10000000a42189b/frameset.htm).

#### MAF Configuration Provisioning

SAP mobile applications are delivered with a default skin. You can change skinning parameters at runtime without recompiling the mobile application from the source. The skinning is based on metadata in an XML file. You must upload the styling content to the SAP Mobile Platform server that manages the application. Mobile applications also ship with a default structural configuration. As well as skinning, you can also structurally extend applications based on a metadata description.

Configure applications using an Application Configuration Profile (ACP), which is a set of files that include layout, style, localized files, and images. Each mobile application has one ACP. The SAP mobile application workbench can generate the ACP package.



For more information on the contents of each of the files, see the MAF XSD documentation on the SAP Help Portal and the *Mobile Application Workbench User Guide*.

### *On-Premise SAP Mobile Platform Server*

If you are using an on-premise version of SAP Mobile Platform Server, use Management Cockpit to upload and assign ACP bundles to your application. For more information, see the SAP Mobile Platform documentation: <http://help.sap.com/mobile-platform/>. Navigate to **Management Cockpit > Administer > Applications > Defining Applications > Application Customization Resource Bundles**.

### *Cloud SAP Mobile Platform Server*

You can provision ACP bundles using the cloud version of SAP Mobile Platform.

### **Developing with iOS Reusable UI Components**

MAF reusable controls allow you to use native iOS UI controls (such as buttons and labels) that display a default SAP style, from a prebuilt library. You can skin these components at runtime to match customer branding, without recompiling the source code. MAF also contains a set of complex controls, such as the calendar, the tree view, and locale-aware controls. These complex controls, which provide additional runtime skinning capabilities, are built from the simple MAF controls.



### Getting Started

MAF includes libraries, bundles, and header files, which ship together as logical components, such as onboarding or simple controls.

MAF libraries are installed with the SAP Mobile Platform installer. For more information, see the *Installation Guide*. When you have downloaded and installed all the necessary components, you can start creating and configuring your Xcode project. The documentation for using each MAF component includes the SAP Mobile Platform and iOS framework dependencies you must include and configure in your Xcode project.

### *Terms*

*Skinning*: changing the appearance of native UIViews.

*Reusable control*: a control that needs to be built, configured, skinned, and is often used by mobile application developers.

*Simple control*: a control with a single UI interface that catches events triggered by the user. For example, button, label, and inputtext are all simple controls.

*Complex control*: built from simple controls, complex controls use different areas of the UI that can react to different user interactions with different actions. For example, the calendar control uses a portion of the full screen to build the calendar views from simple MAF controls.

### *MAF Template Project*

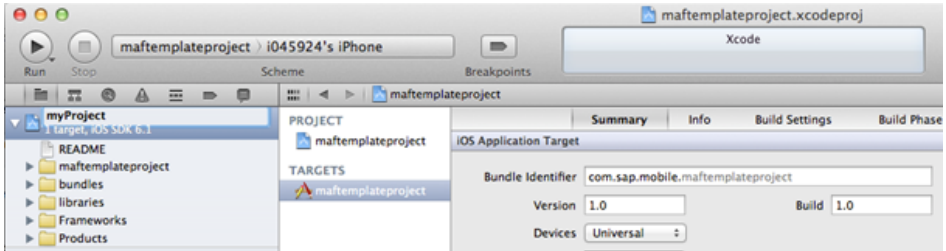
MAF includes a template Xcode project that is designed to help you initially consume MAF libraries.

Download the template project (maftemplateproject-1.1.0-beta-3-xcodeproj-with-deps.zip) from the SAP Service Marketplace. It is packaged in the SAP Mobile SDK at the following location: **SAP Support Portal > Software Downloads > SAP Software Download Center > Installations and Upgrades > Browse our Download Catalog > Sybase Products > SAP Mobile Platform > SAP Mobile SDK 2.3**. Unzip the file to create a project that contains all of the dependent MAF libraries, but does not include any logic, tests, or screens. You may need more than one instance of the template project, for example, to create prototypes for two different scenarios.

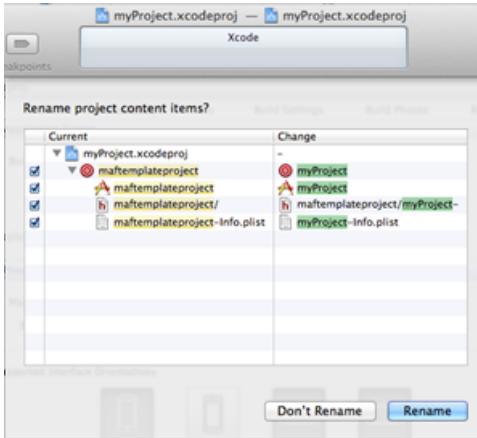
Rename the template project after unzipping it:

1. In the Project Navigator, which is the first view of the left pane in Xcode, open the Xcode project and rename the project node:

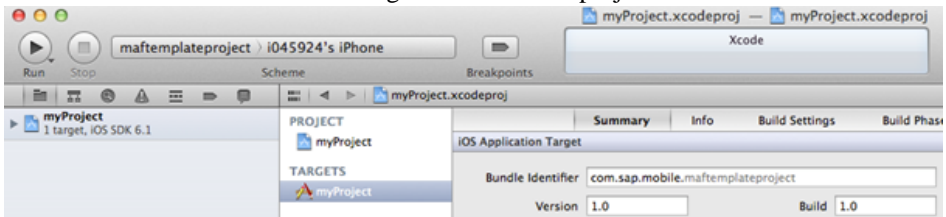
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You see a list of project items that will be renamed:

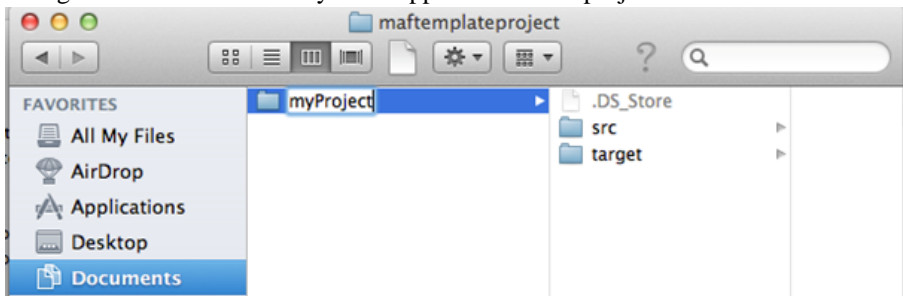


2. Click **Rename**. This renames all targets in the Xcode project:



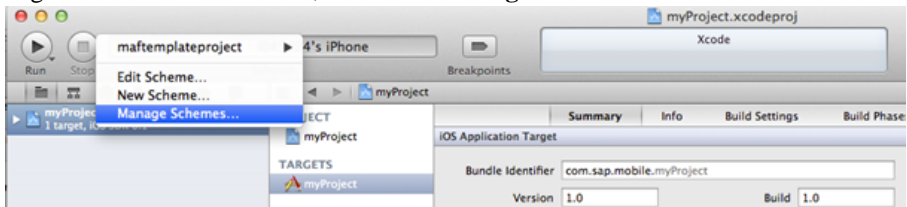
3. Rename the enclosing folder on the MAC OS X.

- a) Close Xcode and open the Finder application.
- b) Navigate to the folder where you unzipped the Xcode project and rename the folder:

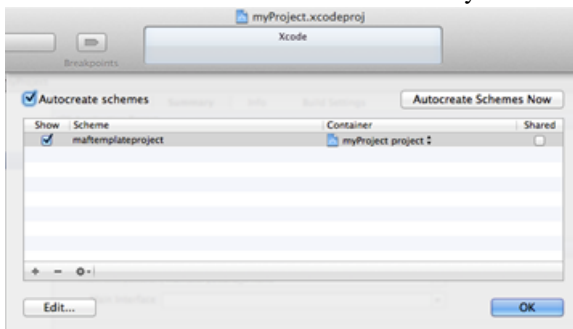


4. From the renamed folder, reopen the Xcode project.
5. Re-create the Xcode build schemes.

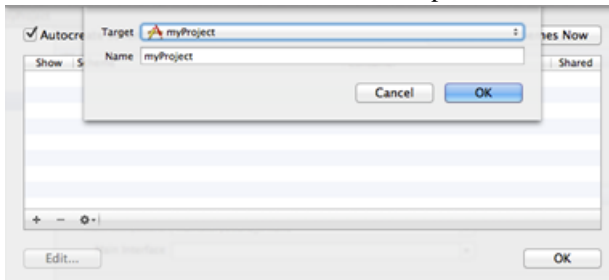
a) Right-click the build scheme, and select **Manage Schemes**:



You see a new view that shows the currently used build scheme:



- b) You cannot rename this scheme, so you must delete it by clicking the minus button. There are now no schemes left in the Manage Schemes view.
- c) To create a new build scheme, click the plus button:



- d) The name and properties are generated from the targets you renamed. Click **OK** to accept the name, then click **OK** again to close Manage Schemes view.
  - Optionally, you can rename the folder that holds your Objective-C classes in the Finder. After doing so, you must reimport the classes into Xcode.

### MAF Skinning

The Mobile Application Framework delivers native UI controls. These controls can apply metadata-driven styles, or skins. Component skinning occurs at runtime, without requiring

you to recompile or re-sign the application. The end result is company-branded mobile UIs for MAF-enabled enterprise application users.

### *The MAF Skinning Mechanism*

MAF controls inherit the standard behavior from the native controls. MAF modifies only the appearance of the controls. The MAF skinning mechanism uses a simple text-based configuration that lets you rebrand or reskin applications without requiring source code modifications.

You can easily define the configuration without extensive technical knowledge. Style configurations are simple XML files where you can specify properties for the MAF UI controls. The styling XML also includes inheritance logic which lets you reuse and extend existing components.

See *Style Inheritance* on page 2611.

All MAF controls come with a default SAP style that is defined in a styling XML file, which you can find in the resource bundle of the MAFUIComponents library. The default SAP style satisfies the SAP product standards for the look of the UI elements. There is also a hard-coded default skin for all the controls.

To use the MAF skinning feature, configure the appearance of the UI elements in the styling XML and load the file when you launch the application. To use the runtime skinnability capabilities of MAF, you must publish the styling XML file on a remote server. The mobile application must implement logic that calls style-loading code each time it downloads a new version of the configuration bundle.

### *Creating and Defining a Configuration*

The style configuration defines the look of simple MAF controls. Each simple MAF UI control has a matching `TargetType` in the configuration file. Any properties you set for a `TargetType` are valid for all the UI elements of that type.

For example, the `ListBoxItem` `TargetType` represents the `MAFUITableViewController` UI control in the iOS platform.

Skinning based on control type is often too generic, so the style configuration also uses keys to define unique skins for each instance of a `TargetType`.

A style XML class can declare one key attribute. The value of this attribute is matched with the value of the `mafStyleName` property, which is defined by the `MAFStyling` protocol. This lets you bind styles to individual instances of MAF controls.

The MAF skinning engine matches the `TargetType` attribute to the respective iOS control. The style definitions that expose only a `TargetType` attribute without a key attribute are applied by MAF only if you do not specify a `mafStyleName` attribute for the control.

In this XML style snippet, the MAF skinning engine automatically applies the first style to all `MAFUINavigationBar` controls for which there is no `mafStyleName` specified. The second

style is applied only to MAFUINavigationBar instances that have “MyNavigationBar” set as mafStyleName property.

```
<Style TargetType="NavigationBar" platform="ios">
  <Setter Property="TintColor" Value="#000000"/>
</Style>

  <Style TargetType="NavigationBar" Key="MyNavigationBar"
platform="ios">
  <Setter Property="TintColor" Value="#110000"/>
</Style>
```

In more complex MAF UI controls, you can use different styles for the same control. For example, to satisfy your company's style requirements, you can use two different styles for two different types of labels. To change the appearance of complex controls, you may have to change more than one style for the same control.

For the full list of configurable styles, see the descriptive topics and the API documentation for each individual MAF control.

This example sets a green background color for the iOS MAF Tree View cells, and a red background color for any other MAF UITableView cells in the CustomStyles.xml file:

```
<?xml version="1.0" encoding="utf-8"?>
<styles xmlns="http://schemas.sap.com/maf/2011/sap"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xsi:schemaLocation="http://schemas.sap.com/maf/2011/sap
styles.xsd">
  <!-- Apply style specifically to the tree view -->
<Style TargetType="ListBoxItem" Key="UITableViewCell"
platform="ios">
  <!-- change background to green -->
  <Setter Property="Background" Value="#00FF00" />
</Style>
  <!--Apply style to all ListBoxItem -->
  <Style TargetType="ListBoxItem" platform="ios">
  <!-- change background to red -->
  <Setter Property="Background" Value="#FF0000" />
</Style>
</styles>
```

For more complex examples and to see how the SAP style is defined, look at the SAPDefaultStyle.xml resource files that are included in the MAF UI libraries.

A style that is defined for a TargetType using a key does not inherit the style properties of the same TargetType that does not use a key ID.

### *Loading the Configuration in Code and Applying the Style*

To load XML-based style definitions from configuration files, copy this code to the application source:

```
#import "MAFUIStyleParser.h" //needed to load default and custom
styles for reuse components
...
```

```
-(void)loadStyles{
    //locate default SAP Style xml in MAFUIComponents.bundle folder,
    attached to the project
    NSString* fname = nil;
    fname = [[[[NSBundle mainBundle] resourcePath]
        stringByAppendingPathComponent:@"MAFUIComponents.bundle"]
        stringByAppendingPathComponent:@"SAPDefaultStyle.xml"];
    //load default SAP Style from xml
    [MAFUIStyleParser loadStyleWithPath:fname withError:nil];
}
```

Configuration files are loaded incrementally. This means that if you load a new configuration file, it changes the appearance of only the controls that are redefined in the file, and updates only the properties that are explicitly described in the file. This way, you need not copy the entire SAPDefaultStyle.xml to change the appearance of a few controls. Create a new XML file and include only the styles you want to override.

After loading and parsing the style files, you can apply the styles to any view. MAFUIComponents styles are automatically based on the TargetType mapping, but for other controls, you may need to call the `mafApplyStyleOnMafSubviews` method in the `viewDidLoad` method of a `ViewController`. MAF adds `mafApplyStyleOnMafSubviews` method to the `UIView` as a category, which you can call on the `ViewController`'s `view` property:

```
#import "MAFExtensions.h" //apply MAF Category on all UIViews
...
// in the code, during application running
- (void) viewDidLoad {
    [self loadCustomStyle];
    [self.view mafApplyStyleOnMafSubviews]; //defined in
MAFExtensions.h as category
    [self.view reloadData];
}
```

The following code loads and applies the styles. You can execute this code when the application loads or when a custom event is triggered. This is the complete MAF skinning code placed in a `ViewController`:

```
#import "MAFUIStyleParser.h" //needed to load default and custom
styles for reuse components
#import "MAFExtensions.h" //apply MAF Category on all UIViews
...
- (BOOL) loadDefaultStyle {
    NSString* fname = [[[[NSBundle mainBundle] resourcePath]
stringByAppendingPathComponent:@"MAFUIComponents.bundle"]
        stringByAppendingPathComponent:[NSString
            stringWithFormat:@"%%.xml", :@"SAPDefaultStyles"]];

    [self loadStyles:fname];
}
- (BOOL) loadCustomStyle {
    NSString* fname = [[[[NSBundle mainBundle] resourcePath]
```

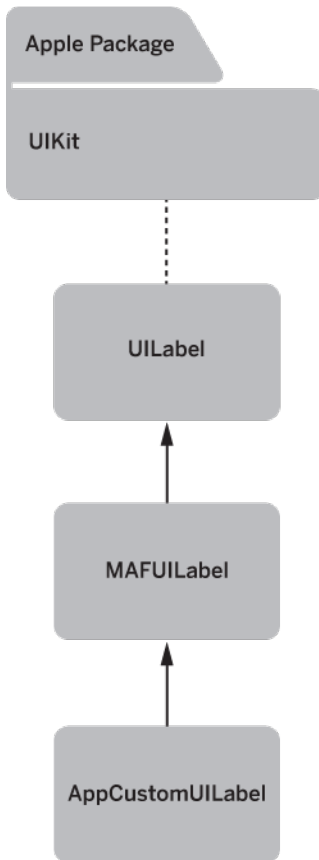
```

stringByAppendingPathComponent:@"MyApplication.bundle"]
        stringByAppendingPathComponent: [NSString
            stringWithFormat:@"%%.xml", :@"CustomStyles"]];
    [self loadStyles:fname];
}
- (BOOL) loadStyles:(NSString*) styleXMLFileName {
    // load specified xml file as Styles XML
    [MAFUIStyleParser loadStyleWithPath:fname withError:nil];
    return YES;
}
// in the code, during application running
- (void) viewDidLoad {
    [self loadDefaultStyle]; // load default SAP style
    [self loadCustomStyle]; // incrementally append styles to the
default SAP styles
    [self.view mafApplyStyleOnMafSubviews]; // explicitly apply style
on each sub-view
    [self.view reloadData];
}

```

### *Style Inheritance*

Style inheritance lets you reuse existing components while extending them with additional capabilities:



MAF uses style inheritance to reuse styling configuration and minimize duplications.

The following code defines the default style for the TargetType “Label”, which contains font (type, size, and color), background (solid black), and alignment properties. The configuration defines another style that is identified with the “stdLabel” key. In this definition, the BasedOn tag points to the parent style, which in this example uses the “Label” key. Styles that do not contain the Key attribute are the base style. Some of the default styles in the default styles XML are automatically mapped to an iOS UI control via the MAF skinning engine. However, most of the base styles cannot be directly applied to UI controls. You can use these as a common super class in style inheritance, where the inheriting class must have a Key attribute to be able to apply it to controls. The code also contains another style that demonstrates how you can inherit from “stdLabel”.

```
<Style TargetType="Label" platform="ios">
  <Setter Property="FontFamily" Value="Helvetica-Bold"/>
  <Setter Property="FontSize" Value="17"/>
  <Setter Property="TextColor" Value="#666666"/>
  <Setter Property="Background" Value="#00000000"/>
  <Setter Property="HorizontalContentAlignment" Value="Center"/>
</Style>
```



```

<Setter Property="VerticalContentAlignment" Value="Center"/>
</Style>
<Style BasedOn="Label" Key="stdLabel" TargetType="Label"
platform="ios">
<Setter Property="TextColor" Value="#FFFFFF"/>
<Setter Property="Shadow" Value="#FF000FF"/>
</Style>
<Style BasedOn="stdLabel" Key="PlainSectionHeaderLabel"
TargetType="Label" platform="ios">
  <Setter Property="TextColor" Value="#FFFFFF"/>
</Style>

```

### *Styling Different Visual States*

Visual states are implemented by native controls. MAF cannot add new visual states; it can style only those states that are already supported. Visual states are declared in the styling XML file:

```

<Style BasedOn="stdButton" Key="EmphasizedButton"
  TargetType="Button" platform="ios">
  <VisualStates>
    <VisualState Name="Highlighted">
      <Setter Property="Background">
        <Setter.Value>
          <LinearGradientBrush EndPoint="0.5,1"
StartPoint="0.5,0">
            <LinearGradientBrush.GradientStops>
              <GradientStop Color="#00599A"
Offset="0.0"/>
              <GradientStop Color="#0062A9"
Offset="0.5"/>
              <GradientStop Color="#007AB6"
Offset="1.0"/>
            </LinearGradientBrush.GradientStops>
          </LinearGradientBrush>
        </Setter.Value>
      </Setter>
      <Setter Property="Shadow" Value="#004A7D"/>
      <Setter Property="Foreground" Value="#FFFFFF"/>
      <Border BorderBrush="#002D4D" BorderThickness="1.2"
CornerRadius="8"/>
    </VisualState>
    <VisualState Name="Disabled">
      <!-- declare style properties for the Visual Style here -->
    </VisualState>
    <VisualState Name="State1">
      <!-- declare style properties for the Visual Style here -->
    </VisualState>
    <VisualState Name="State2">
      <!-- declare style properties for the Visual Style here -->
    </VisualState>
    ...
  </VisualStates>
  <!-- declare style properties for default Visual Style here
-->

```

```
...  
</Style>
```

The styling XML file uses the VisualState XML tag to declare a group of properties that belong to a specific visual state. The states are identified by the Name property of the VisualState XML tag. A style XML entry can have many VisualState tags, but they must all be declared inside the VisualStates XML tag. When you provide visual states, the MAF skinning engine checks the state of the control and selects the matching visual state style from the style of the control.

### *Skining Custom Controls*

The MAF provides simple skinnable controls, such as Button, Label, Table View; and more complex controls, such as Tree View or Calendar Control. If you build your own complex control from the simple skinnable MAF controls, you can fully skin your control using the MAF skinning engine. To do so, your component logic must apply the runtime information from the MAF skinning engine.

This section demonstrates how to skin a custom control with one simple example. These tasks build a control that uses the iOS provided Quartz 2D library to draw a rectangle, and skin its fill color and border brush color.

### *The Rectangle Control*

To implement the simple control, create an Objective-C class and extend the UIView, then implement the drawRect: method of the UIView superclass:

```
- (void)drawRect:(CGRect)rect {  
    CGContextRef context = UIGraphicsGetCurrentContext();  
  
    CGContextMoveToPoint(context, 100, 100);  
    CGContextAddLineToPoint(context, 150, 150);  
    CGContextAddLineToPoint(context, 100, 200);  
    CGContextAddLineToPoint(context, 50, 150);  
    CGContextAddLineToPoint(context, 100, 100);  
  
    CGContextSetFillColorWithColor(context, [UIColor  
redColor].CGColor);  
    CGContextFillPath(context);  
}
```

This simple Quartz 2D code presents the following rectangle on your screen:



### *Implementing MAFStyling Protocol*

The control must implement the MAFStyling protocol, which implements basic skinning capabilities for all MAF skinnable controls. This is the Objective-C header file of a custom skinnable control:

```
#import <UIKit/UIKit.h>
#import "MAFStyling.h"

@interface MyCustomControl : UIView <MAFStyling>

@end
```

This is the public API provided by this protocol:

```
/**
 * MAFStyling declares the methods and properties what a styleable
 * control should support.
 */
@protocol MAFStyling

/**
 * The style name of the control defined in the styling xml.
 * Default is nil which means to use the default style for the control.
 * Setting this property automatically calls mafApplyStyle.
 */
@property (copy) NSString *mafStyleName;

/**
 * Applies the style on the control. Should be called if a new styling
 * xml loaded in runtime.
 */
- (void) mafApplyStyle;
```

By implementing this protocol, you enable your own control to store the `mafStyleName` property. Use `mafStyleName` to set your custom skin's key value when initializing an instance of your control. The other capability this protocol provides is the `mafApplyStyle` selector. MAF skinnable controls call this selector when a new instance is created from the control, thus applying the skin to itself.

To make the fill color skinnable, create a `UIColor` property in the private interface of the class. Do not allow developers reusing your component to change this property directly, because it is intended to be set at runtime with the help of the MAF skinning engine:

```
#import "MyCustomControl.h"
#import "MAFExtensions.h"
#import <ObjC/runtime.h>
#import "MAFUIStyleCatalog.h"

@interface MyCustomControl()

@property (strong) UIColor *rectFillColor;

@end
```

This example also imports library classes, which allow you to set the style name and read the styles parsed from the `Style.xml` in your project. To use the value of the `rectFillColor` property as the fill color for the rectangle, change the `onDraw` method:

```
- (void)drawRect:(CGRect)rect {
    CGContextRef context = UIGraphicsGetCurrentContext();

    CGContextSetStrokeColorWithColor(context,
self.rectBorderColor.CGColor);

    CGContextMoveToPoint(context, 100, 100);
    CGContextAddLineToPoint(context, 150, 150);
    CGContextAddLineToPoint(context, 100, 200);
    CGContextAddLineToPoint(context, 50, 150);
    CGContextAddLineToPoint(context, 100, 100);

    CGContextSetFillColorWithColor(context,
self.rectFillColor.CGColor);
    CGContextFillPath(context);
}
```

To set the color value, define it in the styling XML:

```
<Style Key="CustomControlBlueStyle" TargetType="Control"
platform="ios">
    <Setter Property="Background" Value="#000000"/>
</Style>
```

The next step is to read out the style from the `MAFStyleCatalog`. You can do this by implementing the `mafApplyStyle` method of the `MAFStylingProtocol`.

The following code reads an `MAFUIStyle` instance from the singleton `MAFUIStyleCatalog`. The catalog already contains the style, because it was parsed when the style XML file was loaded into the `MAFStyleParser`. The `MAFUIStyle` parser has a set of properties, including the `Background` property, that you can use programmatically. Use the control's `mafStyleName` to read the corresponding `MAFUIStyle` from the `MAFUIStyleCatalog`.

```
- (void)mafApplyStyle{
    MAFUIStyleCatalog* catalog = [MAFUIStyleCatalog
uiStyleCatalog];
    MAFUIStyle *customStyle = [catalog styleByName:
```

```
self.mafStyleName];
    self.rectFillColor = customStyle.getBorderColor;
}
```

To set and get the value of the mafStyleName, implement the following getter and setter:

```
#pragma mark - MAFStyling implementation

- (NSString *)mafStyleName {
    //return [super mafStyleName];
    return objc_getAssociatedObject(self, mafStyleNameKey);
}

- (void)setMafStyleName:(NSString *)mafStyleName{
    //[super setMAFStyleName:mafStyleName];
    objc_setAssociatedObject(self, mafStyleNameKey, mafStyleName,
OBJC_ASSOCIATION_RETAIN_NONATOMIC);
    [self mafApplyStyle];
    [self setNeedsDisplay];
}
```

The above code creates a public getter and setter method. The getter method returns the current value, and the setter method calls the mafApplyStyle method to change the internal value of the rectFillColor property, then notifies the system to redraw the view.

### *Presenting Skinned Controls*

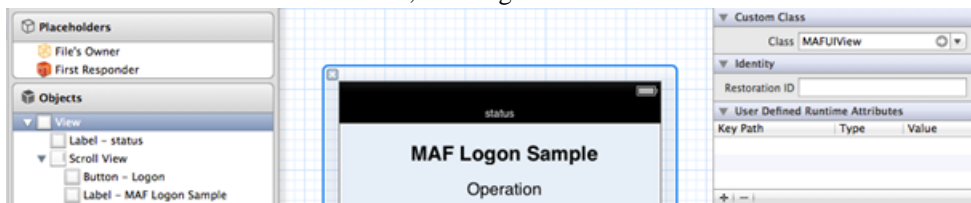
Present your custom control in the same way you present a MAF skinnable control. Create an instance of the control and set its style name via the mafStyleName property:

```
MyCustomControl *myControl = [[MyCustomControl alloc]
initWithFrame:CGRectMake(0, 0, 320, 300)];
myControl.mafStyleName = @"CustomControlBlueStyle";
[self.view addSubview:myControl];
[myControl release];
```

### *Using Storyboard or Interface Builder*

Xcode provides graphical editors for creating iOS screens. MAF simple controls support Interface Builder and Storyboard to configure the native subclasses provided by MAF.

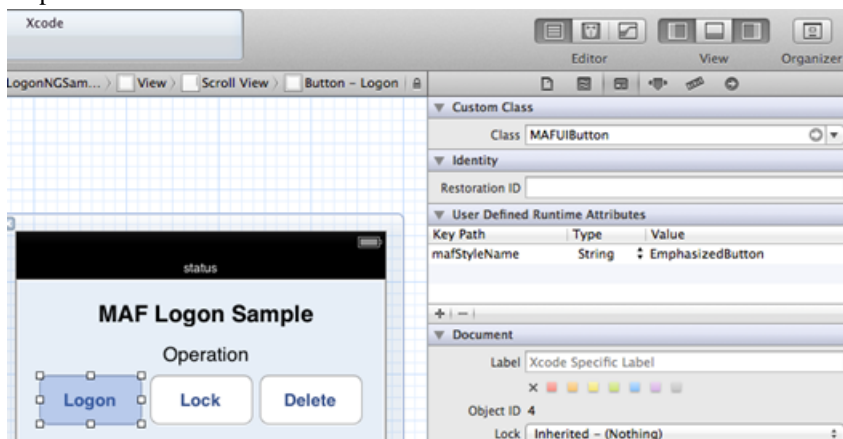
There is no support in Xcode to provide pixel-perfect design for custom UIView subclasses. This is the Interface Builder in Xcode, showing a UIView selected in the visual editor:



You can adjust this control in the Identity Inspector of the Interface Builder tool. The Class is specified as a MAFUIView. During screen initialization, the iOS framework instantiates the MAFUIView subclass of UIView. This is identical to the instance you get when you use the

Objective-C code snippets described in the section; however, here, you need not include a reference to this instance from any UIViewController. If you load the default SAP style, or any custom styling XML file that references the TargetType window, the style is applied to the control.

This example shows a UIButton selected in the Interface Builder, and uses the Identity Inspector to set the Class to MAFUIButton:



Use the Interface Builder's Identity Inspector to set an mafStyleName property. You can use the User Defined Runtime Attributes to set any compatible property of the MAFUIButton instance at runtime. This example uses the EmphasizedButton style class, which is defined in the default styling XML file:

```
<Style BasedOn="stdButton" Key="EmphasizedButton"
  TargetType="Button" platform="ios">
  <VisualStates>
    <VisualState Name="Highlighted">
      <Setter Property="Background">
        <Setter.Value>
          <LinearGradientBrush EndPoint="0.5,1"
            StartPoint="0.5,0">
            <LinearGradientBrush.GradientStops>
              <GradientStop Color="#00599A"
                Offset="0.0"/>
              <GradientStop Color="#0062A9"
                Offset="0.5"/>
              <GradientStop Color="#007AB6"
                Offset="1.0"/>
            </LinearGradientBrush.GradientStops>
          </LinearGradientBrush>
        </Setter.Value>
      </Setter>
      <Setter Property="Shadow" Value="#004A7D"/>
      <Setter Property="Foreground" Value="#FFFFFF"/>
      <Border BorderBrush="#002D4D" BorderThickness="1.2"
        CornerRadius="8"/>
    </VisualState>
  </VisualStates>
</Style>
```

```

        <VisualState Name="Disabled">
            <Setter Property="Shadow" Value="#3DBFFF"/>
            <Setter Property="Background">
                <Setter.Value>
                    <LinearGradientBrush EndPoint="0.5,1"
StartPoint="0.5,0">
                        <LinearGradientBrush.GradientStops>
                            <GradientStop Color="#007AB6"
Offset="0.0"/>
                            <GradientStop Color="#0062A9"
Offset="0.5"/>
                            <GradientStop Color="#00599A"
Offset="1.0"/>
                        </LinearGradientBrush.GradientStops>
                    </LinearGradientBrush>
                </Setter.Value>
            </Setter>
            <Setter Property="Foreground" Value="FFFFFF"/>
            <Border BorderBrush="#00416E" BorderThickness="1.2"
CornerRadius="8"/>
        </VisualState>
    </VisualStates>
    <Setter Property="Background">
        <Setter.Value>
            <LinearGradientBrush EndPoint="0.5,1"
StartPoint="0.5,0">
                <LinearGradientBrush.GradientStops>
                    <GradientStop Color="#007AB6" Offset="0.0"/>
                    <GradientStop Color="#0062A9" Offset="0.5"/>
                    <GradientStop Color="#00599A" Offset="1.0"/>
                </LinearGradientBrush.GradientStops>
            </LinearGradientBrush>
        </Setter.Value>
    </Setter>
    <Setter Property="Shadow" Value="#3DBFFF"/>
    <Setter Property="Foreground" Value="FFFFFF"/>
    <Border BorderBrush="#00416E" BorderThickness="1.2"
CornerRadius="8"/>
</Style>

```

You can use the same method to use custom XML classes. To apply the default SAP style on a control, do not specify a value for `mafStyleName` in the Identity Inspector. To apply a specific style, set its key attribute as the value of `mafStyleName`.

### MAF Simple Controls

The Apple iOS SDK provides many simple controls, which you can skin at runtime using the Mobile Application Framework. MAF ships a wrapper class for most native UI controls, which you can use to create easily adaptable UI controls. MAF controls support automatic styling at initialization, and use the iOS Appearance API to perform most skinning.

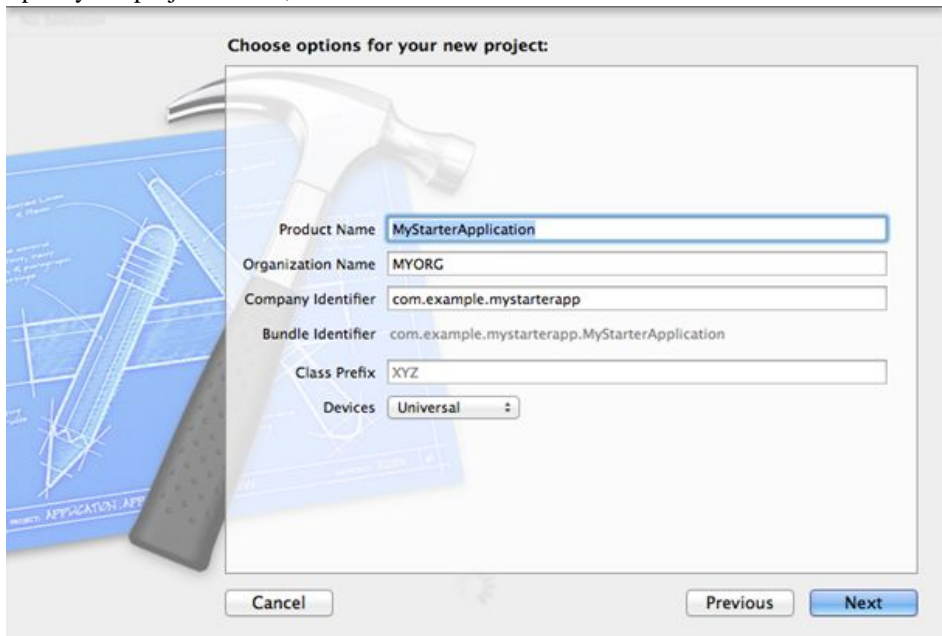
### *Project Setup*

Set up your project.

### *Creating iOS Starter Application*

Create a new Xcode project. If you have already created a project, verify that it is configured correctly.

1. Start Xcode and select **File > New > Project**. The Choose a template for your new project view appears.
2. Select **Single View Application**, and click **Next**.
3. Specify the project details, and click **Next**.



4. Specify where to save the application, then click **Create**.

Xcode opens your new project.

### *Prepare the Project Structure and Copy Dependencies to Your Project*

Add MAF libraries to the empty project. MAF includes statically linked libraries with resource bundles. Prepare a folder structure for the dependencies.

1. Locate MAF libraries in the SAP Mobile Platform SDK installation a folder, in the NativeSDK/MAFReuse/iOS and NativeSDK/ODataFramework subfolders.
2. In the root of your Xcode project, create these folders and subfolders:
  - dependencies/libraries
  - dependencies/includes
  - dependencies/bundles



3. Copy these libraries from `NativeSDK/MAFReuse/iOS/libraries/Debug-universal` to `dependencies/libraries/Debug-universal`:
  - `libMAFUIComponents.a`
  - `libMAFLogViewer.a`
4. Copy these libraries from `NativeSDK/MAFReuse/iOS/libraries/Release-universal` to `dependencies/libraries/Release-universal`:
  - `libMAFUIComponents.a`
  - `libMAFLogViewer.a`
5. Copy these folders from `NativeSDK/MAFReuse/iOS/includes/public/` to `dependencies/includes`:
  - `MAFUIComponents`
  - `MAFLogViewer`
6. Copy these bundles from `NativeSDK/MAFReuse/iOS/includes/bundles` to `dependencies/bundles`:
  - `MAFUIComponents.bundle`
  - `MAFLogViewer.bundle`
7. Copy these libraries from `NativeSDK/ODataFramework/iOS/libraries/Debug-universal` to `dependencies/libraries/Debug-universal`:
  - `libMAFLogger.a`
  - `libLogger.a`
8. Copy these libraries from `NativeSDK/ODataFramework/iOS/libraries/Release-universal` to `dependencies/libraries/Release-universal`:
  - `libMAFLogger.a`
  - `libLogger.a`
9. Copy the `MAFLogger` folder from `NativeSDK/ODataFramework/iOS/includes/public/` to `dependencies/includes`.
10. Copy `MAFLogger.bundle` from `NativeSDK/ODataFramework/iOS/includes/bundles` to `dependencies/bundles`.

### *Configure Your Xcode Project*

Add the copied dependencies to your Xcode project, and change project settings.

1. With your Xcode project open, drag and drop all the files from `dependencies/libraries` and `dependencies/bundles` to the Xcode Project Navigator view.
2. Select the root node of your project in Project Navigator view. You should see the General project settings in the main area of your Xcode window.
3. Select **main target** from the Targets view.
4. Select **Build Settings** tab and select **All** from the header of the Build Settings page.
5. In the search field, enter `search paths`.

6. Add this string as the Header search path: `$(PROJECT_DIR)/dependencies/includes/`. Make sure the path is marked as recursive.
7. Add this string as the Library search path: `$(PROJECT_DIR)/dependencies/libraries/$(BUILD_STYLE)-universal`. Make sure the path is marked as recursive.
8. Clear the search field on the Build Settings page and enter other linker flags.
9. Set other linker flags to `-all_load` and `-ObjC`.
10. On the Build Settings page, clear the search field and enter `ios deployment target`.
11. Set the iOS deployment target to iOS 6.0.

### *Build Configuration*

To build your project, add ObjC frameworks to your Xcode project.

- `MessageUI.framework`
- `QuartzCore.framework`
- `Libz.dylib`
- `Libstdc++.dylib`
- `UIKit.framework`
- `Foundation.framework`
- `CoreGraphics.framework`

Your application is now ready for use.

### *MAFUIView*

MAFUIView uses the MAFStyling protocol to extend the native UIView class with MAF styling capability. You can use this wrapper object to style the border and background of any UIView subclass. To inherit basic MAF skinning capability, inherit your own control views from this class.

To create and present a default SAP-style-based instance of MAFUIView, use:

```
MAFUIView* mafUIView = [[MAFUIView alloc] init];
[mafUIView sizeToFit];
[self setView:mafUIView];
//release mafUIView instance if not ARC based project.
[mafUIView release];
```

This creates an empty UIView that has a solid background color and a border brush. To change the style of this MAFUIView instance, define a simple style:

```
<Style Key="mafUIViewSampleStyle" TargetType="Window"
platform="ios">
    <Setter Property="Background" Value="#FFFFFF"/>
    <Border BorderBrush="#007AB6" BorderThickness="4"/>
</Style>
```

This XML definition applies a white background color and a blue 4-point border around the frame of the UIView.

To apply this style to a UIView instance, set the `mafUIViewSampleStyle` style name as a value for the `mafStyleName` property of the `MAFUIStyling` protocol:

```
[mafUIView setMafStyleName:@"mafUIViewSampleStyle"];
```

Set `mafUIViewSampleStyle` as a style name to any `MAFUIView` subclass to set its border brush and background. The background property can also apply a freestyle gradient.

You can change these properties in the skinning XML:

Background	Color of the UIView's background; can also be a freestyle gradient. Colors are defined as RGBA (red, green, blue, alpha).
Border	The border attributes of the UIView include: <ul style="list-style-type: none"> <li>• <code>Borderbrush</code> – defines the color.</li> <li>• <code>BorderThickness</code> – is the width of the border.</li> <li>• <code>CornerRadius</code> – is the angle of the edge.</li> </ul>

### *MAFUIButton*

`MAFUIButton` uses the `MAFStyling` protocol to extend the native `UIButton` class with `MAF` styling capability.

Load the content of `Style.xml` from `MAFUIComponents.bundle`, then create and present a default SAP-style instance of `MAFUIButton`:

```
MAFUIButton *stdButton = [[MAFUIButton alloc]
initWithFrame:CGRectMake(60, 30, 200, 40)];
[stdButton setTitle:@"Standard Button"
 forState:UIControlStateNormal];
[self.view addSubview:stdButton];
//release mafUIView instance if not ARC based project.
[stdButton release];
```

**Figure 2: SAP Style Compliant UIButtons – Enabled, Disabled, and Highlighted Versions**

The MAF skinning engine customizes the buttons. To apply SAP style, set the custom style in the XML file for background, shadow, font family, font size, content alignment, foreground, and border.

If you do not set an `mafStyleName`, the skinning engine applies the style of the default `TargetType`, which is `Button`. This is the XAML content for the current default style of the `Button TargetType`:

```
<Style TargetType="Button" platform="ios">
  <VisualStates>
    <VisualState Name="Highlighted">
    </VisualState>
    <VisualState Name="Disabled">
    </VisualState>
  </VisualStates>
  <Setter Property="Background">
  <Setter.Value>
  <LinearGradientBrush EndPoint="0.5,1" StartPoint="0.5,0">
    <LinearGradientBrush.GradientStops>
    <GradientStop Color="#FFFFFF" Offset="0.0"/>
    <GradientStop Color="#EFEFEF" Offset="0.65"/>
    <GradientStop Color="#EFEFEF" Offset="1.0"/>
    </LinearGradientBrush.GradientStops>
  </LinearGradientBrush>
  </Setter.Value>
  </Setter>
  <Setter Property="Shadow" Value="#FFFFFF"/>
  <Setter Property="FontFamily" Value="Helvetica-Bold"/>
  <Setter Property="FontSize" Value="15"/>
  <Setter Property="HorizontalContentAlignment" Value="Center"/>
  <Setter Property="VerticalContentAlignment" Value="Center"/>
  <Setter Property="Foreground" Value="#333333"/>
  <Border BorderBrush="#666666" BorderThickness="1" CornerRadius="8"/>
</Style>
```

MAFUIButton supports different skins for different visual states of the UIButton. To set visual states, use the `<VisualStates></VisualStates>` tag:

```

Style BasedOn="stdButton" Key="EmphasizedButton"
  TargetType="Button" platform="ios">
  <VisualStates>
    <VisualState Name="Highlighted">
      <Setter Property="Background">
        <Setter.Value>
          <LinearGradientBrush EndPoint="0.5,1"
StartPoint="0.5,0">
            <LinearGradientBrush.GradientStops>
              <GradientStop Color="#00599A"
Offset="0.0"/>
              <GradientStop Color="#0062A9"
Offset="0.5"/>
              <GradientStop Color="#007AB6"
Offset="1.0"/>
            </LinearGradientBrush.GradientStops>
          </LinearGradientBrush>
        </Setter.Value>
      </Setter>
      <Setter Property="Shadow" Value="#004A7D"/>
      <Setter Property="Foreground" Value="FFFFFF"/>
      <Border BorderBrush="#002D4D" BorderThickness="1.2"
CornerRadius="8"/>
    </VisualState>
    ...
  </VisualStates>
  ...
</Style>

```

The above examples defined the core button skin, but the XAML inheritance capability also allows you to define child styles, such as `stdButton`:

```

<Style BasedOn="Button" Key="stdButton" TargetType="Button"
platform="ios"/>

```

MAF also includes an `EmphasizedButton` XAML child style for `MAFUIButton`. To apply the child style, change the `mafStyleName` property of the `MAFUIButton` object:

```

MAFUIButton *empButton = [[MAFUIButton alloc]
initWithFrame:CGRectMakeMake(60, 30, 200, 40)];
[empButton setTitle:@"Emphasized Button"
 forState:UIControlStateNormal];
[empButton setMafStyleName:@"EmphasizedButton"];
[self.view addSubview:empButton];

//release MAFUIButton instance if not ARC based project.
[empButton release];

```

For the emphasized button, the `mafStyleName` is set to `EmphasizedButton` (this is the only difference from the basic button). The `EmphasizedButton` subclass of the `stdButton` style presents this button on screen:

**Figure 3: SAP Style Compliant Emphasized Button – Enabled, Disabled and Highlighted Versions**



You can change these properties in the skinning XML:

Background	Color of the UIButton's background; can also be a freestyle gradient. Colors are defined as RGBA (red, green, blue, alpha).
TextColor	The control's text color.
FontFamily	The control's font family.
FontSize	The control's font size.
HorizontalContentAlignment	Horizontal alignment of the control's text.
VerticalContentAlignment	Vertical alignment of the control's text.
Border	The border attributes of the UIButton include: <ul style="list-style-type: none"> <li>• Borderbrush – defines the color.</li> <li>• BorderThickness – is the width of the border.</li> <li>• CornerRadius – is the angle of the edge.</li> </ul>
Shadow	The upper shadow (1px horizontal line) for the button.

### *MAFUILabel*

MAFUILabel uses the MAFStyling protocol to extend the native UILabel class with MAF styling capability.

To create and present a default SAP-style-based instance of MAFUILabel, use:

```
MAFUILabel* label = [[MAFUILabel alloc] initWithFrame:CGRectMake(60,
30, 200, 40)];
[label setText:@"Standard label"];
[self.view addSubview:label];
[label release];
```

**Figure 4: Skinned MAFUILabel Instance****Standard label**

The default skin is based on the Label TargetType defined in Styles.xml (available from the MAFUIComponents.bundle). To apply SAP style, set the custom style in the XML file for background, font family, font size, content alignment, and text color:

```
<Style TargetType="Label" platform="ios">
  <VisualStates>
    <VisualState Name="Highlighted">
      <Setter Property="Shadow" Value="#FFFFFF"/>
    </VisualState>
  </VisualStates>
  <Setter Property="FontFamily" Value="Helvetica-Bold"/>
  <Setter Property="FontSize" Value="17"/>
  <Setter Property="Foreground" Value="#555555"/>
  <Setter Property="Background" Value="#00000000"/>
  <Setter Property="HorizontalContentAlignment" Value="Left"/>
  <Setter Property="VerticalContentAlignment" Value="Top"/>
</Style>
```

You can change these properties in the skinning XML:

Background	Color of the UILabel's background; can be only a solid color, no freestyle gradient. Colors are defined as RGBA (red, green, blue, alpha).
TextColor	The control's text color.
FontFamily	The control's font family.
FontSize	The control's font size.
HorizontalContentAlignment	Horizontal alignment of the control's text.
VerticalContentAlignment	Vertical alignment of the control's text.
Border	The border attributes of the MAFUILabel include: <ul style="list-style-type: none"> <li>• Borderbrush – defines the color.</li> <li>• BorderThickness – is the width of the border.</li> <li>• CornerRadius – is the angle of the edge.</li> </ul>
Shadow	The color of the control's text shadow (shifted 2px*2px on x and y axis).

### *MAFUITextField*

MAFUITextField uses the MAFStyling protocol to extend the native UITextField class with MAF styling capability. MAFUITextField can also use different indicators to mark mandatory fields and fields with invalid values.

To create a default SAP- style-based instance of MAFUITextField, use:

```
MAFUITextField *textFieldRounded = [[MAFUITextField alloc]
                                   initWithFrame:CGRectMake(10, 40, 300, 30)] ;
textFieldRounded.borderStyle = UITextBorderStyleRoundedRect;
textFieldRounded.placeholder = @"<enter text>"; //place holder
//explicit call is needed to apply default style.
[textFieldRounded applyMAFStyleWithMandatoryIcon:YES
                  WithErrorIcon:YES UseControlNames:YES];
```

This code presents this MAFUITextField:

**Figure 5: MAFUITextField with Placeholder Text and Mandatory Indicator**



The border, font, and indicator reflect SAP style.

The same control can replace the mandatory indicator with a native iOS clear indicator, which allows you to use the clear feature of the original UITextField:

**Figure 6: MAFUITextField with Text and Clear Indicator**



If a validation is attached to MAFUITextField, the clear indicator changes to the validation error indicator:

**Figure 7: MAFUITextField with Text and Validation Error Indicator**



This instance of the MAFUITextField calls a method to check whether the field value is valid:

```
[textFieldRounded addTarget:self action:@selector(errorCheck:)
                  forControlEvents:UIControlEventEditingChanged];
```

The call is triggered to check the validity of the current value after each additional character is typed in the text field.

There is a separate style to indicate when the MAFUITextField is disabled:



**Figure 8: MAFUITextField Disabled**

Set indicator images to the MAFUITextField instance to present these UI styles. To enable mandatory and validation indicators, call the appropriate selector on the MAFUITextField instance:

```
//Create The Textfields
textFieldRounded = [[MAFUITextField alloc]
initWithFrame:CGRectMake(10, 40, 300, 30)] ;
textFieldRounded.mafStyleName = @"TextBoxSample";
textFieldRounded.font = [UIFont systemFontOfSize:17.0]; //font
size
textFieldRounded.placeholder = @"<enter text>"; //place holder
textFieldRounded.autocorrectionType =
UITextAutocorrectionTypeNo; // no auto correction support
textFieldRounded.keyboardType = UIKeyboardTypeDefault; // type
of the keyboard
textFieldRounded.returnKeyType = UIReturnKeyDone; // type of the
return key
//set to apply style with mandatory icon and error icon.
[textFieldRounded applyMAFStyleWithMandatoryIcon:YES
WithErrorIcon:YES UseControlNames:YES];
```

To apply SAP style to MAFUITextField, define these properties in Styles.xml:

```
<Style TargetType="TextBox" platform="ios">
  <Setter Property="Background" Value="#FEFEFE"/>
  <Setter Property="FontFamily" Value="Helvetica"/>
  <Setter Property="FontSize" Value="15"/>
  <Setter Property="HorizontalContentAlignment" Value="Left"/>
  <Setter Property="VerticalContentAlignment" Value="Center"/>
  <Setter Property="Foreground" Value="#000000"/>
  <Border BorderBrush="#ABABAB" BorderThickness="1"
CornerRadius="8"/>
</Style>
```

You can change these properties in the skinning XML:

Background	Color of the UITextField background; can be only a solid color, no freestyle gradient. Colors are defined as RGBA (red, green, blue, alpha).
FontFamily	The control's font family.
FontSize	The control's font size.
HorizontalContentAlignment	Horizontal alignment of the control's text.
Foreground	The color of the control's text.

Border	<p>The border attributes of the MAFUITextField include:</p> <ul style="list-style-type: none"> <li>• <code>Borderbrush</code> – defines the color.</li> <li>• <code>BorderThickness</code> – is the width of the border.</li> <li>• <code>CornerRadius</code> – is the angle of the edge.</li> </ul>
--------	--

### *MAFUISlider*

MAFUISlider extends the native UISlider class with MAF styling capability using the MAFStyling protocol.

The differences (colors and shadows) between the native and the SAP-style-based slider controls are shown here:

**Figure 9: Native and Styled Slider**

Native Slider :



Styled Slider :



To create MAFUISlider with the default SAP style and add it to the view of your ViewController, use:

```
UISlider* slider = [[UISlider alloc] initWithFrame:CGRectMake(10,
185, 200, 30)];
    slider.minimumValue = 0.0;
    slider.maximumValue = 100.0;
    [slider setValue:50];
    slider.continuous = YES;
    [self.view addSubview: slider];
    [slider release];
```

There are two styling methods available for changing the default style of MAFUISlider. You can set tint colors for the minimum track, maximum track, and thumb. This method keeps the native design, but adjusts its colors to the specified tint colors. To set the tint color at runtime, use:

```
<Style Key="LightSlider" TargetType="Slider" platform="ios">
    <Setter Property="minimumTrackTintColor" Value="#FFFFFF"/>
    <Setter Property="maximumTrackTintColor" Value="#FFFF00"/>
    <Setter Property="thumbTintColor" Value="#FF0000"/>
</Style>
```

The other method of customizing the control is to specify images for the maximum track, minimum track, and thumb; for example:

```
<Style Key="LightSlider" TargetType="Slider" platform="ios">
    <CurrentValueImage Height="30" ImageSource="thumb" Width="30"/>
    <MinimumValueImage Height="30" ImageSource="noSwitch.png"
```

```
Width="30"/>
    <MaximumValueImage Height="30" ImageSource="yesSwitch.png"
Width="30"/>
</Style>
```

To change the default SAP style to your custom style, set the `mafStyleName` property to your custom style's key value:

```
slider.mafStyleName = @"LightSlider";
```

You can change these properties in the skinning XML:

<code>minimumTrackTintColor</code>	The tint color of the standard minimum track images.
<code>maximumTrackTintColor</code>	The tint color of the standard maximum track images.
<code>thumbTintColor</code>	The tint color of the standard thumb images. Can be used only if no thumb image is used.
<code>CurrentThumbImage</code>	Contains the current thumb image that renders the receiver. Overwrites <code>thumbTintColor</code> .
<code>MinimumValueImage</code>	Contains the image that is drawn on the side of the slider representing the minimum value.
<code>MaximumValueImage</code>	Contains the image that is drawn on the side of the slider representing the maximum value.

### *MAFUIProgress View*

`MAFUIProgressView` extends the native `UIProgressView` class with MAF styling capability using the MAFStyling protocol.

The differences (colors and shadows) between the native and the SAP-style-based controls are shown here:

**Figure 10: Comparison of Native and MAF Progress View Controls**



To create `MAFUIProgressView` with the default SAP style and add it to the view of your `ViewController`, use:

```
UIProgressView* progressview = [[UIProgressView
alloc]initWithFrame:CGRectMake(10, 35, 200, 40)];
progressview.progress = 0.5f;
[self.view addSubview:progressview];
[progressview release];
```

As with `MAFUISlider`, you can skin this control by using tint colors:

```
<Style Key="LightProgressBar" TargetType="ProgressView"
platform="ios">
    <Setter Property="progressTintColor" Value="#DDDDDD"/>
    <Setter Property="trackTintColor" Value="#666666"/>
</Style>
```

To change the default SAP style to your custom style, set the `mafStyleName` property to the key value of your custom style:

```
progressview.mafStyleName = @"LightProgressBar";
```

You can change these properties in the skinning XML:

<code>progressTintColor</code>	The color of the filled portion of the progress bar. Colors are defined as RGBA (red, green, blue, alpha).
<code>trackTintColor</code>	The color of the empty portion of the progress.

### *MAFUIStepper*

`MAFUIStepper` extends the native `UIStepper` class with MAF styling capability using the `MAFStyling` protocol.

The differences (colors and shadows) between the native and the SAP-style-based controls are shown here:

**Figure 11: Comparison of Native and MAF Stepper Controls**



To create `MAFUIStepper` with the default SAP style and add it to the view of your `ViewController`, use:

```
MAFUIStepper* coloredStepper = [[[MAFUIStepper alloc]
initWithFrame:CGRectMakeMake(160, 150, 0, 0)] autorelease];
[coloredStepper addTarget:self
action:@selector(stepperValueChanged:)
forControlEvents:UIControlEventTouchUpInside];
coloredStepper.tag = 1;
[mafUIView addSubview:coloredStepper];
```

There are two styling methods available for changing the default style of `MAFUIStepper`. You can set tint colors for the background of the native control, which keeps the native design, but adjusts the colors to the specified tint colors. To set the tint color for the background, use:

```
<Style TargetType="Stepper" Key="TintStepper" platform="ios">
  <Setter Property="TintColor" Value="#00FF99"/>
</Style>
```

The other method of customizing the control is to specify images for the left and right segments, which provides more variety than setting the tint colors. Provide a left and right segment image for each state of the control; for example:

```
<Style TargetType="Stepper" Key="ImageStepper" platform="ios">
  <IncrementImage Height="30" ImageSource="up.png" Width="30"/>
  <DecrementImage Height="30" ImageSource="down.png" Width="30"/>
</Style>
```

To change the default SAP style to your custom style, set the `mafStyleName` property to the key value for your custom style:

```
coloredStepper.mafStyleName = @"TintStepper";
```

You can change these properties in the skinning XML:

TintColor	The tint color of the MAFUIStepper. Available in iOS 6.0 and above.
BackgroundImage	The image for the background. If you use this property, do not set any other property except <code>DividerImage</code> . Available in iOS 6.0 and above.
DividerImage	The divider image that separates the right and the left side of the control. If you use this property, do not set any other property except <code>BackgroundImage</code> . Available in iOS 6.0 and above.
IncrementImage	The image for the increment button of MAFUIStepper. If you use this property, do not set any other property except <code>DecrementImage</code> . Available in iOS 6.0 and above.
DecrementImage	The image for the decrement button of MAFUIStepper. If you use this property, do not set any other property except <code>IncrementImage</code> . Available in iOS 6.0 and above.

### *MAFUITabBar*

MAFUITabBar extends the native MAFUITabBar class with MAF styling capability using the MAFStyling protocol. You can style both the tab bar items and the tab bar itself.

The differences between the native and the SAP-style-based controls are shown here:

**Figure 12: Comparison of Native and MAF Tab Bar**

To create MAFUIProgressView with the default SAP style and add it to the view of your ViewController, use:

```
MAFUITabBar* tabBar = [[MAFUITabBar alloc]
initWithFrame:CGRectMakeMake(40, 190, 250, 50)];
[tabBar setMafStyleName:@"UITabBar"];
```

This code creates and styles an empty tab bar.

To fill the tabs with content, create UITabBarItems:

```
NSMutableArray *listOfTabBarItems = [[NSMutableArray alloc] init];

UITabBarItem* item = [[UITabBarItem alloc]
initWithTabBarSystemItem:UITabBarSystemItemTopRated
tag:100];

[listOfTabBarItems addObject:item];
[item release];
item = [[UITabBarItem alloc] initWithTitle:@"Tab B"
image:[UIImage imageNamed:@"employee_grey_24.png"] tag:1];
[listOfTabBarItems addObject:item];
[item release];
item = [[UITabBarItem alloc] initWithTitle:@"Tab C" image:nil tag:
2];
[listOfTabBarItems addObject:item];
[item release];

[tabBar setItems:listOfTabBarItems];
[listOfTabBarItems release];
```

MAF does not provide a wrapper class for UITabBarItems. To define a custom style for MAFUITabBar, use code similar to this:

```
<Style BasedOn="TabBar" Key="MyTabBarStyle" platform="ios">
  <Setter Property="Background" Value="#339955"/>
  <BackgroundImage Height="40"
ImageSource="tabBarBackgroundImage.png" Width="40"/>
  <IndicatorImage Height="40"
ImageSource="tab_select_indicator.png" Width="40"/>
  <ShadowImage Height="40"
ImageSource="tabBarUpperShadowImage.png" Width="40"/>
  <Setter Property="selectedImageTintColor" Value="#FF0000"/>
</Style>
```

To apply your custom style on `MAFUITabBar`, set the `mafStyleName` property to the key value for your custom style:

```
tabBar.mafStyleName = @"MyTabBarStyle";
```

You can change these properties in the skinning XML:

Background	Tint color of the <code>MAFUITabBar</code> background; can only be a solid color.
BackgroundImage	Image for <code>MAFUITabBar</code> 's background.
IndicatorImage	Image for <code>MAFUITabBar</code> 's indicator. Images can be local or can come from a url and they can be base64 encoded images.
ShadowImage	Image for <code>MAFUITabBar</code> 's shadow at the top of the control. Available in iOS 6.0 and above.
selectedImageTintColor	The tint color of the gradient image used for the selected image.

### *MAFUISearchBar*

`MAFUISearchBar` extends the native `UISearchBar` class with MAF styling capability using the MAFStyling protocol.

The differences between the native and the SAP-style-based controls are shown here:

**Figure 13: Comparison of Native and MAF UISearchBar**



To create `MAFUISearchBar` with the default SAP style and add it to the view of your `ViewController`, use:

```
MAFUISearchBar *styledSearchBar = [[MAFUISearchBar alloc]
initWithFrame:CGRectMakeMake(40, 165, 250, 45)];
[mafUIView addSubview:styledSearchBar];
[styledSearchBar release];
[mafUIView release];
```

You can style the background of the search bar to any gradient or simple color. You can also customize the font style and the search icon with the styling XML:

```
<Style targettype="SearchBar" key="SampleSearchBar" platform="ios">
  <BackgroundImage height="30" imagesource="imageFile1.png"
width="30">
  <SearchBarIcon height="30" imagesource="imageFile2.png">
```

```
width="30">
  <SearchFieldBackgroundImage height="30"
  imagesource="imageFile3.png" width="30">
  <Setter property="TextColor" value="#006666">
  <Setter property="FontFamily" value="Helvetica-Bold">
  <Setter property="FontSize" value="14">
  <Setter property="BarStyle" value="1">
  <Setter property="TintColor" value="#330099">
  <Setter property="Translucent" value="NO">
</Style>
```

To apply this style, set the style name of the MAFUISearchBar instance to "SampleSearchBar":

```
[styledSearchBar setMafStyleName:@"SampleSearchBar"];
```

You can change these properties in the skinning XML:

Background	The background image for the search bar.
SearchBarIcon	The image to use for the search bar icon.
FontFamily	The font family of the text in the search bar.
FontSize	The font size of the text in the search bar.
TextColor	The color of the text in the search bar.
SearchFieldBackgroundImage	The image to use for the background of the search bar.
BarStyle	The style that specifies the receiver's appearance. Possible values: UIBarStyleDefault, UIBarStyleBlack, UIBarStyleBlackOpaque.
TintColor	The tint color of the search bar.
Translucent	Specifies whether the receiver is translucent. Sets the native property of the search bar.

### *Bars and Items*

MAF provides skinnable subclasses of native bar types: the MAFUIToolbar and the MAFUINavigationBar. You can populate the native bar controls with MAFUIBarButtonItem instances. All of these components extend their superclass with MAF styling capability using the MAFStyling protocol.

The default SAP style of the MAFUIToolbar and MAFUIBarButtonItem looks like this:

**Figure 14: SAP Style Compatible MAFUIToolbar**





The default SAP style of the MAFUINavigationBar looks like this:

**Figure 15: SAP Style Compatible MAFUINavigationBar**



To present the MAFUIToolbar or MAFUINavigationBar, create an instance of the UINavigationController. To use the subclasses of the bar types capable of MAF styling, pass the classes when creating the instance:

```

/*
In AppDelegate.m or where we initialize the Navigation Controller.
*/
self.navigationController = [[[UINavigationController alloc]
initWithNavigationBarClass:[MAFUINavigationBar class]
toolbarClass:[MAFUIToolBar class]] autorelease];
/*
In the ViewController where we would like to use the ToolBar and the
NavigationBar
*/

MAFUINavigationBarItem *item = [[[MAFUINavigationBarItem alloc]
initWithImage:[UIImage
imageNamed:@"employee_grey_24.png"]
style:UINavigationBarItemStylePlain target:self
action:nil] autorelease];
item.mafStyleName = @"UINavigationBarItem";

MAFUINavigationBarItem *item2 = [[[MAFUINavigationBarItem alloc]
initWithImage:[UIImage
imageNamed:@"lead_grey_24.png"]
style:UINavigationBarItemStylePlain target:self
action:nil] autorelease];
item2.mafStyleName = @"UINavigationBarItem";

UINavigationBarItem *flexibleSpaceBarButton = [[[UINavigationBarItem
alloc]
initWithBarButtonSystemItem:UINavigationBarItemSystemItemFlexibleSpace
target:nil action:nil] autorelease];

MAFUINavigationBarItem *item3 = [[[MAFUINavigationBarItem alloc]
initWithImage:[UIImage
imageNamed:@"decline_24.png"]
style:UINavigationBarItemStylePlain target:self
action:nil] autorelease];
item3.mafStyleName = @"plainBarButton";

MAFUINavigationBarItem *item4 = [[[MAFUINavigationBarItem alloc]
initWithImage:[UIImage
imageNamed:@"accept_24.png"]
style:UINavigationBarItemStylePlain target:self
action:nil] autorelease];
item4.mafStyleName = @"plainBarButton";

```

```
/*Create an array of Items*/
NSArray *toolbarItems = [NSArray arrayWithObjects:item, item2,
flexibaleSpaceBarButton, item3, item4, nil];
/*Present array of Items on the toolbar*/
[self setToolbarItems:toolbarItems animated:YES];
/*Unhide toolbar of Navigation Controller*/
[self.navigationController setToolbarHidden:NO animated:YES];

// rightbutton to the navbar
MAFUIBarItem *mafButton = [[MAFUIBarItem alloc]
initWithTitle:@"MAF"
style:UIBarButtonItemStylePlain
target:self
action:nil];
self.navigationItem.rightBarButtonItem = mafButton;
[mafButton release];
```

### *MAFUIToolBar*

To change the style of the MAFUIToolbar, define your custom style XML class:

```
<Style basedOn="ToolBar" Key="MyToolBar" platform="ios">
  <Setter Property="IosStyle" Value="UIBarStyleBlackOpaque"/>
  <Setter Property="TintColor" Value="#666666"/>
  <ShadowImage ImageSource="navBarShadow.png"/>
  <BackgroundImage Height="30"
ImageSource="surf_gradient_textured_44.png" Width="30"/>
</Style>
```

To apply this style, set the key value to the mafStyleName property:

```
/*
In AppDelegate.m or where we initialize the Navigation Controller.
*/
[(MAFUIToolBar*)self.navigationController.toolbar
setMafStyleName:@"UIToolBar"];
```

You can change these properties in the skinning XML:

ShadowImage	The image used for the shadow. Available in iOS 6.0 and above.
IosStyle	The iOS style for the toolbar. Possible values are UIBarStyleDefault, UIBarStyleBlack.
TintColor	The tint color of the toolbar. Colors are defined as RGBA (red, green, blue, alpha).
BackgroundImage	The image used for the background.

### *MAFUINavigationBar*

To change the style of the MAFUINavigationBar, define your custom style XML class:

```
<Style basedOn="NavigationBar" Key="MyNavigationBar" platform="ios">
  <Setter Property="BarStyle" Value="1"/>
</Style>
```

To apply this style, set the key value to the `mafStyleName` property:

```
/*
In AppDelegate.m or where we initialize the Navigation Controller.
*/

[(MAFUINavigationBar*) self.navigationController.navigationBar
 setMafStyleName:@"UINavigationBar"];
```

You can change these properties in the skinning XML:

TintColor	Color of the control's background; can only be a solid color, no freestyle gradient. Colors are defined as RGBA (red, green, blue, alpha).
ShadowImage	The image at the bottom of the control. Available in iOS 6.0 and above.
FontFamily	The font family of the navigation bar's text.
FontSize	The font size of the navigation bar's text.
TextColor	The color of the navigation bar's text.
BackgroundImage	The background image of the control. Set this property only if you do not use TintColor.
BackgroundImageLandscapePhone	The background image of the control for iPhone, landscape view. Set this property only if you do not use TintColor.
iosStyle	The iOS style for the control. Possible values: UIBarStyleDefault, UIBarStyleBlack.

### *MAFBarButtonItem*

You can populate both of the bar types with `MAFUBarButtonItem` instances. To change the style of an individual `MAFUBarButtonItem`, define your custom style XML class:

```
<Style basedOn="BarButtonItem" Key="MyBarButtonItem" platform="ios">
  <Setter Property="iosStyle"
Value="UIBarButtonItemStyleBordered"/>
</Style>
```

To apply this style on the control, set the key value to the `mafStyleName` property:

```
[mafItem setMafStyleName:@"SampleBarButton"];
```

You can change these properties in the skinning XML:

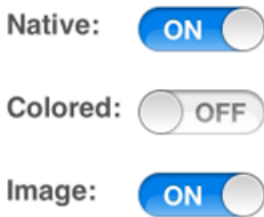
Background	Color of the control's background; can only be a solid color, no freestyle gradient. Colors are defined as RGBA (red, green, blue, alpha).
IosStyle	The iOS style for the control. Possible values: UIBarButtonItemStylePlain, UIBarButtonItemStyleBordered, UIBarButtonItemStyleDone.
TintColor	Color of the control's background; can only be a solid color, no freestyle gradient. Colors are defined as RGBA (red, green, blue, alpha).
BackgroundImage	The background image of the control. Set this property only if you do not use TintColor.

**MAFUISwitch**

MAFUISwitch extends the native UISwitch class with MAF styling capability using the MAFStyling protocol.

This component supports two skinning methods. The first method is to customize the colors of the native look using tint colors. The second method replaces native images with custom images. The differences between the native and the SAP-style-based controls are shown here:

**Figure 16: Comparison of Native and SAP Style MAFUISwitch**



To create MAFUISwitch with the default SAP style and add it to the view of your ViewController, use:

```
MAFUISwitch* sampleSwitch1 = [[MAFUISwitch alloc]
                               initWithFrame:CGRectMake(120, 150, 0, 0)];
[mafUIView addSubview:sampleSwitch1];
[sampleSwitch1 release];
```

With the tint color method, you can change the on and off tint color as well as the color of the thumb. To define your custom style class for MAFUISwitch, use:

```
<Style targettype="Switch" key="SampleSwitch1" platform="ios">
  <Setter property="onTintColor" value="#05FF1A">
  <Setter property="offTintColor" value="#F20202">
  <Setter property="thumbTintColor" value="#FABA00">
</Style>
```

To style the control by replacing the images, set the images from the styling XML:

```
<Style targettype="Switch" key="SampleSwitch2" platform="ios">
  <Setter property="thumbTintColor" value="#FABA00">
  <OnImage height="30" imagesource="accept_24.png" width="30">
  <OffImage height="30" imagesource="decline_24.png" width="30">
</Style>
```

You cannot style the thumb component of `MAFUISwitch` by replacing its image. The on and off components can either be skinned with tint color or with an image. You cannot combine these two methods; you must apply either method consistently to all components. To apply styles for the `MAFUISwitch`, use:

```
MAFUISwitch* sampleSwitch2 = [[MAFUISwitch alloc]
                               initWithFrame:CGRectMake(120, 200, 0, 0)]
autorelease];
sampleSwitch2.mafStyleName = @"SampleSwitch1";
[mafUIView addSubview:sampleSwitch2];
[sampleSwitch2 release];
```

You can change these properties in the skinning XML:

thumbTintColor	The color of the thumb icon. You can set it with both styling methods. Available in iOS 6.0 and above.
onTintColor	The color of the ON switch. Cannot be used with the OnImage property.
offTintColor	The color of the OFF switch. Cannot be used with the OffImage property. Available in iOS 6.0 and above.
OnImage	The image for the ON switch. Cannot be used with the onTintColor property. Available in iOS 6.0 and above.
OffImage	The image for the OFF switch. Cannot be used with the offTintColor property. Available in iOS 6.0 and above.

### MAFUITextView

MAFUITextView extends the native UITextView class with MAF styling capability using the MAFStyling protocol. This wrapper class enables you to change border, background, and text font styles, and adjust content alignment.

### Figure 17: Comparison of Native and SAP Style Text View



To present a text view on the screen, use:

```
NSString *loremIpsum = @"Lorem ipsum dolor sit ... ";

MAFUITextView *styledMAFUITextView = [[[MAFUITextView alloc]
initWithFrame:CGRectMake(10, 255, 290, 180)] autorelease];
    styledMAFUITextView.text = [[[NSString alloc]
initWithString:loremIpsum] autorelease];
    styledMAFUITextView.editable= NO;
    styledMAFUITextView.mafStyleName = @"SampleTextView";
    [styledMAFUITextView mafApplyStyle];
    [maFUIView addSubview:styledMAFUITextView];
```

To change the styling of MAFUITextView, define these properties:

```
<Style targettype="TextView" key="ExampleTextView" platform="ios">
    <Setter property="Background" value="#ffffff">
    <Setter property="TextColor" value="#555555">
    <Setter property="FontFamily" value="Helvetica-Bold">
    <Setter property="FontSize" value="14">
    <Setter property="HorizontalContentAlignment" value="Right">
    <Border borderbrush="#ABABAB" borderthickness="1"
    cornerRadius="8">
</Style>
```

To apply your custom style class, set the key value to match the mafStyleName property of the control:

```
NSString *loremIpsum = @"Lorem i...f.";
MAFUITextView *styledMAFUITextView = [[[MAFUITextView alloc]
initWithFrame:CGRectMake(10, 255, 290, 180)] autorelease];
    styledMAFUITextView.text = [[[NSString alloc]
```

```
initWithString:loremIpsum] autorelease];
styledMAFUITextView.mafStyleName = @"SampleTextView";
[styledMAFUITextView mafApplyStyle];
[maFUIView addSubview:styledMAFUITextView];
[maFUIView release];
```

You can change these properties in the skinning XML:

Background	Color of the MAFUITextView's background; can only be a solid color, no freestyle gradient. Colors are defined as RGBA (red, green, blue, alpha).
TextColor	The control's text color.
FontFamily	The font family of the control's text.
FontSize	The font size of the control's text.
HorizontalContentAlignment	Horizontal alignment of the control's text.
Border	The border attributes of the MAFUITextView include: <ul style="list-style-type: none"> <li>• Borderbrush – defines the color.</li> <li>• BorderThickness – is the width of the border.</li> <li>• CornerRadius – is the angle of the edge.</li> </ul>

### *MAFUIImageView*

MAFUIImageView extends the native UIImageView class with MAF styling capability using the MAFStyling protocol. This control can present images that are encoded in the XML style description, and images that are available from a remote location or as a file from a resource bundle.

To create and present the MAFUIImageView, use:

```
//add image from base 64 encoded
MAFUIImageView* imageBase64 = [[[MAFUIImageView alloc] init]
autorelease];
[imageBase64 setFrame:CGRectMake(20, 44, 70, 70)];
imageBase64.mafStyleName = @"sapimage_base64encoded";
[self.view addSubview:imageBase64];
//add image from url
MAFUIImageView* imageURL = [[[MAFUIImageView alloc] init]
autorelease];
[imageURL setFrame:CGRectMake(100, 44, 70, 70)];
imageURL.mafStyleName=@"sapimage";
[self.view addSubview:imageURL];
//add image from bundle
MAFUIImageView* imageBundle = [[[MAFUIImageView alloc] init]
autorelease];
[imageBundle setFrame:CGRectMake(180, 44, 90, 70)];
imageBundle.mafStyleName = @"bundleimage";
[self.view addSubview:imageBundle];
```

To change the appearance or content presented in the `MAFUIImageView`, define a custom XML style class. This example loads the image source from a remote location via a URL:

```
<Style basedOn="Image" Key="sapimage">
  <ImageBrush Height="33"
    ImageSource="http://www.sap.com/global/ui/images/global/sap-
    logo.png" Width="66"/>
</Style>
```

You can use the same tag to load images from a Base64-coded string or from a file located in the project.

You can change these properties in the skinning XML:

Background	Color of the <code>MAFUIImageView</code> 's background; cannot be a freestyle gradient. This is the color of the area that the image does not cover, or where the image is transparent. Colors are defined as RGBA (red, green, blue, alpha).
BackgroundImage	The background image for the control.
Border	The border attributes of the <code>MAFUIImageView</code> include: <ul style="list-style-type: none"><li>• <code>Borderbrush</code> – defines the color.</li><li>• <code>BorderThickness</code> – is the width of the border.</li><li>• <code>CornerRadius</code> – is the angle of the edge.</li></ul>

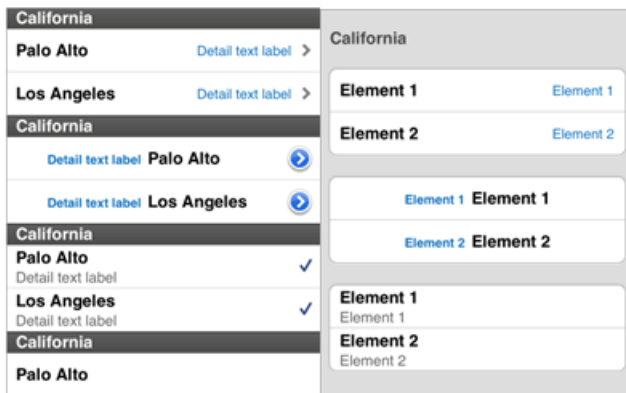
### *MAFUITableView and MAFUITableViewCell*

`MAFUITableView` and `MAFUITableViewCell` extend the native `UITableView` and `UITableViewCell` classes with MAF styling capability using the `MAFStyling` protocol.

You can populate the `MAFUITableView` with `MAFUITableViewCells`. Cells are grouped by sections:



**Figure 18: MAFUITableView and MAFUITableViewController – Plain and Grouped Table**



Construct and populate the table view in the same way as for the native table view:

```

/*The interface of the ViewController implementing the
MAFUITableViewController*/
#import <UIKit/UIKit.h>
#import "MAFUITableViewController.h"
@interface ViewController1 : UIViewController<UITableViewDelegate,
UITableViewDataSource> {
    NSMutableArray* m_TableData;
    MAFUITableViewController* m_TableView;
}

@property (nonatomic, retain) NSMutableArray* tableData;
@property (nonatomic, retain) MAFUITableViewController* tableView;

@end

```

The UIViewController must implement the two UITableView delegates. m\_TableView is a reference to the MAFUITableViewController instance. NSMutableArray is the example data store for the table view. This is one of the many ways provided by the iOS platform to construct a table view interface. The implementation of the controller is similar to constructing a native UITableView:

```

/*Implement required methods from UITableViewDataSource Protocol*/
- (NSInteger)tableView:(UITableView *)tableView
numberOfRowsInSection:(NSInteger) section;

// Row display. Implementers should *always* try to reuse cells by
// setting each cell's reuseIdentifier and querying for available
// reusable cells with dequeueReusableCellWithIdentifier:
// Cell gets various attributes set automatically based on table
// (separators) and data source (accessory views, editing controls)

- (UITableViewCell *)tableView:(UITableView *)tableView
cellForRowAtIndexPath:(NSIndexPath *)indexPath

```

```
{
    ...
    MAUITableViewCell *cell = [self.tableView
    dequeueReusableCellWithIdentifier:cellIdentifier];
    if (cell == nil) {
        cell = [[MAUITableViewCell alloc] initWithStyle:
    UITableViewCellStyleValue1
        reuseIdentifier:
    cellIdentifier] autorelease];
    }
    ...
}
```

To present a grouped MAUITableView, use the appropriate constructor call and pass the style parameter to it:

```
MAUITableView* tempTableView = [[MAUITableView alloc]
initWithFrame:CGRectMake(10, 10, 320, 400)
style:UITableViewStyleGrouped];
```

An alternative way to do this is to use the Storyboard UI designer, which is built into Xcode.

To change the appearance of the MAUITableView and the MAUITableViewCell classes, declare your custom style XML classes:

```
<!-- ListBox is mapped to TableView on iOS -->
    <Style basedOn="ListBox" Key="myListBox" TargetType="ListBox"
platform="ios">
        <Setter Property="Background" Value="#BCCFF"/>
        <Border BorderBrush="#FF9595" BorderThickness="4"
CornerRadius="8" />
    </Style>

<!-- ListBoxItem is mapped to TableViewCell on iOS -->
    <Style BasedOn="ListBoxItem" Key="myListBoxItem"
TargetType="ListBoxItem" platform="ios">
        <Setter Property="DetailsFontFamily" Value="Helvetica-Bold"/>
        <Setter Property="DetailsFontSize" Value="17"/>
        <Setter Property="DetailsTextColor" Value="#666666"/>
    </Style>
```

To apply your custom style classes, set the key value to match the mafStyleName properties of the controls:

```
/* set custom style for table view */
...
tempTableView.mafStyleName = @"myListBox";

/* set custom style for table view cells*/
...
cell.mafStyleName = @"myListBoxItem";
```

You can change these properties of the MAUITableView in the skinning XML:

Background	Color of the background of the MAUITable-View; can only be a solid color, no freestyle gradient. Colors are defined as RGBA (red, green, blue, alpha).
SeparatorColor	The MAUITableView's cell separator color.
Border	The border attributes of the MAUITableView include: <ul style="list-style-type: none"> <li>• Borderbrush – defines the color.</li> <li>• BorderThickness – is the width of the border.</li> <li>• CornerRadius – is the angle of the edge.</li> </ul>

You can change these properties of the MAUITableViewCell in the skinning XML:

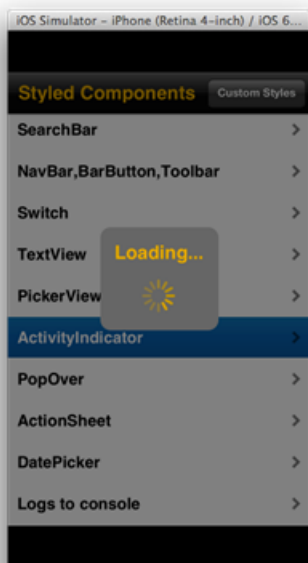
Background	Color for the TableViewCell background, it can be a solid color, freestyle gradient, ios style background color, colors are defined as RGBA (red, green, blue, alpha).
Foreground	The tableviewcell's textcolor.
FontFamily	The tableviewcell's fontfamily.
FontSize	The tableviewcell's fontsize. Every tableviewcell can have 2 textLabels, the secondary is called detailsTextLabel. It can also be styled .
DetailsForeground	The tableviewcell's detailtextcolor (the textcolor of the secondary text).
DetailsFontFamily	The tableviewcell's detailfontfamily.
DetailsFontSize	The tableviewcell's detailfontsize.
HorizontalContentAlignment	The horizontal alignment for the tableviewcell's text.
VerticalContentAlignment	The vertical alignment for the tableviewcell's text.
Border	The border attributes of the MAUILabel include: <ul style="list-style-type: none"> <li>• Borderbrush – defines the color.</li> <li>• BorderThickness – is the width of the border.</li> <li>• CornerRadius – is the angle of the edge.</li> </ul>

### *MAFUIActivityIndicator*

MAFUIActivityIndicator is a subclass of the native UIActivityIndicator class, which it extends with MAF styling capability through the MAFStyling protocol.

This control has its own ViewController, which handles the full life cycle of the view it presents. The control provides a skinnable activity-blocking indicator that scales to, and blocks the full screen, making it impossible for the device user to interact with blocked controls. Use MAFUIActivityIndicator in applications that start long network or processing operations.

**Figure 19: MAFUIActivityIndicator – Default SAP Style**



To present the control, create an instance of it and call its `showWithParentViewController:` method:

```
MAFUIActivityIndicator* activityIndicator = [[MAFUIActivityIndicator  
alloc] initWithFrame:self.view.frame labelText:@"Loading..."];  
[activityIndicator showWithParentViewController:self];
```

You can adjust the text of the activity indicator. Pass the reference of the currently presenting ViewController, because only the ViewController that presented the control can hide it:

```
[activityIndicator hide];  
[activityIndicator release];
```

When you call the `hide` method of the `MAFUIActivityIndicator`, it calls the retained reference of the presenting `ViewController` to refresh the presented window without the `ActivityIndicator`. This way you can call the `release` method on the `MAFUIActivityIndicator` immediately after it has been hidden.

To change the appearance of the control, declare your custom style XML class:

```
<Style basedOn="ActivityIndicator" Key="myActivityIndicator">
platform="ios">
    <Setter Property="FontFamily" Value="Helvetica" />
    <Setter Property="FontSize" Value="16" />
    <Setter Property="TextColor" Value="#666666"/>
    <Setter Property="spinnerColor" Value="#666666"/>
    <Setter Property="boxColor" Value="#F0AB00"/>
</Style>
```

To apply a custom style to the control, use:

```
activityIndicator.mafStyleName = @"myActivityIndicator";
```

You can change these properties in the skinning XML:

boxColor	Color of the control's background; can only be a solid color.
spinnerColor	Color of the control's spinner; can only be a solid color.
coverColor	Color of the control's cover; can only be a solid color.
FontFamily	The font family of the control's text.
FontSize	The font size of the control's text.
TextColor	The color of the control's text.

### *MAFUISegmentedControl*

`MAFUISegmentedControl` is a subclass of the native `UISegmentedControl` class, which it extends with `MAF` styling capability through the `MAFStyling` protocol.

**Figure 20: Default SAP Style Based MAFUISegmentedControl**



To create `MAFUISegmentedControl` with default `SAP` style and add it as a subview to your `ViewController`, use:

```
NSArray *itemArray = [NSArray arrayWithObjects: @"One", @"Two",
@"Three", nil];
UISegmentedControl *segmentedControl = [[[UISegmentedControl
alloc] initWithItems:itemArray] autorelease];
```

```
segmentedControl.frame = CGRectMake(35, 35, 250, 50);
segmentedControl.selectedSegmentIndex = 1;
[self.view addSubview: segmentedControl];
```

To change the appearance of the control, define a custom style XML class:

```
<Style basedOn="SegmentedControl" TargetType="SegmentedControl"
Key="mySegmentedControl" platform="ios">
  <Setter Property="TintColor" Value="#00FF99"/>  <!--Tint
color only works if the style is UISegmentedControlStyleBar and no
image applied -->
  <UnselectedBackgroundImage Height="30"
ImageSource="segcontrol_uns.png" Width="30"/>
  <SelectedBackgroundImage Height="30"
ImageSource="segcontrol_sel.png" Width="30"/>
  <DividerImageSelUns Height="30" ImageSource="segcontrol_sel-
uns.png" Width="30"/>
  <DividerImageUnsSel Height="30" ImageSource="segcontrol_uns-
sel.png" Width="30"/>
  <DividerImageUnsUns Height="30" ImageSource="segcontrol_uns-
uns.png" Width="30"/>
  <Setter Property="iosStyle"
Value="UISegmentedControlStylPlain"/>
</Style>
```

To apply your custom style class, set the key value to match the `mafStyleName` property of the control:

```
segmentedControl.mafStyleName = @"UISegmentedControl";
```

You can change these properties in the skinning XML:

FontFamily	The family of the font.
FontSize	The size of the label's font.
TextColor	The color of the label's text.
TintColor	The color used to tint the control. Tint color works only if the style is <code>UISegmentedControlStyleBar</code> and no image is applied.
UnselectedBackgroundImage	The image used to set the backgroundimage of the control when a segment is not selected.
SelectedBackgroundImage	The image used to set the backgroundimage of the control when a segment is selected.
DividerImageSelUns	The image used to set the dividerimage of the control between the selected segment on the left and the unselected on the right.

DividerImageUnsSel	The image used to set the dividerimage of the control between the unselected segment on the left and the selected on the right.
DividerImageUnsUns	The image used to set the dividerimage of the control between 2 unselected segments.
iosStyle	The iOS style of the control. Possible values: <ul style="list-style-type: none"> <li>UISegmentedControlStylePlain</li> <li>UISegmentedControlStyleBordered</li> <li>UISegmentedControlStyleBar</li> <li>UISegmentedControlStyleBezeled</li> </ul>

### MAF Calendar

The MAF Calendar component is a skinnable component that provides basic calendar functionalities. You can present predefined appointments in different views, such as month and day detailed views. You can also use this component to provide to device users the ability to select dates and times. Users can also create, delete, or modify appointments through the MAF Calendar user interfaces.

The MAF Calendar provides:

- A structure for defining and creating appointment objects, as well as ways to feed the MAF Calendar with a list of appointments data to show and work with.
- A variety of ways (month/day/hour details, grid/list views) in which to present scheduled appointments by time. The common goal of each view is to enable users to visualize appointments created by the application or by any other third-party service.
- Color-coding that identifies appointments from different calendars, allowing you to easily create team calendar applications, or combine multiple calendars for an individual (for example, personal, home, and work) into a single view.
- User interaction handling: you can display detailed information about selected days or appointments. The different views provide different types of callbacks to handle user events such as tap or selection.
- Dynamic, runtime customization of UI elements and subviews.

### Project Setup

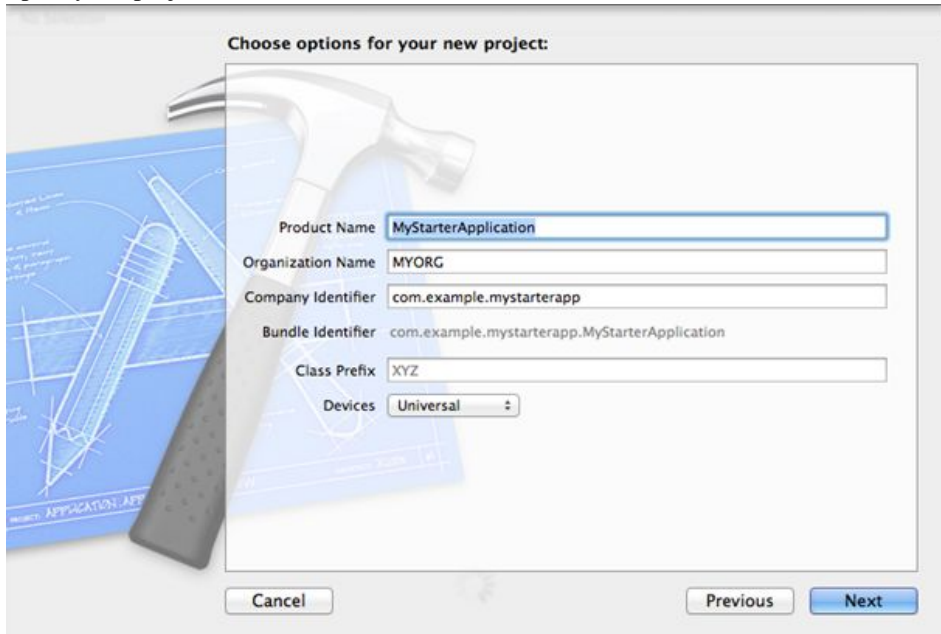
The MAF Calendar control is a complex reusable control, which means that it builds on top of simple controls, such as MAFUILabel and MAFUIButton. The Calendar control depends on the MAFUIControls library.

The MAF Calendar control provides a hard-coded skin that can differ from the skinning XML that is delivered in a separate bundle file. To get the default custom skin and apply skinning that differs from the hard-coded skin, set up and configure your project.

### *Creating iOS Starter Application*

Create a new Xcode project. If you have already created a project, verify that it is configured correctly.

1. Start Xcode and select **File > New > Project**. The Choose a template for your new project view appears.
2. Select **Single View Application**, and click **Next**.
3. Specify the project details, and click **Next**.



4. Specify where to save the application, then click **Create**.

Xcode opens your new project.

### *Prepare the Project Structure and Copy Dependencies to Your Project*

Add MAF libraries to the empty project. MAF includes statically linked libraries with resource bundles. Prepare a folder structure for the dependencies.

1. Locate MAF libraries in the SAP Mobile Platform SDK installation a folder, in the NativeSDK/MAFReuse/iOS and NativeSDK/ODataFramework subfolders.
2. In the root of your Xcode project, create these folders and subfolders:
  - dependencies/libraries
  - dependencies/includes
  - dependencies/bundles



3. Copy these libraries from `NativeSDK/MAFReuse/iOS/libraries/Debug-universal` to `dependencies/libraries/Debug-universal`:
  - `libMAFUIComponents.a`
  - `libMAFCalendar.a`
4. Copy these libraries from `NativeSDK/MAFReuse/iOS/libraries/Release-universal` to `dependencies/libraries/Release-universal`:
  - `libMAFUIComponents.a`
  - `libMAFCalendar.a`
5. Copy these folders from `NativeSDK/MAFReuse/iOS/includes/public/` to `dependencies/includes`:
  - `MAFUIComponents`
  - `MAFCalendar`
6. Copy these bundles from `NativeSDK/MAFReuse/iOS/includes/bundles` to `dependencies/bundles`:
  - `MAFUIComponents.bundle`
  - `MAFCalendar.bundle`
7. Copy these libraries from `NativeSDK/ODataFramework/iOS/libraries/Debug-universal` to `dependencies/libraries/Debug-universal`:
  - `libMAFLogger.a`
  - `libLogger.a`
  - `libMAFFormatters.a`
8. Copy these libraries from `NativeSDK/ODataFramework/iOS/libraries/Release-universal` to `dependencies/libraries/Release-universal`:
  - `libMAFLogger.a`
  - `libLogger.a`
  - `libMAFFormatters.a`
9. Copy the `MAFLogger` folder from `NativeSDK/ODataFramework/iOS/includes/public/` to `dependencies/includes`.
10. Copy `MAFLogger.bundle` and `MAFFormatter.bundle` from `NativeSDK/ODataFramework/iOS/includes/bundles` to `dependencies/bundles`.

### *Configure Your Xcode Project*

Add the copied dependencies to your Xcode project, and change project settings.

1. With your Xcode project open, drag and drop all the files from `dependencies/libraries` and `dependencies/bundles` to the Xcode Project Navigator view.
2. Select the root node of your project in Project Navigator view. You should see the General project settings in the main area of your Xcode window.
3. Select **main target** from the Targets view.

4. Select **Build Settings** tab and select **All** from the header of the Build Settings page.
5. In the search field, enter `search paths`.
6. Add this string as the Header search path: `$(PROJECT_DIR)/dependencies/includes/`. Make sure the path is marked as recursive.
7. Add this string as the Library search path: `$(PROJECT_DIR)/dependencies/libraries/$(BUILD_STYLE)-universal`. Make sure the path is marked as recursive.
8. Clear the search field on the Build Settings page and enter other linker flags.
9. Set other linker flags to `-all_load` and `-ObjC`.
10. On the Build Settings page, clear the search field and enter `ios deployment target`.
11. Set the iOS deployment target to iOS 6.0.

### *Build Configuration*

To build your project, add ObjC frameworks to your Xcode project.

- `MessageUI.framework`
- `Security.framework`
- `CoreText.framework`
- `QuartzCore.framework`
- `Libstdc++.dylib`
- `UIKit.framework`
- `Foundation.framework`
- `CoreGraphics.framework`

Your application is now ready for use.

### *MAF Calendar Overview*

The MAFCalendar control is a complex control with components that rely on each other. One of the main components is the MAFAppointment class, which provides the data model for all calendar views.

Use the MAFAppointment class to implement the MAFAppointmentProtocol, which stores this data:

```
/// property holding starting date of appointment
@property (nonatomic, retain) NSDate* startDate;
/// property holding ending date of appointment
@property (nonatomic, retain) NSDate* endDate;
/// property holding title of appointment
@property (nonatomic, retain) NSString* title;
/// property holding location where appointment will take place
@property (nonatomic, retain) NSString* location;
/// property holding free form notes for appointment
@property (nonatomic, retain) NSString* notes;
/// property holding associated calendar of appointment
```

```

@property (nonatomic, retain) MAFCalendar* calendar;
/// property holding whether appointment was an invitation
@property (assign) BOOL isInvitation;
/// property holding whether appointment is all day
@property (assign) BOOL isAllday;
/// property holding repeating type of event (i.e. daily)
@property (assign) MAFAppointmentProtocolRepeatType repeatType;
/// property holding alert type of event (i.e. 15 min before event)
@property (assign) MAFAppointmentProtocolAlertType alertType;

```

The `MAFAppointmentProtocol` also asks for a delegate class that implements the `MAFAppointmentDelegate` protocol. If the appointment is successfully changed by an application, `MAF Calendar View` calls the `appointmentDidChange:` method.

The view component of the `MAFCalendar` is implemented in the `MAFCalendarView` base class and its subclasses. An `MAFCalendarView` represents the entire calendar view. Individual appointments are rendered by views that are specific to the `MAFCalendarView` subclass. For instance, a `MAFAppointmentView` can render `MAFAppointment` data for `MAFDayDetailView` and `MAFLandscapeCalendarView`. In list `MAFListCalendarView`, an `MAFListCalendarViewCell` renders the appointment data.

`MAFAppointmentProtocol` has a reference to the `MAFCalendar` object. `MAFCalendar` is a grouping artifact for `MAFAppointments`. To customize appointments that are presented in the different `MAFCalendarViews`, you can set the name, color, and border color properties.

Your application, and its subclass of the `UIViewController`, must write the controller of the `MAFCalendar`. `MAFCalendarView` declares the `MAFCalendarViewDataSource` protocol. Implement this protocol to provide data for the `MAFCalendarView`. `MAFCalendarView` calls the `getAppointmentsFromStart:toEnd:` method to ask for the list of `MAFAppointments` to be rendered.

### *Presenting Calendar Views*

To present a view from your `UIViewController`, implement two interfaces: the `MAFCalendarViewDataSource` interface requests appointments from your application and the `MAFCalendarViewDelegate` lists event callback methods that are called by the `MAF Calendar` control to handle specific events.

```

#import <UIKit/UIKit.h>
#import "MAFCalendarView.h"

@interface RootViewController :
  UIViewController<MAFCalendarViewDataSource,MAFCalendarViewDelegate>
{
}

```

After declaring that your `UIViewController` provides implementation for both interfaces, implement `getAppointmentsFromStart:toEnd:` from the `MAFCalendarViewDataSource` protocol. This code iterates through the `NSArray` of `Appointments` stored in the view controller, and filters the appointments with the help of `NSDate+MAFExtensions` class by the start and end dates received from of the `MAFCalendarView`.

```
-(BOOL) isDate:(NSDate*)date withinStart:(NSDate*)startDate andEnd:
(NSDate*)endDate
{
    return [date isWithinStart:startDate andEnd:(NSDate*)endDate];
}

-(NSArray *)calendarView:(MAFCalendarView *)sender
getAppointmentsFromStart:(NSDate *)start toEnd:(NSDate *)end
{
    // please note this data source is for demo purposes only

    NSMutableArray* ret = [[[NSMutableArray alloc] init]
autorelease];

    for(MAFAppointment* app in arr)
    {
        if([self isDate:app.startDate withinStart:start andEnd:end])
            [ret addObject:app];
    }

    return ret;
}
```

Provide the MAFAppointment data source implementation, for your own use case. MAFCalendarViewDelegate contains only optional methods. You can implement these methods to be notified about events of appointments and calendar views. This is example code to create MAFAppointment data from code:

```
-(void)createData
{
    arr = [[NSMutableArray alloc] init];

    // Convert string to date object
    NSDateFormatter *dateFormat = [[NSDateFormatter alloc] init];
    [dateFormat setTimeZone:[NSTimeZone timeZoneWithName:@"Europe/
Berlin"]];
    [dateFormat setDateFormat:@"dd-MM-yyyy HH:mm"];

    MAFCalendar* cal = [[[MAFCalendar alloc] init] autorelease];
    cal.name = @"First Calendar";
    cal.color = [UIColor colorWithRed:177/255.0f green:
211/255.0f blue:74/255.0f alpha:1.0];
    cal.borderColor = [UIColor colorWithRed:0/255.0f green:138/255.0f
blue:59/255.0f alpha:1.0];

    MAFCalendar* cal2 = [[[MAFCalendar alloc] init] autorelease];
    cal2.name = @"Second Calendar";
    cal2.color = [UIColor colorWithRed:0/255.0f green:161/255.0f
blue:228/255.0f alpha:1.0];
    cal2.borderColor = [UIColor colorWithRed:0/255.0f green:
116/255.0f blue:187/255.0f alpha:1.0];

    MAFCalendar* cal3 = [[[MAFCalendar alloc] init] autorelease];
    cal3.name = @"Third Calendar";
}
```

```

    cal3.color = [UIColor colorWithRed:246/255.0f green:
139/255.0f blue:31/255.0f alpha:1.0];
    cal3.borderColor = [UIColor colorWithRed:203/255.0f green:
77/255.0f blue:44/255.0f alpha:1.0];

    NSDate* today = [NSDate date];
    today = [NSDate toDayBoundaryFloor:today withTimeZone:[NSTimeZone
localTimeZone]];

    NSTimeInterval d = 60*60*24;
    MAFAppointment* app = [[[MAFAppointment alloc] init]
autorelease];
    app.startDate = [NSDate dateWithTimeInterval:10*60*60.0+d
sinceDate:today];
    app.endDate = [NSDate dateWithTimeInterval:11*60*60.0+d
sinceDate:today];
    app.title = @"Meeting 2204";
    app.location = @"Walldorf";
    app.notes = @"notes";
    app.calendar = cal;

    [arr addObject:app];

    app = [[[MAFAppointment alloc] init] autorelease];
    app.startDate = [NSDate dateWithTimeInterval:12*60*60.0+d
sinceDate:today];
    app.endDate = [NSDate dateWithTimeInterval:13*60*60.0+d
sinceDate:today];
    app.title = @"Lunch";
    app.location = @"Walldorf";
    app.notes = @"notes";
    app.calendar = cal2;

    [arr addObject:app];

    app = [[[MAFAppointment alloc] init] autorelease];
    app.startDate = [NSDate dateWithTimeInterval:11*60*60.0+d
sinceDate:today];
    app.endDate = [NSDate dateWithTimeInterval:14*60*60.0+d
sinceDate:today];
    app.title = @"Meeting 2";
    app.location = @"Walldorf";
    app.notes = @"notes";
    app.calendar = cal3;

    [arr addObject:app];
}

```

You can now initialize and present your MAFAppointments on any of the MAFCalendarViews.

### List View

The MAFCalendarListView displays appointments in a list, separated by day.

The list includes only days that have appointments, and only the starting times of the appointments. A segmentation header separates the days. Each appointment appears as a cell in one of the list view sections. By default, the cell shows description, location, and starting time. The list view can show appointments of multiple calendars at the same time. The calendar color code appears at the left side of each appointment cell:

Thu	Meeting	Mar 21, 2013
5 PM	Walldorf	
Mon		Mar 25, 2013
10 AM	Meeting 3	
	Walldorf	
Tue		Mar 26, 2013
10 AM	Meeting 1	
	Heidelberg	
12 PM	Jump to Meeting	
	Here	
2 PM	Meeting 2	
	Heidelberg	
Wed		Mar 27, 2013
10 AM	Meeting 2204	
	Walldorf	
11 AM	Meeting 2	
	Walldorf	
12 PM	Lunch	
	Walldorf	

### Presenting the List View

Use <MAFListCalendarView> to present the list view. The code sample below demonstrates a simple way to set up a list view. The input is a UIViewController instance that you can use later to present the initialized list view. After calling this method, make sure you have implemented the necessary Datasource and Delegate methods.

```

-(void)setupListView:(UIViewController*)vc
{
    NSArray* views = [vc.view subviews];
    if([views count]>0){
        for(UIView* view in views){
            [view removeFromSuperview];
        }
    }
}

if(self.interfaceOrientation==UIInterfaceOrientationLandscapeLeft||
self.interfaceOrientation==UIInterfaceOrientationLandscapeRight){

    UIView* view = [[UIView alloc]
                    initWithFrame:CGRectMake(0, 44, 480, 367)];
    view.backgroundColor = [UIColor whiteColor];

    UILabel *notsuplab = [self labelWithFrame:CGRectMake(0, 0, 400,

```

```

100)];

    [view addSubview:notsuplab];
    [vc.view addSubview:view];
    [view release];
} else {
    NSDate* start = [[MAFDateFormatter instance]
createDateFromstring:@"01-01-2012 00:00"
withFormat:@"dd-MM-yyyy HH:mm"];
    NSDate* end = [[MAFDateFormatter instance]
createDateFromstring:@"31-12-2012 23:59"
withFormat:@"dd-MM-yyyy HH:mm"];
    MAFListCalendarView* listView = [[MAFListCalendarView alloc]
initWithFrame:CGRectMake(0, 44, 320, 367)];
    listView.tag = 42;
    listView.delegate = self;
    listView.datasource = self;
    [listView setDateRangeToStart:start andEnd:end];

    [vc.view addSubview:listView];
    [listView release];
}
}

```

It is your task to initialize the appointments. For example, create MAFAppointment objects and store them in memory.

### *Month View*

The MAFCalendarMonthView displays appointments in a grid view, where each cell represents a day with its appointments, if any.

Appointments are indicated with a dot under the date. There is a header for each day of the week and the current month and year. You can change the month by tapping the arrows. The embedding application is notified (MAFCalendarViewDelegate) when the month is changed and when the user picks a day. This figure shows the default month view control, but you can reskin it or customize some of its views.

January 2013						
Sun	Mon	Tue	Wed	Thu	Fri	Sat
30	31	1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30	31	1	2

Use the MAFIpadMainMonthView class to present the iPad month view:

MAR 2013						
SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
17	18	19	20	21	22	23
12						
24	25	26	27	28	29 Lunch Meeting Meeting Meeting Meeting Meeting	30
13						
31	1	2 Meeting 3	3 Meeting 1 Jump to Meeting Meeting 2	4 Meeting 2204 Lunch Meeting 2	5	6
14						

The iPad version of the month view lists appointment titles instead of marking days that have appointments. Tap the appointments to display details about them. Your application must provide the detail view for the appointments.

### Phone Month View

To present the month view on iPhone, initialize an `<MAFMonthCalendarView>` object and add it as a subview to any presenting `ViewController`. For example:

```
-(void)setupMonthView:(UIViewController*)vc
{
    MAFMonthCalendarView* view = [[MAFMonthCalendarView alloc]
    initWithFrame:CGRectMake(0, 44, 320, 367)];

    view.datasource = self;
    view.delegate = self;
    view.startDate = [NSDate date];
    view.tag = 42;

    [vc.view addSubview:view];
    [view release];
}
```

### iPad Month View

To present the month view on iPad, initialize an `<MAFIpadMainMonthView>` object and add it as a subview to any presenting `ViewController`. For example:

```
-(void)setupMonthView:(UIViewController*)vc
{
    mafIpadMainMonthView = [[MAFIpadMainMonthView alloc]
```



```
initWithFrame:CGRectMake(0, 44, 1024, 768)];
[mafIpadMainMonthView setDelegate:self];
mafIpadMainMonthView.datasource = self;
mafIpadMainMonthView.startDate = self.lastStartDate ;
[vc.view addSubview:mafIpadMainMonthView];
[mafIpadMainMonthView release];
}
```

### *Month Combo View*

The `MAFCalendarComboView` control combines a month view and a list view.

The two subviews are bound together—that is, if you tap on a day with appointments on the month view, appointments for the selected day are listed. This list is similar to the regular list view, but shows the scheduled appointments only for the selected day, so day headings are not shown. Appointments are indicated in the same way as in the respective individual controls. This figure shows the default look of the control:



### *Presenting the Combo View*

To present the combo view, initialize a `<MAFMonthComboCalendarView>` object and add it as a subview to any presenting `ViewController`. For example:

```
-(void)setupMonthComboView:(UIViewController*)vc
{
MAFMontComboCalendarView* view = [[MAFMonthComboCalendarView alloc]
initWithFrame:CGRectMake(0, 44, 320, 367)];

view.datasource = self;
view.delegate = self;
view.startDate = [NSDate date];
view.tag = 42;

[vc.view addSubview:view];
[view release];
}
```

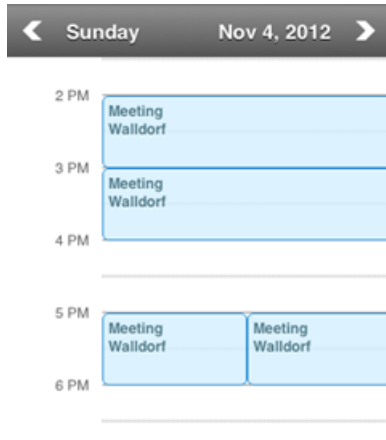
### *Day Detail View*

The `MAFAAppointmentView` displays appointments scheduled in a day in a panel style. Each appointment appears as a colored panel (`MAFAAppointmentView`), which shows the appointment title and the location.

In this view, you can modify, delete, or create appointments:

- You can select an appointment by tapping it once (circles appear on the top and bottom sides of the panel).
- You can select an appointment and move it up and down using a tap and hold gesture.
- You can resize an appointment by selecting it, then dragging the upper and lower edges of the panel.

The `MAFCalendarViewDelegate` communicates the changes to the application. This figure shows the default look of the control:



### *Presenting the Day Detail View*

To present the day detail view, initialize a `<MAFDayDetailView>` object and add it as a subview to any presenting `ViewController`. For example:

```
-(void)setupDayView:(UIViewController*)vc
{
    MAFDayDetailView* view = [[MAFDayDetailView alloc]
initWithFrame:CGRectMake(0, 44, 320, 367)];

    view.delegate      = self;
    view.datasource    = self;
    view.startDate     = [NSDate date];
    view.tag           = 42;

    [vc.view addSubview:view];
    [view release];
}
```

### *Week View - Landscape View*

The `MAFLandscapeCalendarView` displays appointments scheduled for one week in a panel style. Each appointment appears as a colored panel (`MAFAppointmentView`), which shows the appointment title and the location.

In this view, you can modify, delete, or create appointments, in the same way as in the Day Detail View. This figure shows the default look of the control:

	2 Monday	3 Tuesday	4 Wednesday
12 AM			
1 AM			
2 AM			
...			

For iPad, MAF supports another presentation mode for the week view:

	Week 14						
	SAT APR 6	MON APR 8	TUE APR 9	WED APR 10	THU APR 11	FRI APR 12	SAT APR 13
12 AM							
1 AM							
2 AM							
3 AM							
4 AM							
5 AM							
6 AM							

MAF does not have separate classes to handle iPad and iPhone idioms for the week view.

### *Presenting the Week View*

To present the week view, initialize a `<MAFLandscapeCalendarView>` object and add it as a subview to any presenting `ViewController`. For example:

```
-(void) setupWeekView: (UIViewController*) vc
{
    MAFLandscapeCalendarView* view = [[MAFLandscapeCalendarView
```

```
alloc] initWithFrame:CGRectMake(0, 44, 480, 207)];

NSTimeZone* tz = [[MAFDateFormatter instance].calendar timeZone];

NSDate* d1 = [[MAFDateFormatter instance]
createDateFromstring:@"25-06-2012 00:00" withFormat:@"dd-MM-yyyy
HH:mm" andTimezone:tz];
NSDate* d2 = [[MAFDateFormatter instance]
createDateFromstring:@"26-06-2012 00:00" withFormat:@"dd-MM-yyyy
HH:mm" andTimezone:tz];
NSDate* d3 = [[MAFDateFormatter instance]
createDateFromstring:@"27-06-2012 00:00" withFormat:@"dd-MM-yyyy
HH:mm" andTimezone:tz];
NSDate* d4 = [[MAFDateFormatter instance]
createDateFromstring:@"28-06-2012 00:00" withFormat:@"dd-MM-yyyy
HH:mm" andTimezone:tz];
NSDate* d5 = [[MAFDateFormatter instance]
createDateFromstring:@"29-06-2012 00:00" withFormat:@"dd-MM-yyyy
HH:mm" andTimezone:tz];

        view.weekDays = [NSArray arrayWithObjects:d1,d2,d3,d4,d5,
nil];

view.datasource = self;
view.delegate = self;
view.tag = 42;

[vc.view addSubview:view];
[view release];
}
```

### *Skimming Calendar Views*

Default SAP Style is applied during initialization of the calendar controls. To change the appearance of calendar controls, edit the defaultSAPStyles.xml file, which is in the MAFUIComponents.bundle folder.

The style names in defaultSAPStyles.xml file use the MAFCalendar prefix in their property IDs.

You can simultaneously skin all controls of an object type by changing the skinning XML provided by the MAF. This works similarly to the iOS-provided Appearance API.

To skin dedicated MAFCalendarItemViews (for instance, in the MAFMonthCalendarView), supply your own subclass of the MAFCalendarItemView and decide whether to change the MAF style name. Use the MAFCalendarViewDataSource protocols calendarView: forDay: method for this.

The code below shows how to change the background color for the weekend days.

November 2012							November 2012						
Sun	Mon	Tue	Wed	Thu	Fri	Sat	Sun	Mon	Tue	Wed	Thu	Fri	Sat
28	29	30	31	1	2	3	28	29	30	31	1	2	3
4	5	6	7	8	9	10	4	5	6	7	8	9	10
11	12	13	14	15	16	17	11	12	13	14	15	16	17
18	19	20	21	22	23	24	18	19	20	21	22	23	24
25	26	27	28	29	30	1	25	26	27	28	29	30	1

```
#pragma mark - MAFCalendarViewDataSource

-(MAFMonthCalendarItemView*)calendarView:
(MAFMonthCalendarView*)sender forDay:(NSDate*)day{
    MAFMonthCalendarItemView* myItemView =
    [[MAFMonthCalendarItemView alloc] initWithFrame:CGRectZero
    date:day];

    NSCalendar *calendar = [NSCalendar currentCalendar];
    NSRange weekdayRange = [calendar
maximumRangeOfUnit:NSWeekdayCalendarUnit];
    NSDateComponents *components = [calendar
components:NSWeekdayCalendarUnit fromDate:day];
    NSUInteger weekdayOfDate = [components weekday];

    if (weekdayOfDate == weekdayRange.location || weekdayOfDate ==
weekdayRange.length) {
        //the date falls somewhere on the first or last days of the
week
        NSLog(@"weekend!");
        //Should be able to skin by specifying a custom copy of
CalendarMonthViewDayTile in welterStyle.xml
        //myItemView.dayBackgroundColor = [UIColor blueColor];
        myItemView.styleForDayTile =
@"CustomCalendarMonthViewDayTile"
    }

    return myItemView;
}
```

This code demonstrates how to define your custom style XML content to skin this tile differently:

```
<Style Key="CustomCalendarMonthViewDayTile" TargetType="Control"
platform="ios">
    <Setter Property="Background" Value="#0276FD"/>
    <!-- FINISHED Welter -->
    <Setter Property="Shadow" Value="#FFFFFF"/>
</Style>
```

```

<!-- FIXME Welter -->
<Setter Property="FontFamily" Value="Helvetica-Bold"/>
<!-- FINISHED Welter-->
<Setter Property="FontSize" Value="23"/>
<!-- FINISHED Welter -->
<Border BorderBrush="#AAAEB6" BorderThickness="1"/>
<!-- FINISHED -->
</Style>

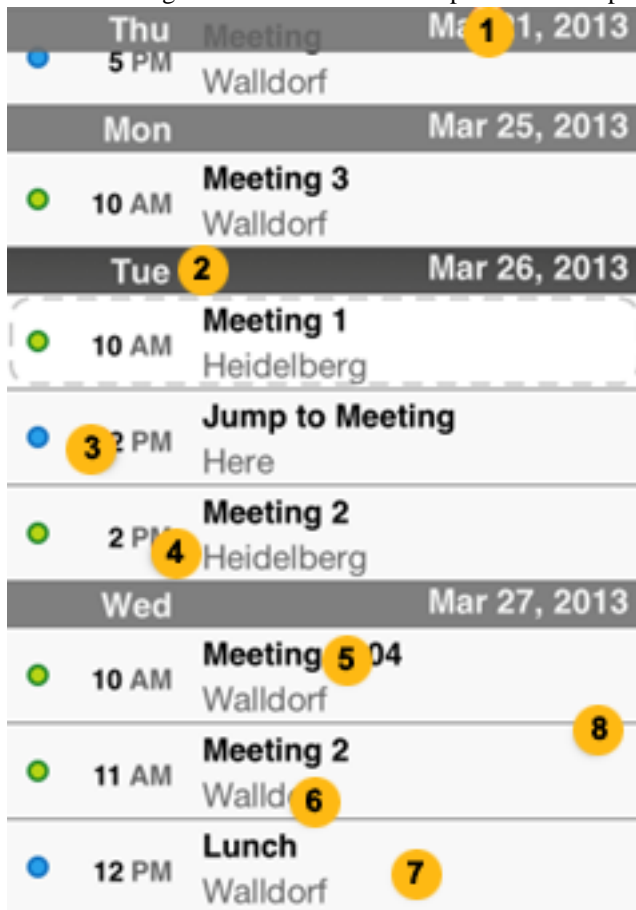
```

Subsections point out the elements of the Calendar control that can be styled and show the XML elements or class properties that influence their styles.

### Styling the List View

These are the elements of the list view that you can style, and the XML elements or class properties that influence their styles.

The number tags on the screenshot correspond to the respective lines in the table.



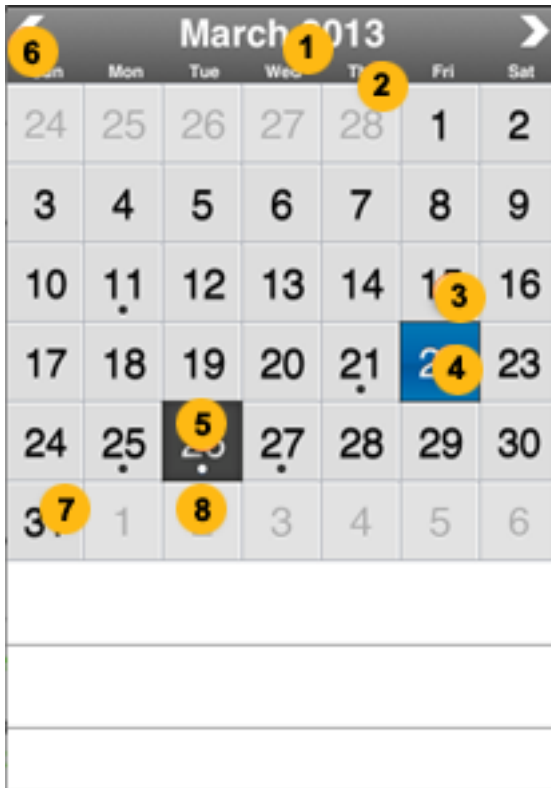
MAF style XML keys for this view:

Number Tag	Screen Element	Key
1	Header Text	CalendarListViewHeaderText
2	Header Current Day Text	CalendarListViewHeaderText-CurrentDay
3	Hour Text	CalendarListViewHourTextLabel
4	Hour Period Text	CalendarListViewHourPeriod-TextLabel
5	Appointment Title Text	CalendarListViewAppointmentTitleTextLabel
6	Appointment Location Text	CalendarListViewAppointmentLocationTextLabel
7	Appointment Cell	CalendarListViewAppointmentCell
8	Cell Separator	CalendarListViewCellSeparator

### *Styling the Month Combo View*

These are the elements of the month combo view that you can style, and the XML elements or class properties that influence their styles.

The number tags on the screenshot correspond to the respective lines in the table.



MAF style XML keys for this view:

Number Tag	Screen Element	Key
1	Month Text	CalendarMonthViewMonth-TextLabel
2	Week Day Text	CalendarMonthViewWeek-DayTextLabel
3	Day Tile	CalendarMonthViewDayTile
4	Day Tile Selected	CalendarMonthViewDayTile-Selected
5	Day Tile Current Selected	CalendarMonthViewDayTile-Current
6	Month Navigation Arrows	CalendarMonthViewMonthNavigationArrows



Number Tag	Screen Element	Key
7	Day Tile Text image	CalendarMonthViewDayTile- TextImage
8	Day Tile Disabled Text image	CalendarMonthViewDayTile- DisabledTextImage

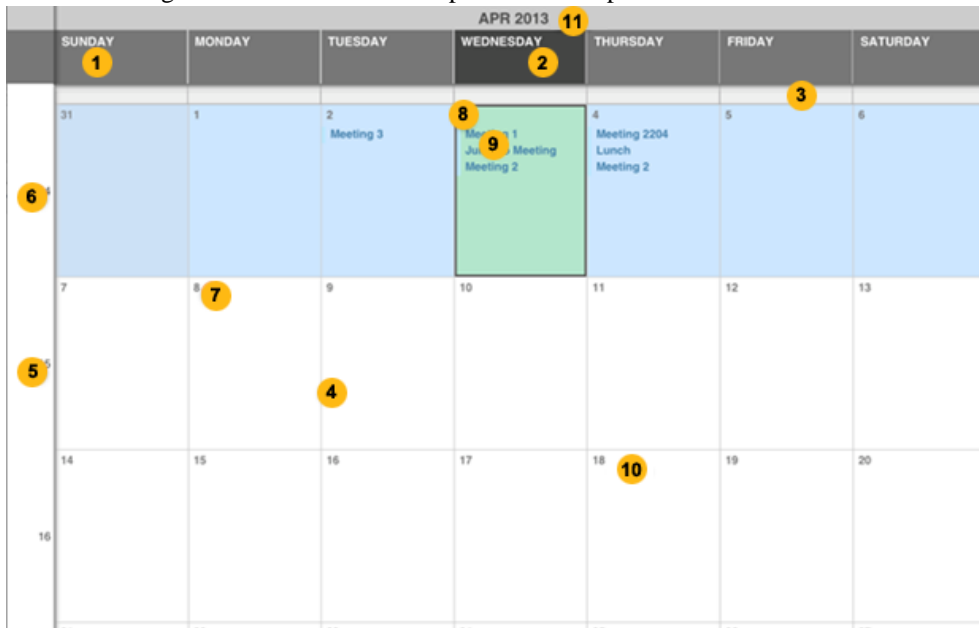
### Styling the iPhone Month View

You can skin the month view on the phone form factor with the styles listed in the Month Combo View.

### Styling the iPad Month View

These are the elements of the iPad month view that you can style, and the XML elements or class properties that influence their styles.

The number tags on the screenshot correspond to the respective lines in the table.



MAF style XML keys for this view:

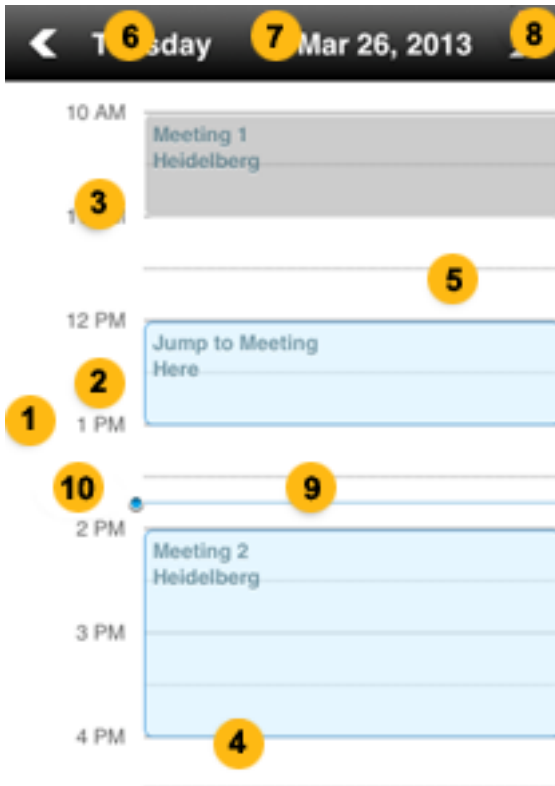
Number Tag	Screen Element	Key
1	Header Day Text	CalendarMonthViewCurrent- MonthdayTextLabel

Number Tag	Screen Element	Key
2	Header Current Day Text	CalendarMonthViewCurrent-MonthdayTextLabel
3	Gutter	CalendarMonthViewGutter
4	Canvas	CalendarMonthViewCanvas
5	Week Number Styles	CalendarMonthViewWeekLabelFont CalendarMonthViewWeek-View
6	Highlighted Week Number	CalendarMonthViewWeekLabelHighlightColor
7	Day Box Day Number Text	CalendarMonthViewMonth-dayBoxNumberTextLabel
8	Current Day Box Day Number Text	CalendarMonthViewCurrent-MonthdayBoxNumberTextLabel
9	Styles for the appointment within the daybox	CalendarMonthViewMonth-dayBoxAppointment CalendarMonthViewCurrent-MonthdayBoxAppointment CalendarMonthViewMonth-dayDecoratorBox CalendarMonthViewCurrent-MonthdayDecoratorBox
10	Daybox styles	CalendarMonthViewDayBox CalendarMonthViewCurrent-DayBox
11	Top header showing the year	CalendarMonthViewTopHeader

### *Styling the Day Detail View*

These are the elements of the iPad Month view that you can style, and the XML elements or class properties that influence their styles.

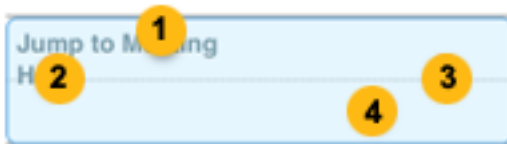
The number tags on the screenshot correspond to the respective lines in the table.



MAF style XML keys for this view:

Number Tag	Screen Element	Key
1	Canvas	CalendarDayViewCanvas
2	Gutter	CalendarDayViewGutter
3	Canvas Hour Label	CalendarDayViewCanvasHourLabelColor
4	Canvas Full Hour Line	CalendarDayViewCanvasFullHourLine
5	Canvas Half Hour Line	CalendarDayViewCanvasHalfHourLine
6	Day Text	CalendarDayViewDayTextLabel
7	Day Text Current Day	CalendarDayViewDayTextLabelCurrentDay

Number Tag	Screen Element	Key
8	Navigation Arrows	CalendarDayViewDayNavigationArrows
9	Hour Indicator	CalendarDayViewHourIndicatorColor
10	Hour Knob Indicator	CalendarDayViewHourKnobIndicator



MAF style XML keys for this view:

Number Tag	Screen Element	Key
1	Title	CalendarAppointmentViewTitleLabel
2	Location	CalendarAppointmentViewLocationLabel
3	View	CalendarAppointmentView
4	Invitation	CalendarAppointmentViewInvitation

### *Styling the Week View*

These are the elements of the week view that you can style, and the XML elements or class properties that influence their styles

The number tags on the screenshot correspond to the respective lines in the table.



MAF style XML keys for this view:

Number Tag	Screen Element	Key
1	Weekday Text	CalendarWeekViewWeekday- TextLabel
2	Current Weekday Text	CalendarWeekViewCurrent- WeekdayTextLabel
3	Weekday Number	CalendarWeekViewCurrent- WeekdayNumberTextLabel
4	Full Hour Separator	CalendarWeekViewFullHour- SeparatorColor
5	Half Hour Separator	CalendarWeekViewHalfHour- SeparatorColor
6	Hour Label	CalendarWeekViewHourLa- belFont

Number Tag	Screen Element	Key
7	Hour Label Highlighted	CalendarWeekViewHourLabelHighlightColor
8	Hour Period Label	CalendarWeekViewHourPeriodLabelColor
9	Gutter	CalendarWeekViewGutter
10	Canvas	CalendarWeekViewCanvas

### MAF Formatters

MAF formatters are non-UI components that convert text values and numbers into phone numbers, dates, times, and currencies according to locale and country code settings. You can also format addresses by querying the order of the address fields based on locale settings and country codes.

Custom formatting options let you select short or long date and time formats, and whether to show date and time fields separately or together.

Use MAF formatters to create applications that present country- and locale-specific information. You can build your own UI components and input fields on MAF formatters, but you can also use prepackaged MAF locale-aware UI controls that use MAF skinning and MAF formatting capabilities.

### *Dependencies and Project Setup*

To build MAF formatting-capable applications, add the `com.sap.mobile.maf.tools.ios/MAFFormatters (MAFFormatters.a)` library, and the `MAFFormatters.bundle iOS` resource bundle file, to your project.

The bundle includes:

- `CountryFormats.xml`, which contains all the country and locale information for address and phone number formats
- `dl_iso_table_a1.xml`, which lists all the currency and ISO code information per country
- `CountryCodes.plist`, which is a list of all countries and country codes
- Language files for the address fields, for example, the translations of “street”, “city”, “postal code”, and so on.

iOS frameworks are not required.

### *MAF Formatter Types*

Formatter types include: `MAFAddressFormatter` class for phone numbers and address field layout information, `MAFDateTimeFormatter` for date times, and `MAFCurrencyFormatter` for currencies.

High-level steps for using the formatters:

1. Instantiate the classes by MAF, either by using factory objects or by directly allocating and initializing them.
2. Specify settings and parameters for the formatter instances.
3. Format your data.

### *Metadata*

All three types of formatters use metadata to format input values according to the predefined locale, country, and custom settings.

For `MAFDateTimeFormatter`, the metadata comes from and is handled completely by the iOS frameworks. The formatter uses the `NSDate` class to format date and time values according to locale and country settings.

For `MAFAddressFormatter` and `MAFCurrencyFormatter`, the metadata is loaded from the default XML and .plist resource files provided with MAF. You can easily configure these files if necessary.

### *Generic Country Codes Information*

A regular Xcode project .plist file lists the country codes with the corresponding country names. The processed and parsed output is used by the `MAFAddressFormatter`. MAF also provides a `MAFCountryCodeStore` class that you can use to query the country code for a country and vice versa. This class and its query methods are available via the public MAF API.

### *Currency Formatter Specific Metadata*

`MAFCurrencyFormatter` uses metadata (an XML file) to build up an internal runtime data store to determine the currency names and alphabetic codes for countries. This runtime currency data store is not available via the MAF API; it is used only by the formatters. This sample shows the currency-related information for Hungary:

```
<ISO_CURRENCY>
  <ENTITY>HUNGARY</ENTITY>
  <CURRENCY>Forint</CURRENCY>
  <ALPHABETIC_CODE>HUF</ALPHABETIC_CODE>
  <NUMERIC_CODE>348</NUMERIC_CODE>
  <MINOR_UNIT>2</MINOR_UNIT>
</ISO_CURRENCY>
```

### *Address and Phone Number Formatters Specific Metadata*

The XML metadata that `MAFAddressFormatter` uses contains country-code-specific information that describes:

- The address layout: types and order of address fields to show, and the number of lines to display the address in.
- Local and international phone number formats.

This information is also available in the low- and high-level public MAF APIs of the `MAFAddressFormatter` class. See the public API in the corresponding header file (`MAFAddressFormatter.h`), and the `MAFAddressFormatter` section.

This sample shows the XML metadata for Hungary:

```
<!-- Hungary -->
<format country="hu">

  <addresses>
    <address format="POSTL_COD1 CITY\nSTREET HOUSE_NO\nLOCATION
\nCOUNTRY" />
  </addresses>

  <addressfields>
    <line>
      <field id="POSTL_COD1" keyboard="NUMERIC"
label="{POSTAL CODE}" />
      <field id="CITY" label="{CITY}" />
    </line>
    <line>
      <field id="STREET" width="65%" label="{STREET}" />
      <field id="HOUSE_NO" keyboard="NUMERIC" width="35%"
label="No." />
    </line>
    <line>
      <field id="LOCATION" label="{STREET} 4" />
    </line>
    <line>
      <field id="COUNTRY" label="{COUNTRY}" />
    </line>
  </addressfields>

  <phonenumbers localprefix="06" internationalprefix="36 "
outboundcode="00">
    <phonenumber format="06 1 xxx-xxxx" />
    <phonenumber format="06 xx xxx-xxx" />
    <phonenumber format="06 xx xxx-xxxx" />
  </phonenumbers>
</format>
```

### *MAFDateTimeFormatter*

The *MAFDateTimeFormatter* formats date and time values into a format that is either explicitly specified with a string value, or, a preset locale and custom styles (long, short, medium, no style). These options are mutually exclusive, and specifying a string value takes priority: if you explicitly specify a date format, your locale and custom style settings are ignored.

To obtain a formatter using the factory, use the following code, which first instantiates a generic formatter factory object, then uses the object to create a date and time formatter by passing *MAFFormatterTypeDateTime* as the type parameter. The example does not set formatter parameters when constructing the *dateTimeFormatter*, because setting those formatting options is explicitly specified.

```
// I. obtaining a formatter factory
NSObject<MAFFormatterFactory>* formatterFactory =
[[MAFFormatterFactory alloc] init];
```



```
// II. creating a date time formatter with specific formatter
settings defined prior to using it
NSObject<MAFFormating>* dateTimeFormatter = [formatterFactory
createFormatterWithType:MAFFormatterTypeDateTime
formatterParameter:nil];
[formatterFactory release];
```

To specify formatting options, first create a `MAFDateTimeFormatterParams` object, then specify each parameter value separately. This example sets the locale and date and time style instead of specifying a `dateFormat`; as a result, the date and time format is Hungarian, using a medium style date and time:

```
// III. create formatting definition
MAFDateTimeFormatterParams *formatterParams =
[[[MAFDateTimeFormatterParams alloc] init] autorelease];

// EITHER specify locale with dateStyle and timeStyle
formatterParams.locale = [[[NSLocale alloc]
initWithLocaleIdentifier:@"hu"] autorelease];
formatterParams.dateStyle = kCFDateFormatterMediumStyle;
formatterParams.timeStyle = kCFDateFormatterMediumStyle;
// OR use a date format string directly specifying the format
//formatterParams.dateFormat = @"'yyyy'-'MM'-'dd'T'HH':'mm':'ss'";
```

To show only the time or only the date, set `kCFDateFormatterNoStyle` for `timeStyle` or `dateStyle` respectively. You can set additional options, for example, the time zone variance, by setting the number of seconds to add to or subtract from the UTC time:

```
// sets the time zone difference
formatterParams.timeZone = [NSTimeZone timeZoneForSecondsFromGMT:
7200]; // 2 hours more
```

If you do not specify a time zone difference, the formatter shows the time that the device user's phone is set to. After setting all formatting parameters, you can set these parameters for the date time formatter:

```
dateTimeFormatter.formatterParameter = formatterParams;
```

As an alternative, you can specify all formatting parameters while creating the `MAFDateTimeFormatterParams` object itself, and pass it for the formatter:

```
[MAFDateTimeFormatterParams
dateTimeFormatterParamsWithDateStyle:kCFDateFormatterShortStyle
timeStyle:kCFDateFormatterShortStyle locale:nil toUTC:YES
dateFormat:@"'yyyy'-'MM'-'dd'T'HH':'mm':'ss" timeZone:[NSTimeZone
timeZoneForSecondsFromGMT:0]];
```

Next, perform the actual formatting and check the results:

```
// IV. format a value
NSDate* value = [NSDate date]; // NOW
NSString * formattedValue = [dateTimeFormatter formatValue:value];
NSLog(@"FORMATTED VALUE> %@", formattedValue);
```

This code presents the current time, adding 2 hours to the current time zone, using the Hungarian format:

```
FORMATTED VALUE> 2013.03.07. 19:35:57
```

### *MAFCurrencyFormatter*

*MAFCurrencyFormatter* formats currency values according to country ISO code. Formatted numerical values are delimited by colons or periods, depending on the ISO code, and the currency symbol (if any); or its alphabetical code is prefixed to the digits.

Before creating a formatter instance, load the currency and country metadata by calling the static method on the *MAFDefaultCurrencySettings* class:

```
[MAFDefaultCurrencySettings loadCurrencies];
```

Next, specify first the ISO code, then create a *MAFCurrencyFormatterSettings* object, and pass length settings and formatting flags to it:

```
NSString* isoCode = @"HUF";
int decimals = [[MAFCurrencyCatalog currencyCatalog]
decimalsByISO:isoCode];
MAFCurrencyFormatterSettings* settings =
[[MAFCurrencyFormatterSettings alloc] initWithLength:18
andDecimalPlaces:decimals andFlags:CURRENCY_FORMATTER_FLAG_SIGNED |
CURRENCY_FORMATTER_FLAG_ALLOWS_NULL];
```

The length parameter defines a range, and all input values must be within that range. You can define constraints with flags, for example, whether the formatter accepts null, or signed values. After defining an ISO code string and other settings, create a currency formatter by directly calling the *alloc/init* methods of the *MAFCurrencyFormatter*:

```
MAFCurrencyFormatter* currencyFormatter = [[MAFCurrencyFormatter
alloc] initWithDecimalNumber:nil andSettings:settings
andISOCurrencyCode:isoCode] autorelease];
[settings release]; // we do not need to hold a reference to the
settings after setting it for the alloc/init
```

You can set any decimal number value inputs for the formatter instance, then request formatter values:

```
[currencyFormatter setValue:[NSDecimalNumber
decimalNumberWithDecimal:[NSNumber numberWithInt:1423196924]
decimalValue]]];
```

```
NSLog(@"FORMATTED VALUE> %@", [currencyFormatter
getFormattedValue]);
```

This code shows the formatted currency value according to the Hungarian format:

```
FORMATTED VALUE> HUF1,423,196,924
```

### *Phone Number Formatter*

Phone number formatting is handled as part of address formatting, as the metadata for both types of formatting is in one common XML descriptor file.

To format phone numbers, initialize the `MAFAddressFormatter`, and set the country code:

```
// set default locale and country code
[MAFAddressFormatter setDefaultLocale:@"hu"];
NSString* countryCode = @"hu";
```

Set a default locale as well, because if you do not set a value while formatting, you may get incorrect values.

You can use the phone number formatting capabilities of the `MAFAddressFormatter` in two ways:

In the first API call (`formattedPhoneNumberWithCountryCode`), obtain a full formatted string (`NSString`) that contains the properly formatted phone number with the proper extension suffix.

In the other API call (`formattedLocalAndInternationalPhoneNumbersWithCountryCode`), create and obtain a `MAFPhoneNumber` object. From that, you can obtain further types, such as local and international number formats of the input phone number value.

As the formatter is implemented as a singleton, you can get access to any `MAFAddressFormatter` functionality by calling its class level instance method. This first example creates a complete phone number string representation:

```
// A) specific phone number based formattings

// EITHER get a full number in text
NSString* formattedPhoneNumberText = [[MAFAddressFormatter instance]
formattedPhoneNumberWithCountryCode:countryCode
number:@"+36301234567" extension:@"321"];

NSLog(@"FORMATTED VALUE> %@", formattedPhoneNumberText);
```

This code passes the numbers as an `NString`, in an international number format that is appropriate for the specified locale. It is important that you set the local or international number form (without any spaces or extra delimiters) specific to the locale or country code, because incorrect numbers are not formatted. You can provide the international number by using the + sign, or by using prefixing zeros (outbound number prefix).

The above code shows: `FORMATTED VALUE> +36 30 123-4567 Ext. 321`

The second example obtains different international/local/outbound forms for a specific number. It uses the other formatting API call, which returns the `MAFPhoneNumber` object, by specifying the same country code, number format and extension as the first example. You can obtain the formatted values via the properties of the created phone number instance:

```
// OR get a phone number object, that holds the various parts, and
can be presented in more ways
```

```
MAFPhoneNumber* formattedPhoneNumber = [[MAFAddressFormatter
instance]
formattedLocalAndInternationalPhoneNumbersWithCountryCode:countryCo
de number:@"+36301234567" extension:@"999"];
NSString* international =
formattedPhoneNumber.internationalPhoneNumber;
NSString* internationalWithOutbound =
formattedPhoneNumber.internationalPhoneNumberWithCountryOutboundCod
e;
NSString* local = formattedPhoneNumber.localPhoneNumber;

NSLog(@"FORMATTED VALUE> %@", international);
NSLog(@"FORMATTED VALUE> %@", internationalWithOutbound);
NSLog(@"FORMATTED VALUE> %@", local);
```

This code presents:

```
FORMATTED VALUE> +36 30 123-4567 Ext. 999
```

```
FORMATTED VALUE> 00 36 30 123-4567 Ext. 999
```

```
FORMATTED VALUE> 06 30 123-4567 Ext. 999
```

The third example shows how to obtain country-code-specific phone number information. MAF must parse the address and phone number metadata file to provide access to this runtime information. To get access to outbound codes, local trunk prefix calling numbers, and the international dial codes, you can use these API calls:

```
// B) country code based information

NSString* outboundCode = [[MAFAddressFormatter instance]
outboundCodeWithCountryCode:countryCode];
NSString* localTrunkPrefix = [[MAFAddressFormatter instance]
localTrunkPrefixWithCountryCode:countryCode];
NSString* internationalDialCode = [[MAFAddressFormatter instance]
internationalDialCodeWithCountryCode:countryCode];

NSLog(@"FORMATTED VALUE> %@", outboundCode);
NSLog(@"FORMATTED VALUE> %@", localTrunkPrefix);
NSLog(@"FORMATTED VALUE> %@", internationalDialCode);
```

This code presents:

```
FORMATTED VALUE> 00
```

```
FORMATTED VALUE> 06
```

```
FORMATTED VALUE> +36
```

The full example, including the three examples mentioned above:

```
// set default locale and country code
[MAFAddressFormatter setDefaultLocale:@"hu"];
NSString* countryCode = @"hu";

// A) specific phone number based formattings
```

```

// EITHER get a full number in text
NSString* formattedPhoneNumberText = [[MAFAddressFormatter instance]
formattedPhoneNumberWithCountryCode:countryCode
number:@"+36301234567" extension:@"321"];

NSLog(@"FORMATTED VALUE> %@", formattedPhoneNumberText);

// OR get a phone number object, that holds the various parts, and
can be presented in more ways
MAFPhoneNumber* formattedPhoneNumber = [[MAFAddressFormatter
instance]
formattedLocalAndInternationalPhoneNumbersWithCountryCode:countryCo
de number:@"+36301234567" extension:@"999"];
NSString* international =
formattedPhoneNumber.internationalPhoneNumber;
NSString* internationalWithOutbound =
formattedPhoneNumber.internationalPhoneNumberWithCountryOutboundCod
e;
NSString* local = formattedPhoneNumber.localPhoneNumber;

NSLog(@"FORMATTED VALUE> %@", international);
NSLog(@"FORMATTED VALUE> %@", internationalWithOutbound);
NSLog(@"FORMATTED VALUE> %@", local);

// B) country code based information

NSString* outboundCode = [[MAFAddressFormatter instance]
outboundCodeWithCountryCode:countryCode];
NSString* localTrunkPrefix = [[MAFAddressFormatter instance]
localTrunkPrefixWithCountryCode:countryCode];
NSString* internationalDialCode = [[MAFAddressFormatter instance]
internationalDialCodeWithCountryCode:countryCode];

NSLog(@"FORMATTED VALUE> %@", outboundCode);
NSLog(@"FORMATTED VALUE> %@", localTrunkPrefix);
NSLog(@"FORMATTED VALUE> %@", internationalDialCode);

```

### *MAFAddressFormatter*

The `MAFAddressFormatter` formats phone numbers and addresses, and translates the names of the address fields.

As the formatter is implemented as a singleton, you can get access to any `MAFAddressFormatter` functionality by calling its class level instance method on the singleton instance:

```
[MAFAddressFormatter instance]
```

An address builds up from many fields, so you must set a collection of input values to work with the formatter. You can set up an `NSDictionary` that contains the keys prefixed with `MAF_FORMATTER_ADDRESS_FIELD` defined by `MAF`. For example:

```
[NSMutableArray arrayWithObjects:[NSMutableDictionary
dictionaryWithObjects:
    [NSArray arrayWithObjects:
        @"7",
        @"Zahony",
        @"Óbuda",
        @"Budapest",
        @"Pest",
        @"1031",
        @"Hungary",nil]
    forKeys:[NSArray arrayWithObjects:
        MAF_FORMATTER_ADDRESS_FIELD_HOUSE_NO,
        MAF_FORMATTER_ADDRESS_FIELD_STREET,
        MAF_FORMATTER_ADDRESS_FIELD_LOCATION,
        MAF_FORMATTER_ADDRESS_FIELD_CITY,
        MAF_FORMATTER_ADDRESS_FIELD_REGION,
        MAF_FORMATTER_ADDRESS_FIELD_POSTL_COD1,
        MAF_FORMATTER_ADDRESS_FIELD_COUNTRY,nil] ]
```

One public method directly outputs a full string that contains the full formatted address with newline characters:

```
- (NSString *)formattedAddressWithCountryCode:(NSString
*)countryCode values:(NSDictionary *)values;
```

For example:

```
NSDictionary* addressInputValues =
    [NSMutableDictionary dictionaryWithObjects:
        [NSMutableDictionary dictionaryWithObjects:
            [NSArray arrayWithObjects:
                @"7",
                @"Zahony",
                @"Óbuda",
                @"Budapest",
                @"Pest",
                @"1031",
                @"Hungary",nil]
            forKeys:[NSArray arrayWithObjects:
                MAF_FORMATTER_ADDRESS_FIELD_HOUSE_NO,
                MAF_FORMATTER_ADDRESS_FIELD_STREET,
                MAF_FORMATTER_ADDRESS_FIELD_LOCATION,
                MAF_FORMATTER_ADDRESS_FIELD_CITY,
                MAF_FORMATTER_ADDRESS_FIELD_REGION,
                MAF_FORMATTER_ADDRESS_FIELD_POSTL_COD1,
                MAF_FORMATTER_ADDRESS_FIELD_COUNTRY,nil] ]];

NSString* result = [[MAFAddressFormatter instance]
formattedAddressWithCountryCode:@"HU" values:addressInputValues];
```

The other API methods query the layout information for an address. You can use them to create your own UI, specifying the number of fields, the title labels, and the values you need:

```
/**
 * Returns the number of rows for the specified country.
 * @param countryCode the country code
 * @returns the number of rows for the specified country
```

```

*/
- (NSUInteger)numberOfAddressRowsWithCountryCode:(NSString
*) countryCode;

/**
 * Returns with the array of address rows with the specified values
 * @param valuesDict the values that make up the address to be
displayed
 * @param countryCode_in the country code which we will format for
 * @returns the array of the address rows
 */
- (NSArray*)addressRowsWithValues:(NSDictionary*)valuesDict
forCountryCode:(NSString*)countryCode_in;

```

The address rows with `addressRowsWithCountryCode` returns row-specific information in the form of an array of `MADAddressEditableRow` objects:

```

/**
 * Returns the rows for the specified country code. For country
codes,
 * see the helper class. For values, see the header file.
 * @param countryCode the country code
 * @param values the values to be shown in the field (unspecified
values will show the placeholder)
 * @returns the rows for the specified country code
 * @remark Probably, you doesn't need to call this, because it's
automatically stored when you create the instance or set another
locale and used in getAddressRowsWithValues:.
 */
- (NSArray *)addressRowsWithCountryCode:(NSString *)countryCode;

```

### MAF Locale-Aware Controls

MAF locale-aware controls are complex graphical components for presenting and editing currency, phone numbers, and address information in localized input fields.

Use these controls to request user inputs in the language and locale set for the phone. You can also read the localized user input and use it for later data processing (for example, for sending it to the back end). MAF locale-aware controls let you:

- Present and obtain user information in a localized way for currencies, phone numbers, and address fields in table view cell UI elements.
- Allow users to select values for input fields from a predefined list of a finite number of values, for example, selecting country names or currencies per countries.
- Allow users to select the label and type of input fields from a configurable list of options, such as home, work, or private settings for phone types, or work, home, or other settings for addresses.
- Allow users to enter free text information, such as amounts and phone numbers, and properly format it using MAF formatters.
- Easily and dynamically customize the component's UI elements and subviews, even at application runtime. The controls are skinnable, as they all build on MAF simple controls.

## Native OData App Development

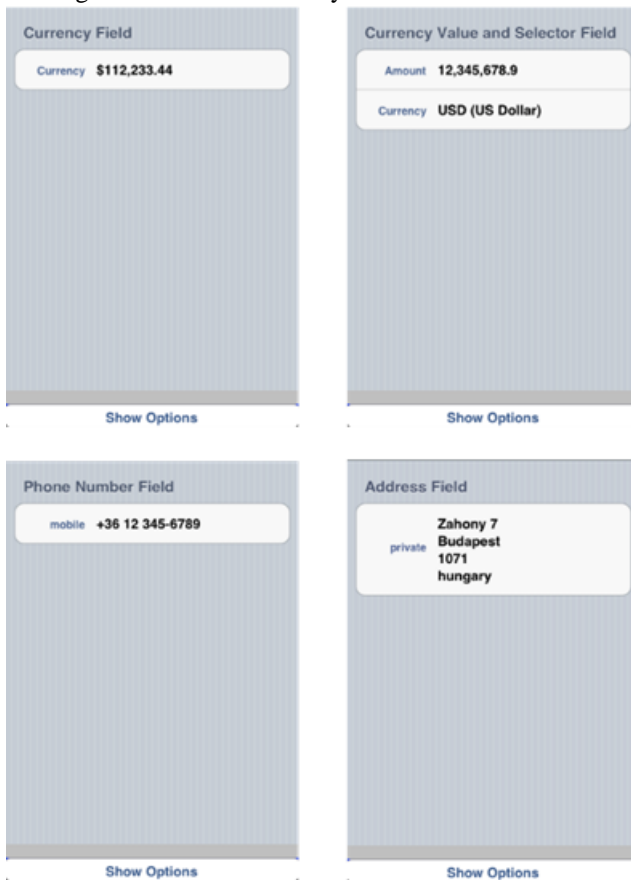
- Configure value helper list entries with your custom set.
- Define custom presentations for value helper lists, besides the out-of-the-box value help screen modal behavior.

### *The Controls*

Locale-aware controls include: currency, currency value with selector, phone number, and address. The controls are implemented as extensions of the iOS UITableView cells, so to use them, add the controls to regular table views.

Each control has an edit mode and a read-only mode. You can switch on the edit mode of the controls by setting the parent UITableView to `isEditing=YES`. This changes all the locale aware controls from read only UI to edit mode UI with an animation transition.

This figure shows the read-only mode of the controls:



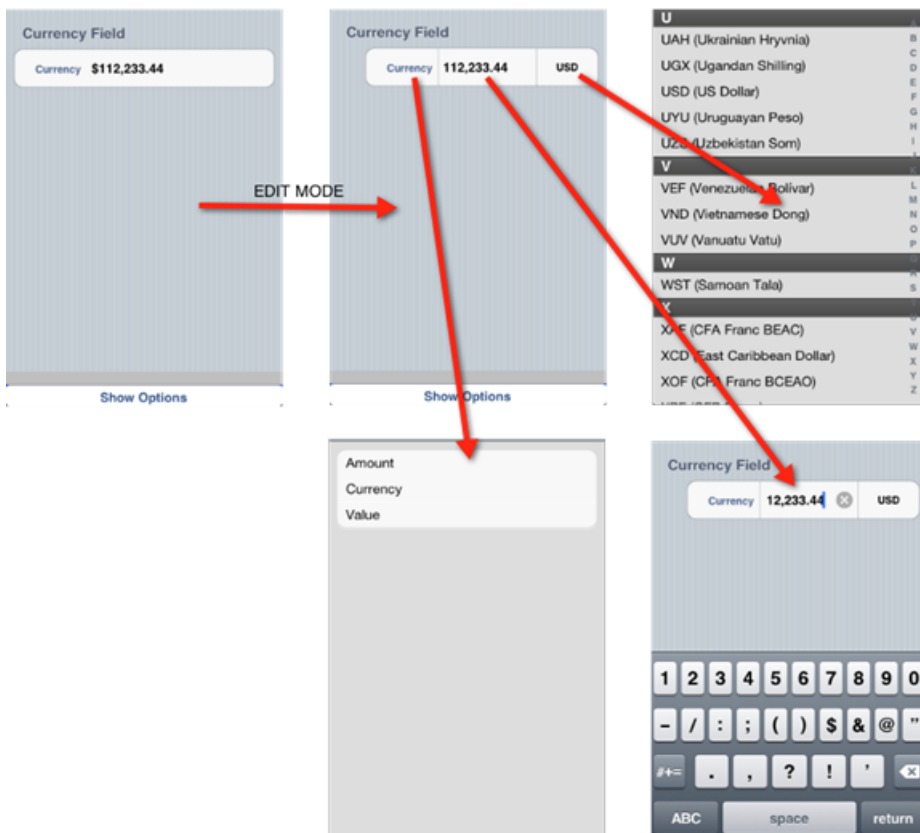


### Currency Control

Use the currency control to present and enter money amounts and currency information. The currency value control presents the currency with the amount, and a title of the control in one cell.

After switching to edit mode by tapping the Edit button, the user can:

- Tap the amount to show the keypad, where you can enter the amount.
- Tap the cell title to can select the amount type from the predefined Amount/Currency/ Value list, which you can customize.
- Tap the currency to show a value help in a table view that contains the default values of all the currencies known by the iOS locale framework.



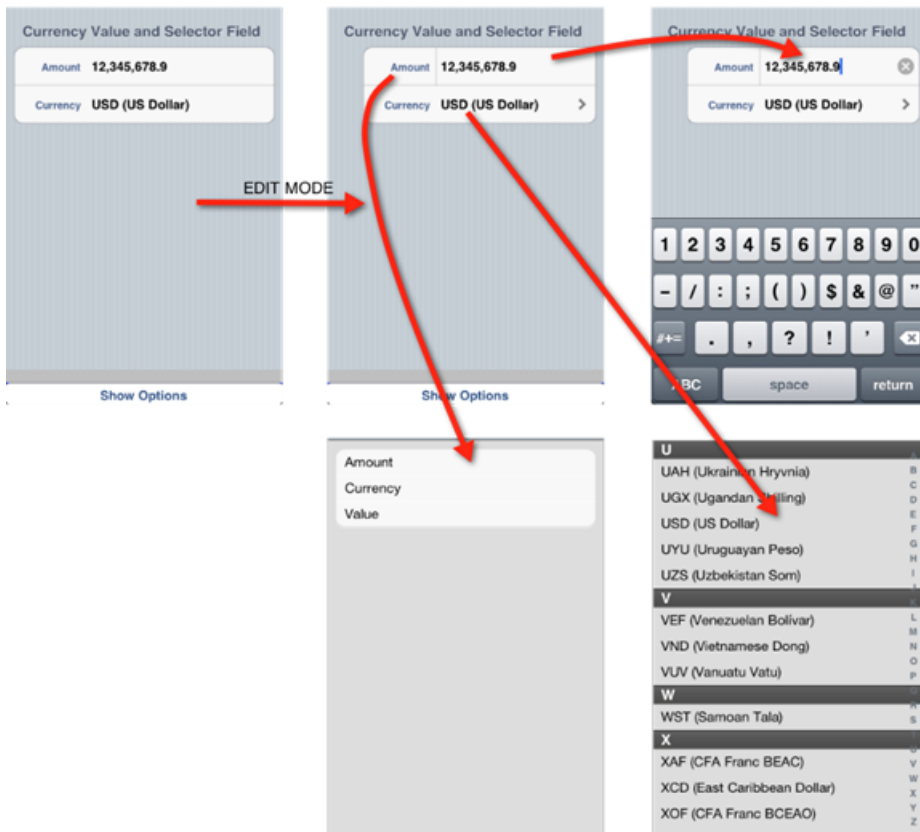
## Currency Value with Selector Control

Use the currency value with selector control, which is another type of MAF currency control, to present and enter money-related information.

This control consists of two MAF table view cells: one shows the amount, while the other shows the currency, and allows it to be selected.

After switching to edit mode by tapping the Edit button, the user can:

- Tap the amount to show the keypad, where you can enter the amount.
- Tap the title of the amount cell to select the amount type from the predefined Amount/Currency/Value list, which you can customize.
- Tap the label or value of the currency cell to show a value help in a table view that contains the default values of all the currencies known by the iOS locale framework.

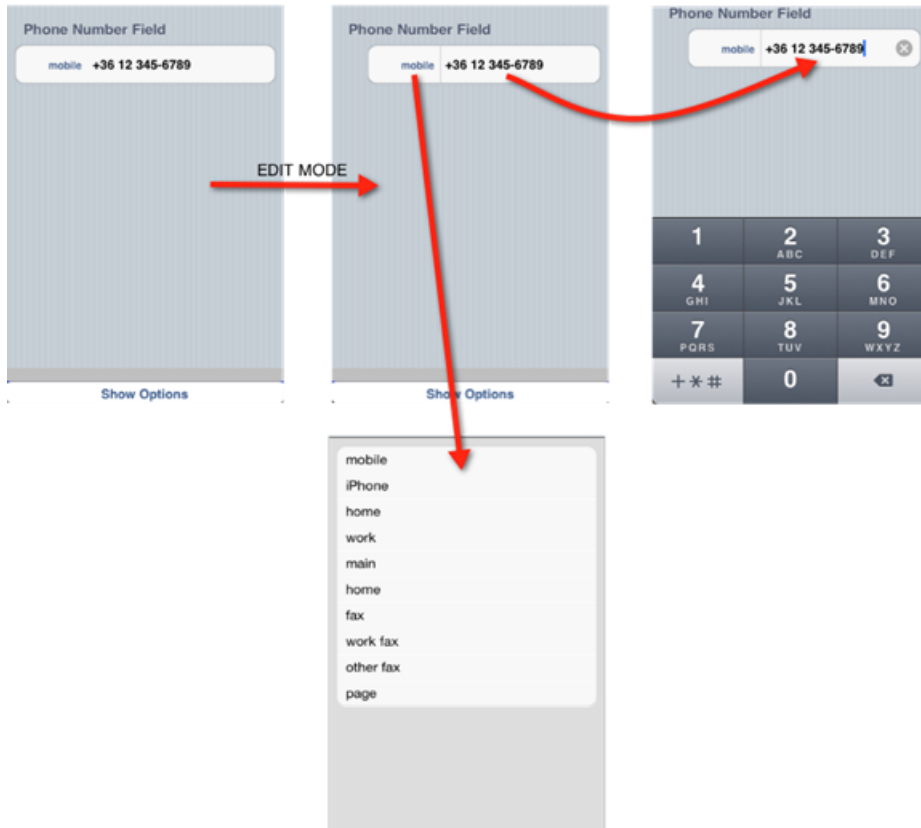


### Phone Number Control

Use the phone number control to present and edit phone numbers that are formatted according to the locale settings of your phone.

After switching to edit mode:

- Tap the number to show the numerical keypad, where you can enter the phone number.
- The phone number is visually formatted as you enter each number. Tap the cell title to select the phone type from a predefined list, which you can customize.



### Address Control

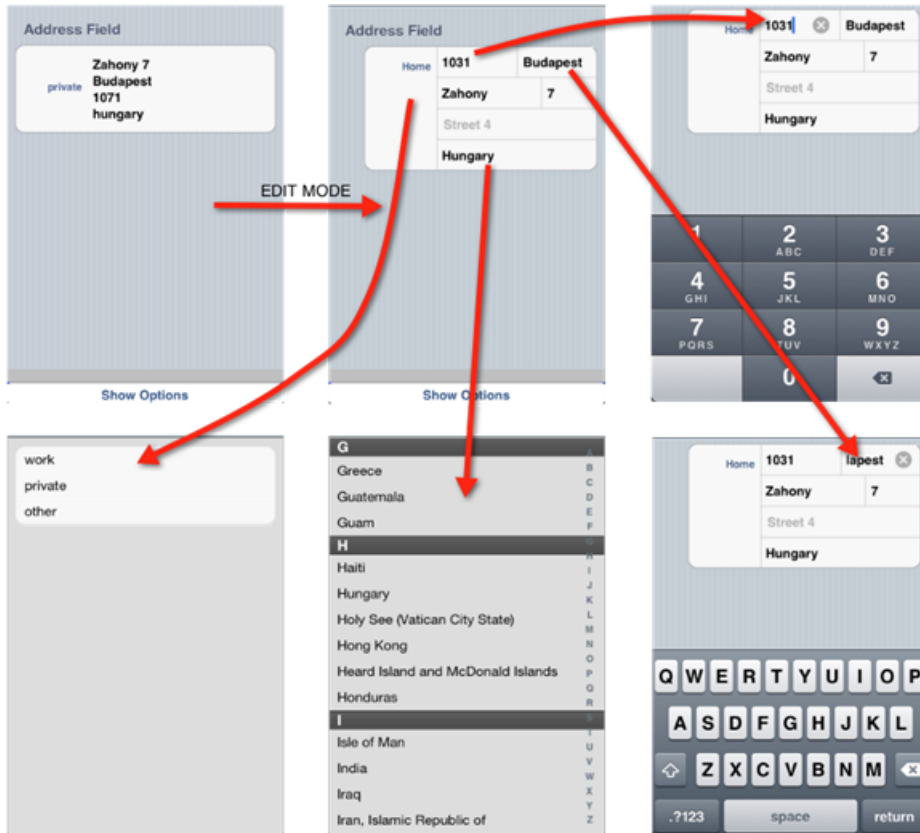
Use the address control to present and edit address information.

It is implemented as one table cell that contains many fields. The field layout is determined by the country selected in the address.

After switching to edit mode:

## Native OData App Development

- Tap the street number or zip code fields to show the numerical keypad.
- Tap the street name or city name to show a regular keypad.
- Tap the country to show a value help in a table view that contains the default values of all the countries known by the iOS locale framework.
- Tap the cell title to select the address type from a predefined list, which is customizable.



### *Dependencies and Project Setup*

MAF locale-aware controls are built on top of MAF simple controls, such as MAFUILabel and MAFUITableView. The controls use the skinning infrastructure of MAFSkinManager and the formatting capabilities of MAFFormatters, so the controls depend on both the MAFUIComponents and MAFFormatters library.

Required MAF libraries:

- com.sap.mobile.maf.ui.ios/MAFUIComponents (MAFUIComponents.a)
- com.sap.mobile.maf.ui.ios/MAFLocaleAwareControls (MAFLocaleAwareControls.a)
- com.sap.mobile.maf.tools.ios/MAFFormatters (MAFFormatters.a)

Required iOS frameworks:

- CoreGraphics.framework
- Foundation.framework
- MessageUI.framework
- QuartzCore.framework
- UIKit.framework

MAF locale-aware controls provide a hard-coded skin that can differ from the skinning XML delivered in a separate bundle file. To get the default custom skin and to apply skinning that differs from the hard-coded skin, add the iOS resource bundles to your project. The bundles are also required for the components to find the necessary resource files, for example, to format metadata for address field layout.

Required iOS resource bundles:

- MAFFormatters.bundle
- MAFLocaleAwareControls.bundle
- MAFUIComponents.bundle

### *Setting Up a Frame for a Sample Application*

Because the controls are implemented as table view cells, the most convenient way to present them is to use a table view, or table view controller and provide the locale-aware controls as cells using the table view datasource protocol.

To try out the MAF locale-aware controls, create a simple view controller that implements the UITableViewDelegate and UITableViewDataSource protocols and present a single table view UI element on it. Create a tableView object, then add it to the view controller's view and set the class itself (= 'self') as the data source and delegate for the tableView. You can later use the data source delegate to populate the table view with MAF locale-aware controls. This code shows the basic non-MAF-specific application frame (with .h/.m files) for your sample:

The header file of the sample application:

```
#import <UIKit/UIKit.h>

@interface MySampleViewController : UIViewController
<UITableViewDelegate, UITableViewDataSource>{}
@end
```

The implementation file of the sample application:

```
#import "MySampleViewController.h"

@interface MySampleViewController ()
// the table view, in which we show the different types of MAF locale
aware controls, per sections
@property (nonatomic, retain) UITableView* tableView;
// a 'static' array for holding the MAF locale aware controls, namely
the MAF table view cells
@property (nonatomic, retain) NSMutableArray* tableViewCells;
@end

@implementation MySampleViewController
```

```
@synthesize tableView;
- (id) init
{
    if (self=[super init])
    {
        UITableView* tempTableView = [[UITableView alloc] initWithFrame:
        CGRectMake(0, 0, 320, 640) style:UITableViewStyleGrouped]; // set
        table view's size according to the idiom iphone
        self.tableView = tempTableView;
        [tempTableView release];

        self.tableView.delegate = self; // set the table view
        delegates object
        self.tableView.dataSource = self; // we provide the stored table view
        cells (which contain the MAF Locale Aware Controls sections)

        [self.view addSubview:self.tableView]; // add the table view
        to the view controller's view

        // create storage for storing the fixed and small number of table
        view cells' sections / MAFTableViewCells, i.e. the locale aware
        controls
        NSMutableArray* tempTableCells = [[NSMutableArray alloc]
        init];
        self.tableViewCells = tempTableCells;
        [tempTableCells release];

        // create the locale aware controls
        [self createLocaleAwareControls];
    }
}
// ...
@end
```

### *Creating the Controls - the Base Classes*

Each locale-aware control is implemented as a UITableView cell, which is extended by MAF using the MAFTableViewCell class. The MAFTableViewCell class uses MAF skinning and MAF formatters, and provides value help functionality to table view cells.

To create and use MAF locale-aware controls, first instantiate the MAFValueHelpMediator class. This class builds and initializes each locale-aware control and sets the input formatting settings and predefined value help lists, that is, the set of values users can pick from.

This mediator class also behaves as the communication bridge between the application and the controls. Each action triggered in a locale-aware control is first handled by the MAF library on the lower level. Next, the mediator sends the relevant messages to the application via the MAFValueHelpMediatorDelegate and the MAFValueHelpControllerDelegate methods. These delegate messages:

- Indicate to the application when a user taps a part of a locale-aware control that pops up a screen with the values users can select from. The mediator calls the local aware control's registered delegate because the control is created by the mediator and is not connected to

its parent view. The mediator can display the value help screen by requesting its delegate, so if you set the application's view controller class as the delegate, the mediator requests the delegate to present the value help screen.

- Indicate when a user selects a value from the help screen.
- Indicate when to dismiss the help screen (this is called immediately after the value selection signal).

To make an application respond to these interactions, the `MySampleViewController` must implement the `MAFValueHelpMediatorDelegate` and the `MAFValueHelpControllerDelegate` protocols. First, extend the definition in the header file:

```
@interface MySampleViewController : UIViewController
<UITableViewDelegate, UITableViewDataSource,
MAFValueHelpMediatorDelegate,MAFValueHelpControllerDelegate>{}
@end
```

To create an implementation for `MAFValueHelpMediatorDelegate` and a `MAFValueHelpControllerDelegate`, add this code in the implementation file of the `MySampleViewController` class:

```
// MAFValueHelpMediatorDelegate implementation

- (void)valueHelpMediator:(MAFValueHelpMediator *)sender
requestsDisplayOfValueHelpController:(MAFValueHelpController
*)controller requestor:(UIView *)requestor
{
    controller.delegate = self; // set self as the handler for
controller, for dismissing modal presentation
    [self presentViewController:controller animated:YES]; // use
modal view controller
}

- (void)valueHelpMediator:(MAFValueHelpMediator *)sender
didEditValueOfAccessor:(id<MAFValueHelpAccessor>)accessor forKey:
(NSString *)key
{
    NSLog(@"received information about value change event of key \"%@
\", new value = %@", key, (NSString*)[accessor
getMAFValueForKey:key]);
}

// MAFValueHelpControllerDelegate implementation

- (void)valueHelpController:(MAFValueHelpController*)controller
didSelectItem:(MAFKeyValuePair*)item
{
    [controller dismissModalViewControllerAnimated:YES];
}
```

In addition to implementing the delegate protocols, bind the `MySampleViewController` to the mediator class. Set it as the delegate for the `MAFValueHelpMediator` factory class by introducing the mediator property:

```
// the factory object creating the MAF locale aware controls
@property (nonatomic, retain) MAFValueHelpMediator* mediator;
```

and instantiating it in an appropriate place:

```
// CREATE the MAF Locale Aware Controls factory

MAFValueHelpMediator* tempMediator = [[MAFValueHelpMediator alloc]
init];
self.mediator = tempMediator;
[tempMediator release];
self.mediator.delegate = self;    // set the
MAFValueHelpMediatorDelegate
```

To instantiate the mediator and create the locale-aware controls, use the `createLocaleAwareControls` method in the `MySampleViewController` class by calling it from the `init` method of the class, as described in *Setting Up a Frame for a Sample Application*.

This code creates a `MAFFormatterSettings` instance to read configuration that serves as input formatting information for the currency handler controls when creating them:

```
- (void) createLocaleAwareControls
{
    // CREATE the MAF Locale Aware Controls factory

    MAFValueHelpMediator* tempMediator = [[MAFValueHelpMediator
alloc] init];
    self.mediator = tempMediator;
    [tempMediator release];
    self.mediator.delegate = self;    // set the
MAFValueHelpMediatorDelegate

    // create a formatting definition for the currency number values
    MAFCurrencyFormatterSettings* formatterSettings =
[[MAFCurrencyFormatterSettings alloc] initWithLength:10
andDecimalPlaces:2 andFlags:CURRENCY_FORMATTER_FLAG_SIGNED];

    // I. CREATE Currency Field

    // create the currency value cell
    MAFCurrencyTableViewCell* cellCurrency = [self.mediator
getCurrencyTableViewCellWithCurrencyFormatterSetting:formatterSetti
ngs];

    // II. CREATE Currency Value and Selector Fields

    // create the currency value cell
    MAFCurrencyValueTableViewCell* cellCurrencyValue =
[self.mediator
getCurrencyValueTableViewCellWithCurrencyFormatterSetting:formatter
Settings];

    // create the currency selector cell
    MAFCurrencySelectorTableViewCell* cellCurrencySelector =
[self.mediator getCurrencySelectorTableViewCell];

    // release reference used for currency fields
    [formatterSettings release];
}
```



```

// III. CREATE Phone Number Field

// create the phone number cell
MAFPhoneNumberTableViewCell* cellPhoneNumber = [self.mediator
getPhoneNumberTableViewCell];

// IV. CREATE Address Field

// create the address cell
MAFAddressTableViewCell* cellAddress = [self.mediator
getAddressTableViewCell];

// ADD AND STORE the cells above to self.tableViewCells
// ...
}

```

The above code only creates the controls; to present them later, collect the cells per controls (some of the controls, such as the currency selector and selector fields need 2 cells for its presentation) in the `tableViewCells` mutable array property. For example, to store the currency value cells with selector controls, add the following lines to the end of the method:

```

// SECTION 2
NSMutableArray* cellsSection2 = [NSMutableArray array];
[cellsSection2 addObject:cellCurrencyValue];
[cellsSection2 addObject:cellCurrencySelector];
[self.tableViewCells addObject:cellsSection2];

```

Next, provide these cells via the `dataSource` delegate methods to the table view that presents the controls:

```

// data source delegate method
- (UITableViewCell *)tableView:(UITableView *)tableView
cellForRowAtIndexPath:(NSIndexPath *)indexPath
{
    return [(NSArray*)[self.tableViewCells
objectAtIndex:indexPath.section] objectAtIndex:indexPath.row];
}

```

Always appropriately set the height for the cells containing the locale-aware controls, as some controls, such as the address control, can span multiple field heights. To set the height, add this implementation of `heightForRowAtIndexPath` in `MySampleViewController`:

```

// table view delegate method
- (CGFloat)tableView:(UITableView *)tableView
heightForRowAtIndexPath:(NSIndexPath *)indexPath
{
    if ([[NSArray*)[self.tableViewCells
objectAtIndex:indexPath.section] objectAtIndex:indexPath.row]
isKindOfClass:[MAFTableViewCell class]) {
        return ((MAFTableViewCell*)[(NSArray*)[self.tableViewCells
objectAtIndex:indexPath.section]
objectAtIndex:indexPath.row]).preferredCellHeight;
    }
}

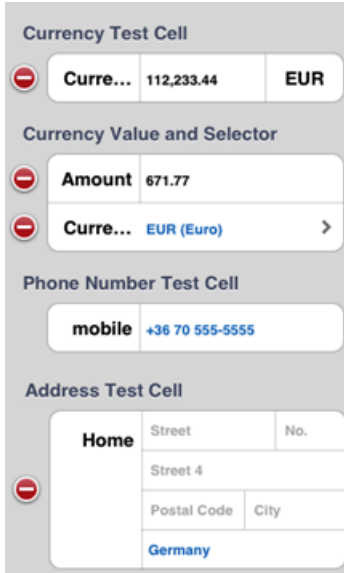
```

```
} else {  
    return 10.0f;  
}  
}
```

### *Skining the Controls*

To add custom skinning for your locale-aware controls, load custom styles using the MAF skinning mechanism. All the MAF reusable controls include built-in MAF skinning support. By default, all skinning follows default SAP style.

See the topics on MAF skinning for further details. Example of an SAP Style Skin:



### *Setting Value Help Options*

You can directly set the collection for value helps for phone title, currency title, and address title types.

To set a collection, use:

```
// create the phone number cell  
MAFPhoneNumberTableViewCell* cellPhoneNumber = [self.mediator  
getPhoneNumberTableViewCell];  
  
// add/set custom phone types  
NSArray* phoneTypes = [[NSArray alloc]  
initWithObjects:NSString(@"SAP Phone",@"SAP Phone"),  
NSString(@"Mobile 1",@"Mobile 1"), nil] autorelease];  
cellPhoneNumber.phoneTypes = phoneTypes;
```

### *Showing Value Help Screens on iPad*

For iPad, instead of presenting a value help in a modal screen, use the pop-up controller to show the list of valid values close to the locale-aware control that is requesting it:

```
// MAFValueHelpMediatorDelegate implementation
- (void) valueHelpMediator: (MAFValueHelpMediator *) sender
  requestsDisplayOfValueHelpController: (MAFValueHelpController
  *) controller requestor: (UIView *) requestor
{
    if (UI_USER_INTERFACE_IDIOM() == UIUserInterfaceIdiomPad) { //
    iPad specific (use PopOver)
        UINavigationController* ncCurrencySelector =
        [[UINavigationController alloc]
        initWithRootViewController: controller];

        UIPopoverController* pcCurrencySelector =
        [[UIPopoverController alloc]
        initWithContentViewController: ncCurrencySelector];
        pcCurrencySelector.popoverContentSize = CGSizeMake(350, 500);

        CGRect rectTrans = [requestor.superview
        convertRect: requestor.frame toView: self.view];
        [pcCurrencySelector presentPopoverFromRect: rectTrans
        inView: self.view
        permittedArrowDirections: UIPopoverArrowDirectionLeft |
        UIPopoverArrowDirectionRight animated: TRUE];

        // release controllers appropriately
        // ...
    }
}
```

### *Changing Value Help Presentation Mode*

You can avoid the bridging functionality of the `MAFValueHelpMediator` by directly setting your custom accessor delegates on the locale-aware controls. By default, the mediator plays the role of the accessor delegate toward locale-aware controls. The accessor delegates are always called back when an action is triggered on the control itself, for example, editing started, ended, or when a value help is requested. These messages contain the value help collection to show as well, and no mediator is used because you set your custom `MAFValueHelpAccessorDelegate` for the control; however, you must present the value help collection appropriately.

The delegate contains only optional methods. To make a custom accessor delegate, implement this one in your custom delegate implementor class:

```
// MAFValueHelpAccessorDelegate implementations
- (void) valueHelpAccessor: (id<MAFValueHelpAccessor>) sender
  requestSelectionForKey: (NSString*) key
  withValueHelpCollection: (id<MAFValueHelpCollection>) collection
  andValueHelpTitle: (NSString*) title;
```

### MAF Tree View

The `MAFTreeView` component is a graphical control for presenting and editing hierarchical data structures. It provides basic wrapper objects for mapping your hierarchical data into a format that is compatible with an MAF tree view. The wrapper objects also specify linking among the data items, that is, you can use the wrapper objects to define the hierarchical relations of the items you add to the tree view.

The component builds on the MAF reusable simple controls, and is skinnable. Customization of the component's user interface elements and subviews is dynamic, even at application runtime. `MAFTreeView` enables device users to:

- Navigate through hierarchical data, for example a file system with folders and files, or an organizational structure.
- Select elements that are on the same hierarchical level and do not contain lower-level child entries.
- Execute different predefined actions on the selected elements. A maximum of three different actions are supported.

### *Dependencies and Project Setup*

`MAFTreeView` is a complex reusable control, which builds on top of other simple reusable controls, such as `MAFUILabel`, `MAFUIImageView`, and `MAFUIView`. `MAFTreeView` also uses the skinning infrastructure of the `MAFSkinManager`, thus it depends on the `MAFUIControls` library as well.

Set up the dependencies in your development environment. Start a single-view project in Xcode and place all of the following sample code snippets into the `ViewController` class. Assign a name to this view controller class (sample codes in this document refer to it as `MyTreeViewSampleViewController`).

MAF libraries required:

- `com.sap.mobile.maf.ui.ios/MAFUIComponents (MAFUIComponents.a)`
- `com.sap.mobile.maf.ui.ios/MAFTreeView (MAFTreeView.a)`

iOS frameworks required:

- `CoreGraphics.framework`
- `CoreText.framework`
- `Foundation.framework`
- `QuartzCore.framework`
- `UIKit.framework`

The MAF tree view control provides a hard-coded skin that may differ from the skinning XML delivered in a separate bundle file. To get the default custom skin and to be able to apply skinning that differs from the hard-coded skin, add the following iOS resource bundle files to the project:

- MAFTreeView.bundle
- MAFUIComponents.bundle

### *Preparing Data and Content for the MAF Tree View*

The MAF tree view component works with the hierarchical data structure defined by the MAF. This data structure is called `MAFTreeContent`, and it holds `MAFTreeDefaultItem` typed objects that can either represent leaf (also known as child) elements or compound/parent elements that hold one or more child elements.

To visualize your own data structure with `MAFTreeView`:

- Instantiate a `MAFTreeContent` object that represents the entire tree and holds its invisible root element.
- Wrap each piece of your data structure's content into the `MAFTreeDefaultItem` objects embedded in the `MAFTreeContent`.
- Link the items according to the original hierarchy, and bind them to the root element

Use the methods of the `MAFTreeContent` class for linking. To declare the `MAFTreeContent` class, use:

```
@interface MAFTreeContent : NSObject <MAFTreeContentProvider>
    @property (nonatomic, retain, readonly) NSMutableDictionary*
    content;
    @property (nonatomic, retain, readonly) MAFTreeItemDefault* root;
    - (id) initWithRootLabel: (NSString*)label_in;
    - (MAFTreeItemDefault*) addChildItemToParent:
    (MAFTreeItemDefault*)parent_in
        withId: (NSString*)id_in
        andLabel: (NSString*)label_in;
    - (MAFTreeItemDefault*) addChildItemToParent:
    (MAFTreeItemDefault*)parent_in
        withId: (NSString*)id_in
        andLabel: (NSString*)label_in
        andImage: (UIImage*)image_in;
    - (void) removeChildrenFromParent:
    (MAFTreeItemDefault*)parent_in
        items: (NSArray*)items;
@end
```

To create the invisible root element, use the `initWithRootLabel` method of `MAFTreeContent`. Use the root property of the class to get access to the root `MAFTreeDefaultItem` and start adding (creating and linking) subelements to it.

The `addChildItemToParent` method creates a `MAFTreeDefaultItem` with the label and id parameter values, and links it to the parent tree item specified with the `parent_in` parameter. With the second version of the method (which uses the `andImage:(UIImage*)image_in` parameter), you can also specify an image for the item to be shown. This code snippet demonstrates how to build data for a tree:

```
- (MAFTreeContent*) createContent
{
    // create root item, which is not visible, but holds the whole
    tree
```

```

MAFTreeContent* mafTreeContent = [[MAFTreeContent alloc]
    initWithRootLabel:@"root"] autorelease];
// add "leaves" files to root
[mafTreeContent addChildItemToParent:mafTreeContent.root
    withId:@"5" andLabel:@"mach_kernel"];
[mafTreeContent addChildItemToParent:mafTreeContent.root
    withId:@"6" andLabel:@"mach_kernel2"];
[mafTreeContent addChildItemToParent:mafTreeContent.root
    withId:@"7" andLabel:@"mach_kernel3"];

// ...
// create folder "bin" and bind under root
MAFTreeItemDefault* mafTreeItem1 =
    [mafTreeContent addChildItemToParent:mafTreeContent.root
        withId:@"1"
        andLabel:@"bin"
        andImage:[UIImage
imageNamed:@"OceanBlueDesktop.png"]];
// add "leaves" / files into the "bin" folder
[mafTreeContent addChildItemToParent:mafTreeItem1
    withId:@"11" andLabel:@"kill"];
[mafTreeContent addChildItemToParent:mafTreeItem1
    withId:@"12" andLabel:@"mkdir"];
[mafTreeContent addChildItemToParent:mafTreeItem1
    withId:@"13" andLabel:@"mv"];
[mafTreeContent addChildItemToParent:mafTreeItem1
    withId:@"14" andLabel:@"rm"];
[mafTreeContent addChildItemToParent:mafTreeItem1
    withId:@"15" andLabel:@"sh"];

// ...
// add more items, sub items to any referenced items, and build
the tree
// ...
// return the tree, referenced by its root element
return mafTreeContent;
}

```

This example, after creating the root `MAFTreeContent` item, adds three leaf elements and links them to the root of the tree. It does not use the return values of the `addChildItemToParent` method, because the concrete leaf objects are not yet important.

Next, it creates a parent item that holds additional subelements, and links that item to the root. To add more child elements to it, this parent item's reference is stored in the `mafTreeItem1` variable, and the next five lines of code, attaches additional child elements to `mafTreeItem1` as the parent.

To use an existing hierarchical data structure, for example, a file system, use recursive traversal of the data structure, and map its data and links to the `MAFTreeContent` and `MAFTreeDefaultItem` objects.

The order in which you add elements to the tree/`MAFTreeContent` is important. In the visualized tree view, when building `MAFTreeContent`, elements appear in the same order in which you add them. To show the elements representing folders first, followed by the leaf "file" elements, add and link the objects representing the folders first.

For a complete list of the `MAFTreeContent/MAFTreeDefaultItem/MAFTreeItem` protocol members, see their respective public header files.

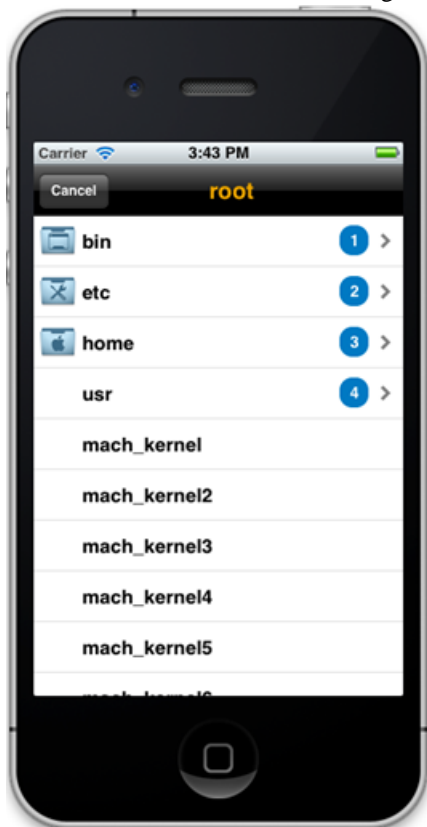
### *Creating the MAF Tree View Controls*

To instantiate the `MAFTreeController` objects, use the factory C functions declared in the `MAFTreeViewFactory.h` header file. There are two dedicated functions, both named `mafCreateTreeController`, separated by their different signatures, for creating the two modes—browsing and editing—of the tree view.

### *Browsing Mode*

The browsing tree view component enables device users to browse across multiple levels and select leaf elements individually.

It notifies the application whenever a leaf item is selected. Tapping non-leaf elements navigates to the next level of the hierarchy, and shows the subentries for the selected non-leaf element. Screenshot of the browsing mode of the tree view:



*Initializing and Creating Browsing Mode*

To allocate and create a browsing tree view, use the `mafCreateTreeController` C function, which has four parameters. To declare the `mafCreateTreeController` C function in `MAFTreeViewFactory.h`, use:

```
MAFTreeController* mafCreateTreeController(
id<MAFTreeContentProvider> contentProvider,
id<MAFTreeViewItemDelegate> itemDelegate,
id<MAFTreeViewCellDelegate> cellDelegate,
CGRect frame
);
```

The first parameter is a `MAFTreeContent` object that holds the tree data to be shown. This is, for example, the return object of the `createContent` method described in [Preparing Data and Content for the MAF Tree View](#). The second and third parameters are for specifying notification and action handler delegates that are called when a leaf element is selected (Item delegate) or created (Cell delegate). The fourth parameter is the rect in which the tree view is shown. This code demonstrates how to create and present the `browsingTreeView` in a modal view of the embedding `ViewController`:

```
- (IBAction) showBrowsingTreeView:(id)sender
{
    // create simple "browsing" tree view, that is a navigation
    controller
    MAFTreeController *browsingTreeView =
        mafCreateTreeController([self createContent],
                                self,
                                self,
                                CGRectMake(0, 0, 320, 416));
    // set some transition for the view when showing up
    [browsingTreeView
setModalTransitionStyle:UIModalTransitionStylePartialCurl];
    // present the navigation controller in a modal view
    [self presentModalViewController:browsingTreeView animated:YES];
    [browsingTreeView release];
}
```

You can also save the browsing tree view instance in a class instance property (`@property (nonatomic, retain) MAFTreeController* browsingTreeView`). The above example uses a local `browsingTreeView` reference, which is released after ownership for the referenced object is transferred to the parent `ViewController`'s modal view facility. Holding a reference to the tree view controller is not required, because it is accessible through the action callbacks, as a reference is always passed back through the delegate methods. However, holding a reference can be useful, for example, to force a tree data reload that is bound to an event that is not specific to the MAF tree view.

Although SAP recommends that you present the tree view itself in a modal view, you can display the `MAFTreeController` instance anywhere where a navigation controller can be applied, because the `MAFTreeController` is a `UINavigationController` by itself.



The above tree creation code snippet is bound to an `IBAction`. You can place the same code block in the `viewDidLoad` method of a parent `ViewController`, in this example, the `MyTreeViewSampleViewController`.

### *Interaction*

You can specify two action delegates for the tree view. `MAFTreeViewItemDelegate` is for selecting single elements, and its `didSelectLeafItem` method is called when the user taps a leaf element. The actions depend on the selected element. For example, in a picture viewer application, you can check whether the selected file is a picture (indicated by a “png” extension), and open another “image viewer” `ViewController` by passing the selected item data to it.

You can provide an `MAFTreeViewItemDelegate` instance in the factory `C` function of the tree view as the second parameter.

The example code below sets the “self” `MyTreeViewSampleViewController` as the tree view item delegate, as it implements the `MAFTreeViewItemDelegate` protocol.

The other action delegate, `MAFTreeViewCellDelegate`, calculates badge values for non-leaf elements. Its `calculateValueForBadgeView` method is invoked when the `MAFTreeController` is created, and you can return a calculated badge value to be presented for the non-leaf item. If you return `nil` in the method, the badge value shows the original ID assigned to the `MAFTreeDefaultItem` during the tree construction (in the `createContent` method).

This delegate is useful if you do not know what value to put in the badge at creation time; for example, you want to show the number of files under a specific folder, but you keep adding items to the folder while building the `MAFTreeContent`, or even during application runtime.

The `MyTreeViewSampleViewController` class also implements the `MAFTreeViewCellDelegate` protocol, so it can be set in the factory `C` function as the cell delegate. This is the third parameter of the `mafCreateTreeController` function. This code demonstrates how to implement the two delegates:

```
// MAFTreeViewItemDelegate
- (void) treeViewController:(MAFTreeViewController*) controller
didSelectLeafItem:(id<MAFTreeItem>) leafItem
{
    UIAlertView* uia = [[[UIAlertView alloc] initWithTitle:@"Item
selected"
                                                    message:leafItem.label
                                                    delegate:self
                                                    cancelButtonTitle:@"Ok"
                                                    otherButtonTitles:nil]
autorelease];
    [uia show];
}
// MAFTreeViewCellDelegate
- (NSString*) calculateValueForBadgeView:(id<MAFTreeItem>) nodeItem
{
    if (showCalculatedBadge) {
        return nodeItem.id; // return arbitrary value related to the
```

```
item
}
return nil; // or just return nil to show the default ID value,
assigned by creation of the item
}
```

You can set badge values only for parent items, and not for leaf entries.

Setting a `MAFTreeViewCellDelegate` for the tree view is optional and you can omit it by passing `nil` in the constructor factory function. However, you must define a `MAFTreeViewItemDelegate`; otherwise, you receive a runtime error.

### *Editing Mode*

The editing mode displays hierarchical data in the same way as the browsing mode, but also lets device users select multiple leaf items and simultaneously execute actions on all of them. The custom actions are always visible at the bottom of the browsing UI, and can be activated by tapping the Edit button in the top-right corner.

Browsing mode versus editing mode:



### *Initializing and Creating the Editing Mode*

To create an editing mode, use the `mafCreateTreeController C` factory function, which has six parameters in its signature and is declared in the `MAFTreeControllerFactory` header file. This is similar to creating a tree view for browsing mode, except you must specify two additional parameters: one for providing an array of actions, and the other for defining a handler delegate for those actions.

You can specify a maximum of three different actions, which are identified by action IDs and labels that appear on the UI. This code demonstrates how to create an edit tree view with custom predefined actions:

```
- (IBAction) showTreeViewWithActions:(id) sender
{
    // create an "editable" tree view, that is a navigation controller
    MAFTreeController *editTreeView =
        mafCreateTreeControllerWithActions(
            [self createContent], // data to show
            [self createActions], // edit actions
selections                                self, // single
selection delegate                        self, // "badge" value delegate
                                           self, // edit actions delegate
                                           CGRectMake(0, 0, 320, 367)
                                           );
    // set some transition for the view when showing up
    [editTreeView
setModalTransitionStyle:UIModalTransitionStyleCrossDissolve];
    // present the navigation controller in a modal view
    [self presentModalViewController:editTreeView animated:YES];
    [editTreeView release];
}
// define and create actions
- (NSArray*) createActions
{
    MAFTreeViewAction* action1 = [[[MAFTreeViewAction alloc]
        initWithActionID:@"action1"
        andLabel:@"Style"] autorelease];
    MAFTreeViewAction* action2 = [[[MAFTreeViewAction alloc]
        initWithActionID:@"action2"
        andLabel:@"Badge"] autorelease];
    MAFTreeViewAction* action3 = [[[MAFTreeViewAction alloc]
        initWithActionID:@"action3"
        andLabel:@"Delete"] autorelease];
return [NSArray arrayWithObjects:action1, action2, action3, nil];
}
}
```

### *Interaction*

To perform an action on the selected elements, define and register a `MAFTreeViewCellDelegate` instance for the `MAFTreeController`. Provide an instance of the delegate in the constructor `C` function, and implement the delegate's `didSelectAction` method.

In this example, the `MyTreeViewSampleViewController` class also implements that method, and the delegate protocol, so “self” can be passed as the parameter in the C function. This code demonstrates how to implement the selected action handler methods:

```

// MAFTreeViewActionDelegate
- (void) treeViewController:(MAFTreeViewController*)controller
didSelectAction:(MAFTreeViewAction*)action forItems:(NSArray*)items
{
    NSString* message = [NSString stringWithFormat:@"'%@' called on %d
items", action.actionLabel, items.count];
    UIAlertView* uia = [[UIAlertView alloc] initWithTitle:@"Action
initiated"
                                                    message:message
                                                    delegate:self
                                                    cancelButtonTitle:@"Ok"
                                                    otherButtonTitles:nil]
    autorelease];
    [uia show];
    if (action.actionID == @"action1") {
        // Execute action1 on selected leaf elements here
        // ...
    } else if (action.actionID == @"action2") {
        // Execute action2 on selected leaf elements here
        // ...
    } else if (action.actionID == @"action3") {
        // Execute action3 on selected leaf elements here
        // ...
    }
}

```

The delegate method receives the specific action, as well as the tree view instance on which the action is being executed. You can execute logic based on the specific action received.

### *Rebranding the Tree View Component*

Use the MAF skinning mechanism to add a custom look and feel to your `MAFTreeView`.

You can use the `MAFUIStyleParser` to skin the UI elements of the tree view and its subviews (cells, for example), based on a list of accessible parameters. You can change the color of the background, text, and action bars, replace the background color and image of the badge values, and so on.

The skinnable properties of the controls/TargetTypes that can be adjusted using a style configuration XML file include:

Number Tag	Screen Element	TargetType	Key
1	Title bar	Label MAFUILabel	TitleBarLabel
2	Cell badge	Label MAFUILabel	CellBadgeSelected CellBadgeUnselected

Number Tag	Screen Element	TargetType	Key
3	Table view	ListBox MAFUITableView	UITableView
4	Table view cell	ListBoxItem MAFUITableViewCell	UITableViewCell
5	Action bar	Control MAFUIView	ActionBar
6	Action bar button	Button MAFUIButton	ActionBarButton

Use MAF skinning to apply your style and adjust these properties.

### MAF Utility Components

MAF provides several utility libraries, such as the UI Helper, ZIP Helper and MAF Logger.

#### *UI Helper*

This UIHelper library contains an extended UIAlertView that can handle callbacks via completion blocks. This code contains a UIAlertView and MAFUIHelper interface:

```
typedef void (^AlertViewResultBlockType)(int buttonIndex);

/**
 * Helper category to ease the usage of UIAlertView.
 */
@interface UIAlertView (MAFUIHelper)

/**
 * Creates a new instance of a UIAlertView and shows it. The
 * UIAlertViewDelegate is implemented inside the category and the
 * resultBlock parameter is called back with the pressed button index.
 * @param title: The string that appears in the receiver's title bar
 * @param message: Descriptive text that provides more details than the
 * title
 * @param block: the result block which will be called when the user
 * presses one of the buttons
 * @param cancelButtonTitle: The title of the cancel button or nil if
 * there is no cancel button
 * @param otherButtonTitles: Titles of additional buttons to add to the
 * receiver, terminated with nil
 */
+ (id)alertViewWithTitle:(NSString *)title message:(NSString
*)message resultBlock:(AlertViewResultBlockType)block
cancelButtonTitle:(NSString *)cancelButtonTitle otherButtonTitles:
(NSString *)otherButtonTitles, ... NS_REQUIRES_NIL_TERMINATION;

@end
```

AlertViewResultBlockType is a completion block; that is, an iOS-provided artifact that can contain almost any valid Objective-C code, with the purpose of referencing Objective-C code blocks to be executed when the called function finishes the execution. MAF calls this block when the user taps a button.

### Zip Helper

Zip helper is a small utility library that helps unzip SAP Mobile Platform configuration bundles. To unzip the Style.xml from an SAP Mobile Platform configuration bundle, use:

```
#import "MAFZipFileDescriptor.h"
...
// write out temporary because the zipmodule works only on disk files
NSString *tmpFilePath = [NSTemporaryDirectory()
stringByExpandingTildeInPath]

stringByAppendingPathComponent:@"zippedBundle.zip"];
[customResourceData writeToFile:tmpFilePath atomically:YES];
MAFZipFileDescriptor *zipFileDesc = [[MAFZipFileDescriptor
alloc]
initWithFileAtPath:tmpFilePath];
NSData* welterData = [zipFileDesc
uncompressedEmbeddedFileContentNamed:@"style/Styles.xml"];
[welterData retain];
```

After unzipping the Styles.xml file, you can parse it with MAFStyleParser. See *MAFSkinning* on how to parse and load this extracted style file.

### MAF Logger

MAF mainly builds on the SDM logger provided by SAP Mobile Platform client libraries. MAF includes a wrapper class that allows MAF components to use any logger implementation. MAFLogger currently supports these loggers:

- MAFLoggerSDM – provided by SAP Mobile Platform client libraries.
- MAFLoggerConsole – logs to the console.
- MAFLoggerFile – logs to file.

These loggers all implement the MAFLogging protocol, so you can use its methods to turn logging on and off, or to query the status of the particular logger. To use MAFLogger, get a shared instance of it:

```
#import "MAFLogger.h"
...
[[MAFLogger sharedInstance] setUsedLoggers:MAFLoggerSDM|
MAFLoggerConsole|MAFLoggerFile];
...
MafLogonLog(MAFInfoLoggingLevel, @"Upload start with URL: %@",
fullBtxPath);
```

MAFLogger does not include a log viewer. Your application must provide the UI to change the logging level, or to turn logging on and off. Use these MAFLogging interface methods to change logging behavior:

```
#pragma mark -
#pragma mark Enable / disable logging
```

```

/**
 * Enables logging for non-critical levels, like warning, notice,
 info, debug.
 */
-(void) enableNonCriticalLogging;

/**
 * Disables logging of non-critical messages, like warning, notice,
 info, debug.
 */
-(void) disableNonCriticalLogging;

#pragma mark -
#pragma mark Logging status
/**
 * Returns whether non-critical logs are currently enabled
 */
-(BOOL) isNonCriticalLoggingEnabled;

```

### **Developing with the Extensibility Framework**

The Extensibility Framework is an SDK for iOS applications, providing to developers the ability to add or replace screens or subviews, change navigation patterns, update the data model, add custom actions, and so on. You can use it when developing new applications, but you can also extend existing applications with little effort; you need not recompile and redistribute the apps.

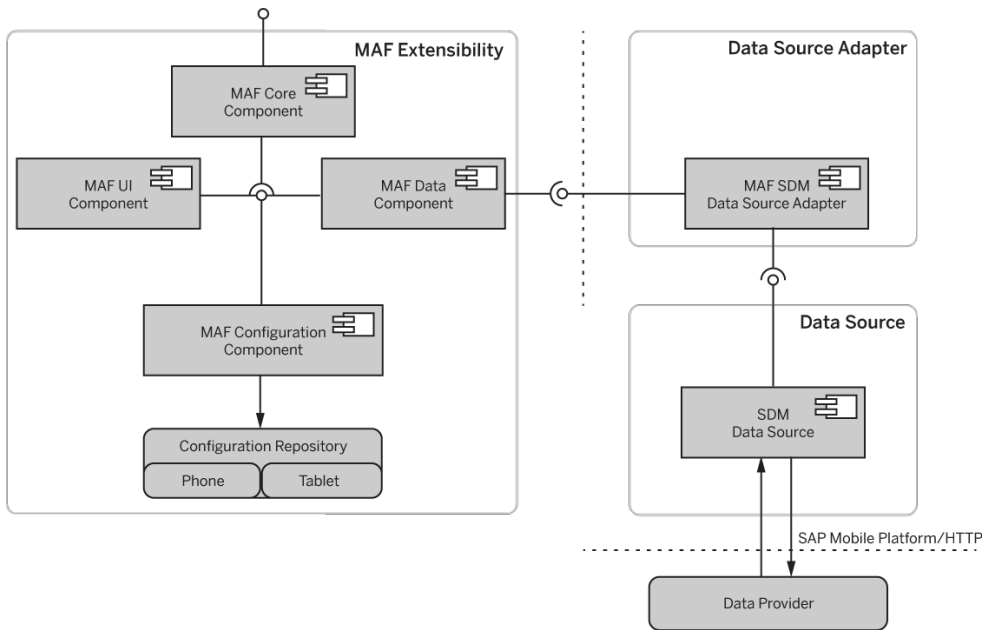
The main features of the Extensibility Framework include:

- **Declarative structural extensibility** – define the UI layout, navigation patterns, data bindings, event handling, context passing, value formatting, undo behavior, and so on via configuration.
- **Adaptive data management** – the framework is independent of the data model, because the data is abstracted. It provides a ready-to-use datasource adapter, which manages conversions between OData and the generic data format, but you can also implement custom data source adapters for other data formats.
- **Integrated OData facade** – the SDMDatasource library is a wrapper that you can use on top of the SAP Mobile Platform Connectivity and OData management libraries. A set of simple APIs replace the usual coding required to manage network requests, parse and cache OData feeds, and to perform additional tasks that are related to online and offline OData handling.
- **Customization points** – the framework exposes a set of protocols and delegates, so you can replace or decorate the default behavior based on your project’s needs. For example, you can implement delegates to create a view or a custom control, fix data validation issues, intercept actions fired by controls, modify the look and feel of UI elements, and so on.

- **Support for Localizable Demo Data** – The framework provides support for localized demo data, which allows apps to start in offline mode, lets customers look at an app without requiring a connection.
- **Skinnable UI elements (via MAF Reusable Components)** – the Mobile Application Framework (MAF) includes reusable components that fulfill the product standards of globalization, usability, and accessibility.
- **Value, currency, date, time, and address formatting (via MAF Reusable Components)** – define the data to be formatted in the configuration XML to format and localize them based on different criteria, such as the device locale, the country code, or international prefixes for phone numbers.
- **Advanced logging and error handling** – the framework includes meaningful log messages that precisely indicate the root cause of any problems, for example, by identifying any inappropriate values or parameters in the layout configuration XML file.

Architectural Overview

The framework consists of a set of loosely coupled components presented in the form of static libraries.



*Core Extensibility Library*

The MAF Core Extensibility library is required for building, arranging, and displaying configuration-based UIs and subviews.

The MAF Core Extensibility library includes:



- **MAFCore component** – exposes APIs that initialize the framework and access additional functionality provided by internal components.
- **MAFConfiguration component** – reads and parses all metadata required by the app, such as UI definitions, data bindings, UI elements and controls, events, and actions (built-in and custom). MAFConfiguration transforms metadata to native ObjC constructs using wrapper classes, dedicated parsers, and validators.
- **MAFUI component** – encapsulates the metadata-driven view, controller, and data binding generation functionalities.

### *DataSource Adapter*

The DataSource Adapter provides unified access to business objects, independent of the data model. This layer also converts between generic business objects and specific model objects. MAFSDMDataSourceAdapter is the default implementation provided for OData, but you can replace this with a custom DataSourceAdapter.

### *DataSource*

The DataSource component is a wrapper on top of a specific data model. The default MAFSDMDataSourceAdapter uses the SDMDataSource library, which is included with SAP Mobile Platform, and acts as a facade on top of the platform connectivity library and the OData parser library.

Although this document includes detailed descriptions of the framework, SAP recommends that you refer to the API descriptions (see the public headers) for complete descriptions of functionality. All APIs are thoroughly documented, including usage examples and further instructions.

### Prerequisites

To effectively build and extend iOS applications using the MAF Extensibility and MAF Reusable Components, you need:

- Basic UML knowledge
- Advanced understanding of Objective-C syntax

SAP recommends that you always use the latest official iOS SDK version, which is, as of February 2013, iOS SDK 6.1 with Xcode 4.6. Although the extensibility libraries rely on a traditional memory management model, you can also use them in binary form with ARC-enabled projects.

### Implementing an Extensible Application

#### *Environment Prerequisites*

Set up your development environment to build and run applications that rely on extensibility features.

- An Intel-based Mac with Mac OS X Lion or (preferably) Mountain Lion

## Native OData App Development

- The latest official iOS SDK (as of February 2013, version 6.1 with Xcode4.6)
- (Optional) To install and run the app on a real device, you need a developer account and the iOS developer certificates that are available in the MAC OS X keychain.
- Before you create an application, identify the screens you want customers to customize, or extend by configuration.

### *Sample Applications*

MAF includes several sample apps that demonstrate the capabilities of the Extensibility Framework:

Sample Application	Description
Accessibility Demo	Sample app with accessibility labels and text defined in the Extensibility configuration.
CustomAppWithExtensibility	A simple version of the mixing coded and metadata-driven tiles. This demo is a starting point and reference application when you are creating a custom-code application with custom data support that uses Extensibility-generated tiles.
LeaveRequestDemo	A sample of the fully metadata-driven apps and embedding a custom control in a metadata-driven tile.
MAFExtensibilityUIControlsSample	Demonstrates the various UI controls supported by the framework.
MAFExtProvisioningSample	Demonstrates app configuration profile management on the client side. See also <i>Extensibility Configuration XSD</i> , <i>The Data Source Adapter</i> and <i>Feeding the Tile with Custom Data</i> .
Extensible in Native (SampleApp_1_ExtensibleInNative)	Uses a mix of metadata-driven tiles and native view controllers.
Context Passing (SampleApp_2_ContextPassing)	Shows how to pass context between tiles.
Custom Action (SampleApp_3_CustomAction)	Demonstrates how to handle custom actions defined for UI controls embedded in a tile.
Offline Demo Data Support (SampleApp_4_DemoDataSource)	Runs without an online connection, relying exclusively on offline data.
Composite Tiles (SampleApp_5_CompositeTiles)	Demonstrates how to create complex tiles that embed additional tiles.
Custom Control (SampleApp_6_CustomControl)	Shows how to integrate custom UI controls in a metadata-driven screen.

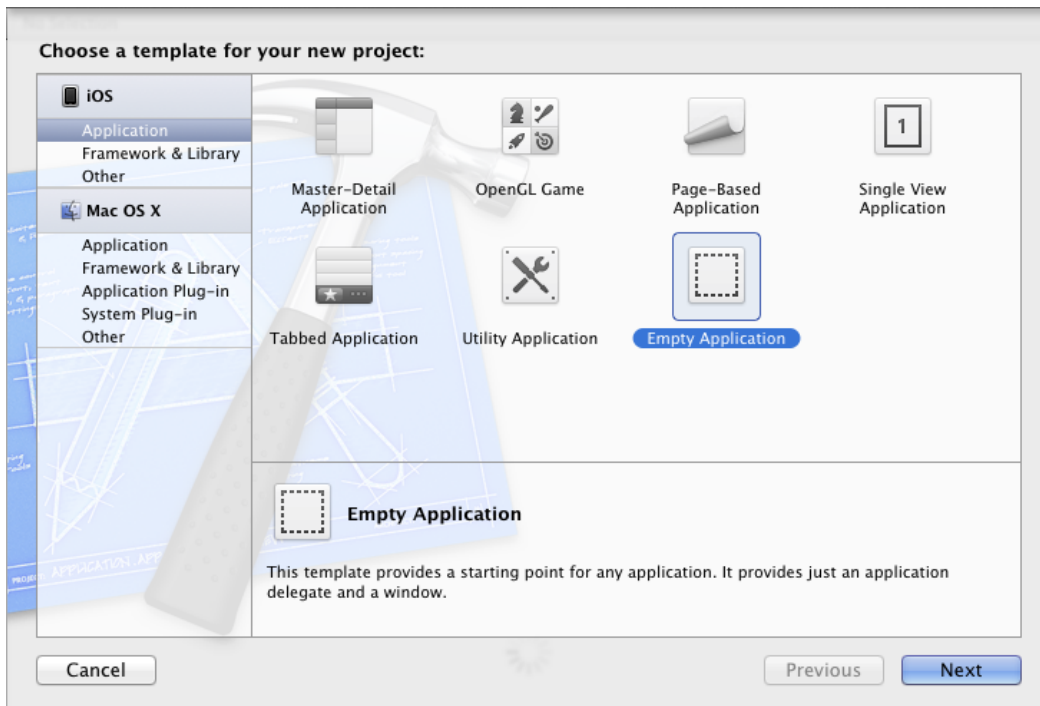
Sample Application	Description
Related Data (SampleApp_8_Related-Data)	Demonstrates OData-specific data handling.
Logging (SampleApp_9_Logging)	Shows how to retrieve and visualize the logs produced by the framework.
Custom Data Source Adapter (SampleApp_10_CustomDataSource)	Presents how to replace the default data source adapter and data source implementation with a custom one.
Blocking UI (SampleApp_11_Block_UI)	Shows how to control the behavior of long-running background tasks (with or without blocking the UI) by using the <code>blockUI</code> parameter.
List Group (SampleApp_13_ListGroup)	Demonstrates how to group table cells based on a business object attribute.
Formatters (SampleApp_14_Formatters)	Demonstrates the usage of value, address, and currency formatters. See <i>Formatters</i> .
Field Visibility (SampleApp_15_HideAField)	Shows how to change the visibility of a UI element based on a business object (BO) attribute.
UI Access (SampleApp_16_UIAccess)	Uses framework APIs to access UI elements (views and controls) that belong to a tile.

### *Creating a New Project*

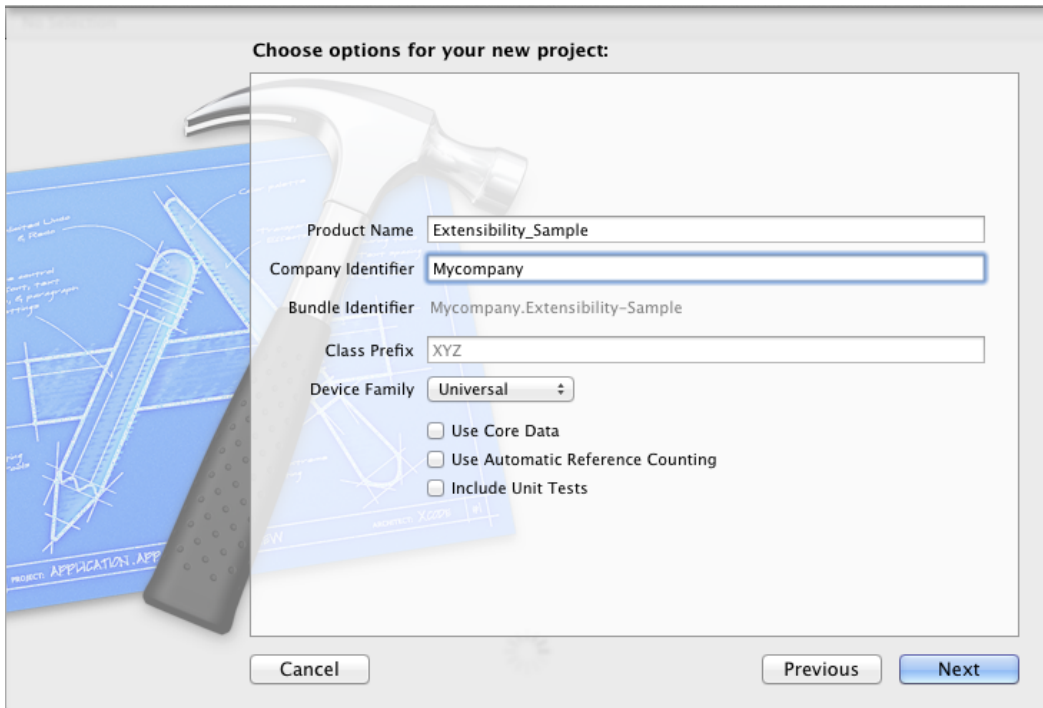
Create a new MAF project.

1. Launch Xcode.
2. Select **File > New > New Project**.
3. Select the appropriate template for your application type, then click **Next**.

# Native OData App Development



4. Enter the product name and company identifier.



5. Choose the appropriate settings for class prefix and device family, then specify whether to use core data, and include unit tests. Although the Extensibility libraries use conventional, manual reference counting, you can also use it with ARC-enabled apps by selecting the option here. Click **Next**.
6. Specify a folder in which to save your new app.
7. Click **Create**.

#### *Adding the Required Dependencies*

Add the required libraries and header files to your project.

1. Copy the library and the belonging .h files to a dedicated folder (for example, MAFExtLib).
2. In Xcode, open the client app. Right-click **Frameworks** and select **Add Files to “<project name>”**.
3. Browse to the directory containing the Extensibility library, then select **Copy items into destination group’s folder**.  
This copies the .a file and the headers under your project’s directory structure.
4. Click **Add**.

### *MAF Libraries*

The libraries and frameworks listed below are required to build an extensible app that relies on the SAP Mobile Platform.

### *MAF-Related Libraries*

- libMAFExtensibility.a
- libMAFSDMDataSourceAdapter.a
- libSDMDataSource.a
- libMAFUIComponents.a
- libMAFZipHelper.a
- libMAFFormatters.a
- libMAFUIHelper.a
- libMAFLogger.a
- libMAFLogonUING.a
- libMAFLogonManager.a

### *Other SAP Mobile Platform Libraries*

- libParser.a
- libConnectivity.a
- libRequest.a
- libSUPProxyClient.a
- libPerformanceLib.a
- libSUPClientUtil.a
- libSMPClientHubSLL.a
- libAfarriaSLL.a
- libCoreServices.a
- libE2ETrace.a
- libDatavault.a libMo.a

### *Frameworks*

- SystemConfiguration.framework
- MessageUI.framework
- Security.framework
- MobileCoreServices.framework
- QuartzCore.framework
- CFNetwork.framework
- Foundation.framework
- CoreGraphics.framework

- `UIKit.framework`
- further frameworks based on your app's requirements

### Other Libraries

- `libstdc++.dylib`
- `libz.dylib`

### Configuring Build Settings

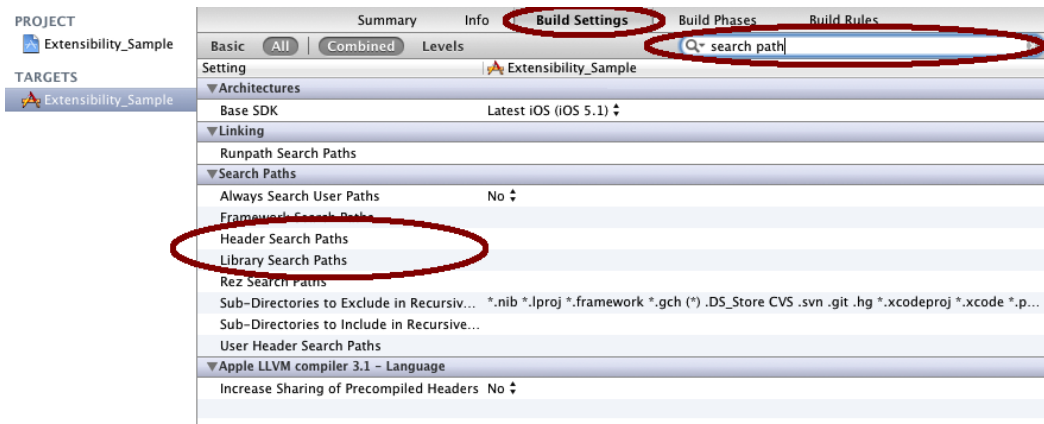
Configure the required build settings.

### Prerequisites

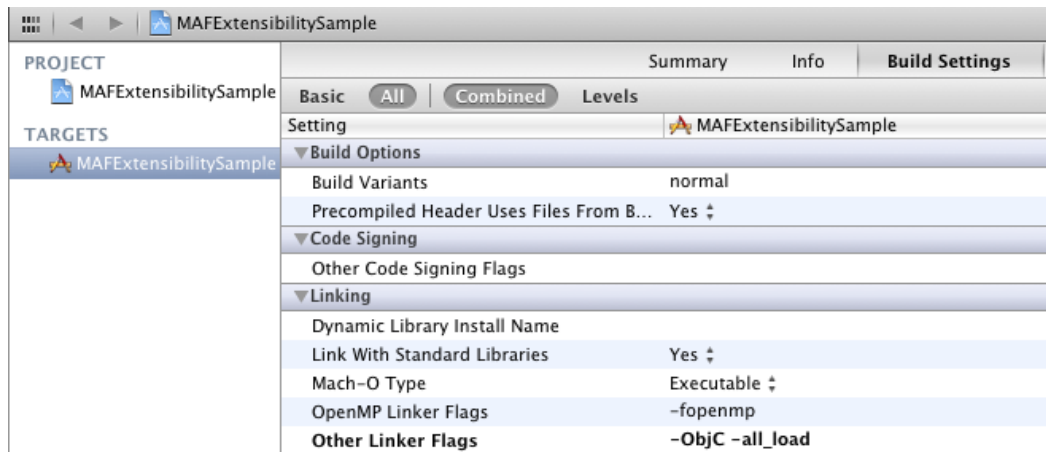
Copy all the public header files belonging to the libraries being used to the project directory under `target/header`.

### Task

1. Select **Build Settings** and search for `search path` in the search bar.



2. Select **Header Search Paths** and insert: `"${PROJECT_DIR}/target/headers/${BUILD_STYLE}-${PLATFORM_NAME}/**/*.h"`.
3. Select **Library Search Paths** and insert: `"${PROJECT_DIR}/target/libs/${BUILD_STYLE}-${PLATFORM_NAME}/**/*.dylib"`.  
Ensure all the lib binaries have been copied in the project's directory under `target/libs`.
4. Set the required linker flags.
  - a) In the left pane, select the project root, choose the target, and click **Build Settings**.
  - b) In the **Linking** section, locate **Other Linker Flags** and add: `-ObjC -all_load`. If this setting does not appear, verify that you have displayed **All** build settings (not Basic).



Objective-C generates only one symbol per class. You must use the ObjC flag to instruct the linker to also load the referenced objects of the given class.. The **-all\_load** option forces the linker to load all object files from every archiv, even those without Objective-C code, which is important for loading object files from static libraries that contain only categories and no classes. Make sure to include these settings, to avoid runtime issues (for example, “unknown selector”-like exceptions).

### *Default Layout and Style Configurations*

The default configuration is the layout and the style metadata that is delivered by SAP, along with the mobile application binary.

Use Mobile Application Workbench or other XML tools to modify the default configuration, or to create your own custom configuration. See the documentation for *Mobile Application Workbench* on the SAP Help Portal for details on how to use the tool. See the *XSD documentation* on the SAP Help Portal for details on the XML structure.

To create the default style configuration, define all the identified MAF tiles, the layout of the controls within a MAF tile, and the data binding information. The styling *XSD documentation* can be found on the SAP Help Portal.

### *Implement an Extensible Application*

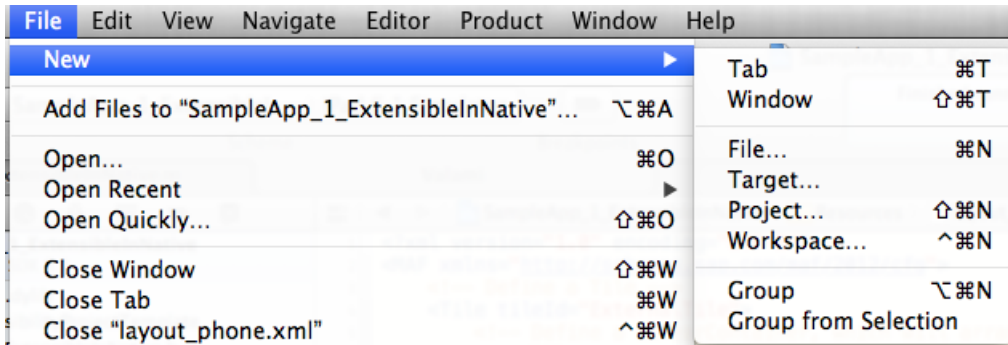
Use the following procedures to build a simple, extensible application. As a result, you will have an app you can enhance and customize without rebuilding.

#### *Setting Up a New Project*

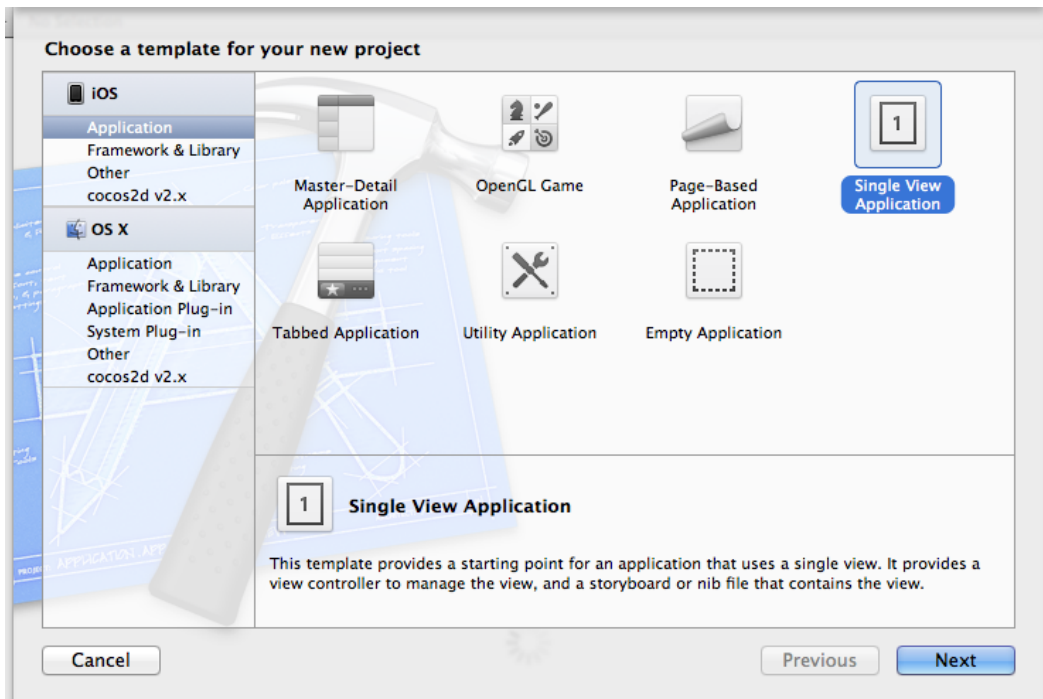
Set up a new project for an extensible application.

1. Start XCode, and create a new project.



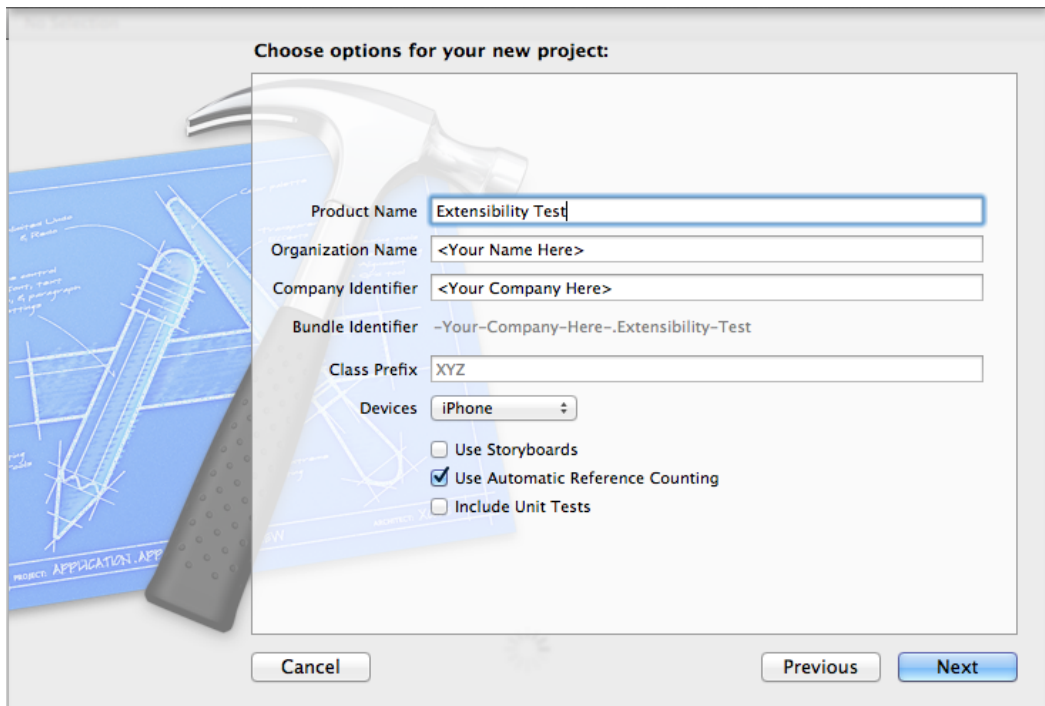


- In the left pane, under iOS, select **Application**. In the right pane, select **Single View Application**.

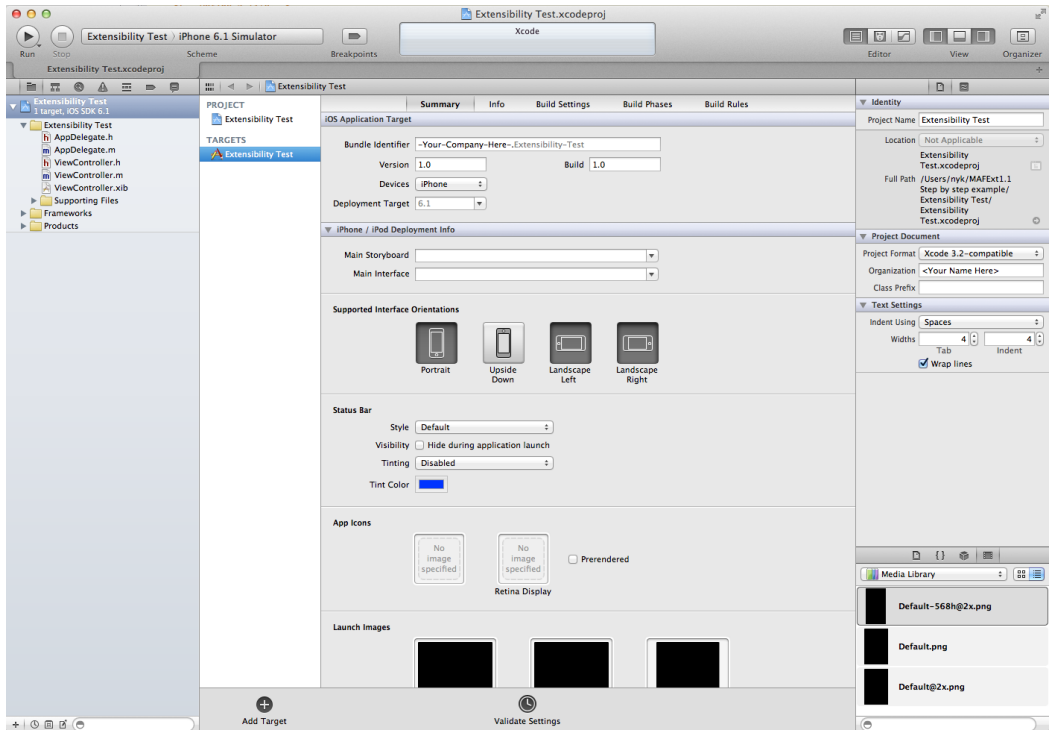


- Complete the details on the first screen, then click **Next** to build an iPhone-only app that uses ARC (Automatic Reference Counting).

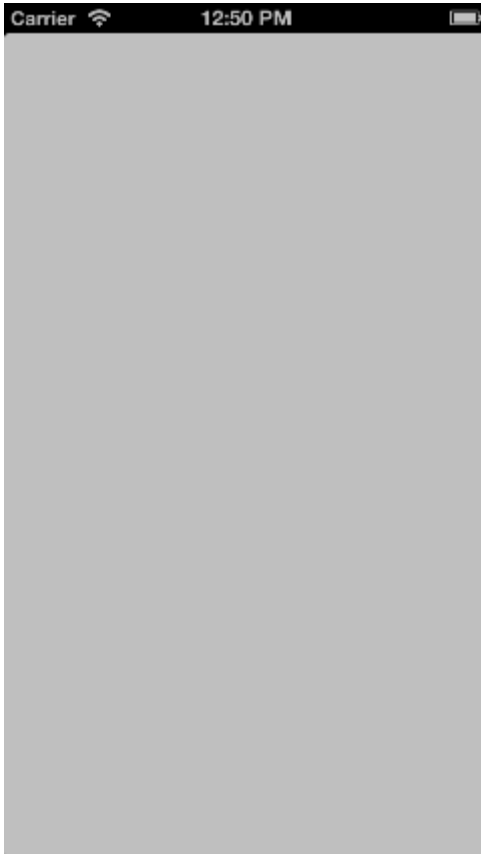
**Note:** You are not required to use ARC; however, if you use MRC (Manual Reference Counting), you are then responsible for manually retaining and releasing your objects. If you plan to use MRC, appropriately adapt the tutorial code to prevent memory leaks and Xcode warnings.



4. After you have created your project, you see this screen in Xcode:



Xcode automatically creates some classes: an application delegate, a view controller, and the belonging lib. If you run the app now, you see a grey screen, as no controller logic has yet been implemented.



The `ViewController` is instantiated in the `AppDelegate`'s `didFinishLaunchingWithOptions:` method; it is then assigned to the app's window as root view controller, and finally the window is made visible - this is all the boilerplate code does:

```
@implementation AppDelegate
- (BOOL)application:(UIApplication*)application
didFinishLaunchingWithOptions:(NSDictionary *)launchOptions
{
    self.window = [[UIWindow alloc] initWithFrame:[[UIScreen mainScreen]
    bounds]];
    // Override point for customization after application launch.
    self.viewController = [[ViewController alloc]
    initWithNibName:@"ViewController" bundle:nil];
    self.window.rootViewController = self.viewController;
    [self.window makeKeyAndVisible];
    return YES;
}
```

### *Adding the Required MAF Dependencies*

Before you add MAF styling and extensibility, you must add the required static libraries and headers to the project.

1. Organize the required bundles, libraries and public headers in a logical folder structure. This tutorial follows this format:

```
PROJECT_DIR
  \target
    \bundles
      \<component name>
        - *.bundle files
    \headers
      \<component name>
        - *.h files
    \libs*
      \Release-iphoneos
        \<component name>
          - *.a files
      \Release-iphonesimulator
        \<component name>
          - *.a files
      \Debug-iphoneos
        \<component name>
          - *.a files
      \Debug-iphonesimulator
        \<component name>
          - *.a files
```

2. With universal libraries, you need not create the folders that reflect the platform name and the build style. A universal binary includes both the simulator and device versions of the library (also known as a fat library). An organized structure lets you easily locate the dependencies, and you can use environment variables, such as "`$(PROJECT_DIR)/target/libs/$(BUILD_STYLE)-$(PLATFORM_NAME)/`" within the Xcode.
3. This approach automatically sets the correct path for the library whether you compile for a device or simulator, and in release or debug mode. For example, if your application is built for a device in release mode, this path: "`$(PROJECT_DIR)/target/libs/$(BUILD_STYLE)-$(PLATFORM_NAME)/`" becomes: `<path_to_app_folder>/Extensibility Test/target/libs/Debug-iphoneos`
4. You need these resources in this step:
  - MAFUIComponents headers
  - library (libMAFUIComponents.a)
  - bundle (MAFUIComponents.bundle)
  - MAFExtensibility headers
  - library (libMAFExtensibility.a)

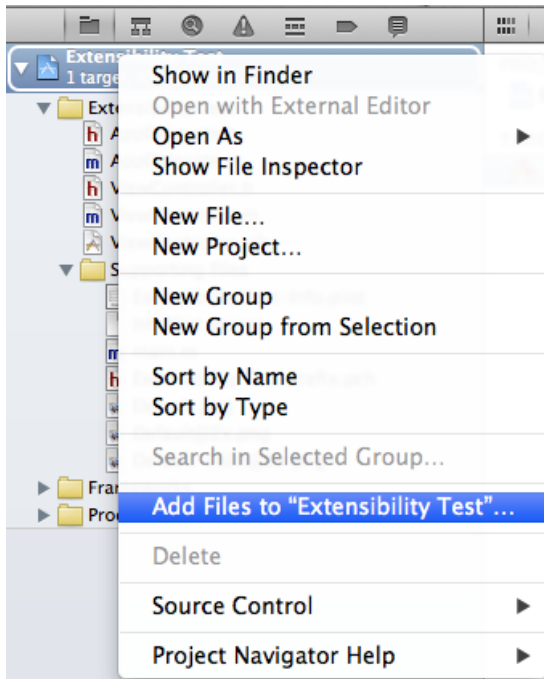
## Native OData App Development

Here this example adds only the dependencies required for setting up the project. Later on it will add additional libraries (for example, to fetch and parse OData streams). Note that *Adding the Required Dependencies* includes the complete library listing and additional details.

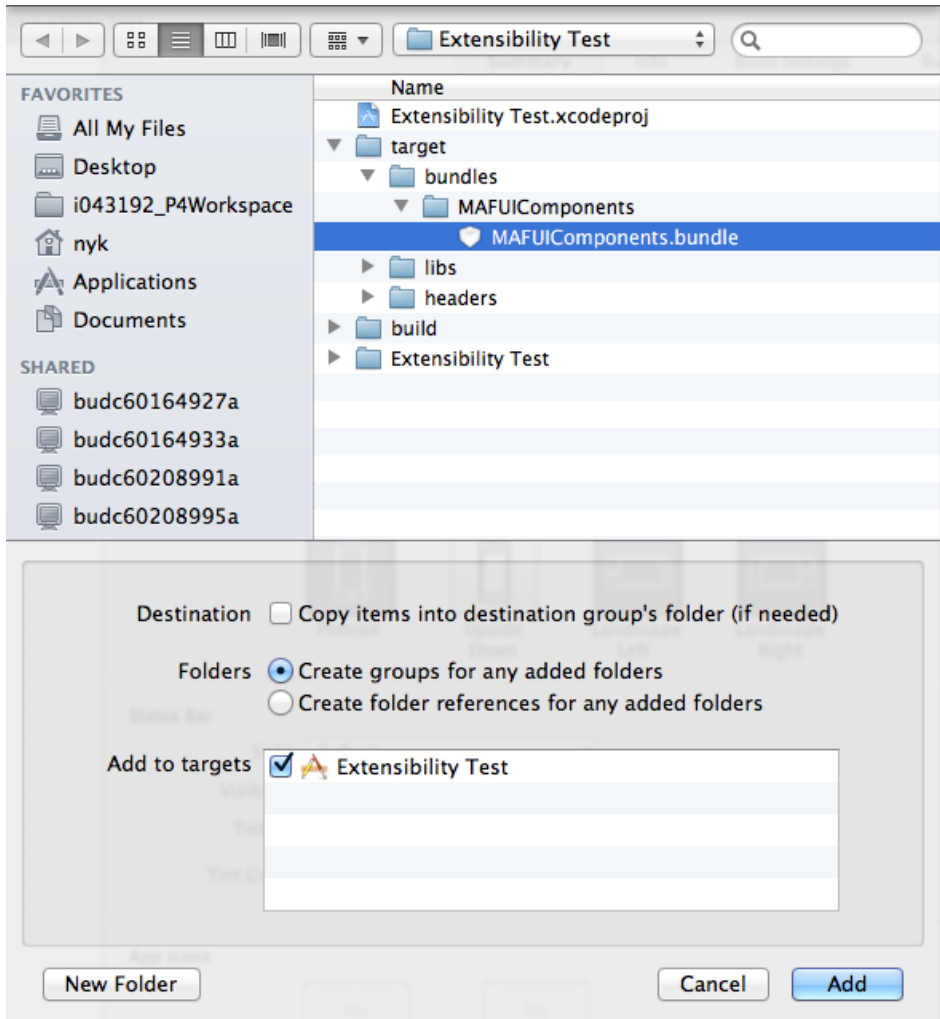
### *Adding Resources*

Add resources to the project.

1. In the Project Navigator, right-click the project, and choose **Add Files to...**



2. Browse to the directory containing the MAFUIComponents.bundle, and add it to the project, using these settings:

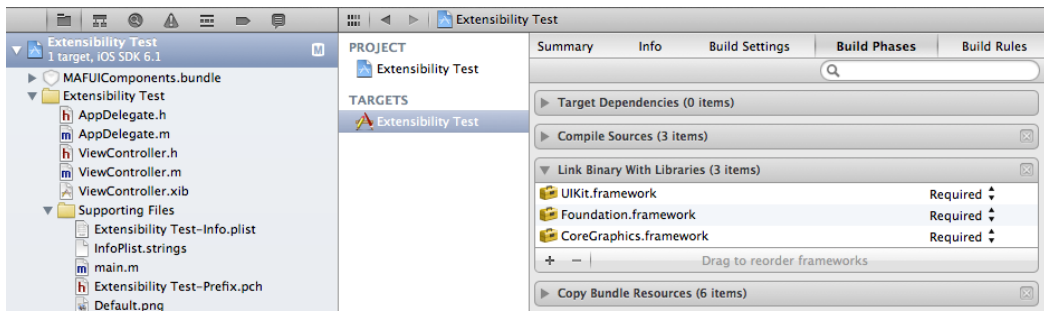


### *Adding Binary Dependencies*

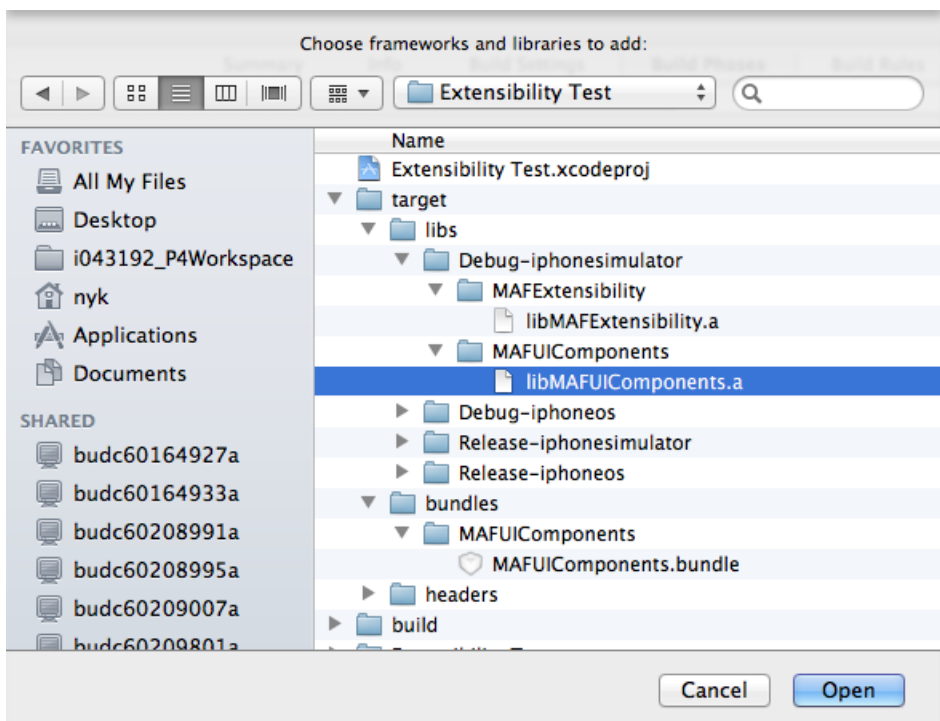
Add binary dependencies to the project.

1. With the project selected in the Project Navigator, select the app target in the middle pane (this is only one of several ways to set up static library dependencies in Xcode). Click the **Build Phases** tab, then the **Link Binary with Libraries** drop-down:

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2. Click the + sign, then click **Add Other**. Browse to the directory containing the libMAFUIComponents.a and libMAFExtensibility.a, and add them one by one.



3. Add these libraries and their headers:
  - [MAF] libMAFFormatters
  - libMAFLogger.a
  - libMAFZipHelper.a
4. Add these frameworks / system libs:
  - [iOS] QuartzCore.framework
  - [system] libstdc++.dylib
  - libz.dylib



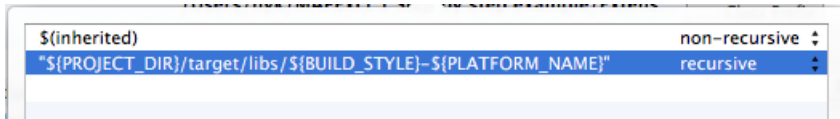
5. 4. After you have added all the required frameworks and static libraries to your project, select **Build Settings**, and make sure all settings are visible by clicking **All** (rather than **Basic**). Scroll down to **Library Search Path** and double-click the corresponding line.

The paths for the libraries you added are automatically supplied by Xcode. However, these constant paths are valid only for the current platform and build type. To make this setting generic, adapt it by using the `${PROJECT_DIR}`, `${BUILD_STYLE}`, and `${PLATFORM_NAME}` environment variables.

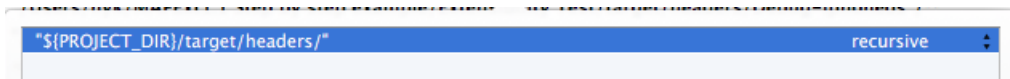
- a) Delete the two paths inserted by Xcode, and add: `"${PROJECT_DIR}/target/libs/${BUILD_STYLE}-${PLATFORM_NAME}/**"`.

This results in a library path configuration that consists of only two lines and points to the parent libs directory in the project directory, which holds the library files.

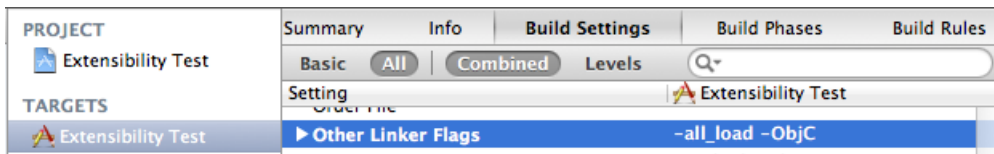
- b) Set the path as recursive to tell the linker to search for libraries recursively, so you need not specify each path separately.



6. Next, set up the header path. Double-click **Header Search Path**, and set the path to point to the MAF Extensibility and MAFUIComponents headers (`"${PROJECT_DIR}/target/headers/**"`):



7. Finally, add the `-all_load -ObjC` linker flags (See Build Settings for clarification).

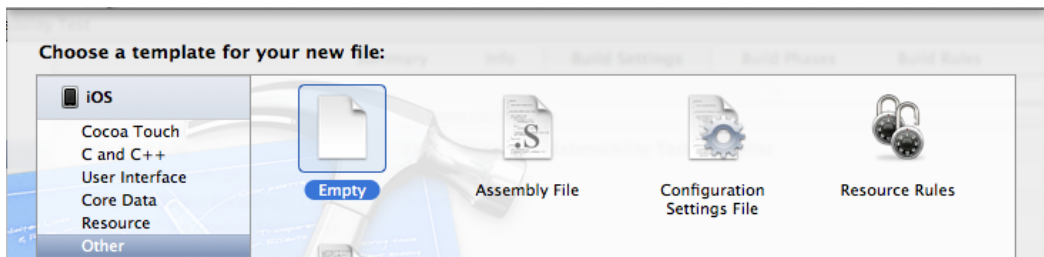


### *Defining the Extensibility Metadata XML*

The Extensibility Framework relies on metadata stored in an XML file to build its UIs and perform data bindings at runtime.

The XML file must be named according to the app type, either `layout_phone.xml` or `layout_tablet.xml`. To build a universal app that runs on both iPhone and iPad requires two separate XML files, named accordingly. However, the tutorial builds an iPhone app, so you need only define `layout_phone.xml`.

1. Add a new file to your project by clicking the **Empty** template:



2. Name the file `layout_phone.xml` and click **Create**.
3. You can manually edit the layout XML file to create a simple UI containing a UILabel. For more details on the layout XML see *The Extensibility Layout XML*.
  - a) To make it a valid MAF Extensibility layout XML, add these lines to the XML:

```
<?xml version="1.0" encoding="UTF-8"?>
<MAF xmlns="http://schemas.sap.com/maf/2012/cfg">
  <!--
    Add Content here
  -->
</MAF>
```

- b) Replace the Xcode-generated root view controller with your own:

```
<?xml version="1.0" encoding="UTF-8"?>
<MAF xmlns="http://schemas.sap.com/maf/2012/cfg">
  <!-- Define a "tile" - it translates to UIViewController -->
  <Tile tileId="First Extensible Screen">
    <!-- This is our root view -->
    <P pid="isRoot" value="true"/>
  </Tile>
</MAF>
```

### Your First Extensible App

Get the tutorial extensible app running.

To get the tutorial extensible app running, open the `AppDelegate.m` file, and modify the `didFinishLaunchingWithOptions:` method as shown in this code:

```
// add the MAFCore header - ensure that you've set up the header
search path correctly and have all the required public headers and
libraries!
#import "MAFCore.h"

@implementation AppDelegate

- (BOOL)application:(UIApplication *)application
didFinishLaunchingWithOptions:(NSDictionary *)launchOptions
{
    self.window = [[UIWindow alloc] initWithFrame:[[UIScreen
mainScreen] bounds]];
    // Remove boilerplate code
    // We won't use the generated view controller anymore.
    // The Extensibility framework will create the view controller
from the metadata supplied in the layout_phone.xml;
```

```

// Since it is marked as a root view controller in the
// configuration, the framework will also assign it to the UIWindow
// object and finally display the window
// self.viewController = [[ViewController alloc]
initWithNibName:@"ViewController" bundle:nil];
// self.window.rootViewController = self.viewController;

// Start the Extensibility engine; we pass in the UIWindow object,
// and that's it - no further data is needed to initialise and start the
// framework
// Note that the API is executed asynchronously; once it completes,
// the completion block gets called, and we have to evaluate the error
// object: it should be nil, otherwise there were issues during
// initialization
[[MAFCore sharedInstance] loadWithWindow:self.window
andCompletionBlock:^(NSError* error)
{
    // Extensibility engine started successfully
    if( !error )
    {
        NSLog( @"Extensibility is Up and Running!" );
    }
    // Extensibility engine failed to start!
    else
    {
        NSLog( @"Extensibility load failure. Details:%@",
error.description );
    }
}];
// Can be safely removed, too, since the Extensibility framework
// will take care of displaying the root view controller
// [self.window makeKeyAndVisible];
return YES;
}

```

The code generated by Xcode, which instantiated a `ViewController` and set it as the window's root view controller, has been commented out in the above code. It adds a single `MAFCore` API call, which instantiates the Extensibility Engine, and additional MAF libraries that are used for styling, value formatting, and so on.

The `MAFCore loadWithWindow:` API is asynchronous, therefore it does not block the main thread while executing; you can perform other UI related tasks while the Extensibility Framework initializes.

Once the `loadWithWindow:` API execution completes, the completion block is invoked. This example checks whether everything went fine and logs both the error and the success case. The Extensibility Framework provides advanced possibilities to intercept runtime issues.

You can now build and run the app; doing so shows a black screen on the simulator, indicating that the Extensibility Engine works as expected:



## *Displaying Text*

Enhance the app with text.

1. Add text to the app by enhancing the `layout_phone.xml`:

```
<?xml version="1.0" encoding="UTF-8"?>
<MAF xmlns="http://schemas.sap.com/maf/2012/cfg">

    <!-- Define a "tile" - it translates to UIViewController -->
    <Tile tileId="First Extensible Screen">
        <!-- This is our root view -->
        <P pid="isRoot" value="true"/>
        <!-- Define the layout container. All UI elements included
in a layout container will be auto-arranged -->
        <LinearContainer layout="vertical">
            <!-- Define our label -->
            <UIElement type="label">
                <!-- Assign the text to be displayed -->
                <P pid="text" value="Hello World! This is
Extensibility!"></P>
            </UIElement>
        </LinearContainer>
    </Tile>
</MAF>
```

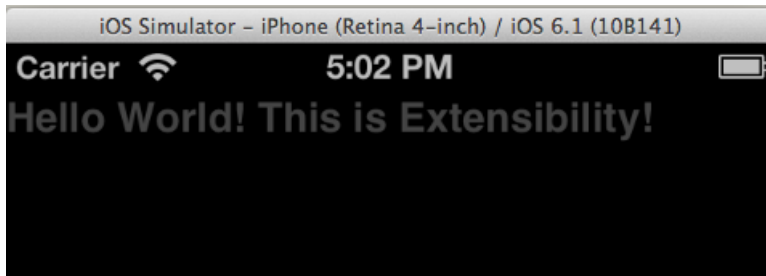
```

        <!-- Default styling is automatically applied (see
MAFUIComponents.bundle -> SAPDefaultStyle.xml) -->
        </UIElement>
    </LinearContainer>
</Tile>
</MAF>

```

This code first adds a linear container, which arranges the content to be shown by several criteria. It does not specify additional layout parameters for brevity, therefore the defaults apply. It then adds a label type UI element a UILabel, and assigns a static text to it. You can localize texts, but doing so is outside the scope of this tutorial.

2. Rebuild and re-run the app. Some text is now displayed on the screen:



You have added the label with the text by editing the layout XML, without performing any code changes.

3. You can change the position and dimensions of the label by inserting these lines in the UIElement section:

```

<P pid="halign" value="center"></P>
<P pid="margin_top" value="20pt"></P>

```

This code centers the label horizontally on the screen, and adjusts it vertically 20 points below the toolbar.

4. To move the text to the center of the screen, comment out the line with "margin\_top", and add this line:

```

<P pid="valign" value="center"></P>

```

There are several settings that allow you to fine-tune the position and dimensions of the tiles and UI elements. See the metadata XML for all possible values.

### *Adding Custom Code*

The Extensibility Framework does not impose any restrictions on developers: you can mix custom code with extensibility features.

This example adds custom code that shows a UIAlertView once the extensibility engine is started:

```

- (BOOL)application:(UIApplication *)application
didFinishLaunchingWithOptions:(NSDictionary *)launchOptions
{
    self.window = [[UIWindow alloc] initWithFrame:[UIScreen

```

```
mainScreen] bounds]];  
  
    // Start the Extensibility engine; we pass in the UIWindow object,  
    // and that's it - no further data is needed to initialise and start the  
    // framework  
    // Note that the API is executed asynchronously; once it  
    // completes, the completion block gets called, and we have to evaluate  
    // the error object: it should be nil, otherwise there were issues  
    // during initialization  
    [[MAFCore sharedInstance] loadWithWindow:self.window  
    andCompletionBlock:^(NSError* error)  
    {  
        // Extensibility engine started successfully  
        if( !error )  
        {  
            // Display an alert view  
            [[[UIAlertView alloc] initWithTitle:@"Success!"  
            message:@"Extensibility is Up and  
Running!"  
            delegate:nil  
            cancelButtonTitle:@"Dismiss"  
            otherButtonTitles:nil, nil] show];  
  
            NSLog( @"Extensibility is Up and Running!" );  
  
        }  
        // Extensibility engine failed to start!  
        else  
        {  
            NSLog( @"Extensibility load failure. Details:%@",  
error.description );  
        }  
    }  
    }];  
    // Can be safely removed, too, since the Extensibility framework  
    // will take care of displaying the root view controller  
    // [self.window makeKeyAndVisible];  
    return YES;  
}
```

### *Adding Custom Styling*

You can replace the default styles with custom ones.

The UI you have now automatically applies the default style defined in `SAPDefaultStyle.xml`, which is located in the `MAFUIComponents.bundle`. To override this with a custom style, add another XML resource to your project, and tell the Extensibility Framework to use it.

First, add an XML file (`CustomStyles.xml` in this example) to the project (follow the same steps of adding the layout XML in the previous chapter) and paste these lines in the newly created file:

```
<?xml version="1.0" encoding="utf-8"?>  
<styles xmlns="http://schemas.sap.com/maf/2011/sap"  
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"  
xsi:schemaLocation="http://schemas.sap.com/maf/2011/sap  
styles.xsd">
```

```

<!-- Add custom style definitions -->
  <Style TargetType="Label" Key="CustomLabel" platform="ios">
    <Setter Property="Background" Value="#00000000" />
    <Setter Property="FontFamily" Value="Helvetica-Bold" />
    <Setter Property="FontSize" Value="16" />
    <Setter Property="HorizontalContentAlignment" Value="Center"/>
  >
    <Setter Property="VerticalContentAlignment" Value="Center"/>
    <Setter Property="Foreground" Value="#F0AB00" />
  </Style>
</styles>

```

This is a standard SAP style XML, which defines a custom label. To apply a custom style to the text label, edit the `layout_phone.xml` and set the style:

```

<!-- Define our label -->
  <UIElement type="label">
    <!-- Assign the text to be displayed -->
    <P pid="text" value="Hello World! This is
Extensibility!"></P>

    <!-- Apply custom styling -->
    <P pid="style" value="CustomLabel"></P>
    <!-- Default styling is automatically applied (see
MAFUIComponents.bundle -> SAPDefaultStyle.xml)-->
  </UIElement>

```

Before initializing the Extensibility Framework, apply the custom style by setting the `applicationSpecificStylePath` `MAFCore` property:

```

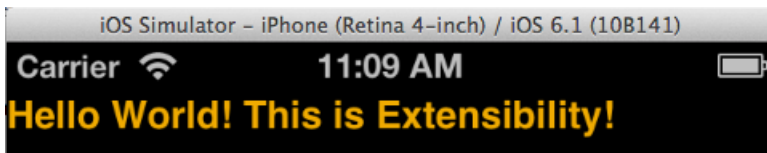
- (BOOL)application:(UIApplication *)application
didFinishLaunchingWithOptions:(NSDictionary *)launchOptions
{
    self.window = [[UIWindow alloc] initWithFrame:[[UIScreen
 mainScreen] bounds]];

    // Apply custom style
    [MAFCore sharedInstance].applicationSpecificStylePath =
    [[NSBundle mainBundle] pathForResource:@"CustomStyles"
 ofType:@"xml"];

    // Start the Extensibility engine
    [[MAFCore sharedInstance] loadWithWindow:self.window
 andCompletionBlock:^(NSError* error)
    {
        // Rest of code remains untouched, omitted for brevity
        ...
    }
}

```

The style change (label text color) is applied instantly:



You can also experiment with changing the background color, font family and size, and so on.

This is the XML version after modifying the layout XML to center the label and move it slightly below the toolbar:

```
<?xml version="1.0" encoding="UTF-8"?>
<MAF xmlns="http://schemas.sap.com/maf/2012/cfg">

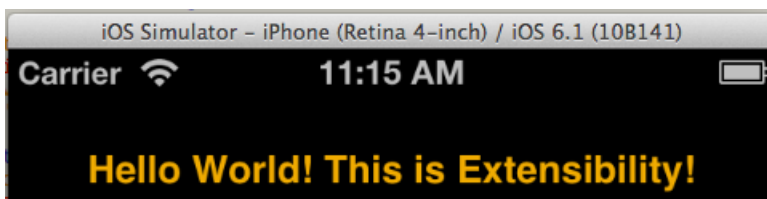
  <!-- Define a "tile" - it translates to UIViewController -->
  <Tile tileId="First Extensible Screen">
    <!-- This is our root view -->
    <P pid="isRoot" value="true"/>
    <!-- Define the layout container. All UI elements included in
a layout container will be auto-arranged -->
    <LinearContainer layout="vertical">
      <!-- Define our label -->
      <UIElement type="label">
        <!-- Assign the text to be displayed -->
        <P pid="text" value="Hello World! This is
Extensibility!"></P>

        <!-- Center the label horizontally -->
        <P pid="halign" value="center"></P>
        <!-- Move it 20 points below the toolbar -->
        <P pid="margin_top" value="20pt"></P>

        <!-- Apply custom styling (defined in CustomStyles.xml)
-->
        <P pid="style" value="CustomLabel"></P>

      </UIElement>
    </LinearContainer>
  </Tile>
</MAF>
```

When you re-run the app, you see this UI:



You can also modify styles directly in the SAPDefaultStyle.xml, but before you do so, back up the original version of the file so you can restore it if necessary.



### *Working with Data*

Feed the label with data from an OData stream.

So far the tutorial have assigned a static text to the label. This task feeds the label with data coming from an OData stream, fetched via the Internet from a server.

1. First, add these libraries, which provide connectivity, OData parsing and caching, user authentication, and so on:


































- MAF
  - libMAFSDMDataSourceAdapter.a
  - libSDMDataSource.a
- SUP/SDM libs:
  - libConnectivity.a
  - libParser.a
  - libRequest.a
  - libPerformanceLib.a
  - libE2ETrace.a
- System
  - CFNetwork.framework
  - MessageUI.framework
  - SystemConfiguration.framework
  - MobileCoreServices.framework

2. Place the public headers and the library files in your existing folder structure.

The header and the library paths are already set up and the search is recursive, therefore you need not update your build settings. However, do not forget to add the libraries to your project as described in *Adding Binary Dependencies* on page 2723.

This screenshot shows the complete list of libraries and frameworks:

▼ Link Binary With Libraries (33 items) ✕

Name	Status
 libMAFExtensibility.a	Required ▾
 libMAFSMDDataSourceAdapter.a	Required ▾
 libSMDDataSource.a	Required ▾
 libMAFUIComponents.a	Required ▾
 libMAFZipHelper.a	Required ▾
 libMAFFormatters.a	Required ▾
 libMAFLogger.a	Required ▾
 libMAFLogonManagerNG.a	Required ▾
 libMAFLogonUING.a	Required ▾
 libMAFUIHelper.a	Required ▾
 libParser.a	Required ▾
 libConnectivity.a	Required ▾
 libRequest.a	Required ▾
 libSUPProxyClient.a	Required ▾
 libPerformanceLib.a	Required ▾
 libsupClientUtil.a	Required ▾
 libSMPCClientHubSSL.a	Required ▾
 libAfarialSSL.a	Required ▾
 libCoreServices.a	Required ▾
 libE2ETrace.a	Required ▾
 libDatavault.a	Required ▾
 libMo.a	Required ▾
 libstdc++.dylib	Required ▾
 libz.dylib	Required ▾
 UIKit.framework	Required ▾
 Foundation.framework	Required ▾
 Security.framework	Required ▾
 SystemConfiguration.framework	Required ▾
 MobileCoreServices.framework	Required ▾
 CFNetwork.framework	Required ▾
 MessageUI.framework	Required ▾
 QuartzCore.framework	Required ▾
 CoreGraphics.framework	Required ▾

+ - Drag to reorder frameworks

The Extensibility Framework includes two libraries for working with OData:

- `MAFSDMDataSourceAdapter` – a data source adapter that converts between generic data format and OData.
- `SDMDataSource` – a facade on top of the SAP Mobile Platform/SDM libraries that acts as a wrapper, simplifying the sequence of fetch and parse calls, and providing additional features, such as caching and demo data support.

This example uses the NorthWind endpoint: `http://services.odata.org/Northwind/Northwind.svc/`

The OData feed contains a set of collections; this example uses only the "Customers" collection.

3. At the beginning of the `layout_phone.xml`, add a binding definition that describes the business objects that feed data to the tile's UI. The `boType` must match the collection name for OData:

```
<?xml version="1.0" encoding="UTF-8"?>
<MAF xmlns="http://schemas.sap.com/maf/2012/cfg">

  <!-- Define a binding ID - you can name it as you wish - it's
  recommended to keep it in synch with the collection name -->
  <!-- We are going to use this binding ID to refer to this
  collection throughout the XML -->
  <Binding bindingId="CustomersCollection" type="collection">
    <!-- the boType must match the collection href in the OData
    feed:

        ?xml version="1.0" encoding="utf-8" standalone="yes"?>
        <service xml:base="http://services.odata.org/Northwind/
        Northwind.svc/" xmlns:atom="http://www.w3.org/2005/Atom"
        xmlns:app="http://www.w3.org/2007/app" xmlns="http://www.w3.org/
        2007/app">
          <workspace>

            ...skipped for brevity

            <collection href="Customers">
              <atom:title>Customers</atom:title>
            -->
            <P pid="boType" value="Customers"></P>
          </Binding>

    <!-- Define a "tile" - it translates to UIViewController -->
    <Tile tileId="First Extensible Screen">
      <!-- skipped for brevity -->
      This example displays the customer's name from the OData entry
      identified by the CompanyName property, which is part of the
      Customers collection. Next, add the binding reference to the tile:
      <!-- Define a "tile" - it translates to UIViewController -->
      <Tile tileId="First Extensible Screen">
        <!-- This is our root view -->
        <P pid="isRoot" value="true"/>

        <!-- Reference to the data binding which provides data for
        this tile -->
```

```
<!-- Note that we are using the bindingId here -->
<BindingRef ref="CustomersCollection"/>
```

The label's text is fed with data coming from the binding:

```
<!-- Define a label which shows the customer company name -->
<UIElement type="label">
  <!-- The label text is showing real data coming from
the OData feed http://services.odata.org/Northwind/Northwind.svc/
Customers:

      <link rel="self" title="Customers"
href="Customers" />
      ...details skipped for brevity

      <entry>
      <category term="NorthwindModel.Customer"
scheme="http://schemas.microsoft.com/ado/2007/08/dataservices/
scheme" />
      <content type="application/xml">
      <m:properties>
      <d:CustomerID m:type="Edm.String">ALFKI</
d:CustomerID>
      <d:CompanyName m:type="Edm.String">Alfreds
Futterkiste</d:CompanyName>
      <d:ContactName m:type="Edm.String">Maria Anders</
d:ContactName>
      <d:ContactTitle m:type="Edm.String">Sales
Representative</d:ContactTitle>
      <d:Address m:type="Edm.String">Obere Str. 57</
d:Address>
      <d:City m:type="Edm.String">Berlin</d:City>
      <d:Region m:type="Edm.String" m:null="true" />
      <d:PostalCode m:type="Edm.String">12209</
d:PostalCode>
      <d:Country m:type="Edm.String">Germany</d:Country>
      <d:Phone m:type="Edm.String">030-0074321</d:Phone>
      <d:Fax m:type="Edm.String">030-0076545</d:Fax>
      </m:properties>
      </content>
      </entry>
```

Note that the company name is retrieved from the first entry.

4. You can visualize the remaining entries using a ListContainer (UITableViewController), see *Managing Lists*.

```
-->
<P pid="text" value="Company:
{$CustomersCollection.CompanyName}"></P>
<P pid="halign" value="center"></P>
<P pid="margin_top" value="20pt"></P>
<P pid="style" value="CustomLabel"></P>
</UIElement>
```

The `{$CustomersCollection.CompanyName}` syntax refers to the company name. Curly brackets indicate that the content must be evaluated by the Extensibility Framework. The `$`

sign denotes a binding (or expression), followed by the collection and the entry name separated by a period.

The `layout_phone.xml` you have now:

```
<?xml version="1.0" encoding="UTF-8"?>
<MAF xmlns="http://schemas.sap.com/maf/2012/cfg">

  <!-- Define a binding ID - you can name it as you wish - it's
recommended to keep it in synch with the collection name -->
  <!-- We are going to use this binding ID to refer to this
collection throughout the XML -->
  <Binding bindingId="CustomersCollection" type="collection">
    <!-- the boType must match the collection href in the OData
feed:

      ?xml version="1.0" encoding="utf-8" standalone="yes"?>
      <service xml:base="http://services.odata.org/Northwind/
Northwind.svc/" xmlns:atom="http://www.w3.org/2005/Atom"
xmlns:app="http://www.w3.org/2007/app" xmlns="http://www.w3.org/
2007/app">

        <workspace>

          ...skipped for brevity

          <collection href="Customers">
            <atom:title>Customers</atom:title>
          -->
          <P pid="boType" value="Customers"></P>
        </Binding>

    <!-- Define a "tile" - it translates to UIViewController -->
    <Tile tileId="First Extensible Screen">
      <!-- This is our root view -->
      <P pid="isRoot" value="true"/>

      <!-- Reference to the data binding which provides data for
this tile -->
      <!-- Note that we are using the bindingId here -->
      <BindingRef ref="CustomersCollection"/>
      <!-- Define the layout container. All UI elements included
in a layout container will be auto-arranged -->
      <LinearLayout layout="vertical">
        <!-- Define our label -->
        <UIElement type="label">
          <!-- Assign a static text to be displayed -->
          <P pid="text" value="Hello World! This is
Extensibility!"></P>
          <P pid="halign" value="center"></P>
          <P pid="margin_top" value="20pt"></P>
          <P pid="style" value="CustomLabel"></P>
        </UIElement>

        <!-- Define a label which shows the customer company
name -->
        <UIElement type="label">
```

```

        <!-- The label text is showing real data coming from
the OData feed http://services.odata.org/Northwind/Northwind.svc/
Customers
        ...details skipped for brevity
        Note that the company name is retrieved from the
first entry.
        The remaining entries could be visualized as well
using a ListContainer (UITableViewController), see Chapter 4.2.6
'Managing Lists'
        -->
        <P pid="text" value="Company:
{$CustomersCollection.CompanyName}"></P>
        <P pid="halign" value="center"></P>
        <P pid="margin_top" value="20pt"></P>
        <P pid="style" value="CustomLabel"></P>
        </UIElement>
    </LinearContainer>
</Tile>
</MAF>

```

- Now you have to do some coding. Add a strong property for the `SDMDataSource` instance, to prevent it from releasing prematurely when the `SDMDataSource loadModel async API` is called. Modify the `AppDelegate.h`:

```

#import <UIKit/UIKit.h>

@class ViewController;
// SDMDataSource forward declaration
@class SDMDataSource;

@interface AppDelegate : UIResponder <UIApplicationDelegate>

@property (strong, nonatomic) UIWindow* window;

// our data source facade
@property (strong, nonatomic) SDMDataSource* dataSource;

@end

Add these headers to your AppDelegate.m:

#import "MAFSMDataSourceAdapter.h"
#import "SDMDataSource.h"

```

- Enhance the `AppDelegate didFinishLaunchingWithOptions`:

- Configure the endpoint and set user credentials required for authentication on the server side
- Load the OData Service Document and metadata via `SDMDataSource loadModel API`
- Instantiate a data source adapter, and pass it to the Extensibility Framework loader API

These changes are reflected in the modified `didFinishLaunchingWithOptions` implementation:

```

- (BOOL)application:(UIApplication *)application
didFinishLaunchingWithOptions:(NSDictionary *)launchOptions

```

```

{
    self.window = [[UIWindow alloc] initWithFrame:[UIScreen
mainScreen] bounds]];

    // set the path for our custom styling XML
    [MAFCore sharedInstance].applicationSpecificStylePath =
[[NSBundle mainBundle] pathForResource:@"CustomStyles"
ofType:@"xml"];

    // Configure the data source
    // Set the endpoint URL
    [SDMDataSource setBaseURL:@" http://services.odata.org/
Northwind/Northwind.svc/"];

    // If the server requires authentication, set the username and
the password
    // Commented out since the server used in this example does not
require authentication
    // [SDMDataSource setUsername:@"username"];
    // [SDMDataSource setPassword:@"password"];

    // Set request type to plain HTTP
    [SDMDataSource setRequestType:SDMHTTPRequestType];

    self.dataSource = [[SDMDataSource alloc] init];
    // establish connection with the OData Server, fetch and parse
the OData Service Doc and metadata - see odata.org for details
    [self.dataSource loadModel:^(NSError* error) {
        // OData SVC and metadata fetched and parsed
        if( !error )
        {
            // instantiate the data source adapter
            MAFSDMDataSourceAdapter* datasourceAdapter =
[[MAFSDMDataSourceAdapter alloc] init];

            // Start the Extensibility engine
            [[MAFCore sharedInstance] loadWithWindow:self.window
                datasourceAdapter:datasourceAdapter
                andCompletionBlock:^(NSError* error)
            {
                // Extensibility engine started successfully
                if( !error )
                {
                    // Display an alert view
                    [[[UIAlertView alloc] initWithTitle:@"Success!"
message:@"Extensibility
is Up and Running!"
                    delegate:nil
                    cancelButtonTitle:@"Dismiss"
                    otherButtonTitles:nil, nil]
show];

                    NSLog( @"Extensibility is Up and Running!" );
                }
                // Extensibility engine failed to start!
                else
                {

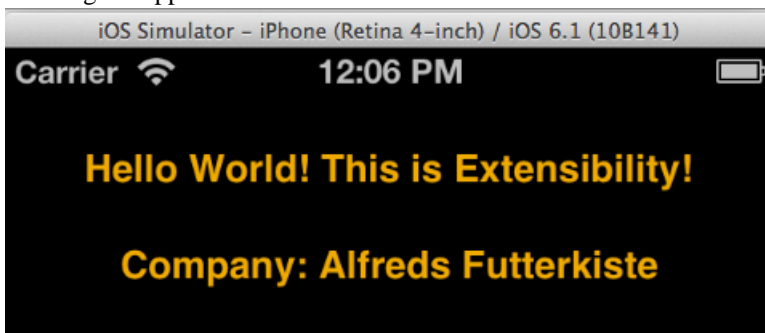
```

```
        NSLog( @"Extensibility load failure. Details:
%@", error.description );
    }
    }];
}
else
{
    NSLog( @"Could not load OData model. Details: %@",
error.description );
}
}];
return YES;
}
```

This example uses another API to instantiate and load the extensibility engine, and this API requires a valid data source adapter instance. This approach allows passing in a custom data source adapter, but the default implementation works correctly for OData.

This setup is all you need to build an extensible app that does not require custom hooks or mixing native UIs with UIs that are defined via metadata. From this point on, you need only enhance the `layout_phone.xml` to define new tiles, UI elements, bindings and so on.

Running the app shows this screen:



Loading time increases slightly because the app is fetching data from a remote server, however, depending on your network speed and OData endpoint load, the increase should not be more than a couple of seconds.

### *Using Expressions*

This example adds a label that displays the current date and time.

The label's text is set by an expression (for the complete expression list see *Use of Functions*). No additional coding is required to add this label, you need only modify the layout XML. Add these lines following the last label definition:

```
        <!-- Define label showing the current date using an
expression -->
        <UIElement type="label">
            <!-- The label text is showing the current date -->
            <P pid="text" value="{$_now()}"></P>
```



```

<P pid="halign" value="center"></P>
<P pid="margin_top" value="20pt"></P>
<P pid="style" value="CustomLabel"></P>
</UIElement>

```

The result:



This is the final version of the layout\_phone.xml:

```

<?xml version="1.0" encoding="UTF-8"?>
<MAF xmlns="http://schemas.sap.com/maf/2012/cfg">

  <!-- Define a binding ID - you can name it as you wish - it's
  recommended to keep it in synch with the collection name -->
  <!-- We are going to use this binding ID to refer to this
  collection throughout the XML -->
  <Binding bindingId="CustomersCollection" type="collection">
    <!-- the boType must match the collection href in the OData
    feed:

        ?xml version="1.0" encoding="utf-8" standalone="yes"?>
        <service xml:base="http://services.odata.org/Northwind/
        Northwind.svc/" xmlns:atom="http://www.w3.org/2005/Atom"
        xmlns:app="http://www.w3.org/2007/app" xmlns="http://www.w3.org/
        2007/app">
          <workspace>

            ...skipped for brevity

            <collection href="Customers">
              <atom:title>Customers</atom:title>
            -->
            <P pid="boType" value="Customers"></P>
          </Binding>

  <!-- Define a "tile" - it translates to UIViewController -->
  <Tile tileId="First Extensible Screen">
    <!-- This is our root view -->
    <P pid="isRoot" value="true"/>

```

```

        <!-- Reference to the data binding which provides data for
this tile -->
        <!-- Note that we are using the bindingId here -->
        <BindingRef ref="CustomersCollection"/>
        <!-- Define the layout container. All UI elements included in
a layout container will be auto-arranged -->
        <LinearContainer layout="vertical">
            <!-- Define our label -->
            <UIElement type="label">
                <!-- Assign a static text to be displayed -->
                <P pid="text" value="Hello World! This is
Extensibility!"></P>
                <P pid="halign" value="center"></P>
                <P pid="margin_top" value="20pt"></P>
                <P pid="style" value="CustomLabel"></P>
            </UIElement>
            <!-- Define a label which shows the customer company name
-->
            <UIElement type="label">
                <!-- The label text is showing real data coming from the
OData feed http://services.odata.org/Northwind/Northwind.svc/
Customers:
                <link rel="self" title="Customers" href="Customers" />
                ..details skipped for brevity
                <entry>
                    <category term="NorthwindModel.Customer"
scheme="http://schemas.microsoft.com/ado/2007/08/dataservices/
scheme" />
                    <content type="application/xml">
                        <m:properties>
                            <d:CustomerID m:type="Edm.String">ALFKI</
d:CustomerID>
                            <d:CompanyName m:type="Edm.String">Alfreds
Futterkiste</d:CompanyName>
                            <d:ContactName m:type="Edm.String">Maria Anders</
d:ContactName>
                            <d:ContactTitle m:type="Edm.String">Sales
Representative</d:ContactTitle>
                            <d:Address m:type="Edm.String">Obere Str. 57</
d:Address>
                            <d:City m:type="Edm.String">Berlin</d:City>
                            <d:Region m:type="Edm.String" m:null="true" />
                            <d:PostalCode m:type="Edm.String">12209</
d:PostalCode>
                            <d:Country m:type="Edm.String">Germany</d:Country>
                            <d:Phone m:type="Edm.String">030-0074321</d:Phone>
                            <d:Fax m:type="Edm.String">030-0076545</d:Fax>
                        </m:properties>
                    </content>
                </entry>

```

Note that the company name is retrieved from the first entry.

The remaining entries can be visualized as well using a ListContainer (UITableViewController), see *Managing Lists*.

```

-->
    <P pid="text" value="Company:
{$CustomersCollection.CompanyName}"></P>
    <P pid="halign" value="center"></P>
    <P pid="margin_top" value="20pt"></P>
    <P pid="style" value="CustomLabel"></P>
</UIElement>

<!-- Define label showing the current date using an
expression -->
<UIElement type="label">
    <!-- The label text is showing the current date -->
    <P pid="text" value="{$_now()}"></P>
    <P pid="halign" value="center"></P>
    <P pid="margin_top" value="20pt"></P>
    <P pid="style" value="CustomLabel"></P>
</UIElement>

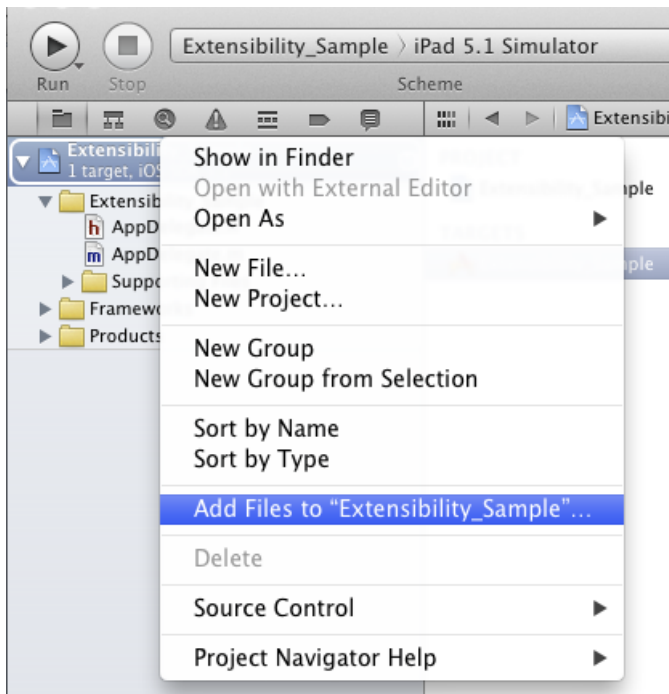
</LinearContainer>
</Tile>
</MAF>

```

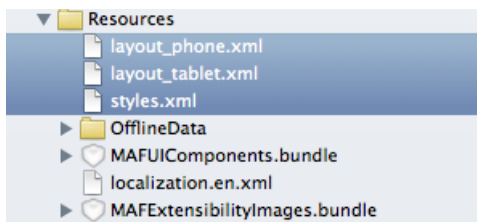
### *Adding Built-in Style and Layout Configuration Files*

Add the default styling and layout configuration files to the project.

1. Right-click the project file and select **Add files to <project name>**.



2. Select your configuration files and click **Add**.



## Next

See *Default Layout and Style Configurations* on page 2716.

## Adding and Accessing Localized Texts

Adding localized texts to your app using MAF is the same as for any native device application development environment.

Adding MAF Extensibility or Reusable components to your projects does not interfere with managing native localizable strings on iOS. Rather, it enables the customer to manage all, or a subset of the localizable strings, without recompiling the app.

To localize string resources, use native localization files by maintaining your Localizable.strings files. Add your keys and the corresponding translatable strings. MAF

Extensibility supports keys that contain spaces. Include all translated files in your application project.

SAP-translation process relevant steps:

1. Use the converter to convert the native localization files into XLIFF files.
2. Upload the translation files to the translation system.
3. Download the translated files.
4. Convert from XLIFF to the native localization file.
5. Include all translated files in your application project.

### *Using Localization Key in Configuration*

When you create localizable files for Extensibility-specific, you must use a naming convention.

You must name Extensibility-specific localizable files according to the localization.<language code>.xml pattern and place them in the strings directory in the ACP (See *Structure of the Application Configuration Profile*).

Here are several examples of localized Extensibility XMLs:

localization.en.xml

```
<?xml version="1.0" encoding="utf-8"?>
<Texts>
  <Text id="PRG_NAME" value="SAP Leave Request Demo" />
  <Text id="WELCOME" value="Welcome Demo" />
  <Text id="DEMO_DESCRIPTION" value="Try out the app without
logging in." />
  <Text id="ACTIVATE_AND_LOGON" value="Activate and Logon" />
  <Text id="DEMO_MODE" value="View Sample Data" />
</Texts>
```

localization.de.xml

```
<?xml version="1.0" encoding="utf-8"?>
<Texts>
  <Text id="PRG_NAME" value="SAP Leave Request Demo" />
  <Text id="WELCOME" value="Willkommen Demo" />
  <Text id="DEMO_DESCRIPTION" value="App mit Demo-Server
ausprobieren" />
  <Text id="ACTIVATE_AND_LOGON" value="Bitte loggen Sie sich
ein" />
  <Text id="DEMO_MODE" value=" Demo-Modus starten" />
</Texts>
```

In the layout configuration, you can refer to a localized string using `$_i18n.<key>` syntax:

```
<Tile tileId="LeaveRequestList">
<P pid="title" value="{$_i18n.PRG_NAME}" />
```

The library automatically assigns the associated localized texts to the UI elements and controls, as defined per your configuration.

Keys in the Extensibility localization file override any matching keys that are defined in the native Localizable.strings resource. This allows you to customize native localized strings.

For example, if the Localizable.strings contains:

```
"PRG_NAME" = "SAP Leave Request";
```

and the Extensibility specific localization <language\_code>.xml has this entry:

```
<Texts>
  <Text id="PRG_NAME" value="Vodafone Leave Request " />
  ...
</Texts>
```

at runtime, the framework uses "Vodafone Leave Request".

You can use the MAFCore - localizedText: API to access localized texts from both the native and the extensibility-localized string resources. You can use the NSLocalizedString macro; however, it cannot resolve the extensibility string keys.

### *Localized Offline Demo Data Management*

The framework provides support for localized offline data, which enables you to start apps to start in demo mode, allowing customers to have a look at an app without requiring a device connection.

### *Creating Offline Demo Data*

Create the offline demo data files.

#### 1. Query the service document in a browser and save the content.

Name the service document file based on the download URL. Replace all special (?, :, \, /, =, \*) characters with underscores.

For example, rename this service document: `http://servername.loc.sap.corp:50009/sap/opu/odata/GBHCM/LEAVEREQUEST` as: `http__servername.loc.sap.corp:50009_sap_opu_odata_GBHCM_LEAVEREQUEST.xml`

#### 2. When the browser finishes downloading the content, select (in most browsers) **File > Save as**. Make sure you save the XML source rather than the HTML page the browser uses to visualize the XML file.

- Internet Explorer: In the Save Webpage dialog, choose:
  - **Webpage, source only (\*.xml;...)** for the service document and metadata, or
  - **XML Files (\*.xml)** for feeds and data requests in the **Save as type** combo box.

---

**Note:** If the menu does not appear, press the **Alt** button on the keyboard or click **Ctrl +S**.

---

- Firefox: Select **File > Save Page As**. In the Save As dialog, choose:

- **Web Page, XML only or XML (\*.xml)** (depending on your Firefox version) for the service document and metadata.
- **WebPage, XHTML only** for feeds and data requests in the **Format** combo box.
- Safari: Select **File > Save As**. Enter the file name in the **Export As** field. For **Format**, select **Page Source**.

---

**Note:** Safari shows only the values of the XML elements. Since the metadata does not contain element values, the page you see is empty, but the metadata is downloaded properly.

---

### 3. Query the metadata document in a browser.

Follow the naming procedure described in step 1.

For example, for this metadata URL: `http://servername.loc.sap.corp:50009/sap/opu/odata/GBHCM/LEAVEREQUEST/$metadata` The expected file name is: `http__servername.loc.sap.corp:50009_sap_opu_odata_GBHCM_LEAVEREQUEST_$metadata.xml`.

### 4. In your browser, execute an OData data request.

Follow the naming procedure described in step 1.

If the URL contains parameters, remove them from the file name and append a % character at the end. For example, for this filter request:

```
http://servername.loc.sap.corp:50009/sap/opu/odata/GBHCM/LEAVEREQUEST/LeaveRequestCollection?$filter=StartDate EQ '2012-07-01T00:00:00' AND EndDate EQ '2013-12-31T00:00:00'
```

This is the expected file name:

```
http__servername.loc.sap.corp:50009_sap_opu_odata_GBHCM_LEAVEREQUEST_LeaveRequestCollection_$filter_StartDate_EQ_'2012-01-01T00_00_00'_AND_EndDate_EQ_'2012-12-31T00_00_00'.xml
```

---

**Note:** When demo mode is set for `SDMDataSource`, make sure you enter the URL properly. For example, this code raises an error, because the URL ends with a “/” character that is internally transformed into an underscore:

```
[SDMDataSource setDemoMode: YES];
[SDMDataSource setBaseURL: @"http://servername.loc.sap.corp:50009/sap/opu/odata/GBHCM/LEAVEREQUEST/"];
```

---

The library attempts to load this file: `http__servername.loc.sap.corp:50009_sap_opu_odata_GBHCM_LEAVEREQUEST_.xml` instead of `http__servername.loc.sap.corp:50009_sap_opu_odata_GBHCM_LEAVEREQUEST.xml`.

Either add an extra underscore character to the file name, or remove the ending slash character from the URL when calling the `setBaseURL` method of the `SDMDataSource` class.

5. If you need to use shorter file names due to technical constraints, use the following steps to save the service document, metadata, and data XML files with shorter names.

In these examples, the `<host>[:port]` portion of the original URL has been replaced by the "serviceDocument" string. However, you can use another string instead of "serviceDocument".

- a) Save the service document and metadata as: `http__serviceDocument.xml` and `http__serviceDocument_$metadata.xml`
- b) To save a collection (list of entries), an entry (details), or a function import/search result, use the URL that retrieved the feed or entry as the file name, with these modifications:
  - Replace the `<host>[:port]` portion of the URL with the string "serviceDocument" (without quotes).
  - Replace all special characters with the underscore character.
- c) Open the `http__serviceDocument.xml` and replace the value stored by the `xml:base` attribute value with: `http://serviceDocument/`
- d) Open the saved collection, entry, or result of function import ... files and replace the `xml:base` attribute value with: `http://serviceDocument/`

Example file names:

- `http__serviceDocument.xml`
- `http__serviceDocument_$metadata.xml`
- `http__serviceDocument_LeaveRequestCollection.xml`

To use the renamed files:

```
[SDMDataSource setDemoMode: YES];  
[SDMDataSource setBaseURL: @"http://serviceDocument"];
```

### *Demo Data Bundled with the App*

You can localize your app's demo data.

If you need only an English offline data set, add the required files to your project, enable demo mode, and set the base URL on the `SDMDataSource` to point to your SVC document. For example:

```
[SDMDataSource setDemoMode: YES];  
[SDMDataSource setBaseURL: @"http://serviceDocument"];
```

To enable your app for localized offline data support, proceed in the same manner as when adding localized string resources. Structure localizable demo data the same way you organize your localizable string resources, that is:

```
- (optional) Bundle  
  
    en.proj/                               Resources localized for English  
        - (optional)OfflineDataDir  
        Localizable.strings  
        MyApp.nib  
        ...  
    de.proj/                               Resources localized for German
```



```

- (optional)OfflineDataDir
Localizable.strings
MyApp.nib
...
ja.lproj/                               Resources localized for Japanese
- (optional)OfflineDataDir
Localizable.strings
MyApp.nib
...
...

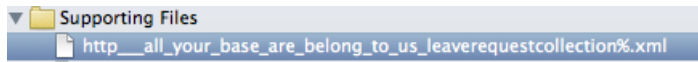
```

You can place your offline demo data in a dedicated bundle; to do so, follow the localizable.strings directory structure shown above.

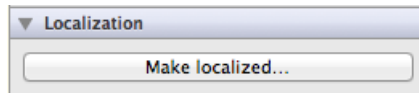
There are four different approaches for organizing your localizable offline data:

**1.** Place localizable demo data in the localizable resources folders.

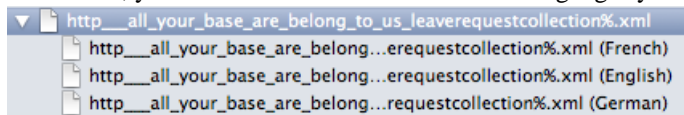
- a) Copy your localized demo XMLs to the appropriate <language\_code>.lproj (en.lproj, de.lproj, jp.lproj, and so on) directories. The latest versions of Xcode hide the folder structure, and present a logical view of the localized files. In this case, select your localizable offline XMLs in the project navigator:



- b) In the right pane, choose Localization, then click Make Localized. Select the language of choice, and click Localize.

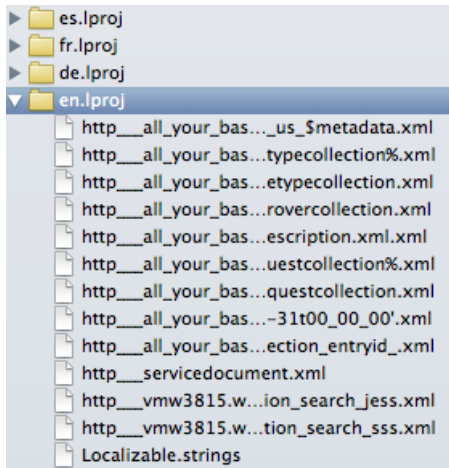


- c) Repeat this for every offline XML file, and each language you want to support. As a result, your resource file is localized to the languages you specify:



The corresponding en.lproj, de.lproj, fr.lproj, and so on directories are created in the file system.

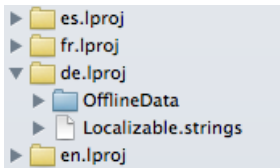
- d) As a last step, overwrite the contents of each directory with your localized XMLs.



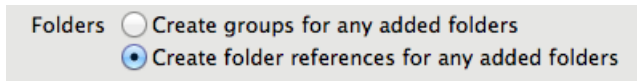
- e) Enable demo mode and pass the base URL to `SDMDataSource` so it points to your SVC document. For example:

```
[SDMDataSource setDemoMode:YES];
[SDMDataSource setBaseURL:@"http://
serviceDocument"];
```

**2. Place localizable demo data in a dedicated directory under localizable resources.**



- a) Select Create folder references for any added folders when adding the resources. The blue directory icon (“OfflineData”) denotes a real directory, while the yellow icons indicate logical groups.

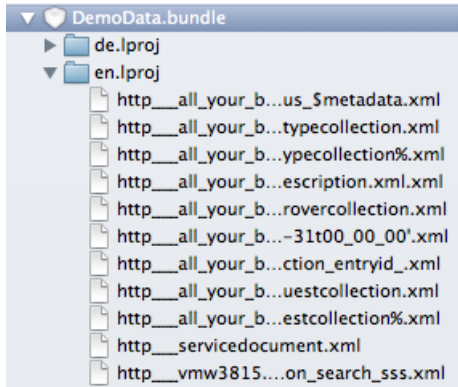


- b) In your code, when you initialize the `SDMDataSource` library, enable the demo mode, set the base URL to point to your SVC document, and set the demo data directory:

```
[SDMDataSource setBaseURL:@"http://serviceDocument"];
[SDMDataSource setDemoDataDir:@"OfflineData"];
[SDMDataSource setDemoMode:YES];
```

**3. Place localizable data in a dedicated bundle.**

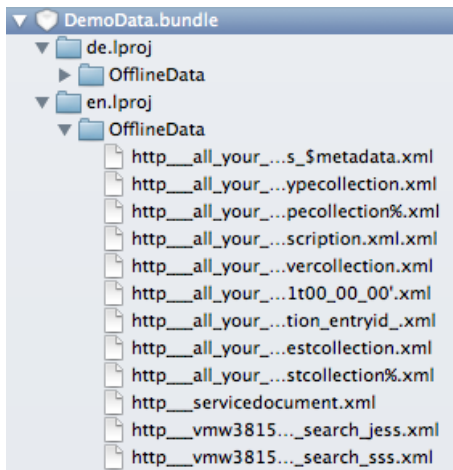
- a) Place your demo data in a separate bundle, to prevent it from getting mixed with other resources.



b) Identify the demo data bundle to the framework:

```
[SDMDataSource setBaseURL:@"http://serviceDocument"];
[SDMDataSource setDemoDataBundleName:@"DemoData"];
[SDMDataSource setDemoMode:YES];
```

4. Pack your app's localizable demo data into a bundle and directory.



a) Set the bundle and the demo data directory:

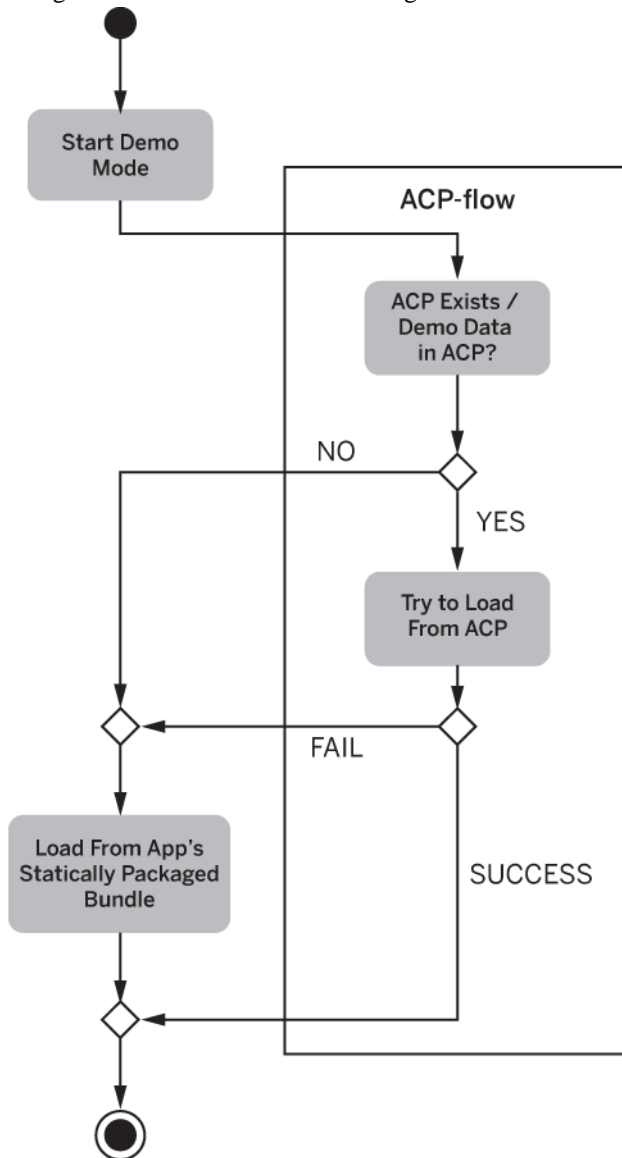
```
[SDMDataSource setBaseURL:@"http://serviceDocument"];
[SDMDataSource setDemoDataBundleName:@"DemoData"];
[SDMDataSource setDemoDataDir:@"OfflineData"];
[SDMDataSource setDemoMode:YES];
```

If the demo data for a given localization is missing, the offline data is picked from the main bundle's root or from the en.lproj directory.

*Demo Data Provisioned via ACP*

Customers can provision their own offline demo data set.

The Extensibility Framework uses custom demo data when it is available, instead of relying on the offline data set that is statically bundled with the application. This diagram demonstrates the logic for offline demo data handling:



Package the required XMLs in the Application Configuration Profile (ACP), and place them in a dedicated demo/ios subdirectory.

### *ACP Folder Structure*

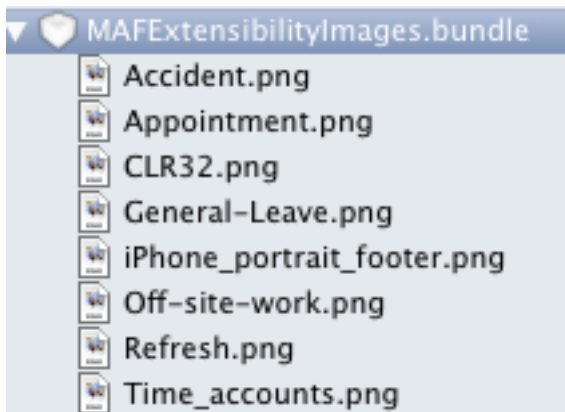
- META-INF
- tiles
- styles
- img
  - ios
    - iphone
    - ipad
  - android
    - ldpi
    - mdpi
    - hdpi
    - xhdpi
- strings
- ext
- demo (this folder contains offline data used by the application in demo mode)
  - ios
  - android

The offline demo data structure and content provisioned via the ACP must match the structure that is bundled with the application. This means that the offline file names, the bundle name, and the directory name inside the bundle (if any) must be identical.

### *Adding and Accessing Default Images*

Bundle default images with your app.

You can specify default images with your app in a special bundle called `MAFExtensibilityImages.bundle`.



At runtime, you can replace any image used within a tile with an image from an ACP.

### *Specifying Default Images*

You can specify default images associated to tiles either in the configuration, or by inserting a Base64-encoded image resource into the extensibility layout XML file.

In the configuration, set the `imageSrc` attribute and assign an identifier in the form "`<png_image_name_without_extension>`".

Add the Caution/Example/... paragraphs to your Quick Parts in the Insert ribbon (Insert > Quick Parts > Save Selection to Quick Part Gallery). Then delete these paragraphs below.

#### Caution

Add a bundle called `MAFExtensibilityImages.bundle` to the project. All the image resources referenced in the layout XML must be located in this bundle; otherwise, the Extensibility Framework cannot load them.

In this example, you must add the image named `leave_request.png` to the project, so it is available in the application bundle.

```
<Tile tileId="leave_request_composite ">
  <P pid=" title" value="$_i18n.leaverequest"/>
  <P pid=" imageSrc" value="leave_request"/>
  ...
</Tile>
```

Alternatively, you can insert a Base64-encoded image resource into the extensibility layout XML:

```
<Tile tileId="leave_request_composite ">
  <P pid=" title" value="$_i18n.leaverequest"/>
  <P pid=" imageSrc" value=
  "iVBORw0KGgoAAAANSUHEUgAAAEIAAAAhCAYAAABtNH0cAAAAGXRFWHRtb2Z0d2FyZQ
  BBZG9iZSBjYWFbnFzVjJlYWRS5cc1lPAAAAyJpVFh0WE1MOmNvbS5hZG9iZS54bXAAAAAA
  Dw/eHBhY2tldCBiZWdpbj0i77u/
  IiBpZD0iVzVNME1wQ2VoaUh6cmVTek5UY3prYzlkIj8+IDx4OnhtcG1ldGEgeG1sbnM
  6"/>
  ...
</Tile>
```

### Implementation and Coding

#### *Loading the Library*

Once you have appropriately set up the environment, you can start coding apps.

These steps are required only if you use the built-in datasource adapter to fetch and parse OData entries. If you use your current data provider and pass the data to the framework-powered tiles, you can skip these steps. See *Adding Configuration-Based Tiles to Programmed View Controllers* on page 2763.

1. Set up a connection (via SAP Mobile Platform or HTTP), or use demo mode.

- For demo mode, you need the offline XML files, which represent the OData payloads (service document, metadata, OData entries).
  - To use the secure SAP Mobile Platform channel, authenticate the user, for example, by using the Logon component of Mobile Application Framework:  
MAFLogonManagerNG and MAFLogonUING.
2. Manage configuration changes. Validate and apply your custom configuration. If you have not created a custom configuration, or if the configuration is invalid, you can use the bundled layout XML.  
The Extensibility Framework does not use any automatic fallback strategies for configuration issues. However, it exposes the APIs required to validate the configuration, and then uses either the bundled or the external custom configuration profile.
  3. Instantiate an SDMDDataSource instance and invoke the loadModel: API to fetch the service document and the metadata. When the call completes, instantiate a MAFSDMDataSourceAdapter (or your custom MAFDataSourceAdapter) and set it via the MAFCore -setDataSourceAdapter API.
  4. Start the Extensibility Framework using one of the MAFCore loadWithWindow: APIs.

To use the styling library, link against the required reusable MAFUIComponents library. The Extensibility Framework automatically applies the default SAP style to the rendered UI elements. (The default style metadata, SAPDefaultStyles.xml, is part of the MAFUIComponents.bundle. Include this resource in your project.)

To apply custom styling, add the style XML resource to your project and use the MAFCore -setApplicationSpecificStylePath API to set the path that points to your custom style data (see the code below).

This example shows the adapted didFinishLaunchingWithOptions: method application delegate API, which executes the required steps to setup and start the Extensibility engine. This example uses an HTTP connection to access OData content. If you need an ODP/SAP Mobile Platform connection, use MAFLogonManager for authentication.

```
- (BOOL)application:(UIApplication *)application
didFinishLaunchingWithOptions:(NSDictionary *)launchOptions
{
    self.window = [[[UIWindow alloc] initWithFrame:[[UIScreen
mainScreen] bounds]] autorelease];

    // set image folders
    [[MAFUIManager sharedInstance] setImagesBundleName :
@"MAFExtensibilityImages.bundle"];

    self.viewController = [[[ViewController alloc] init] autorelease];
    self.window.rootViewController = _viewController;

    // pass the styling relevant configuration path
    NSString* appStylePath = [[NSBundle mainBundle]
pathForResource:@"AppSpecificStyles" ofType:@"xml"];
    [[MAFCore sharedInstance] setApplicationSpecificStylePath:
appStylePath];
    // initialize the datasource adapter
```

```

[SDMDataSource setUsername:@"<username>"];
[SDMDataSource setPassword:@"<password>"];
[SDMDataSource setRequestType:SDMHTTPRequestType];

[SDMDataSource setBaseURL:@"<endpoint url>"];

// validate the XML
VALIDATION_RESULT validationResult = [[MAFCore sharedInstance]
validateCustomConfiguration:configPath];

// 1. if no layout XML found in the Documents dir, use the bundled
one
if( validationResult == CUSTOM_CONFIGURATION_NOT_FOUND )
{
    [[MAFCore sharedInstance] setUseBuiltInConfiguration:YES];
    [self startExtensibilityEngine];
}
// 2. custom configuration found, but failed validation
else if( validationResult ==
CUSTOM_CONFIGURATION_FOUND_AND_NOT_VALID )
{
    // inform the user, perform fallback logic and so on.
}
// 3. custom configuration found and valid -> use it
else
{
    [[MAFCore sharedInstance] setUseBuiltInConfiguration:NO];
    [self startExtensibilityEngine];
}

return YES;
}

- (void) startExtensibilityEngine
{
    // initialize the SAP Mobile Platform OData facade
    __block SDMDataSource* dataSource = [[SDMDataSource alloc] init];

    // initialize the data source facade
    [dataSource loadModel:^(NSError* error)
    {
        if( !error )
        {
            // initialize and set the data source adapter
            MAFSDMDataSourceAdapter* datasourceAdapter =
[[[MAFSDMDataSourceAdapter alloc] init] autorelease];
            [[MAFCore sharedInstance]
setDataSourceAdapter:datasourceAdapter];

            // Start Extensibility
            [[MAFCore sharedInstance] loadWithWindow:self.window
andCompletionBlock:^(NSError* error)
            {
                if(error)
                {
                    NSLog( @"Error occured during model loading.

```



```

Domain: %@, error code %i, details:%@", error.domain, error.code,
[error.userInfo objectForKey:NSLocalizedStringKey] );
    }
    }];
}
// loadModel failed
else
{
    UIAlertView *alertView = [[UIAlertView alloc]
initWithTitle:@"Error" message:@"Data model could not be loaded"
delegate:nil cancelButtonTitle:@"Close" otherButtonTitles:nil]
autorelease];
}

[dataSource release];
}];
}

```

### *Initialization Status*

Extensibility Framework initialization is signaled in the completion block of the `MAFCore loadWithWindow: andCompletionBlock: API`. A non-nil `NSError` pointer passed to the completion block by the framework indicates one or more issues during initialization, which you must correct before you can continue.

```

[[MAFCore sharedInstance]loadWithWindow:self.window window
andCompletionBlock:^(NSError* error)
{
    if(error)
    {
        // error during extensibility framework init
        // perform proper error handling, notify the end user
        ...
    }
else
    {
        // everything ok, proceed as usual
        ...
    }
}];

```

### *Framework Busy States*

The Extensibility Framework internally fetches and converts data based on the data bindings defined in the configuration.

Set up a subscription to be notified about the execution of these time-consuming tasks, so that you can, in turn, notify the device user, or intercept any issues occurring during data fetching and processing. The framework communicates with the app's delegate by invoking the delegate methods defined by the `MAFExtLoadingDelegate`.

For example, in the online OData scenario when the service document and the metadata fetch is started, the framework invokes the `mafExtLoadingStartedForBindingDescriptor` delegate method, if it is implemented by the app delegate. At this point, you can show a progress bar or

an alert view to notify the user that something is happening. Once the loading process completes, the `mafExtLoadingFinished` delegate is called; you can dismiss the alert view here.

Applications must also handle loading process failures. In such cases, the `mafExtLoadingFailedWithError:` delegate method is called, which lets you handle the error and notify the device user about the issue. The supplied `NSError` object contains problem details; use this object for debugging, logging, and tracing.

This example demonstrates how to handle the framework busy state: it shows an alert view while the framework is busy, which is then dismissed in the delegate method invoked by the framework when all tasks have completed.

```
#pragma mark MAFExtLoadingDelegate methods

- (void) mafExtLoadingStartedForBindingDescriptor :
(MAFBindingDescriptorBase*)bindingDescriptor_in
{
    self.alertView = [[[UIAlertView
alloc] initWithTitle:@"Loading..." message:nil delegate:self
cancelButtonTitle:nil otherButtonTitles:nil] autorelease];
    [self.alertView show];
}

- (void)mafExtLoadingFinished
{
    [self.alertView dismissWithClickedButtonIndex:0 animated:YES];
    self.alertView = nil;
}

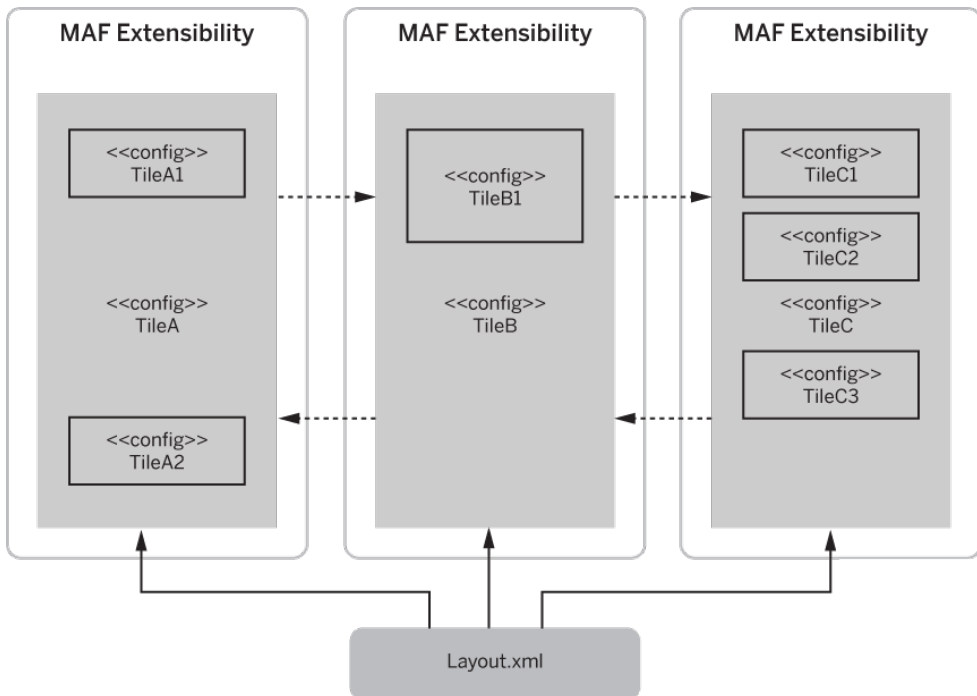
- (void)mafExtLoadingFailedWithError:(NSError *)error_in
{
    //dismiss loading alertView
    [self.alertView dismissWithClickedButtonIndex:0 animated:YES];
    self.alertView = nil;

    NSLog(@"Reason: %@", [error_in description]);
}
```

### *Fully Metadata-Driven Apps*

You can develop applications that rely purely on configuration. You can develop a fully metadata-driven app by describing the UIs, data bindings, screen transitions, and actions in the layout XML.

The Extensibility Framework resolves the bindings, creates the UIs and inserts them into the navigation chain, and manages the default actions when the device user interacts with the controls.



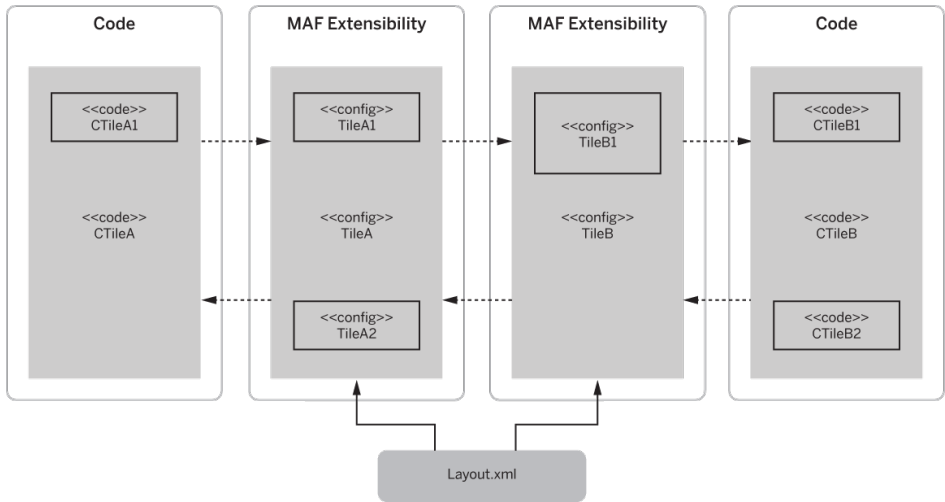
If you set up the layout XML correctly, the app is fully functional as soon as you add a few lines of code to the app delegate, as described in *Loading the Library* on page 2754.

### *Mixing Coded and Metadata-Driven Tiles*

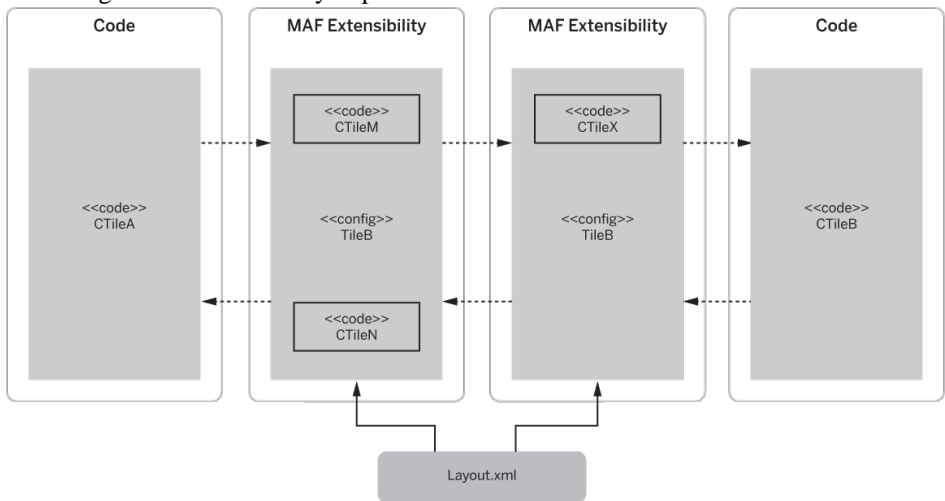
With the Extensibility Framework, you can freely combine metadata-driven tiles and native iOS view controllers (also views and controls).

- You can insert coded UIs, and UIs from the layout XML, in the same navigation chain. The root tile itself (the app's initial UI) can also be metadata driven.

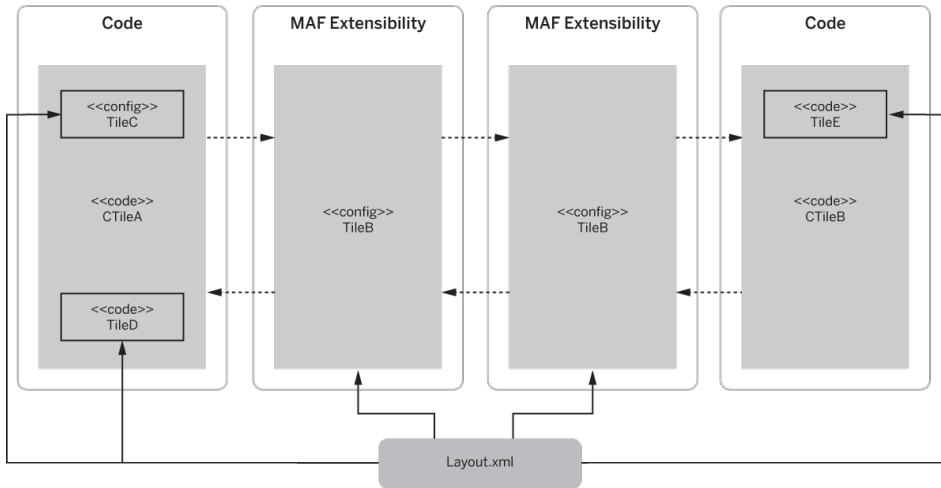
## Native OData App Development



- You can add a manually coded view to a metadata-driven tile. The subview is positioned according to the coordinates you provide.



- You can add a metadata-driven subview to a programmatically built UI.



- You can combine configuration-based tiles and subviews, which is a freestyle combination of the above scenarios.
- You can create custom tiles by taking over the creation of specific tiles or tile controllers. The Extensibility Framework notifies the client when a tile is about to be created. To take over the creation of specific tiles, implement and register a `MAFTileCreatorDelegate` (see *Intercepting Tile Creation Events*).
- You can customize controller logic by intercepting notifications about data management and action messages sent by the various controls. See *Listening for Configuration-Based Control Events* and *Feeding the Tile with Custom Data*.

### Intercepting Tile Creation Events

You can register delegates that are called by the Extensibility Framework before and after tile creation.

This lets you provide a custom tile, or modify the one that has been created by the framework. You have two options:

- Make your app delegate a `MAFTileCreatorDelegate`; the framework checks whether the app delegate responds to the tile creator delegate APIs, and calls them if they are available.
- Create a specific class that adheres to the `MAFTileCreatorDelegate` protocol, and implements its delegate methods. Make sure you register the delegate via the `MAFCore -setTileCreatorDelegate` API.

The `MAFTileCreatorDelegate` declares these APIs:

```
-(MAFTile*) willCreateTileWithId:(NSString*)tileID_in andContext:
(MAFExtContext*)context_in;
-(void) didCreateTile:(MAFTile*)tile_in;
```

To go with the first option, add the `MAFTileCreatorDelegate` to the `AppDelegate`:

```
// AppDelegate.h
#import "MAFTileCreatorDelegate.h"
```

```
@interface AppDelegate : UIResponder <UIApplicationDelegate,  
MAFTileCreatorDelegate>
```

To take over the task of creating the tile with ID LoginScreen, implement the willCreateTileWithId: API:

```
// AppDelegate.m  
// skipping the usual AppDelegate code for brevity  
#pragma mark - MAFTileCreatorDelegate Delegates  
/**  
 * The app delegate shall implement this method in the App Delegate  
 in order to build custom tiles for specific identifiers.  
 * @return nil if the client does not intend to create the tile for a  
 given ID  
 */  
-(MAFTile*) willCreateTileWithId:(NSString*) tileID_in andContext:  
(MAFExtContext*) context_in  
{  
    MAFTile* tile = nil;  
    if ([tileID_in isEqualToString:@"LoginScreen "])  
    {  
        // create the Tile and all it's subviews  
programmatically  
        tile = [[[CustomLoginScreenMAFTile alloc] init]  
autorelease];  
    }  
    return tile;  
}
```

If you implement the MAFTileCreatorDelegate didCreateTile: API, the framework invokes this delegate method each time a tile is built. This allows you to add custom subviews or controls to a metadata-driven tile, or to modify the tile's content. See *Coded Subviews Embedded in Metadata-Driven Tiles* on page 2763.

```
/**  
 * The app delegate shall implement this method in the App Delegate  
 in order to decorate configuration based tiles for specific  
 identifiers.  
 */  
-(void) didCreateTile:(MAFTile*)tile_in  
{  
    // access and modify tile contents  
}
```

### *Adding Extensible UIs to an Existing App*

To make only certain parts of your app extensible; for example, you can add a metadata-driven tile as a subview to a manually programmed UIViewController, or insert it into the navigation chain.

Retrieve the tile using MAFUIManager tileByIdentifier:

```
MAFTile* tile = [[MAFUIManager sharedInstance]  
tileByIdentifier:@"SalesOrders"];
```

You can use the tile in the same way as the `UIViewController`: push it to the navigation chain, display it modally, retrieve its subviews, and so on. For example, you can push the tile that has been retrieved by the above code snippet into the navigation stack using:

```
[self.navigationController pushViewController:tile animated:YES];
```

### *Coded Subviews Embedded in Metadata-Driven Tiles*

You can add a manually coded view or control to a tile.

To add a manually coded view or control to a tile, implement the `didCreateTile:` delegate method in the `AppDelegate` (see *Intercepting Tile Creation Events* on page 2761). This method is invoked by the framework when a tile is created. Since the tile is also passed as a parameter, you can freely modify it, by adding subviews (views and controls), reordering existing subviews, and so on.

This example adds a label to the `PurchaseOrders` tile:

```
-(void) didCreateTile:(MAFTile*)tile_in
{
    if ([tile_in.identifier isEqualToString:@"PurchaseOrders"])
    {
        // add a button
        UILabel* label = [[[UILabel alloc] initWithFrame: CGRectMake(200,
        300, 200, 40)] autorelease];
        // add the element
        [tile_in.view addSubview:label];
    }
}
```

For another way to add a coded subview to a metadata driven tile, see *Creating Custom UI Elements* on page 2767.

### *Adding Configuration-Based Tiles to Programmed View Controllers*

You can retrieve a configuration-based tile using the `MAFUIManager` `tileByIdentifier:` API.

The Extensibility Framework generates the required tile, or returns `nil` if it cannot be built due to a malformed or missing configuration.

This code demonstrates how to call the `tileByIdentifier:` API to create a tile and add it as a subview to a coded view controller's view:

```
// CustomViewController.h
@property(n nonatomic, retain) MAFTile* subtile;
// CustomViewController.m
@implementation
@synthesize subtile;
...
self.subTile = [[MAFUIManager sharedInstance]
tileByIdentifier:@"AddressTile"];
subTile.view.frame = CGRectMake(30, 80, 320, 360);
[self.view addSubview:subTile.view];
```

Retain the tile that provides the subviews to be embedded in the programmed view controller, or, in ARC-enabled projects, mark it as a strong property.

### *Provisioning Configuration-Based Tiles with Custom Data*

You can provision the data for the metadata-driven tile.

To do this, you can either:

- Assign a custom data source adapter delegate for the tile, or,
- Pass the context to the tile upon creation. Make sure that the context holds the correct content, that is, custom data structures must be converted to MAFGenericBO objects.

The code below defines a custom data object of the TimeSheetEntry type, and feeds the metadata-driven tile with this model. First, the data is converted from TimeSheetEntry to a TimeSheetEntryBO class that implements the MAFGenericBO protocol so that the Extensibility Framework can digest it.

The TimeSheetEntryBO must map the attributes to the ones defined in MAFGenericBO. For an example, look at the CustomAppUsingMAF demo app's source.

After the conversion, build the context:

```
// Create context from BOs
// tseBO is an instance of TimeSheetEntryBO, which implements
MAFGenericBO protocol
NSMutableArray* items = [NSMutableArray arrayWithObject:tseBO]; //
in this special case we have only one BO to bind
MAFContext* context = [[MAFContext alloc] init];
[context setBOs:items ForBindingID:@"TimeSheetEntryRef"];

// Create the tile via MAF Extensibility
MAFTile* subTile = [[MAFUIManager sharedInstance]
tileByIdentifier:@"DetailTileNewWithCustomData"
withContext:context];
subTile.view.frame = CGRectMake(30, 80, 320, 360);
[self.view addSubview:subTile.view];
[context release];
```

A different initializer is used here, MAFUIManager + tileByIdentifier: withContext:, which passes the context for the tile to be created. The framework finishes the rest of the tile creation process.

### *Embedding a Custom Control in a Metadata-Driven Tile*

Similarly to adding a custom subview to a metadata-driven tile, you can embed a custom UIControl element in a tile.

The framework renders the control, but you must handle the events and the actions (described in the configuration) according to your own requirements.

You can add custom controls (UIButton, UIPickerView, and so on) as subviews to a metadata-driven tile. Action messages generated by these custom controls are routed back to the custom view controller that built the controls, and are processed as usual.



### *Listening for Configuration-Based Control Events*

You can set a delegate to intercept messages sent by the UI controls after a user interaction, for example, after tapping a button.

Implement the `MAFTileActionHandlerDelegate` protocol, and register the delegate via `MAFTileCreatorDelegate`'s `registerActionHandlerDelegateForTile:` API.

The `MAFTileActionHandlerDelegate` protocol exposes a single API that you must implement to listen for action handling:

```
- (BOOL) performAction:(MAFActionDescriptor*)actionDescriptor_in
onTile:(MAFTile*)tile_in sender:(UIView*)sourceUIElement_in context:
(MAFContext*)context_in waitUntilDone:(BOOL*)waitUntilDoneFlag_in;
```

You can specify in the return value to either process the given action or let the framework handle it. Return YES to take over processing of a particular action; otherwise, return NO. To execute both your own logic and the framework's, perform your custom logic and return NO.

The `actionDescriptor_in` parameter holds information about the action that has been fired by the view or control. This configuration describes a button that fires a "navigate" action after the device user taps the button:

```
<!-- UIButton -->
<UIElement type="button">
  ...params skipped for brevity
  <!-- assign events -->
  <Event eventId="onClick">
    <!-- ...and actions -->
    <Action actionId="navigate">
      <P pid="target" value="AppScreen" />
    </Action>
  </Event>
</UIElement>
```

`tile_in` holds the view or control (a `UIButton` in this example) that receives the event (`onClick`) and fires the action (`navigate`). The `waitUntilDoneFlag_in` parameter is passed as a `BOOL` pointer, so that the delegate implementation can set its value (default: NO). If you set this flag to YES (`*waitUntilDoneFlag_in = YES;`), the framework pauses further action processing. To restart action processing, send a `kMAFProcessFurtherActions`:

```
// Notify framework to continue action processing
[[NSNotificationCenter defaultCenter]
postNotificationName:kMAFProcessFurtherActions object:nil];
```

You can also send a `kMAFDeleteFurtherActionsFromQueue` notification to drop all further queued actions:

```
// Notify framework to drop all remaining queued actions
[[NSNotificationCenter defaultCenter]
postNotificationName:kMAFDeleteFurtherActionsFromQueue object:nil];
```

To handle a custom action (`MyCustomActionID`) in a custom tile controller, use:

```
- (BOOL) performAction:(MAFActionDescriptor*)actionDescriptor_in
onTile:(MAFTile*)tile_in sender:(UIView*)sourceUIElement_in Context:
(MAFContext*)context_in waitUntilDone:(BOOL*)waitUntilDoneFlag_in
{
    BOOL retVal = NO;
    switch (actionDescriptor.actionType)
    {
        case MAFEXT_ACTION_TYPE_CUSTOM:
        {
            if ([actionDescriptor.customActionID
isEqualToString:@"MyCustomActionID"])
            {
                //perform custom action
                ...
            }
            // set return value to YES, indicating that we handled the event, and
            // the framework should not try to process it
            retVal = YES;
        }
        } break;
        ...
    }
    return retVal;
}
```

### *Feeding the Tile with Custom Data*

You can provide custom data for specific tiles, that is, you can feed the tile with custom data from a database of your choice.

To use a global custom datasource adapter, implement a class that adheres to the `MAFDataSourceAdapter` protocol, using either the `MAFCore -setDataSourceAdapter:` API, or the `MAFCore -loadWithWindow:dataSourceAdapter:andCompletionBlock:` API. You can do this by implementing the `MAFTileDataSourceDelegate`, which exposes three optional delegate methods:

- - (void) willLoadContext:(MAFContext\*\*)context\_in\_out forTile:(MAFTile\*)tile\_in;

This delegate is invoked before the context loading starts. It allows you to replace or modify the context.

- - (void) didLoadContext:(MAFContext\*)context\_in forTile:(MAFTile\*)tile\_in;

The framework calls this delegate after the context loading completes.

- - (void) loadContextForMAFTile:(MAFTile\*)tile\_in failedWithError:(NSError\*)error\_in;

Implement this delegate to be notified about context loading issues. The error parameters contain information about the error. The delegate is invoked only if errors exist.

You can register datasource delegates via the `MAFTileCreatorDelegate`'s `registerDataSourceDelegateForTile:` API.

### Creating Custom UI Elements

To intercept UI element creation notifications, use `MAFUIElementCreatorDelegate`, which lets you create custom subviews or decorate the ones created by the framework.

`MAFUIElementCreatorDelegate` declares these APIs:

- `-(UIView*) willCreateUIElementWithId:(NSString*)uiElementId_in listItemIdIndex:(NSNumber*)listItemIdIndex_in tileDescriptor:(MAFTileDescriptorBase*)tileDescriptor_in context:(MAFContext*)context_in;`

Implement this delegate method and return a valid `UIView*` to create a custom UI element. The method is invoked by the framework before subviews are created; therefore, you can use the `uiElementId_in` parameter to intercept only the UI elements of your choice. The `tileDescriptor_in` parameter provides additional information about the subview's tile.

- `-(void) didCreateUIElement:(UIView**)uiElement_in_out id:(NSString*)uiElementId_in listItemIdIndex:(NSNumber*)listItemIdIndex_in tileDescriptor:(MAFTileDescriptorBase*)tileDescriptor_in context:(MAFContext*)context_in;`

This delegate method is invoked after a UI Element is created. `uiElement_in_out` is passed as a reference, so you can decorate or replace the `UIView`.

- `-(UIViewController*) willCreateViewControllerWithUIElementId:(NSString*)uiElementId_in listItemIdIndex:(NSNumber*)listItemIdIndex_in tileDescriptor:(MAFTileDescriptorBase*)tileDescriptor_in context:(MAFContext*)context_in;`

Implement this delegate method to provide a custom view controller for specific views. Register the delegate via the `MAFTileCreatorDelegate`'s `registerUIElementCreatorDelegateForTile:` API.

This example demonstrates how to create a `UILabel` with the ID "CustomLabel" in the configuration and return to the Extensibility Framework, which adds the label as a subview to the tile:

```
- (UIView*) willCreateUIElementWithId:(NSString*)uiElementId_in
listItemIdIndex:(NSNumber*)listItemIdIndex_in tileDescriptor:
(MAFTileDescriptorBase*)tileDescriptor_in context:
(MAFContext*) context_in
{
    UIView* result = nil;
    if ([uiElementId_in isEqualToString:@"CustomLabel "])
    {
        UILabel* label = [[UILabel alloc] init] autorelease;
        label.text = @"This is a custom Label";
        label.textColor = [UIColor redColor];
        label.backgroundColor = [UIColor yellowColor];
        result = label;
    }
    return result;
}
```

### *Fixing Data Validation Issues*

Data is fetched, validated, and transformed into generic business objects. The extensibility layer displays the data on its views and subviews.

When you modify or create data, you must validate and transform the generic BO back to the database-specific format (OData) before you commit it to the database. The validation step may fail, for example, because of malformed, non-OData-compliant date/time values. If you set an error handler delegate property that is exposed by the datasource adapter library, you can listen for and fix conversion-related issues.

```
@property (nonatomic, assign)
id<MAFSDMEntryConvertErrorHandlerDelegate>
conversionErrorHandlerDelegate;
```

MAFSDMEntryConvertErrorHandlerDelegate declares these delegate methods:

- `-(BOOL) willConvertODataEntryToBO:(SDMODataEntry*)entry_in collectionName:(NSString*)collectionName_in;`

Implement this delegate method to intercept the OData entry before it is converted to a generic BO. Pass the entry to be converted and the name of the collection the entry belongs to to the method. Return YES to perform the conversion; otherwise, return NO.

- `-(void) didConvertODataEntryToBO:(SDMODataEntry*)entry_in collectionName:(NSString*)collectionName_in bo:(id<MAFGenericBO>)bo_in;`

Implement this delegate method to be notified when the OData entry to generic BO conversion finishes.

- `-(BOOL) willConvertBOToODataEntry:(id<MAFGenericBO>)bo_in boType:(NSString*)boType_in;`

Implement this delegate method to intercept the generic BO before it is converted to an OData entry, that is, when the Extensibility Framework commits data to the database. The generic BO to be converted and its type (which must match the collection name the entry belongs to) is passed to the method. Return YES to perform the conversion; otherwise, return NO.

- `-(void) didConvertBOToODataEntry:(id<MAFGenericBO>)bo_in boType:(NSString*)boType_in entry:(SDMODataEntry*)entry_in;`

Implement this delegate method to be notified when the generic BO to OData entry conversion finishes.

### *Handling Provisioning Updates*

When customers upload a new Application Configuration Profile to the SAP Mobile Platform server, the application has to fetch the new configuration as soon as possible.

Therefore, app developers must check whether a new ACP is available. To check it, fetch the ACP bundle ID from the server and compare it with the one previously stored on the client (if any). Whenever a new ACP version is available, the application has to download it, and pass

the compressed data to the Extensibility Framework. Implement the ACP check and download logic so that it executes whenever the app is started or becomes active.

This example implements the logic required to check for, fetch and store ACP bundles:

```

/**
 * Checks whether a new ACP version is available on the SMP server
 * @return the updated ACP bundle ID if a new ACP has been uploaded to
 the SMP server or nil otherwise
 */
-(NSString*) getUpdatedACPBundleID:(SMPAppSettings*) appSettings_in
currentBundleID:(NSString*) bundleID_in
{
    NSString* newBundleID = nil;
    // get current bundle name from SMP server
    NSError* error = nil;

    newBundleID = [appSettings_in
getConfigProperty:@"d:CustomizationBundleId" error:&error];

    if( error )
    {
        NSLog(@"Could not fetch ACP bundle ID. %@",
error.description);
    }
    else
    {
        // check whether a new ACP is available by comparing the
stored bundle ID with the fetched one
        if ( [newBundleID isEqualToString:bundleID_in] )
        {
            NSLog(@"No %@ ACP available on SMP server.", newBundleID ?
@" " :@"new");
        }
        else
        {
            NSLog(@"New ACP available on SMP server with ID %@. ",
newBundleID);
        }
    }

    return newBundleID;
}

/**
 * Updates the local ACP bundle if a new version is available on the
SMP server
 * @remark Call this whenever the application becomes active, usually
after a succesful login
 */
-(void) fetchACPFromSMP
{
    // initialize SMP connection
    SMPClientConnection* clientConn = [SMPClientConnection
initWithAppID:self.applicationId

```

```

domain:@"default"

secConfiguration:self.securityConfig];
    // [clientConn enableHTTP:self.enableHTTP];
    [clientConn setConnectionProfileWithURL:self.applicationUrl];
    [clientConn setApplicationConnectionID:self.appConnId];

    // check whether there is a new ACP on the SMP server
    // get application settings from SMP
    SMPAppSettings* appSettings = [SMPAppSettings
initializeWithConnection:clientConn userName:_userName
password:_pwd];

    NSUserDefaults* userDefaults = [NSUserDefaults
standardUserDefaults];
    //get previously stored bundle version if any
    NSString* currentBundleID = [userDefaults
objectForKey:@"CustomizationBundleId"];

    // check for new ACP version on the server
    NSString* newBundleID = [self getUpdatedACPBundleID:appSettings
currentBundleID:currentBundleID];
    if( newBundleID )
    {
        // fetch the updated ACP bundle
        NSError* error = nil;
        NSData* acpData = [appSettings
getCustomizationResourceBundleWithCustomizationResource:newBundleID
error:&error];

        if( error )
        {
            NSLog(@"Could not fetch ACP bundle. %@",
error.description);
        }
        else if( acpData )
        {
            // unzip and store ACP bundle
            [self storeCustomConfiguration:acpData];

            // update bundle id in user defaults
            [userDefaults setObject:newBundleID
forKey:@"CustomizationBundleId"];
            [userDefaults synchronize];
        }
        else
        {
            UIAlertView* alertView = [[[UIAlertView alloc]
initWithTitle:@"Warning!" message:[NSString stringWithFormat:@"Could
not get application bundle with SMP. Error:%@", [error description] ]
delegate:self cancelButtonTitle:@"Ok" otherButtonTitles:nil]
autorelease];
            [self
performSelectorOnMainThread:@selector(showalertView:)
withObject:alertView waitUntilDone:NO];
        }
    }

```

```

    }
}

/**
 * Uncompresses and stores the compressed resource payload
 * @remark Changes won't be reflected till the next application
 * start.
 * @see loadMAFExtConfig
 */
- (void) storeCustomConfiguration:(NSData*)customResourceData
{
    // write out temporary because the zipmodule works only on disk
    files
    #warning adapt compressed payload name to your app specific one
    NSString *tmpFilePath = [[NSTemporaryDirectory()
    stringByExpandingTildeInPath]
    stringByAppendingPathComponent:@"zippedBundle.tar"];
    [customResourceData writeToFile:tmpFilePath atomically:YES];
    // pass the compressed configuration data
    // MAF will decompress it and place it in the predefined directory
    [[MAFCore sharedInstance] passConfigurationBundle:tmpFilePath];

    [[[UIAlertView alloc] initWithTitle:
    NSLocalizedString(@"Configuration change", nil)
    message: NSLocalizedString(@"New
    configuration from SMP has been
    downloaded.", nil)
    delegate:nil
    cancelButtonTitle:NSLocalizedString(@"Ok", nil)
    otherButtonTitles:nil, nil] autorelease] show];
}

```

The new configuration is applied when the Extensibility Framework gets initialized after executing the above logic. See *Loading the Library* on page 2754.

---

**Note:** The APIs used to check and fetch the ACP are synchronous, therefore it is recommended to execute these methods in the background, so that it does not block the main UI thread. This example shows how to do it using Grand Central Dispatch (GCD):

```

dispatch_queue_t ACPProvisioningQueue =
dispatch_queue_create("ACPProvisioningQueue",
DISPATCH_QUEUE_SERIAL);

dispatch_async(ACPProvisioningQueue, ^{
    [self fetchACPFromSMP];
});

dispatch_release(ACPProvisioningQueue);

```

GCD automatically creates an autorelease pool per queue. However, if you span a thread using NSThread, NSOperation or performSelectorInBackground, you need create an NSAutoreleasePool for that thread.

Consider using the MAF Reuse Logon Manager and the MAF Logon UI.

---

### Mobile Application Workbench

For information on how you can modify the SAP delivered configuration, see the documentation for Mobile Application Workbench on the SAP Help Portal.

### Logging and Tracing

The MAF Extensibility Framework libraries use MAFLogger APIs for logging and tracing.

The MAFLogger provides a built-in console logger, and a built-in file logger, and also acts as a wrapper on top of the SDMLogger (see the SDMSupportability library). By default, noncritical logs are disabled, and therefore, only exceptional cases appear in the log. You can use the MAFLogger:enableNonCriticalLogging API to enable verbose logging; however, enabling this API significantly increases the number of log files.

Serious issues, such as exceptions and validation problems are logged as Error level, while non-critical issues are marked as Warnings.

### Features Not Supported

This version of MAF does not support some features.

These limitations include:

- You cannot currently configure dynamic MAF screens (different screen layouts for different users and screen layouts that change based on user input).
- Scripting inside configuration is not currently supported.
- You cannot define new events in configuration.

### Technical Details

Understand the development principals of business objects, extensibility layouts, functions, adaptors and configuration management.

### *Generic Business Object*

The Extensibility Framework is independent of the underlying data model. Data is represented by generic business objects; the generic business object (BO) is an abstraction introduced on top of the currently supported OData data model.

The generic business object has a type and a unique identifier, and exposes APIs for assigning key-value pairs; additionally, you can query a business object's state, which can be one of:

- **Transient** – exists only on the client, has never been persisted.
- **Persistent** – exists in the database, but has not been modified on the client.
- **Dirty** – has been modified on the client, but the changes have not yet been committed to the database.

Generic business objects also provide undo management capabilities.

The MAFSDMDataSourceAdapter defines the OData-specific MAFSDMBO class, which inherits from the MAFGenericBO. If you implement a custom datasource adapter, you must



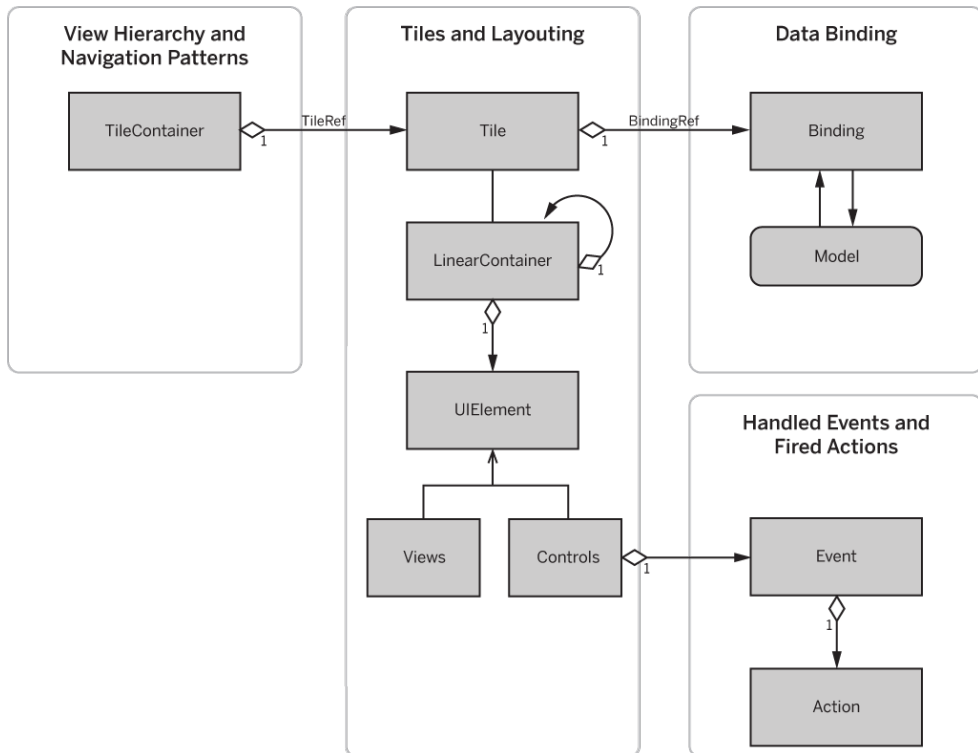
also implement a custom `MAFGenericBO` specialization, and convert the data model to the generic object format.

### Extensibility Layout XML

Configuration is the core of the Extensibility Framework.

Configuration metadata is presented in the form of XML files, which describe:

- The **TileContainer**, which defines the view hierarchy setup and the navigation pattern
- The tiles, including subviews, controls, and layout parameters
- Data binding information, which describes the model that feeds the tiles
- The default or custom actions to be performed when interacting with a control



A layout XML file typically includes these sections:

```

<MAF xmlns="http://schemas.sap.com/layout/0.1/maf">
  <!-- Define the binding -->
  <Binding bindingId="Screws" type="collection">
    <P pid="boType" value="ScrewCollection" />
  </Binding>
  <!-- Define the tile container -->
  <TileContainer tileContainerId="Root" type="nav">
    <P pid="isRoot" value="true" />
    <P pid="isHeaderVisible" value="false" />
  </TileContainer>
</MAF>
  
```

```

    <TileRef ref="ScrewList" />
  </ TileContainer >

  <!-- Define the tile -->
  <Tile tileId="ScrewList">
    <P pid="title" value="{$_i18n.screwList}" />
    <!-- Define the tiles binding reference -->
    <BindingRef ref="Screws">
      <P pid="useContext" value="true" />
    </BindingRef>
    <!-- Layout Definition -->
    <LinearContainer layout="vertical">
      <P pid="height" value="100%" />
      <P pid="width" value="50%" />
      <P pid="halign" value="left" />
      <P pid="margin_top" value="15pt" />
      <P pid="margin_left" value="40pt" />
      <!-- UILabel -->
      <UIElement type="label">
        <!--label text - the $_i18n. prefix denotes a key to
localizable string resource - see also 2.8-->
        <P pid="text" value="{$_i18n.GENERAL_DATA}" />
        <!-- Label style as defined in SAPDefaultStyles.xml - see 2.5-->
      </UIElement>
      <P pid="style" value="CLabelWithLightGreyBackground" />
      <P pid="width" value="85%" />
      <P pid="valign" value="top" />
      <P pid="halign" value="left" />
      <P pid="margin_top" value="10pt" />
      <P pid="margin_left" value="15pt" />
      <P pid="margin_bottom" value="10pt" />
    </UIElement>
    <!-- UIButton -->
    <UIElement type="button">
      <P pid="text" value="{$_i18n.GOTO_MAIN}" />
      <P pid="width" value="85%" />
      <P pid="height" value="36pt" />
      <P pid="margin_bottom" value="7pt" />
      <P pid="style" value="stdButton" />
      <P pid="halign" value="center" />
      <!-- assign events -->
      <Event eventId="onClick">
        <!-- ...and actions -->
        <Action actionId="navigate">
          <P pid="target" value="AppScreen" />
        </Action>
      </Event>
    </UIElement>
    <!-- Further UI definitions - see XSD for all supported UI
elements and controls -->
  </LinearContainer>
</Tile>
</MAF>

```

### *Extensibility Configuration XSD*

The `MAFExtensibility.xsd` file and the corresponding metadata configuration XML file provide details about the attributes and values you can use to define a valid Extensibility Framework configuration. `MAFExtensibility.xsd` includes a detailed explanation of all the supported attributes and values.

### *Tile Bindings*

The binding section describes the business objects that feed data to the tile's UI. You must provide the binding definitions at the beginning of the layout XML.

To define a binding in the layout XML, use:

```
<Binding bindingId="LeaveRequests">
  <P pid= "boType" value="LeaveRequestCollection" />
  <!-- Add further binding parameters here -->
</Binding>
```

The binding definition has a unique ID. Each binding can have several parameters, which are documented in the XSD schema. Some of the most frequently used parameters include:

- **boType** – represents the type of business objects, or a collection name (OData).
- **sourceBo** – is a business object for which related data is queried.
- **relationId** – identifies the related collection or entry.
- **orderBy** – orders returned entries by the specified criteria.
- **top** – limits the number of entries to be returned simultaneously.
- **skip** – indicates the number of items to be skipped before a fetch; used for paging.
- **filter** – represents an OData filtering string.

For additional parameters, see the extensive documentation in the XSD file. This tile definition contains a reference to the binding previously defined:

```
<Tile tileId="LeaveRequestList">
  <P pid="title" value= "{$_i18n.leaverequestlist}"/>
  <BindingRef ref="LeaveRequests" />
<!-- further details skipped for brevity -->
</Tile>
```

By default, bindings are resolved at runtime by the framework, but you can add custom control logic to manage the model for specific tiles.

### *Tile Containers*

The tile container represents the container view controller in iOS terms.

Container view controllers let you group together view controllers that work together. This is a task-based approach, where each container controls how the associated view controllers interact. Container view controllers also define transition patterns between the view controllers, resulting in seamless interface patterns. The Extensibility Framework provides support for the most frequently used standard iOS containers:

- Single view (**UIViewController** based)
- Navigation based (**UINavigationController**)
- Tab (**UITabBarController**)
- Split or master-detail (**UISplitViewController**)

You can specify multiple tile containers if the app contains different navigation patterns. However, mark only one tile as the root to make that tile container the app window's root view controller. The framework considers only the first root tile.

You are not required to define a tile container. In some cases, the root container is specified by the hosting app (as documented in *Adding Configuration-Based Tiles to Programmed View Controllers*). The tile container definition should include the tile references that belong to it. The rules for defining tile containers include:

- Single-view and modal apps having a **UIViewController** as a root view controller cannot include a tile container in their configuration. Instead, define the corresponding root tile and mark it as root. The root tile must enclose further tile references and supported events and fired actions, which are brought up modally. For example:

```
<!-- Single View Tile Container -->
  <Tile tileId="Root">
    <P pid="isRoot" value="true" />
    <!--Defines a 'Settings' button, which brings up modally
the SettingsScreen -->
    <UIElement type="button">
      <P pid="text" value="$i 18n.Settings" visible="true" />
      <P pid="halign" value="left" />
      <P pid="width" value="49%" />
      <P pid="height" value="25pt" />
      <P pid="style" value="BlackButton" />
      <!--See Managing Lists for more details on events and actions-->
      <Event id="onClick">
        <Action id="navigate">
          <P pid="target" value="SettingsScreen" />
        </Action>
      </Event>
    </UIElement>
  </ TileContainer >
```

- Navigation-based tile containers can contain only one tile reference. The referenced first tile must enclose the further tile references to where the user can navigate, and supported events and fired actions. For example:

```
<!--Navigation Based Tile Container -->
  <TileContainer tileContainerId="Root" type="nav">
    <P pid="isRoot" value="true" />
    <P pid="isHeaderVisible" value="false" />
    <!--Define the initial Tile - further tiles belonging to the
navigation chain are referenced from the initial tile and so on --
>
    <TileRef ref="Overview" />
  </ TileContainer >
```

- Split-tile containers must include two tile references: the master tile and the detail tile (the same rules apply as for a **UISplitViewController**). For example:

```

<!--Split (Master-Detail) Tile Container -->
<!--!!! It shall have two tiles: the Master and the Detail -->
  <TileContainer tileContainerId="Root" type="split">
    <P pid="isRoot" value="true" />
    <P pid="isHeaderVisible" value="false" />
    <TileRef ref="MasterTile" />
    <TileRef ref="DetailTile" />
  </ TileContainer >

```

- **Tab-based tile controllers must enclose all tile references. For example:**

```

<!-- Tabbed Tile Container -->
  <TileContainer tileContainerId="Root" type="tab">
    <P pid="isRoot" value="true" />
    <P pid="isHeaderVisible" value="false" />
    <TileRef ref="FirstTabTile" />
    <TileRef ref=" SecondTabTile" />
    <TileRef ref=" ThirdTabTile" />
  </ TileContainer >

```

### Tile Definitions

A tile is a UI element that has a visual representation on an iPhone or an iPad screen. It can be an entire screen, a composite tile, or a simple view element.

A basic tile can be described by these parameters:

- **Unique identifier** – (required) precisely identifies the tile inside the framework, or on the client side by the app developer.
- **Title** – (optional) a localizable string ID, text.
- **imageSrc** – (optional) the image that is to appear on the tile; can be either a bundled resource or an image URL.

This example describes a navigation-based application that contains two tiles. Follow the same pattern to add sibling or child tiles. The embedded tile with the “LeaveRequestList” ID is declared as a tile reference inside the enclosing tile’s definition:

```

<?xml version="1.0" encoding="UTF-8"?>
<MAF xmlns="http://schemas.sap.com/maf/2012/cfg">
  <!-- Define a TileContainer (Container View Controller)
  * Here we define a navigation based container (translates to
  UINavigationController)
  * Currently possible values are "nav", "tab"
  (UITabBarController) and "split"
  * (UISplitViewController / iPad)
  -->
  <TileContainer tileContainerId="NavigationContainer"
  type="nav">
    <P pid="isRoot" value="true"/>
    <TileRef ref=" LeaveRequestScreen"/>
  </TileContainer>

  <Tile tileId="LeaveRequestScreen">
<P pid=" title" value="{$_i18n.leaveoverview}"/>
<P pid=" imageSrc" value="MAFExtensibilityImages.bundle/General-
Leave.png">    <!--A linear container arranges the tiles and UI
elements declared in its scope -->

```

```
<LinearContainer layout="vertical">
    <Tile ref="LeaveRequestList"/>
    <!--Further tiles and UI elements skipped for brevity -->
</LinearContainer>
</Tile>

    <Tile tileId="LeaveRequestList">
<P pid=" title" value="{$_i18n.leavelist}"/>
    <!--Further details skipped for brevity -->
</Tile>
</MAF>
```

### Tile Layouts

The framework enables you to build complex metadata-driven UIs in the same manner as with native UIKit elements.

The configuration example in this section describes the tile's layout as presented in this picture:

The UI contains a flat UITableView (ListContainer) with sections (ListSection). Each section contains a label. Note the usage of expressions, for example, this one, which provides the text to appear on the label:

```
<UIElement type="label">
    <P pid="text" value="Since { $_format.date($_date($_year($_now()),
1, 1), long)}" />
    <P pid="width" value="33%" />
    <P pid="margin_left" value="3%" />
    <P pid="style" value="MAFListScreenSectionHeaderTopText"/>
    ...
</UIElement>
```

See *Use of Functions* for a detailed discussion about the expressions that are supported by the Extensibility Framework. TableViewCells are described in the *ListItem* section.

```
<Tile tileId="LeaveRequestList">
<P pid="title" value="{$_i18n.leaverequestlist}" />
<BindingRef ref="LeaveRequests"/>
<!-- Define a ListContainer (UITableViewController) -->
<ListContainer>
    <!-- Content aligned to top and centered horizontally, table
covers full width -->
    <P pid="valign" value="top" />
    <P pid="halign" value="center" />
    <P pid="width" value="100%" />
    <!-- Table section -->
    <ListSection>
        <!-- The cell -->
        <ListItem feed="LeaveRequests">
            <!-- Arrange table cell content -->
            <LinearContainer layout="horizontal">
<P pid="width" value="100%" />
<P pid="valign" value="top" />
            <!-- Arrange the "Leave Type" icon on the left side -->
<LinearContainer layout="vertical">
```

```

    <P pid="valign" value="center" />
    <P pid="halign" value="left" />
    <P pid="width" value="20%" />
    <!-- The image resource -->
    <UIElement type="image">
        <P pid="imageSrc" value="Accident.png" />
        <P pid="halign" value="center" />
    </UIElement>
</LinearContainer>
    <!-- Arrange the labels -->
    <LinearContainer layout="vertical">
    <P pid="width" value="80%" />
    <P pid="halign" value="right" />
        <!-- Label showing the leave duration -->
    <UIElement type="label">
    <P pid="text"
value="{$_concat($_format.date($LeaveRequests.StartDate, medium), ' -
', $_format.date($LeaveRequests.EndDate, medium))}" />
    <P pid="width" value="98%" />
    <P pid="uiElementId" value="DateLabel" />
    <P pid="margin_left" value="2%" />
    <P pid="style" value="MAFListDate" />
    </UIElement>
        <!-- Further details skipped for brevity -->
    </LinearContainer>
    </LinearContainer>
</LinearContainer>
    </ListItem>
    </ListSection>
    </ListContainer>
</Tile>

```

### List Management

The Extensibility Framework lets you define a list container (translates to `UITableViewController`) using the configuration files.

Although you can define cells individually, you can also create a configuration that automatically renders a cell for each BO coming from the binding. This feature is widely used with master-detail application types, which follow a drill-down approach. You can choose from the two approaches or mix them, but you can use only one `ListItem` (`UITableViewCell`) with a feed in a `ListSection`, which groups cells within the definition.

```

<!-- Tile definition -->
<Tile tileId="LeaveRequestList">
    <!-- Tile title comes from a localized resource -->
    <P pid="title" value="{$_i18n.leaverequestlist}"></P>
    <!-- 'LeaveRequests' binding referenced from the tile-->
    <BindingRef ref="LeaveRequests" />
    <ListContainer>
    <ListSection>
    <!-- A feed is assigned to the ListItem => a cell is created and
displayed for each BO -->
    <!-- Warning! A ListSection can only contain one ListItem with a feed

```

```

-->
  <ListItem feed="LeaveRequests">
    <!--the 'actionIndicator' refers to the cell's accessory type -->
    <!-- 'arrow' means disclosure indicator -->
    <P pid="actionIndicator" value="arrow"></P>
    <!--Layout the cell's content -->

    <LinearContainer layout="horizontal">
      <!--UILabel inside the cell -->
      <UIElement type="label">
        <!--UILabel's text is the absence type coming from thebinding -->
        <P pid="text" value="{LeaveRequests.AbsenceTypeName}"></P>
      </UIElement>
    </LinearContainer>
  </ListItem>
<!--/ListSection>
</ListContainer>
</Tile>

```

The Extensibility Framework provides support for grouping table view cells in sections, based on BO property you specify. To use this feature, add the `autoGroupBy` attribute in the `ListSection` as shown in this example:

```

<Tile tileId="GroupScreen">
<BindingRef ref="Titles"/>
<ListContainer>
<!-- autoGroupBy attribute is used to group the items based on their
ratings -->
  <ListSection autoGroupBy="Rating">
<!--Section Header definition for the group 'Rating' -->
    <ListBar>
      <LinearContainer layout="vertical">
        <UIElement type="label">
          <!--Section Header definition for the group 'Rating' -->
          <P pid="text" value="Rating: {Titles.Rating}"/>
        </UIElement>
      </LinearContainer>
    </ListBar>
<!-- Cells with feed -->
<!-- Remark: feed should be the same as used for autoGroupBy -->
    <ListItem feed="Titles">
      <LinearContainer layout="vertical">
        <UIElement type="label">
          <P pid="text" value="{Titles.Name}"/>
        </UIElement>
      </LinearContainer>
    </ListItem>
  </ListSection>
</ListContainer>
</Tile>

```



### Context Management

Tile context acts like a cache, holding the content that is relevant for one or more tiles.

There are two types of contexts:

- **Local** – the context that belongs to a specific tile, which is updated with binding data, or with data passed from or updated by other tiles.
- **Global** – acts like a versatile, central in-memory cache, from which you can manage any custom objects that are identified by a unique ID.

### Automatic and Explicit Context Updates

Automatic and explicit context updates are both supported context management methods.

- **Automatic updates** – use data that is passed from another tile when a navigation action occurs. You can pass BO attributes, references to context or global context data, or to free text. Use `$_context.<attribute>` to refer to an existing local context attribute, and `$_global.<attribute>` for a global context attribute. This example shows how context parameters are passed when the navigate action is triggered. The target tile's (TileB) local context is updated with the two values: a free text and a value coming from a binding:

```
<UIElement type="button">
  <P pid="text" value="Go" />
  <P pid="halign" value="center" />
  <Event eventId="onClick">
    <Action actionId="navigate">
      <!--Context receiver - the target tile which receives the
context upon navigating to it -->
      <P pid="target" value="TileB" />
      <!-- Keys and values to be passed to the target Tile's local
context -->
      <!-- The freetext value "Tablet" is passed for the key "type"
-->
      <P pid="type" value="Tablet" />
      <!-- The movie title coming from the binding MovieTitles is
passed for the key "movie" -->
      <P pid="movie" value="{ $MovieTitles.Name}"
    </Action>
  </Event>
</UIElement>
```

- **Explicit updates** – use the `updateContext` action. Use `updateContext` to update the local context of tiles that appear on the same screen, where navigation is impossible. iPad apps generally update a tile's local context explicitly.

You must specify the target tile (the receiver) in the same way as for automatic updates. Similarly, define the key-value pairs to be passed to the target tile as properties. You can pass BO attributes, references to local or global context data, or to free text. Use `$_context.<attribute>` to refer to an existing local context attribute, and `$_global.<attribute>` for a global context attribute. To pass the same objects to several different tiles, add a new `updateContext` action for every tile and repeat the context

parameters. This example demonstrates how to bind the `updateContext` to the `onClick` event of a button. When the device user taps the button, the `Tile3` target tiles's context is updated for the "platform" and "type" keys.

```
<UIElement type="button">
  <P pid="text" value="Tablet" />
  <P pid="halign" value="center" />
  <Event eventId="onClick">
    <Action actionId="updateContext">
      <!--Context receiver - the target tile which receives the
context-->
      <P pid="target" value="Tile3" />
      <!--the key and value to be updated -->
      <!-- $_context.<attribute> denotes a context attribute -->
      <P pid="platform" value="{$_context.platform}" />
      <!--the key and value to be updated - value is free text in this
case-->
      <P pid="type" value="Tablet" />
    </Action>
  </Event>
</UIElement>
```

### Responses to Context Update Events

The target tile can use the `{$_context.<value>}` syntax to access passed values in its local context.

To update the UI whenever the context changes, hook in for the `onContextChanged` event and perform the `uiRefresh` action.

This example shows how to feed `Tile3`'s labels from the local context.

```
<Tile tileId="Tile3">
  <!--Refresh the UI when the context changes -->
  <Event eventId="onContextChanged">
    <Action actionId="uiRefresh" />
  </Event>
  <!--Stop further UI updates till the context updated event arrives
-->
  <P pid="waitForContext" value="true" />
  <LinearContainer layout="vertical">
    <!-- Details skipped for brevity -->
    <UIElement type="label">
      <P pid="text" value="{$_context.platform}" />
    </UIElement>
    <UIElement type="label">
      <P pid="text" value="{$_context.type}" />
    </UIElement>
    <UIElement type="label">
      <P pid="text" value="{$_context.movieBO.Name}" />
    </UIElement>
  </LinearContainer>
</Tile>
```

In some cases, the tile cannot proceed until the context is updated by other tiles. This is especially true for iPad apps: while the master view is retrieving data, there is nothing to show in the detail view. Once the master tile has all the required data, it can update the detail tile's context by firing an `updateContext` action. The detail tile, which has been on hold if `waitForContext` is enabled, can now resolve its bindings and refresh its UI.

This example demonstrates how the master tile updates the detail tile's context, which is waiting for this to happen:

```
<Tile tileId="MasterTile">
  <P pid="width" value="300pt" />
  <P pid="height" value="910pt" />
  <BindingRef ref="Products" />
<ListContainer>
  <P pid="uiElementId" value="CategoriesList" />
  <P pid="width" value="300pt" />
  <P pid="height" value="910pt" />
  <ListSection>
    <ListItem>
      <ListItem>
        <P pid="actionIndicator" value="arrow" />
        <Event eventId="onClick">
          <!--Update the Detail tile when the user taps the cell-->
          <Action actionId="updateContext">
            <P pid="target" value="DetailTile" />
            <P pid="selectedCategory" value="Notebooks" />
          </Action>
        </Event>
      </ListItem>
    </ListSection>
  <!-- Further details skipped for brevity -->
</ListContainer>
</Tile>

<Tile tileId="DetailTile">
  <!--Refresh the UI when the context changes -->
  <Event eventId="onContextChanged">
    <Action actionId="uiRefresh" />
  </Event>
  <!--Freeze the Tile till the context updated event arrives! -->
  <P pid="waitForContext" value="true" />

  <LinearContainer layout="vertical">
    <!-- Details skipped for brevity -->
    ...
  </LinearContainer>
</Tile>
```

For additional details about context-specific actions and parameters, see the extensibility configuration XSD file.

### *Global Context Management*

The global context is a central repository for custom key-value pairs that are available to both application development and configuration. You can place, retrieve, and delete global context values based on their unique keys.

To update a global context, use the `updateGlobalContext` action. The same syntax and parameters apply as for the local context.

You can insert or update the global context with BO attributes, free text, or custom data. This example shows how tapping a cell triggers the update of the global context for the `releaseYear` key, with the value coming from the corresponding `MovieTitles` binding:

```
<ListItem feed="MovieTitles">
  <Event eventId="onClick">
    <Action actionId="updateGlobalContext">
      <P pid="releaseYear" value="{ $MovieTitles.ReleaseYear}" />
    </Action>
  </Event>
</ListItem>
```

Although tiles should use the local context, they can also access data that is available in the global context. To access global context elements, use the `{$_global.<value>}` syntax. This example shows how `TileWithGlobalContext` uses values that are stored in the global context:

```
<Tile tileId="TileWithGlobalContext">
  <LinearContainer layout="vertical">
    <!-- Details skipped for brevity -->
    <UIElement type="label">
      <P pid="text" value="{ $_global.
MovieTitles.ReleaseYear }" />
    </UIElement>
    <UIElement type="label">
      <P pid="text" value="{ $_context.type}" />
    </UIElement>
  </LinearContainer>
</Tile>
```

### *Definitions of Events and Actions*

Actions define how a control reacts to user interactions or internal events.

In iOS, events and actions defined in the configuration serve the same purpose as achieved via the `UIControl addTarget: action:forControlEvents` API when writing native code. The Extensibility Framework currently supports these event types:

- `onClick` (touch - `UIControlEventTouchUpInside`)
- `onLongClick` (touch and hold)
- `onOrientationChange` (on-phone orientation change)
- `onEnter` (on Enter pressed)

- `onDidLoad (viewDidLoad)`
- `onViewWillAppear`
- `onChange`
- `onSearch (search pressed)`
- `onDataLoaded`
- `onCreate`
- `onDidAppear`
- `onProgressCanceled`
- `onContextChanged`
- `onGlobalContextChanged`

The `onClick` event, which translates to `UIControlEventTouchUpInside`, is the most commonly used user interaction event type.

The actions that define what happens when an event is triggered include:

- `navigate` – navigates to another screen with a given target tile.
- `back` – returns to the previous screen.
- `edit` – places the view in edit mode.
- `copy` – copies attributes from the source object to the target object.
- `save` – saves the changes made to the current object.
- `delete` – deletes the current object.
- `uiRefresh` – refreshes the current tile's views.
- `dataReload` – reloads the data.
- `showModal` – presents the tile modally.
- `dismissModal` – closes a modal screen.
- `updateContext` – updates the tile's context.
- `clearContext` – purges the context.
- `updateGlobalContext` – updates the global context cache with values provided as action parameters.
- `clearGlobalContext` – cleans up global context.
- `waitForContext` – tells the tile to stop further activities until the context arrives.
- `pushUndoBuffer` – starts an undo group; changes made in an undo group can be undone simultaneously.
- `popUndoBuffer` – closes a previously opened undo group.
- `emptyUndoBuffer` – reverts all BO changes.
- `showProgressView` – shows an alert view; the alert view's parameters are provided in the binding and the `BindingRef`.
- `dismissProgressView` – closes the alert view previously opened via `showProgressView`.

This example demonstrates how to define a button to react to touch events by navigating to the tile with the TimeAccountsScreen ID:

```
<UIElement type="button">
  <P pid="text" value="Time Accounts" visible="true" />
  <P pid="halign" value="left" />
  <P pid="width" value="49%" />
  <P pid="height" value="25pt" />
  <P pid="style" value="BlackButton" />
  <Event id="onClick">
    <Action id="navigate">
      <P pid="target" value="TimeAccountsScreen" />
    </Action>
  </Event>
</UIElement>
```

You can assign events and actions to any of the supported UI elements, including those with “image” type. This example shows how to define an image that brings up an alert view when tapped:

```
<UIElement type="image">
  <P pid="imageSrc" value="tapMe.png"/>
  <P pid="width" value="64pt" />
  <P pid="height" value="64pt" />
  <P pid="halign" value="center" />
  <Event id="onClick">
    <Action id="showAlertView">
      <P pid="alertTitle" value="Delete files?" />
      <P pid="cancelButtonText" value="Cancel" />
      <P pid="alertMessage" value="Nuke'em!" />
    </Action>
  </Event>
</UIElement>
```

### *Formatters*

The Extensibility Framework enables you to change currency, address, phone number, date, and time formats, based on the locale settings of the device.

### *Amounts with Currency*

You can format amounts with currency in different ways.

This example formats the amount (decimal and thousands separator) based on the current locale and places the Euro sign accordingly:

```
<!--Currency -->
<UIElement type="label">
  <P pid="text" value="1234.56" />
  <P pid="width" value="75%" />
  <P pid="margin_bottom" value="5%" />
  <P pid="halign" value="center" />
  <!--Currency Formatter Input Pattern Definition -->
  <Format type="currency" pattern="?" platform="iOS">
  <!--Currency Code -->
  <P pid="currencyCode" value="EUR" />
```

```
</Format>
</UIElement>
```

The amount and currency code can be transported from the database along with the BO as shown here:

```
<UIElement type="label">
  <!--Amount comes from the BO -->
  <P pid="text" value="{\$CRMOpportunities.EXP_REVENUE}" />
  <P pid="style" value="CThinLabelWithLightGreyBackground" />
  <P pid="valign" value="top" />
  <P pid="halign" value="left" />
  <!--Currency Formatter Input Pattern Definition -->
  <Format type="currency" pattern="?" platform="iOS">
  <!--Currency Code comes from the BO -->
  <P pid="currencyCode" value="{\$CRMOpportunities.CURRENCY}" />
  </Format>
</UIElement>
```

### *Date and Time*

You can format date and time as required.

For example, this fragment applies long format to time and short format to the date:

```
<!-- Date and Time -->
<UIElement type="label">
<!-- $_now() returns the current date and time - see for details on
supported functions -->
  <P pid="text" value="{\$_now()}" platform="iOS" />
  <P pid="width" value="75%" />
  <P pid="margin_bottom" value="5%" />
  <P pid="halign" value="center" />
  <!-- Date/Time Formatter Output Format -->
  <Format type="date" pattern="?" platform="iOS">
  <!-- Values for Date and Time Style reflect the values listed in
the NSDateFormatterStyle enum -->
  <P pid="dateStyle" value="2" /> <!-- Medium Style -->
  <P pid="timeStyle" value="3" /> <!-- Long Style -->
  </Format>
</UIElement>
```

Possible values for NSDateFormatterStyle as a reference include:

```
typedef NS_ENUM(NSUInteger, NSDateFormatterStyle)
{
  // date and time format styles
  NSDateFormatterNoStyle = kCFDateFormatterNoStyle, = 0
  NSDateFormatterShortStyle = kCFDateFormatterShortStyle, = 1
  NSDateFormatterMediumStyle = kCFDateFormatterMediumStyle, = 2
  NSDateFormatterLongStyle = kCFDateFormatterLongStyle, = 3
  NSDateFormatterFullStyle = kCFDateFormatterFullStyle = 4
};
```

Alternatively, set `dateStyle` or `timeStyle` to 0 if you do not want it to appear.

### *Phone Number*

Format phone numbers to use a corresponding international prefix. A country code determines the prefix used.

For example:

```
<!-- Phone -->
<UIElement type="label">
  <!-- The phone number will be formatted based on the
international prefix.
If no international prefix is available formatting is done based on
the provided country code -->
  <P pid="text" value="+498963648018" />
  <P pid="width" value="75%" />
  <P pid="margin_bottom" value="5%" />
  <P pid="halign" value="center" />
  <!-- Phone number Input Format -->
  <Format type="phone" pattern="?" platform="iOS">
    <P pid="countryCode" value="US" />
  </Format>
</UIElement>
```

### *Address*

Determine the input format, then optionally register a custom formatter factory to support special formatting needs.

For example, to determine the input format:

```
<!-- Address -->
<UIElement type="label">
  <P pid="text" value="1031 Budapest Zahony Street 7" />
  <P pid="wrapText" value="true" />
  <P pid="width" value="75%" />
  <P pid="margin_bottom" value="5%" />
  <P pid="halign" value="center" />
  <!-- Address Input Format - quite lengthy but this is how it works
-->
  <Format type="address" pattern="?" platform="iOS">
    <P pid="countryCode" value="HU" />
    <P pid="HOUSE_NO" value="7" />
    <P pid="STREET" value="Zahony" />
    <P pid="LOCATION" value="Obuda" />
    <P pid="CITY" value="Budapest" />
    <P pid="REGION" value="Pest" />
    <P pid="POSTL_COD1" value="1031" />
    <P pid="COUNTRY" value="Hungary" />
  </Format>
</UIElement>
```

To register a custom formatter factory for special formatting needs that are not covered by the currently available formatters use this XML:

```
<UIElement type="label">
  <P pid="text" value="custom Formatter" />
```



```

<P pid="width" value="75%" />
<P pid="margin_bottom" value="5%" />
<P pid="halign" value="center" />
<!--Define a Custom Formatter -->
<Format type="custom" pattern="?" platform="iOS">
  <!--Define a Custom Formatter API -->
  <P pid="formatStyle" value="toUpperCase" />
</Format>
</UIElement>

```

For implementation details, see the `SampleApp_14_Formatters` sample app in *Sample Applications*.

### Functions

Use functions when you are concatenating strings, formatting strings, counting records in a collection, and setting default values on a control. All functions begin with `$_`.

Supported functions include:

Function	
<b><code>\$_concat(parameters...)</code> : string</b>	<p>Converts and concatenates all parameters to a single string:</p> <pre>\$_concat("StartDate: ", \$LeaveRequests.StartDate, " - EndDate: ", \$LeaveRequests.EndDate)</pre> <p>You must provide at least one parameter. If you provide only one parameter, it is converted to a string and returned by the function.</p>
<b><code>\$_now()</code> : date</b>	Returns the current date and time as <code>dateTime</code> .
<b><code>\$_format.date(date value, format option)</code> : string</b>	<p>Returns the formatted string of a date value. Parameters include:</p> <ul style="list-style-type: none"> <li>date value – date typed value.</li> <li>format option – valid values are: short, medium, long (or 1, 2, 3 respectively).</li> </ul> <p>Examples:</p> <pre>//returns for example "1 January 2012" if the date is 2012-01-01 and format option is long long \$_format.date(\$LeaveRequests.StartDate, long)  //returns for example "1 Jan 2012" if the date is 2012-01-01 and format option is medium medium \$_format.date(\$LeaveReuquests.StarDate, medium)</pre> <p>The phone's region setting is used to format the date.</p>

Function	
<b><code>\$_format.datetime(date value, format option) : string</code></b>	<p>Returns the formatted string of a date and time value and supports these parameters:</p> <ul style="list-style-type: none"> <li>• date value – date typed value.</li> <li>• format option – valid values are: short, medium, long (or 1, 2, 3 respectively).</li> </ul> <p>Example:</p> <pre>//long format of today's date and time, result: "1 January 2012 11:55" \$_format.datetime(\$_now(), long)</pre> <p>The phone's region setting is used to format the date and time</p>
<b><code>\$_date(year, month, day) : date</code></b>	<p>Creates a date typed value from parameters and supports these parameters:</p> <ul style="list-style-type: none"> <li>• year – year value as int or float.</li> <li>• month – month value as int or float.</li> <li>• day – day value as int or float.</li> </ul> <p>Example:</p> <pre>//returns "Since 1 January 2012" (UK locale was set on the phone) \$_concat("Since", \$_format.date(\$_date(\$_year(\$_now()), 1, 1)), long)</pre>
<b><code>\$_count(binding_id) : int</code></b>	<p>Returns the number of entries in a collection:</p> <pre>//returns Leave Requests (6) \$_concat("Leave Requests (", \$_count(\$LeaveRe- quests), ")")</pre>
<b><code>\$_isNull(value) : int</code></b>	<p>Checks whether the parameter is a null value or nonexistent. Returns 0 (false) or 1 (true).</p>
<b><code>\$_isNotNull(value) : int</code></b>	<p>Checks whether the parameter value is null. . The function returns 1 (true) if the parameter value is not a null value, or 0 (false) otherwise.</p>
<b><code>\$_isEmpty(value) : int</code></b>	<p>The function returns 1 (true) if:</p> <ul style="list-style-type: none"> <li>• Its parameter is a null value.</li> <li>• The referred variable or data field of a BO in its parameter does not exist.</li> <li>• The referred variable or data field of a BO exists, but its value is either an empty string ("") or an NSData instance with zero length.</li> </ul> <p>Otherwise, this function returns 0 (false).</p>

Function	
<code>\$_isNotEmpty(value) : int</code>	Returns true (1) for values for which <code>\$_isEmpty</code> returns false (0).
<code>\$_isExisting(value) : int</code>	The function returns true (1) if its parameter refers to an existing variable or data field of a BO; false (0) otherwise. The function also returns true (1) when the referred variable or data field of a BO is null, or empty string, or if it is an <code>NSData</code> instance with zero length, because the parameter refers to an existing object.
<code>\$_isNotExisting(value) : int</code>	Returns true (1) for values for which <code>\$_isExisting</code> returns false (0).
<code>\$_setValues(data_reference, value, [data_reference, value], ..., return_value) : any</code>	<p>Sets one or more values in a business object with a given value, and returns a value you select. Use this function to initialize fields of a new BO with default values before showing it on a create screen. For example, in a new leave request BO, you can write the start date, end date, approved ID, approver name, and absence types into the appropriate fields before showing the BO on the screen.</p> <p>Example:</p> <pre>//The function sets the values of AbsenceTypeName and AbsenceTypeCode fields in the new leave request object and returns with the value of AbsenceTypeName of the given Absen- ceTypes entry  \$_setValues("\$LeaveRequestsNew.AbsenceTypeName", \$AbsenceTypes.AbsenceTypeName, "\$LeaveRequestsNew.AbsenceTypeCode", \$Absence- Types.AbsenceTypeCode, \$AbsenceTypes.AbsenceTypeName)</pre>
<code>\$_year(date value) : int</code>	<p>Returns the year as an int from a date value:</p> <pre>//Returns the current year \$_year(\$_now())</pre>

### Use of Functions in Configuration

Use functions in a configuration in the same places you use a string literal. You can use examples in this topic as guidelines.

This function results in a field label with the localized string for `from`:

```
<Label text="{$_i18n.from}">
```

This function results in a field label with the localized string for `since`, followed by the `short` string for the date and time that occurred 24 hours prior:

```
<Label text="{$_i18n.since}
{$_format.dateTime($_now(-24),short)}">
```

This function results in the insertion of a tile with the title of the localized string for leave requests, using the icon specified by the `lr_tab_icon` image resource:

```
<Title tileID="leave_request_list" title="{$_i18n.leaverequests}">
<p pid="imageSrc" value="lr_tab_icon"/>
```

For further examples, see the extensibility samples.

### *Data Source Adaptor*

The Extensibility Framework comes with a ready-to-use OData generic business object adapter, which in turn relies on the SDM OData facade library.

This adapter lets you create a custom application that relies on OData (see *Loading the Library*) by adding only a few lines of code.

The data source adapter exposes a set of APIs that cover all data management needs:

- Retrieving data
- Filtering data
- Creating DB entries
- Updating existing entries
- Deleting entries
- Fetching of related entries
- Converting generic objects to and from the appropriate database-specific structures

You can also implement a custom data source adapter if you are using a data model other than OData (see `MAFDataSourceAdapter` protocol declared in the `MAFExtensibility` library).

### *Extensibility Configuration Management*

The Extensibility Framework relies on several configuration files.

By default, each application ships with a predefined set of configuration data, which is added to the project as a resource bundle. You can override the defaults by using external configuration files, which let you modify and enhance the look and feel of an app, add or remove UI elements and screens, modify data bindings and so on; that is, extend the app without having to recompile it.

Currently, you can distribute the configuration files from an SAP Mobile Platform Server in compressed form, which is called the Application Configuration Profile (ACP).

### *Application Configuration Profile Directory and Contents*

The Application Configuration Profile contains several files that are organized in this directory structure.

The directory includes:

Folder	Contents
<b>META-INF</b>	Contains versioning-related metadata in a manifest file: <ul style="list-style-type: none"> <li>• MANIFEST.MF – the manifest file required by SAP Mobile Platform Server</li> </ul>
<b>tiles</b>	Contains the extensibility-related configurations: <ul style="list-style-type: none"> <li>• layout_phone.xml – extensibility configuration file for iPhone and iPod Touch.</li> <li>• layout_tablet.xml – extensibility configuration file for iPad.</li> </ul> For the internal structure of these files, see <i>Extensibility Layout XML</i> .
<b>styles</b>	contains the style configuration file: <ul style="list-style-type: none"> <li>• style.xml – the styling configuration file. You can find the styling XSD documentation at the SAP Help Portal. <a href="https://community.wdf.sap.corp/sbs/docs/DOC-149382">https://community.wdf.sap.corp/sbs/docs/DOC-149382</a></li> </ul>
<b>img</b>	Contains the static images used by the application, organized by platform. <ul style="list-style-type: none"> <li>• Ios – contains images specific to the iOS platform by subfolder (that is, Iphone and Ipad). The top-level folder contains images common to all iOS devices. Native iOS naming conventions apply, that is, &lt;filename&gt;.png for low-resolution images, and &lt;filename&gt;@2x.png for hi-resolution images.</li> <li>• Android – contains images specific to the Android platform. The top-level folder contains images common to all Android devices. Subfolders include:               <ul style="list-style-type: none"> <li>• Ldpi – contains images specific to low-density Android devices.</li> <li>• Mdpi – contains images specific to medium-density Android devices.</li> <li>• Hdpi – contains images specific to high-density Android devices.</li> <li>• Xhdpi – contains images specific to extra high-density Android devices.</li> </ul> </li> </ul>
<b>strings</b>	Contains localized text strings, one file per locale. File names follow this format: localization.<language code>.xml. See also <i>Adding and Accessing Localized Texts</i> .
<b>ext</b>	Contains configuration files required by the application. The entry names are defined by the application. You can place any kinds of files in this directory. Although the framework does not process files in the ext folder, it exposes the APIs required to retrieve their content.
<b>Demo</b>	Contains offline data used by the application in demo mode: <ul style="list-style-type: none"> <li>• Ios – platform-specific offline XML files; see <i>Demo Data Provisioned via ACP</i>.</li> <li>• Android – platform-specific offline data.</li> </ul>

### *Uploading Configuration Profiles*

To distribute an ACP to devices using an SAP Mobile Platform Server, the application must be registered with the SAP Mobile Platform.

You must log into Management Cockpit to complete these steps.

1. In the navigation pane, click **Applications**, then in the administration pane select your app, and click **Properties**.
2. Click the **Customization Resources Bundles** tab, then click **Add** to upload the compressed resource bundle:

After the resource is uploaded, the SAP Mobile Platform Server notifies the app about the change.

This notification only occurs when the app is running and if the device user is logged in to the SAP Mobile Platform Server; otherwise, it occurs the next time the user logs in.

### **Next**

Manage the data sent as NSData in the value parameter.

## **Running and Testing Applications**

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Run and test Android and iOS application on real-device or emulator.

### **Running and Testing Android Applications**

Run the Android application on real device or on emulator.

Ensure that the device or emulator is online or connected to the internet. Also, create an application connection using Management Cockpit.

Run the application either on the real Android-powered device or the Android emulator. To run the application on emulator, first create an Android Virtual Device (AVD). For more information on how to create AVD, see *Run on the Emulator* at the Android Developer Web site <http://developer.android.com/training/basics/firstapp/running-app.html#Emulator>.

In Package Explorer, right-click the <project name> and select **Run As > Android Application**.

### **Running and Testing iOS Applications**

Open your project in Xcode to test and run the native OData application on a device or simulator.

1. Open Xcode.
2. Double-click the <ProjectName>.xcodeproj file to open the project in Xcode.

3. Select your Simulator type and click the **Run** button.

## Deploying Applications

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Deploy the native OData applications to Android or iOS devices.

### Deploying Android Applications

Publish your Android application to the App marketplace such as Google Play or make it available for download from SAP application store.

#### **Installing Applications on the Device**

Connect the device to your personal computer and install the applications.

#### **Prerequisites**

Activate the installation of programs on your device that do not originate from the Google Play. Navigate to **Settings > Applications > Unknown Sources** to allow installation of these programs.

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**Note:** This is a generic procedure of installing applications to your device without using Google Play or SAP App store.

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#### **Task**

1. Download the driver software and install this on your personal computer.  
Example: HTC Sync for all HTC Android Phones and HTC Smart Phones, see <http://www.htc.com/uk/help>.
2. Connect your device to the personal computer through a USB cable.  
The driver software uploads the device software and installs it on the device.
3. On the device display screen, make the selection to enable to mount the memory card.
4. Copy the .apk file to the memory card.
5. Disconnect the USB cable from the device.
6. Using the file manager on the device, access the .apk file from the memory card and follow the instructions as displayed.

#### **Releasing Applications through an App Marketplace or Enterprise App Store**

Distribute your application to broader audience through App marketplace such as Google Play or through internal enterprise store.

For more information on how to prepare your application for release through Google Play, see *Releasing through an App Marketplace* at [http://developer.android.com/tools/publishing/publishing\\_overview.html](http://developer.android.com/tools/publishing/publishing_overview.html).

Upload the applications to your enterprise app (internal) store.

### **Deploying iOS Applications**

Deploy the native OData applications to iOS devices.

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**Note:** Code signing is required for applications to run on physical devices.

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After you have created your client application, you must sign your application with a certificate from Apple, and deploy it to your enterprise.

#### **Generating a Certificate Request File**

Create a certificate signing request file to use for authenticating the creation of the SSL certificate.

1. Launch the Keychain Access application on your Mac (usually found in the **Applications > Utilities** folder).
2. Select **Keychain Access > Certificate Assistant > Keychain Access**.
3. Enter your e-mail address and name, then select **Save to disk**, and click **Continue**.  
This downloads the `.certSigningRequest` file to your desktop.

#### **Creating an App ID**

Create a new App ID for the application.

As a convention, the App ID is in the form of a reversed address, for example, `com.example.MyPushApp`. The App ID must not contain a wildcard character ("\*").

1. Go to the *Apple Developer Member Center* Web site, log in, if required, and select *Certificates, Identifiers & Profiles*.
2. Select **Identifiers > App IDs**, and click the +.
3. Enter a name for your App ID, and, under App Service, select **Push Notifications**.
4. Accept the default App ID prefix, or choose another one.
5. Under App ID Suffix, select **Explicit App ID**, and enter your iOS app's Bundle ID.  
This string should match the Bundle Identifier in your iOS app's `Info.plist`.
6. Select **Continue**.  
Verify that all the values are correct. Push Notifications should be enabled, and the Identifier field should match your app's Bundle Identifier (plus App ID Prefix).
7. Click **Submit**.

#### **Configuring the App ID for Push Notifications**

Once you create an App ID, you must configure it for push notifications.

1. From the list of iOS App IDs, select the App ID to configure, then select **Settings**.



2. Scroll down to the Push Notifications section and, under Development SSL Certificate, select **Create Certificate**.  
Here you can create both a Development SSL Certificate and a Production SSL Certificate.
3. Follow the instructions for creating a Certificate Signing Request (CSR), select **Continue**, then select **Choose File** to locate the `.certSigningRequest` you created.
4. Click **Generate**.
5. Click **Done** once the certificate is ready, and download the generated SSL certificate from the iOS App ID Settings screen.
6. Install the SSL in your Keychain.
  - a) In Keychain Access, under My Certificates, find the certificate you just added, right-click on it, select **Export Apple Development IOS Push Services**, and save it as a `.p12` file.

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**Note:** Do not enter an export password when prompted. You may, however, need to enter your OSX password to allow Keychain Access to export the certificate from your keychain.

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### **Creating the Provisioning File**

Create a provisioning profile to authenticate your device to run the app you are developing.

If you create a new App ID or modify an existing one, you must regenerate and install your provisioning file.

1. Navigate to the *Apple Developer Member Center* Web site, and select *Certificates, Identifiers & Profiles*.
2. From the iOS Apps section, select **Provisioning File**, and select the + button to create a new provisioning file.
3. Choose **iOS App Development** as your provisioning profile type, then click **Continue**.
4. From the drop-down, choose the App ID you created and click **Continue**.
5. Select your iOS Development certificate in the next screen, and click **Continue**.
6. Select which devices to include in the provisioning profile, and click **Continue**.
7. Choose a name for your provisioning profile, then click **Generate**.
8. Click **Download** to download the generated provisioning file.
9. Double-click the downloaded provisioning file to install it.

Xcode's Organizer opens in the Devices pane. Your new provisioning profile appears in the Provisioning Profiles section of your Library. Verify that the status for the profile is "Valid profile." If the profile is invalid, verify that your developer certificate is installed in your Keychain.

## Debugging Errors and Analyzing Logs

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To handle occurrences of exceptions and special conditions that change the normal flow of the program execution, error handling has to be done appropriately. The client logs capture data about client application operations. You can use the data to track errors and identify performance issues.

### Analyzing Logs and Debugging Errors in Android Devices

Once the application is deployed on the device, either through the App store or as an adhoc or enterprise build, to debug problems you need to analyze the crash logs and console output from the device.

To get crash logs and console output with Eclipse, you need to:

1. Plug in the device and open the Eclipse.
2. Go to menu bar and select **Windows > Show View > Other... > LogCat**
3. LogCat logs appear and are highlighted in red color.

### Analyzing Logs and Debugging Errors in iOS Devices

Once the application is deployed on the device, either through the App store or as an adhoc or enterprise build, to debug problems you need to analyze the crash logs and console output from the device.

To get crash logs and console output with Xcode, you need to:

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**Note:** For more information, see [https://developer.apple.com/library/ios/qa/qa1747/\\_index.html](https://developer.apple.com/library/ios/qa/qa1747/_index.html)

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1. Plug in the device and open Xcode.
2. Open the **Organizer** window and select the **Devices** tab.
3. Under the **DEVICES** section in the left column, expand the listing for the device.
4. Select **Device Logs** to see crash logs or select **Console** to see the console output.

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