Native OData App Development

SAP Mobile Platform 3.0 SP02

DOCUMENT ID: DC-01-0302-01
LAST REVISED: February 2014
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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.

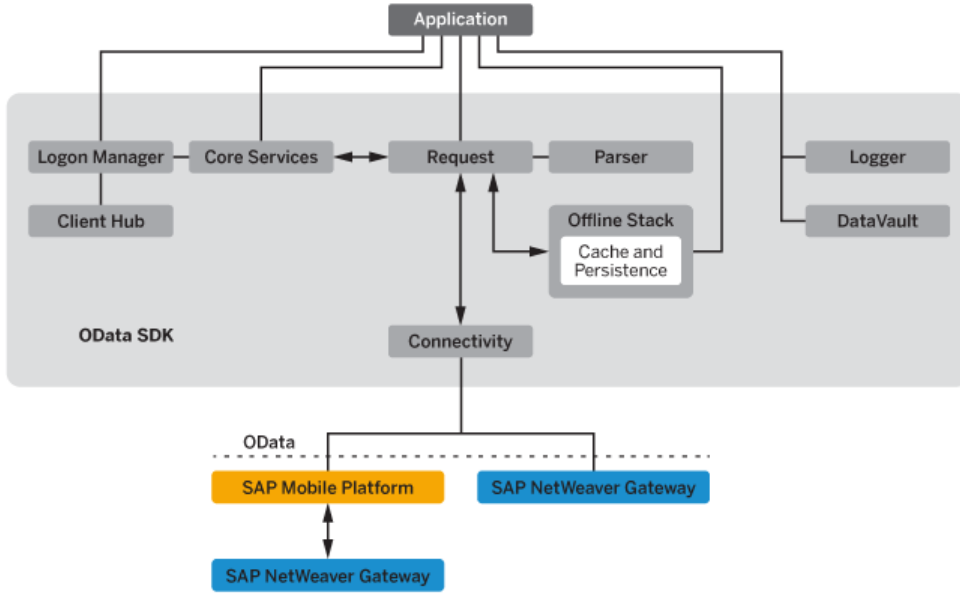
OData Framework Overview

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

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

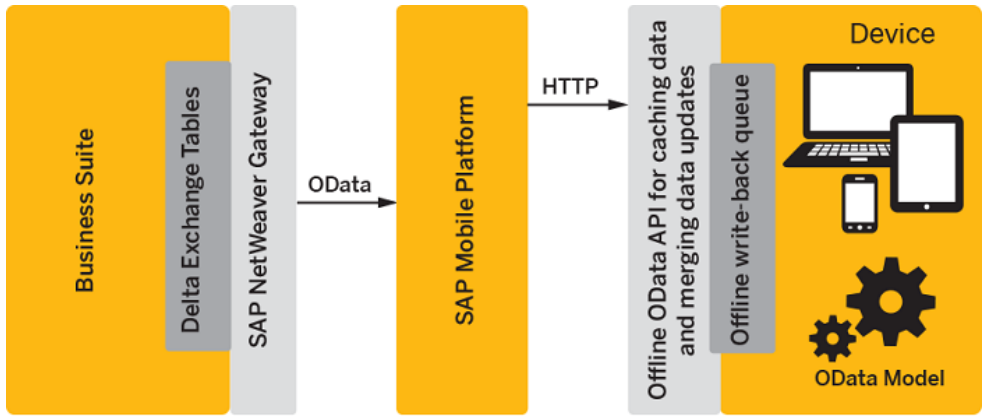
The DataVault component provides encrypted storage of certificates, database encryption keys, passwords, and other sensitive items. Functionalities supported by DataVault include:

- 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.

Setting Up the Native OData Development Environment

To build Android or iOS applications, you must first set up your development environment, which includes installing the SMP SDK.

Android Environment Requirements

Complete the prerequisites for setting up the development environment.

Prerequisites:

- Download the Java Standard Edition (6 Update 24 and above versions) Development Kit (JDK) from *http://www.oracle.com/technetwork/java/javase/downloads/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*.

iOS Environment Requirements

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*

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, which enables you to use Management Cockpit to manage the application.

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

Field	Value
ID	Unique identifier for the application, in reverse domain notation. This is the application or bundled identifier that the application developer assigns or generates during application development. The administrator uses the Application ID to register the application to SAP Mobile Platform Server, and the client application code uses the Application ID while sending requests to the server. Reverse domain notation means reversing a registered domain name; for example, reverse domain notation for the object `MyApp.sap.com` is `com.sap.MyApp`. The application identifier: • Must be unique. • Must start with an alphabetic character. • Can contain only alphanumeric characters, underscores (_), and periods (.). • Cannot include spaces. • Can be up to 64 characters long. **Note:** The keywords that are not allowed to be entered as application identifiers include: Admin, AdminData, Push, smp_cloud, resource, test-resources, resources, Scheduler, odata, applications, Connections, public. These keywords are case sensitive. Formatting guidelines: • SAP recommends that application IDs contain a minimum of two periods ("."). For example, this ID is valid: `com.sap.mobile.app1`. • Application IDs cannot start with a period ("."). For example, this ID is invalid: `.com.sap.mobile.app1`. • Application IDs cannot include two consecutive periods ("."). For example, this ID is invalid: `com..sap.mobile.app1`.
Name	Application name. The name: • Can contain only alphanumeric characters, spaces, underscores (_), and periods (.). • Can be up to 80 characters long.
Vendor	(Optional) Vendor who developed the application. The vendor name: • Can contain only alphanumeric characters, spaces, underscores (_), and periods (.). • Can be up to 255 characters long.

Field	Value
Type	Application type. • Native – native applications, including Android, BlackBerry, iOS, Windows Mobile 8, and Windows 8. • Hybrid – Kapsel container-based applications. • Agentry – metadata-driven application. You can configure only one Agentry application per SAP Mobile Platform Server; after that, Agentry no longer appears as an option.
Description	(Optional) Short description of the application. The description: • Can contain alphanumeric characters. • Can contain most special characters, except percent signs (%) and ampersands (&). • Can be up to 255 characters long.

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

Note: These tabs appear in Management Cockpit only after you define or select an application. The steps that follow assume you have selected the application, and are working through each of the relevant tabs for your selected application. The steps use a "navigational shorthand"— such as "select **Applications > Back End**—to indicate the tab where tasks are performed, relative to that selected application, rather than repeating the entire navigation instruction.

Defining Back-end Connections for Native and Hybrid Apps

Define back-end connections for the selected native or hybrid application. SAP Mobile Platform supports one primary endpoint per application ID. However, the administrator can create multiple secondary endpoints for other services used by the application; SAP Mobile Platform treats these additional endpoints as proxy connections.

1. From Management Cockpit, select the **Home** tab, and then **Configure Application**. Alternatively, select the **Applications** tab.
2. On the Applications tab, select one of the applications.

   You see application-related tabs, such as Back End, Authentication, Push, and so forth. The tabs you see differ by application type. You are ready to configure the application, based on the application type.

Note: These tabs appear in Management Cockpit only after you define or select an application. The steps that follow assume you have selected the application, and are working through each of the relevant tabs for your selected application. The steps use a navigational shorthand— such as "select **Applications > Back End**"—to indicate the tab

where tasks are performed, relative to that selected application, rather than repeating the entire navigation instruction.

3. Enter values for the selected application:

Field	Value
Connection Name	(Appears only when adding a connection under Back-End Connections.) Identifies the back-end connection by name. The connection name: • Must be unique. • Must start with an alphabetic character. • Can contain only alphanumeric characters, underscores (_), and periods (.). • Cannot include spaces.

Endpoint	The URL (back-end connection, or service document) 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. Include a trailing slash to avoid triggering a redirection of the URL, and losing important HTTP header details. This is especially important when configuring the application with security, such as SSOToken and Certificates, and when Rewrite URL is enabled. Typical format:
	`http://host:port/gateway/odata/namespace/Connection_or_ServiceName.../`
	Examples:
	`http://testapp:65908/help/abc/app1/opg/sdata/TESTFLIGHT/`
	`http://srvc3333.xyz.com:30003/sap/opu/odata/RMTSAMPLE/`

Use System Proxy	(Optional) Whether to use system proxy settings in the SAP Mobile Platform `props.ini` 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. Enable this setting only 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 `props.ini` file.
Rewrite URL	(Optional) Whether to mask the back-end URL with the equivalent SAP Mobile Platform Server URL. Enable this setting 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, this property is enabled.

Field	Value

Allow Anonymous Access	(Optional) Whether to enable anonymous access, which means the user can access the application without entering a user name and password. However, the back-end system still requires login credentials for data access, whether it is a read-only user, or a back-end user with specific roles.
	• If enabled and the back end requires it, enter the login credential values used to access the back-end system:
	  • **User name** – supply the user name for the back-end system.
	  • **Password** – (required if you set a user name) supply the password for the back-end system.
	• If disabled (the default value) or the back end does not require it, you need not provide these credentials.
	Note: If you use Allow Anonymous Access for a native OData application, do not also assign the No Authentication Challenge security profile to the application; anonymous OData requests are not sent, and Status code: 401 is reported.

Maximum Connections	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 and minimum is 500 connections. Factors to consider when resetting this property: • The expected number of concurrent users of the application. • The load that is acceptable to the back-end system. • The load that the underlying hardware and network can handle. Increase the maximum number of connections only if SAP Mobile Platform Server hardware can support the additional parallel connections, and if the underlying hardware and network infrastructure can handle it.
Certificate Alias	If the back-end system has a mutual SSL authentication requirement, supply the certificate alias name given to the private key and technical user certificate that is used to access the back-end system. The alias is located in `smp_keystore`. Otherwise, leave the entry blank.

4. (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 back-end connection is added to the list.

   You can maintain the list of server-level back-end connections (including all the connections in SAP Mobile Platform Server), and of application-specific back-end connections. Application-specific back-end connections are the secondary connections that are enabled for an application; by default, no secondary connections are enabled. You must explicitly enable additional back-end connections for an application. Users who are registered to an application can access only these back-end connections. If a user attempts

to access a back-end connection (request-response) that is not enabled for an application, it is not allowed and a 403, `Forbidden` error is thrown.

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

   Select **Server-level Connections** from the drop-down to show all available connections for the server. Use the checkbox to enable additional connections for the application.

Note:

- You can authenticate multiple back ends using various authentication provider options in the back-end security profile.
- If the back-end system issues a "302 Redirect" response, which means it is redirecting the request to a different URL, then you must also add the target URL to the list of application-specific connections.

Defining Application Authentication

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

Prerequisites

Configure security profiles for application authentication.

Task

Security profiles are made up of one or more authentication providers. These authentication providers can be shared across multiple security profiles, and can be modified in Management Cockpit. For more information on authentication providers, see *Authentication in SAP Mobile Platform*.

You can stack multiple providers to take advantage of features in the order you chose; the Control Flag must be set for each enabled security provider in the stack.

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

Note: You can also create a new profile.

3. Select a security profile name from the Name list.

   The name appears under Security Profile Properties, and the providers that are associated with the security profile 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. By default the property is enabled, which prevents the user authentication from succeeding in this scenario.

5. Under Authentication Providers, you can select a security profile URL to view its settings. To change its settings, you must modify it using **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	Authentication Provider	Configuration Steps (in brief)
Basic authentication with HTTP	OData SDK, Client Hub	HTTP/HTTPS Authentication	Set the back end credentials. **Note:** For anonymous user, set the back end to allow anonymous connections.
Basic authentication with HTTPS	OData SDK, Client Hub	HTTP/HTTPS Authentication	1. Set the back end credentials. **Note:** For anonymous user, set the back end to allow anonymous connections. 2. Connect with HTTPS port. For example, 8081. 3. Make sure the server certificate is installed in the device truststore. • For iOS, use the iPhone Configuration Utility. • For Android, install the certificate from the SD card.

Security Configuration	Implemented Using	Authentication Provider	Configuration Steps (in brief)
Mutual authentication with HTTPS using a certificate	OData SDK, Afaria	X.509 User Certificate	1. Connect with HTTPS port. For example, 8082. 2. Make sure the server certificate is installed in the device truststore. • For iOS, use the iPhone Configuration Utility. • For Android, install the certificate from the SD card. 3. Ensure the client certificate is available on the device.
SiteMinder (unprotected network edge)	OData SDK	HTTP/HTTPS Authentication	Connect with SiteMinder back end using HTTPS.
SiteMinder network edge (reverse proxy)	OData SDK	Populate JAAS Subject From Client, HTTP/HTTPS Authentication	1. Create a security profile using Populate JAAS Subject From Client authentication provider. 2. Create a security profile using HTTP/HTTPS Authentication authentication provider.
SSO2 token (HTTP and HTTPS)	OData SDK	HTTP/HTTPS Authentication	1. Create a new security profile and indicate the SSO cookie name in the security profile. 2. Make sure the server certificate is installed in the device truststore. • For iOS, use the iPhone Configuration Utility. • For Android, install the certificate from the SD card.
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. This is the application or bundled identifier that the application developer assigns or generates during application development. The administrator uses the Application ID to register the application to SAP Mobile Platform Server, and the client application code uses the Application ID while sending requests to the server.
Name	Application name.
Vendor	(Optional) Vendor who developed the application.
Version	Application version. Currently, only version 1.0 is supported.
Type	Application type. • Native – native iOS and Android applications. • Hybrid – container-based applications, such as Kapsel. • Agentry – metadata-driven applications, such as Agentry. 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.
4. (Optional) Configure push notifications for each device type supported.

Android Apps

Develop, run, test, debug, and deploy Android apps.

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.

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 `AfariaSLL.jar` to provision configuration data and certificates for your SAP Mobile Platform client application, ensure to remove `libcrypto.jar` and `libssl.jar`, as AfariaSLL 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(<ApplicationConnectionI
D>);   //(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 `SMPClientListeners.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 (SMPException 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 (SMPException 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 `SetEncyptionKey` 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 `ISSLChallengeListener`. 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.getInstace();
            j.setConnectionProfile("<connection url>");
            UserManager.registerUser(true);
            }
         catch (SMPException e) {
            // TODO Auto-generated catch block
            e.printStackTrace();
        }

    }
```

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

```
public HttpsClientCertInfo 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 HttpsClientCertInfo(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 1781.

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("<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.get
Entity()));
         /*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 instate 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 atleast 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.

sap package

mobile package

lib package

cache package

Cache class
Consists of the methods related to Cache.

Package
```
com.sap.mobile.lib.cache
```

Syntax
```
public class Cache implements ICache
```

Implemented interfaces

- *ICache* on page 56

Members
All members of Cache, including inherited members. **Constructors**

Modifier and Type	Constructor	Description
public	*Cache(Context, ILogger)* on page 38	

Methods

Modifier and Type	Method	Description
public String	*addEntry(IODataEntry)* on page 38	A new cache entry will be added into the local Cache using this particular method.
protected void	*addtoDelta(String, String)* on page 39	
protected void	*addtoLocal(IODataEntry, String)* on page 39	
protected void	*addtoServer(ODataEntryServer, String, boolean)* on page 40	

Modifier and Type	Method	Description
public void	*clearCache(String)* on page 40	This API will clears entries for the URLkey passed from all the cache except the Local cache.
public void	*clearLocalEntry(String)* on page 40	This API is will clear entry from Local Cache.
public void	*deleteEntry(String)* on page 41	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.
protected void	*deleteFromServercache(String)* on page 41	
protected Object	*deserialze(byte[])* on page 42	
public String	*getDeltaLink(String)* on page 42	This should return the delta token/delta link for the URL key passed.
public void	*initializeCache()* on page 42	
public void	*mergeEntries(IODataFeed, String)* on page 42	Merge APIS are to be invoked after doing a HTTP GET after modification or a set of modifications.
public Object	*readDocument(int, String)* on page 43	This API returns the service document or the meta data document depending on the DocumentType and for the specified URLKey.
protected List< IODataEntry >	*readEntriesFromServer(String, String)* on page 44	
public List< IODataEntry >	*readEntriesLocal(String, String)* on page 44	Gets the Entries from the Local cache based on the EntityType and the EntryID.

Modifier and Type	Method	Description
public List< IODataEntry >	*readEntriesServer(String)* on page 45	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[]	*serialize(Object)* on page 45	
public void	*setCacheListener(ICacheUpdateListener)* on page 45	Sets the listener for any update on Server cache and call backs upon merging Cache.
public void	*setIsPersistable(boolean)* on page 46	This API sets the isPersistable property of the cache which is used to check if the cache is implicitly persistable.
public void	*storeDocument(Object, int, String)* on page 47	This API Caches the service document or the meta data document depending on the DocumentType and against specified URLKey.
public void	*updateEntry(IODataEntry)* on page 47	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 –**

Remarks

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

```
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
 }
```

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 clears entries for the URLkey passed from all the cache except the Local cache.

Syntax

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

Parameters

- **URLKey –** : will clears 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 is will clear entry from Local Cache.

Syntax

```
public void clearLocalEntry (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.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
```

deserialze(byte[]) method

Syntax

```
protected Object deserialze (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 –**

Remarks

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

```
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){
}
```

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 –**

Remarks

The return type will be an array of Entries

```
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){
}
```

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){
}
```

CacheException class

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

Package

```
com.sap.mobile.lib.cache
```

Syntax

```
public class CacheException
```

Members

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

Modifier and Type	Variable	Description
public static final int	ANY_INPUT_FIELD_NULL	Any of the input fields passed is null.
public static final int	APPLICATION_USER_ALREADY_REGISTERED	Attempt to register an application user which is already registered.
public static final int	APPLICATION_USER_NOT_REGISTERED	Attempt to delete the user which has not been registered.
public static final int	REGISTRATION_FAILED_UNKNOWN_ERROR	User registration timed out.

Modifier and Type	Variable	Description
public static final int	CacheGenericErrorCode	Asynchronous user registration listener not registered with UserManager.
public static final int	SUP_INTERNAL_PARSING_ERROR	SUP Internal Parsing Error.
public static final int	EMPTY_RESPONSE_FROM_SERVER	Empty response string received from server.
public static final int	SINGLETON_INITIALIZATION_FAILED	singleton Initialization failed
public static final int	UPDATE_SETTINGS_CONTAINS_READONLY_FIELDS	Update Settings consists of one or more read only fields.
public static final int	APPLICATION_ID_NULL	Application is not initialized.
public static final int	JSON_PARSING_FAILED	Internal error, JSON parsing has failed.
public static final int	INVALID_MODULE_ID	Invalid module handle ID.
public static final int	CAPTCHA_LISTENER_NULL	Captcha listener is null.
public static final int	CLASS_INITIALIZATION_FAILED	Class initialization failed.
public static final int	E2E_NOT_STARTED	E2E Not started.
public static final int	BTX_UPLOAD_ERROR	E2E BTX upload error.
public static final int	HTTP_ERROR	HTTP error.
public static final int	PARSE_ERROR	Parse error.
public static final int	NETWORK_ERROR	Network error: Obtained when the URL is unreachable. Check AndroidManifest.xml if it has proper permissions.
public static final int	AUTHENTICATION_ERROR	Error while authenticating user.

Constructors

Modifier and Type	Constructor	Description
public	*CacheException(int)* on page 50	Constructs a SMPException with specified error code.
public	*CacheException(int, String)* on page 50	Constructs a SMPException with specified error code and error message.
public	*CacheException(String)* on page 51	Constructs a SMPException with specified error message.

Methods

Modifier and Type	Method	Description
public int	*getErrorCode()* on page 51	Returns the error code of this SMPException.
public String	*toString()* on page 51	Returns the complete error description of this SMPException.

CacheException(int) constructor

Constructs a SMPException with specified error code.

Syntax

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

Parameters

- **errorCode –**

CacheException(int, String) constructor

Constructs a SMPException with specified error code and error message.

Syntax

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

Parameters

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

CacheException(String) constructor
Constructs a SMPException with specified error message.

Syntax

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

Parameters

- **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
```

Remarks
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
Consists of the list of Cache class listeners.

Package

```
com.sap.mobile.lib.cache
```

Syntax

```
public class CacheUpdateListener
```

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

Modifier and Type	Interface	Description
publicinterface	*ICacheUpdateListener* on page 55	Interface to get the any updates on Server Cache.

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

Package

```
com.sap.mobile.lib.cache.CacheUpdateListener
```

Syntax

```
public interface ICacheUpdateListener
```

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

Modifier and Type	Method	Description
public void	*OnCacheUpdate(String, List< IODataEntry >)* on page 55	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);
```

ICache interface

Interface implemented by Cache class containing related methods.

Package

```
com.sap.mobile.lib.cache
```

Syntax

```
public interface ICache
```

Derived classes

- *Cache* on page 36

Members

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

Modifier and Type	Class	Description
publicclass	*DocumentType* on page 58	Document Format type for caching.

Methods

Modifier and Type	Method	Description
public String	*addEntry(IODataEntry)* on page 58	A new cache entry will be added into the local Cache using this particular method.
public void	*clearCache(String)* on page 59	This API will clears entries for the URLkey passed from all the cache except the Local cache.
public void	*clearLocalEntry(String)* on page 59	This API is will clear entry from Local Cache.
public void	*deleteEntry(String)* on page 60	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.
public String	*getDeltaLink(String)* on page 61	This should return the delta token/delta link for the URL key passed.

Modifier and Type	Method	Description
public void	*initializeCache()* on page 61	
public void	*mergeEntries(IODataFeed, String)* on page 61	Merge APIS are to be invoked after doing a HTTP GET after modification or a set of modifications.
public Object	*readDocument(int, String)* on page 62	This API returns the service document or the meta data document depending on the DocumentType and for the specified URLKey.
public List< IODataEntry >	*readEntriesLocal(String, String)* on page 63	Gets the Entries from the Local cache based on the EntityType and the EntryID.
public List< IODataEntry >	*readEntriesServer(String)* on page 63	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	*setCacheListener(ICacheUpdateListener)* on page 64	Sets the listener for any update on Server cache and call backs upon merging Cache.
public void	*setIsPersistable(boolean)* on page 65	This API sets the isPersistable property of the cache which is used to check if the cache is implicitly persistable.
public void	*storeDocument(Object, int, String)* on page 65	This API Caches the service document or the meta data document depending on the DocumentType and against specified URLKey.
public void	*updateEntry(IODataEntry)* on page 66	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.

Package
```
com.sap.mobile.lib.cache.ICache
```

Syntax
```
public class DocumentType
```

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

Modifier and Type	Variable	Description
public static final int	ServiceDocument	
public static final int	MetaDocument	

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 –**

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

```
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
 }
```

clearCache(String) method

This API will clears entries for the URLkey passed from all the cache except the Local cache.

Syntax

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

Parameters

- **URLKey –** : will clears 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 is will clear entry from Local Cache.

Syntax

```
public void clearLocalEntry (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.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){
}
```

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 –**

Remarks

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

```
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){
}
```

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 –**

Remarks
The return type will be an array of Entries

```
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){
}
```

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){
}
```

configuration package

Preferences class

Consists of the methods used to set the HTTP Parameters used for connection with the backend.

Package

```
com.sap.mobile.lib.configuration
```

Syntax

```
public class Preferences implements IPreferences, Constants
```

Implemented interfaces

- *IPreferences* on page 85
- *Constants* on page 79

Members

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

Modifier and Type	Variable	Description
protected static final String	PREFERENCES	
public static String	DEFAULT_PERSISTENCE_STRING_SUBFOLDER_NAME	Default subfolder for Persistence.
public static String	DEFAULT_PARSER_STRING_SUBFOLDER_NAME	Default subfolder for Parser.
protected Hashtable< String, Set< IPreferenceChangeListener > >	preferenceChangeListeners	Listeners for Preference changes.
protected Hashtable< String, Object >	defaultPreferences	Store for default Preferences.
protected ILogger	logger	
protected int	logLevel	

Constructors

Modifier and Type	Constructor	Description
public	*Preferences(Context, ILogger)* on page 69	

Methods

Modifier and Type	Method	Description
protected void	*addDefaultPreferences()* on page 69	Can be used to add application specific default preferences.
protected Object	*confirmPreference(String)* on page 70	Validates changed preference if it can be changed.
public boolean	*containsPreference(String)* on page 70	Checks the existence of the given preference.
public Map< String,?>	*getAllPreferences()* on page 70	
public Boolean	*getBooleanPreference(String)* on page 70	Returns the value of the given preference or null if there is no preference with the given key.
public Context	*getContext()* on page 71	Returns the context.
public Float	*getFloatPreference(String)* on page 71	Returns the value of the given preference or null if there is no preference with the given key.
public Integer	*getIntPreference(String)* on page 71	Returns the value of the given preference or null if there is no preference with the given key.
public Long	*getLongPreference(String)* on page 72	Returns the value of the given preference or null if there is no preference with the given key.
public String	*getStringPreference(String)* on page 72	Returns the value of the given preference or null if there is no preference with the given key.
public void	*onSharedPreference-Changed(SharedPreferences, final String)* on page 73	
public synchronized void	*registerPreferenceChangeListener(String, IPreferenceChangeListener)* on page 73	You can register a class implementing the IPreferenceChangeListener interface for the change of a preference with the given key.
public void	*removePreference(String)* on page 73	Removes the preferences with the given key.

Modifier and Type	Method	Description
public void	*resetPreference(String)* on page 74	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	*setBooleanPreference(String, boolean)* on page 74	Sets and validates and persists the value of the preferences with the given type.
public void	*setFloatPreference(String, float)* on page 74	Sets and validates and persists the value of the preferences with the given type.
public void	*setIntPreference(String, int)* on page 75	Sets and validates and persists the value of the preferences with the given type.
public void	*setLongPreference(String, long)* on page 75	Sets and validates and persists the value of the preferences with the given type.
public void	*setStringPreference(String, String)* on page 75	Sets and validates and persists the value of the preferences with the given type.
public synchronized void	*unRegisterPreferenceChangeListener(String, IPreferenceChangeListener)* on page 76	You can unregister a change listener.

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

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.

Remarks
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 exists or it can not be removed(e.g. an preference)

Remarks
Also notifies the listeners with null value.

resetPreference(String) method
Resets the preference's value to it's 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.

Remarks
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.

Package

```
com.sap.mobile.lib.configuration
```

Syntax

```
public class PreferencesException
```

Members
All members of PreferencesException, including inherited members. **Constructors**

Modifier and Type	Constructor	Description
public	*PreferencesException()* on page 78	
public	*PreferencesException(int, String)* on page 78	
public	*PreferencesException(int, String, Throwable)* on page 78	
public	*PreferencesException(String)* on page 79	
public	*PreferencesException(String, Throwable)* on page 79	
public	*PreferencesException(Throwable)* on page 79	

Methods

Modifier and Type	Method	Description
public int	*getErrorCode()* on page 79	

PreferencesException() constructor

Syntax

```
public PreferencesException ()
```

PreferencesException(int, String) constructor

Syntax

```
public PreferencesException (
    int iErrorCode,
    String detailMessage
)
```

PreferencesException(int, String, Throwable) constructor

Syntax

```
public PreferencesException (
    int iErrorCode,
    String detailMessage,
    Throwable throwable
)
```

PreferencesException(String) constructor

Syntax

```
public PreferencesException (String detailMessage)
```

PreferencesException(String, Throwable) constructor

Syntax

```
public PreferencesException (
    String detailMessage,
    Throwable throwable
)
```

PreferencesException(Throwable) constructor

Syntax

```
public PreferencesException (Throwable throwable)
```

getErrorCode() method

Syntax

```
public int getErrorCode ()
```

Constants interface
Consists of Request constants.

Package

```
com.sap.mobile.lib.configuration
```

Syntax

```
public interface Constants
```

Derived classes

- *Preferences* on page 67

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

Modifier and Type	Variable	Description
public static final String	SHARED_PREFERENCES	Shared preferences.

Modifier and Type	Variable	Description
public static final int	DEFAULT_CONNECTION_TIMEOUT	Default connection timeout.
public static final int	DEFAULT_SOCKET_CONNECTION_TIMEOUT	Default socket connection timeout.
public static final int	DEFAULT_HTTP_PORT	Default HTTP port.
public static final int	DEFAULT_HTTPS_PORT	Default HTTPS port.
public static final String	DEFAULT_SAP_APPLICATIONID_HEADER_VALUE	Default application ID.
public static final String	DEFAULT_PROXY_HOST	Default proxy host.
public static final int	DEFAULT_PROXY_PORT	Default proxy port.
public static final String	HTTP_HANDLER_CLASS	Socket Connection handler class.
public static final String	IMO_HANDLER_CLASS	IMO Connection handler class.
public static final String	DEFAULT_HANDLER_CLASS_NAME	Default handler class.
public static final boolean	DEFAULT_PERSISTENCE_BOOLEAN_SECUREMODE	Default security mode.
public static final int	DEFAULT_PERSISTENCE_BYTE_BUFFER_SIZE	Default buffer size.
public static final int	MIN_PERSISTENCE_BYTE_BUFFER_SIZE	Minimum buffer size.
public static final int	MAX_PERSISTENCE_BYTE_BUFFER_SIZE	Maximum buffer size.
public static final String	DEFAULT_CIPHER_TRANSFORMATION	Default cipher transformation.
public static final int	DEFAULT_STORE_CAPACITY	Default cache capacity.

Modifier and Type	Variable	Description
public static final int	MAXIMUM_STORE_CAPACITY	Maximum cache capacity.
public static final int	DEFAULT_SEARCH_LIMIT	Default for maximum search results retrieved from cache.
public static final int	DEFAULT_LOG_LEVEL	Default log level.
public static final boolean	DEFAULT_SAPPASSPORT_ENABLED	SAP Passport enablement default setting.
public static final boolean	DEFAULT_BUSINESSTRANSACTION_ENABLED	SAP Business Transaction XML enablement default setting.

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
```

IPreferenceChangeListener interface
Interface for classes that are to listen changes of preferences.

Package

```
com.sap.mobile.lib.configuration
```

Syntax

```
public interface IPreferenceChangeListener
```

Derived classes

- *RequestManager* on page 633

Members
All members of IPreferenceChangeListener, including inherited members. **Methods**

Modifier and Type	Method	Description
public void	*onPreferenceChanged(String, Object)* on page 85	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.

Package

```
com.sap.mobile.lib.configuration
```

Syntax

```
public interface IPreferences
```

Derived classes

- *Preferences* on page 67

Members

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

Modifier and Type	Variable	Description
public static final String	CONNECTIVITY_CONNTI-MEOUT	Preference for connection time out.
public static final String	CONNECTIVITY_SCONN-TIMEOUT	Preference for socket connection time out.

Modifier and Type	Variable	Description
public static final String	CONNECTIVITY_HTTP_PORT	Preference for default HTTP port.
public static final String	CONNECTIVITY_HTTPS_PORT	Preference for default HTTPS port.
public static final String	SAP_APPLICATIONID_HEADER_VALUE	Preference for application ID (used in request headers)
public static final String	CONNECTIVITY_PROXY_HOST	Preference for proxy host if there is a proxy should be used.
public static final String	CONNECTIVITY_PROXY_PORT	Preference for proxy post if there is a proxy should be used.
public static final String	CONNECTIVITY_HANDLER_CLASS_NAME	Preference for full name (including package) of the class that should be initialized as connectivity handler.
public static final String	PARSER_FOLDER_PATH	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	PERSISTENCE_FOLDER_PATH	Preference for the default folder where data should be persisted.
public static final String	PERSISTENCE_SECUREMODE	Preference for indicator if persisted data should be encrypted.
public static final String	PERSISTENCE_BYTE_BUFFER_SIZE	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	PERSISTENCE_CIPHER_TRANSFORMATION	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	CACHE_CAPACITY	Preference for the maximum number of documents can be stored in cache.
public static final String	CACHE_MAX_SEARCH_RESULTS	Preference for the maximum entries that can be returned as a result of a search.
public static final String	CACHE_SEARCH_ATTRIBUTE_XMLNS	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	CACHE_PARSER_SEARCH_ATTRIBUTE	Preference for the name of the XML attribute that should be used to decide if a property is searchable.
public static final String	LOG_LEVEL	Preference for the current log severity.
public static final String	SAPPASSPORT_ENABLED	Preference for the indicator to decide if SAP passport should be enabled or not.
public static final String	BUSINESSTRANSACTION_ENABLED	Preference for the indicator to decide if SAP passport should be enabled or not.
public static final String	BYPASS_PROXY	Preference for the indicator to decide which URLs need the proxy bypassed.

Methods

Modifier and Type	Method	Description
public boolean	*containsPreference(String)* on page 89	Checks the existence of the given preference.
public Map< String,?>	*getAllPreferences()* on page 89	
public Boolean	*getBooleanPreference(String)* on page 89	Returns the value of the given preference or null if there is no preference with the given key.

Modifier and Type	Method	Description
public Context	*getContext()* on page 90	Returns the context.
public Float	*getFloatPreference(String)* on page 90	Returns the value of the given preference or null if there is no preference with the given key.
public Integer	*getIntPreference(String)* on page 90	Returns the value of the given preference or null if there is no preference with the given key.
public Long	*getLongPreference(String)* on page 91	Returns the value of the given preference or null if there is no preference with the given key.
public String	*getStringPreference(String)* on page 91	Returns the value of the given preference or null if there is no preference with the given key.
public void	*registerPreferenceChangeListener(String, IPreferenceChangeListener)* on page 92	You can register a class implementing the IPreferenceChangeListener interface for the change of a preference with the given key.
public void	*removePreference(String)* on page 92	Removes the preferences with the given key.
public void	*resetPreference(String)* on page 93	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	*setBooleanPreference(String, boolean)* on page 93	Sets and validates and persists the value of the preferences with the given type.
public void	*setFloatPreference(String, float)* on page 93	Sets and validates and persists the value of the preferences with the given type.
public void	*setIntPreference(String, int)* on page 94	Sets and validates and persists the value of the preferences with the given type.

Modifier and Type	Method	Description
public void	*setLongPreference(String, long)* on page 94	Sets and validates and persists the value of the preferences with the given type.
public void	*setStringPreference(String, String)* on page 94	Sets and validates and persists the value of the preferences with the given type.
public void	*unRegisterPreferenceChangeListener(String, IPreferenceChangeListener)* on page 95	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.

Remarks
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 exists or it can not be removed(e.g. an preference)

Remarks
Also notifies the listeners with null value.

resetPreference(String) method
Resets the preference's value to it's 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.

Remarks
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 BUSINESSTRANSACTION_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 post 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
```

parser package

ODataAssociation class

Consists of APIs related to OData association.

Package

```
com.sap.mobile.lib.parser
```

Syntax

```
public class ODataAssociation extends ParserDocument implements
IODataAssociation
```

Implemented interfaces

- *IODataAssociation* on page 368

Derived classes

- *ODataAssociationSet* on page 106

Members

All members of ODataAssociation, including inherited members. **Nested classes**

Modifier and Type	Class	Description
publicclass	*ODataAssociationEnd* on page 103	

Constructors

Modifier and Type	Constructor	Description
public	*ODataAssociation()* on page 105	
protected	*ODataAssociation(int[], String[])* on page 105	
public	*ODataAssociation(ParserDocument)* on page 105	
protected	*ODataAssociation(String)* on page 105	

Methods

Modifier and Type	Method	Description
public IODataAssociationEnd	*getAssociationEnd(String)* on page 106	Returns the value of the appropriate Association End OData element with the given role.
public List< IODataAssociationEnd >	*getAssociationEnds()* on page 106	Returns list of the appropriate OData elements.
public String	*getName()* on page 106	Returns the value of the appropriate OData attribute.

Inherited members from IParserDocument

Modifier and Type	Member	Description
public abstract IParserDocument	*clone()* on page 574	Creates a copy of this object.
public abstract String	*getAttribute(String...)* on page 574	Returns the value of the first attribute with the given route.
public abstract List< String >	*getAttributes(String...)* on page 575	Returns all the values of attributes with the given route.
public abstract Map< String, String >	*getChildAttributeMap(String...)* on page 575	Returns all the name-value pairs of attributes contained by the element with the given route.
public abstract List< String >	*getChildAttributes(String...)* on page 575	Returns all the values of attributes contained by the element with the given route.
public abstract List< IParserDocument >	*getChildDocuments(String...)* on page 576	Returns the elements contained by the element with the given route.
public abstract List< IParserDocument >	*getChildDocumentsWithAttribute(String, String, String...)* on page 576	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public abstract List< IParserDocument >	*getChildDocumentsWithAttribute(String, String, boolean, String...)* on page 577	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public abstract IParserDocument	*getDocument(String...)* on page 577	Returns the first element with the given route.

Modifier and Type	Member	Description
public abstract List< IParserDocument >	*getDocuments(String...)* on page 578	Returns all the elements with the given route.
public abstract List< IParserDocument >	*getDocumentsWithAttribute(String, String, String...)* on page 578	Returns the elements with the given route that contains the given attribute with the given value.
public abstract List< IParserDocument >	*getDocumentsWithAttribute(String, String, boolean, String...)* on page 579	Returns the elements with the given route that contains the given attribute with the given value.
public abstract IParserDocument	*getDocumentWithAttribute(String, String, String...)* on page 579	Returns the first element with the given route that contains the given attribute with the given value.
public abstract IParserDocument	*getDocumentWithAttribute(String, String, boolean, String...)* on page 580	Returns the first element with the given route that contains the given attribute with the given value.
public abstract String	*getElementName()* on page 580	Returns The name of the root element of this document.
public abstract String	*getFunctionImportComplexPropertyValue(String...)* on page 581	
public abstract String	*getPrefixForUri(String)* on page 581	Returns the appropriate name-space prefix for the given XML name-space URI.
public abstract String[]	*getStrings()* on page 581	Returns all the string values contained by this document.
public abstract String	*getValue(String...)* on page 581	Returns the value of the first element with the given route.
public abstract List< String >	*getValues(String...)* on page 582	Returns all the values of elements with the given route.

Modifier and Type	Member	Description
public abstract void	*putAttribute(String, String...)* on page 582	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	*putDocument(IParserDocument, String...)* on page 583	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	*putValue(String, String...)* on page 583	Sets the value of the first element with the given route.
public abstract boolean	*removeAttribute(String...)* on page 584	Removes first element with the given route.
public abstract boolean	*removeAttributes(String...)* on page 584	Removes all the attribute with the given route.
public abstract boolean	*removeDocument(String...)* on page 584	Removes first element with the given route For removing multiple element use setDocuemtns with null arguments.
public abstract void	*setAttributes(List< String >, String...)* on page 585	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	*setDocuments(List< IParserDocument >, String...)* on page 585	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	*setElementName(String, String...)* on page 586	Sets the name of the root element with the given route Use empty route for setting root name of this document.
public abstract void	*setValues(List< String >, String...)* on page 586	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	*toXMLString()* on page 586	Returns the XML string representation of this object.

Inherited members from IPersistable

Modifier and Type	Member	Description
public void	*read(BufferedReader)* on page 593	
public void	*write(BufferedWriter)* on page 593	

ODataAssociation.ODataAssociationEnd class

Package

```
com.sap.mobile.lib.parser.ODataAssociation
```

Syntax

```
public class ODataAssociationEnd extends ParserDocument
implements IODataAssociationEnd
```

Implemented interfaces

- *IODataAssociationEnd* on page 373

Members

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

Modifier and Type	Constructor	Description
public	*ODataAssociationEnd()* on page 104	
protected	*ODataAssociationEnd(int[], String[])* on page 104	
public	*ODataAssociationEnd(ParserDocument)* on page 104	

Methods

Modifier and Type	Method	Description
public String	*getCollectionId()* on page 104	
public String	*getEntitySet()* on page 105	
public String	*getMultiplicity()* on page 105	
public String	*getRole()* on page 105	
public String	*getType()* on page 105	

ODataAssociationEnd() constructor

Syntax

```
public ODataAssociationEnd ()
```

ODataAssociationEnd(int[], String[]) constructor

Syntax

```
protected ODataAssociationEnd (
    int[] routes,
    String[] values
)
```

ODataAssociationEnd(ParserDocument) constructor

Syntax

```
public ODataAssociationEnd (ParserDocument document)
```

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(int[], String[]) constructor

Syntax

```
protected ODataAssociation (
    int[] routes,
    String[] values
)
```

ODataAssociation(ParserDocument) constructor

Syntax

```
public ODataAssociation (ParserDocument document)
```

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
Consists of APIs related to OData Association set.

Package

```
com.sap.mobile.lib.parser
```

Syntax

```
public class ODataAssociationSet extends ODataAssociation
implements IODataAssociationSet
```

Base class

- *ODataAssociation* on page 99

Implemented interfaces

- *IODataAssociationSet* on page 377

Members

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

Modifier and Type	Constructor	Description
public	*ODataAssociationSet()* on page 115	
protected	*ODataAssociationSet(int[], String[])* on page 115	
public	*ODataAssociationSet(Parser-Document)* on page 115	

Methods

Modifier and Type	Method	Description
public String	*getAssociation()* on page 115	Returns the value of appropriate OData element.

Inherited members from ODataAssociation

Modifier and Type	Member	Description
public IODataAssociationEnd	*getAssociationEnd(String)* on page 106	Returns the value of the appropriate Association End OData element with the given role.
public List< IODataAssociationEnd >	*getAssociationEnds()* on page 106	Returns list of the appropriate OData elements.
public String	*getName()* on page 106	Returns the value of the appropriate OData attribute.
public	*ODataAssociation()* on page 105	
protected	*ODataAssociation(int[], String[])* on page 105	

Modifier and Type	Member	Description
public	*ODataAssociation(ParserDocument)* on page 105	
protected	*ODataAssociation(String)* on page 105	

Inherited members from IParserDocument

Modifier and Type	Member	Description
public abstract IParserDocument	*clone()* on page 574	Creates a copy of this object.
public abstract String	*getAttribute(String...)* on page 574	Returns the value of the first attribute with the given route.
public abstract List< String >	*getAttributes(String...)* on page 575	Returns all the values of attributes with the given route.
public abstract Map< String, String >	*getChildAttributeMap(String...)* on page 575	Returns all the name-value pairs of attributes contained by the element with the given route.
public abstract List< String >	*getChildAttributes(String...)* on page 575	Returns all the values of attributes contained by the element with the given route.
public abstract List< IParserDocument >	*getChildDocuments(String...)* on page 576	Returns the elements contained by the element with the given route.
public abstract List< IParserDocument >	*getChildDocumentsWithAttribute(String, String, String...)* on page 576	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public abstract List< IParserDocument >	*getChildDocumentsWithAttribute(String, String, boolean, String...)* on page 577	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public abstract IParserDocument	*getDocument(String...)* on page 577	Returns the first element with the given route.
public abstract List< IParserDocument >	*getDocuments(String...)* on page 578	Returns all the elements with the given route.

Modifier and Type	Member	Description
public abstract List< IParserDocument >	*getDocumentsWithAttribute(String, String, String...)* on page 578	Returns the elements with the given route that contains the given attribute with the given value.
public abstract List< IParserDocument >	*getDocumentsWithAttribute(String, String, boolean, String...)* on page 579	Returns the elements with the given route that contains the given attribute with the given value.
public abstract IParserDocument	*getDocumentWithAttribute(String, String, String...)* on page 579	Returns the first element with the given route that contains the given attribute with the given value.
public abstract IParserDocument	*getDocumentWithAttribute(String, String, boolean, String...)* on page 580	Returns the first element with the given route that contains the given attribute with the given value.
public abstract String	*getElementName()* on page 580	Returns The name of the root element of this document.
public abstract String	*getFunctionImportComplexPropertyValue(String...)* on page 581	
public abstract String	*getPrefixForUri(String)* on page 581	Returns the appropriate name-space prefix for the given XML name-space URI.
public abstract String[]	*getStrings()* on page 581	Returns all the string values contained by this document.
public abstract String	*getValue(String...)* on page 581	Returns the value of the first element with the given route.
public abstract List< String >	*getValues(String...)* on page 582	Returns all the values of elements with the given route.
public abstract void	*putAttribute(String, String...)* on page 582	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	*putDocument(IParserDocument, String...)* on page 583	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	*putValue(String, String...)* on page 583	Sets the value of the first element with the given route.
public abstract boolean	*removeAttribute(String...)* on page 584	Removes first element with the given route.
public abstract boolean	*removeAttributes(String...)* on page 584	Removes all the attribute with the given route.
public abstract boolean	*removeDocument(String...)* on page 584	Removes first element with the given route For removing multiple element use setDocuemtns with null arguments.
public abstract void	*setAttributes(List< String >, String...)* on page 585	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	*setDocuments(List< IParserDocument >, String...)* on page 585	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	*setElementName(String, String...)* on page 586	Sets the name of the root element with the given route Use empty route for setting root name of this document.

Modifier and Type	Member	Description
public abstract void	*setValues(List< String >, String...)* on page 586	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	*toXMLString()* on page 586	Returns the XML string representation of this object.

Inherited members from IPersistable

Modifier and Type	Member	Description
public void	*read(BufferedReader)* on page 593	
public void	*write(BufferedWriter)* on page 593	

Inherited members from IODataAssociation

Modifier and Type	Member	Description
public abstract IODataAssociationEnd	*getAssociationEnd(String)* on page 375	Returns the value of the appropriate Association End OData element with the given role.
public abstract List< IODataAssociationEnd >	*getAssociationEnds()* on page 376	Returns list of the appropriate OData elements.
public abstract String	*getName()* on page 376	Returns the value of the appropriate OData attribute.

Inherited members from IParserDocument

Modifier and Type	Member	Description
public abstract IParserDocument	*clone()* on page 574	Creates a copy of this object.
public abstract String	*getAttribute(String...)* on page 574	Returns the value of the first attribute with the given route.

Modifier and Type	Member	Description
public abstract List< String >	*getAttributes(String...)* on page 575	Returns all the values of attributes with the given route.
public abstract Map< String, String >	*getChildAttributeMap(String...)* on page 575	Returns all the name-value pairs of attributes contained by the element with the given route.
public abstract List< String >	*getChildAttributes(String...)* on page 575	Returns all the values of attributes contained by the element with the given route.
public abstract List< IParserDocument >	*getChildDocuments(String...)* on page 576	Returns the elements contained by the element with the given route.
public abstract List< IParserDocument >	*getChildDocumentsWithAttribute(String, String, String...)* on page 576	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public abstract List< IParserDocument >	*getChildDocumentsWithAttribute(String, String, boolean, String...)* on page 577	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public abstract IParserDocument	*getDocument(String...)* on page 577	Returns the first element with the given route.
public abstract List< IParserDocument >	*getDocuments(String...)* on page 578	Returns all the elements with the given route.
public abstract List< IParserDocument >	*getDocumentsWithAttribute(String, String, String...)* on page 578	Returns the elements with the given route that contains the given attribute with the given value.
public abstract List< IParserDocument >	*getDocumentsWithAttribute(String, String, boolean, String...)* on page 579	Returns the elements with the given route that contains the given attribute with the given value.
public abstract IParserDocument	*getDocumentWithAttribute(String, String, String...)* on page 579	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	*getDocumentWithAttribute(String, String, boolean, String...)* on page 580	Returns the first element with the given route that contains the given attribute with the given value.
public abstract String	*getElementName()* on page 580	Returns The name of the root element of this document.
public abstract String	*getFunctionImportComplexPropertyValue(String...)* on page 581	
public abstract String	*getPrefixForUri(String)* on page 581	Returns the appropriate name-space prefix for the given XML name-space URI.
public abstract String[]	*getStrings()* on page 581	Returns all the string values contained by this document.
public abstract String	*getValue(String...)* on page 581	Returns the value of the first element with the given route.
public abstract List< String >	*getValues(String...)* on page 582	Returns all the values of elements with the given route.
public abstract void	*putAttribute(String, String...)* on page 582	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	*putDocument(IParserDocument, String...)* on page 583	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	*putValue(String, String...)* on page 583	Sets the value of the first element with the given route.
public abstract boolean	*removeAttribute(String...)* on page 584	Removes first element with the given route.

Modifier and Type	Member	Description
public abstract boolean	*removeAttributes(String...)* on page 584	Removes all the attribute with the given route.
public abstract boolean	*removeDocument(String...)* on page 584	Removes first element with the given route For removing multiple element use setDocuemtns with null arguments.
public abstract void	*setAttributes(List< String >, String...)* on page 585	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	*setDocuments(List< IParserDocument >, String...)* on page 585	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	*setElementName(String, String...)* on page 586	Sets the name of the root element with the given route Use empty route for setting root name of this document.
public abstract void	*setValues(List< String >, String...)* on page 586	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	*toXMLString()* on page 586	Returns the XML string representation of this object.

Inherited members from IPersistable

Modifier and Type	Member	Description
public void	*read(BufferedReader)* on page 593	
public void	*write(BufferedWriter)* on page 593	

ODataAssociationSet() constructor

Syntax

```
public ODataAssociationSet ()
```

ODataAssociationSet(int[], String[]) constructor

Syntax

```
protected ODataAssociationSet (
    int[] routes,
    String[] values
)
```

ODataAssociationSet(ParserDocument) constructor

Syntax

```
public ODataAssociationSet (ParserDocument document)
```

getAssociation() method
Returns the value of appropriate OData element.

Syntax

```
public String getAssociation ()
```

Returns
the value of appropriate OData element

ODataCollection class
Consists of APIs related to OData Collection.

Package

```
com.sap.mobile.lib.parser
```

Syntax

```
public class ODataCollection extends ParserDocument implements
IODataCollection
```

Implemented interfaces

- *IODataCollection* on page 381

Members

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

Modifier and Type	Variable	Description
protected String	baseUrl	
protected String	collectionName	
protected boolean	isJson	

Constructors

Modifier and Type	Constructor	Description
public	*ODataCollection()* on page 121	
protected	*ODataCollection(int[], String[])* on page 121	
public	*ODataCollection(ParserDocument)* on page 121	
public	*ODataCollection(String)* on page 121	

Methods

Modifier and Type	Method	Description
public int	*getDisplayOrder()* on page 122	Returns the value of the appropriate OData extension attribute.
public String	*getHref()* on page 122	Returns the value of the 'href' OData attribute.
public List< IODataIcon >	*getIcons()* on page 122	Returns list of the appropriate OData elements.
public String	*getId()* on page 122	Returns the value of the 'href' OData attribute as a relative href (matchable with appropriate entitiySet)

Modifier and Type	Method	Description
public List< IODataLink >	*getLinks()* on page 122	Returns the value of the appropriate OData elements.
public String	*getMemberTitle()* on page 123	Returns the value of the appropriate OData element.
public IODataLink	*getSearchLink()* on page 123	Returns OData Link object that should be used for retrieving Open Search Description XML.
public String	*getSemantics()* on page 123	Returns the value of the appropriate OData attribute.
public IODataLink	*getSubscriptionLink()* on page 123	Returns OData Link object that should be used for subscription or null if there is no subscription link defined.
public String	*getTitle()* on page 124	Returns the value of the appropriate OData element.
public String	*getUrl()* on page 124	Returns OData Link object that should be used for self related operations.
public boolean	*isCreatable()* on page 124	Returns the value of the appropriate OData attribute.
public boolean	*isDeletable()* on page 124	Returns the value of the appropriate OData attribute.
public boolean	*isFilterable()* on page 124	Returns the value of the appropriate OData attribute.
public boolean	*isSearchable()* on page 125	Returns the value of the appropriate OData attribute.
public boolean	*isUpdatable()* on page 125	Returns the value of the appropriate OData attribute.
public void	*read(BufferedReader)* on page 125	
protected void	*setBaseUrl(String)* on page 125	

Modifier and Type	Method	Description
public void	*setEntitySet(IODataEntitySet)* on page 126	Sets the data held by the appropriate element of the OData Schema.
public void	*write(BufferedWriter)* on page 126	

Inherited members from IParserDocument

Modifier and Type	Member	Description
public abstract IParserDocument	*clone()* on page 574	Creates a copy of this object.
public abstract String	*getAttribute(String...)* on page 574	Returns the value of the first attribute with the given route.
public abstract List< String >	*getAttributes(String...)* on page 575	Returns all the values of attributes with the given route.
public abstract Map< String, String >	*getChildAttributeMap(String...)* on page 575	Returns all the name-value pairs of attributes contained by the element with the given route.
public abstract List< String >	*getChildAttributes(String...)* on page 575	Returns all the values of attributes contained by the element with the given route.
public abstract List< IParserDocument >	*getChildDocuments(String...)* on page 576	Returns the elements contained by the element with the given route.
public abstract List< IParserDocument >	*getChildDocumentsWithAttribute(String, String, String...)* on page 576	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public abstract List< IParserDocument >	*getChildDocumentsWithAttribute(String, String, boolean, String...)* on page 577	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public abstract IParserDocument	*getDocument(String...)* on page 577	Returns the first element with the given route.
public abstract List< IParserDocument >	*getDocuments(String...)* on page 578	Returns all the elements with the given route.

Modifier and Type	Member	Description
public abstract List< IParserDocument >	*getDocumentsWithAttribute(String, String, String...)* on page 578	Returns the elements with the given route that contains the given attribute with the given value.
public abstract List< IParserDocument >	*getDocumentsWithAttribute(String, String, boolean, String...)* on page 579	Returns the elements with the given route that contains the given attribute with the given value.
public abstract IParserDocument	*getDocumentWithAttribute(String, String, String...)* on page 579	Returns the first element with the given route that contains the given attribute with the given value.
public abstract IParserDocument	*getDocumentWithAttribute(String, String, boolean, String...)* on page 580	Returns the first element with the given route that contains the given attribute with the given value.
public abstract String	*getElementName()* on page 580	Returns The name of the root element of this document.
public abstract String	*getFunctionImportComplexPropertyValue(String...)* on page 581	
public abstract String	*getPrefixForUri(String)* on page 581	Returns the appropriate name-space prefix for the given XML name-space URI.
public abstract String[]	*getStrings()* on page 581	Returns all the string values contained by this document.
public abstract String	*getValue(String...)* on page 581	Returns the value of the first element with the given route.
public abstract List< String >	*getValues(String...)* on page 582	Returns all the values of elements with the given route.
public abstract void	*putAttribute(String, String...)* on page 582	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	*putDocument(IParserDocument, String...)* on page 583	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	*putValue(String, String...)* on page 583	Sets the value of the first element with the given route.
public abstract boolean	*removeAttribute(String...)* on page 584	Removes first element with the given route.
public abstract boolean	*removeAttributes(String...)* on page 584	Removes all the attribute with the given route.
public abstract boolean	*removeDocument(String...)* on page 584	Removes first element with the given route For removing multiple element use setDocuemtns with null arguments.
public abstract void	*setAttributes(List< String >, String...)* on page 585	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	*setDocuments(List< IParserDocument >, String...)* on page 585	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	*setElementName(String, String...)* on page 586	Sets the name of the root element with the given route Use empty route for setting root name of this document.

Modifier and Type	Member	Description
public abstract void	*setValues(List< String >, String...)* on page 586	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	*toXMLString()* on page 586	Returns the XML string representation of this object.

Inherited members from IPersistable

Modifier and Type	Member	Description
public void	*read(BufferedReader)* on page 593	
public void	*write(BufferedWriter)* on page 593	

ODataCollection() constructor

Syntax

```
public ODataCollection ()
```

ODataCollection(int[], String[]) constructor

Syntax

```
protected ODataCollection (
    int[] routes,
    String[] values
)
```

ODataCollection(ParserDocument) constructor

Syntax

```
public ODataCollection (ParserDocument document)
```

ODataCollection(String) constructor

Syntax

```
public ODataCollection (String string)
```

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 entitiySet)

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.

Remarks
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
Consists of APIs related to OData complex type.

Package

```
com.sap.mobile.lib.parser
```

Syntax

```
public class ODataComplexType extends ParserDocument implements
IODataComplexType
```

Implemented interfaces

- *IODataComplexType* on page 393

Members
All members of ODataComplexType, including inherited members. **Constructors**

Modifier and Type	Constructor	Description
public	*ODataComplexType()* on page 131	
protected	*ODataComplexType(int[], String[])* on page 131	
public	*ODataComplexType(ParserDocument)* on page 131	

Methods

Modifier and Type	Method	Description
public String	*getName()* on page 131	Returns the value of the appropriate OData element.
public List< IODataProperty >	*getProperties()* on page 131	Returns the list of the appropriate OData elements.

Inherited members from IParserDocument

Modifier and Type	Member	Description
public abstract IParserDocument	*clone()* on page 574	Creates a copy of this object.
public abstract String	*getAttribute(String...)* on page 574	Returns the value of the first attribute with the given route.

Modifier and Type	Member	Description
public abstract List< String >	*getAttributes(String...)* on page 575	Returns all the values of attributes with the given route.
public abstract Map< String, String >	*getChildAttributeMap(String...)* on page 575	Returns all the name-value pairs of attributes contained by the element with the given route.
public abstract List< String >	*getChildAttributes(String...)* on page 575	Returns all the values of attributes contained by the element with the given route.
public abstract List< IParserDocument >	*getChildDocuments(String...)* on page 576	Returns the elements contained by the element with the given route.
public abstract List< IParserDocument >	*getChildDocumentsWithAttribute(String, String, String...)* on page 576	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public abstract List< IParserDocument >	*getChildDocumentsWithAttribute(String, String, boolean, String...)* on page 577	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public abstract IParserDocument	*getDocument(String...)* on page 577	Returns the first element with the given route.
public abstract List< IParserDocument >	*getDocuments(String...)* on page 578	Returns all the elements with the given route.
public abstract List< IParserDocument >	*getDocumentsWithAttribute(String, String, String...)* on page 578	Returns the elements with the given route that contains the given attribute with the given value.
public abstract List< IParserDocument >	*getDocumentsWithAttribute(String, String, boolean, String...)* on page 579	Returns the elements with the given route that contains the given attribute with the given value.
public abstract IParserDocument	*getDocumentWithAttribute(String, String, String...)* on page 579	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	*getDocumentWithAttribute(String, String, boolean, String...)* on page 580	Returns the first element with the given route that contains the given attribute with the given value.
public abstract String	*getElementName()* on page 580	Returns The name of the root element of this document.
public abstract String	*getFunctionImportComplexPropertyValue(String...)* on page 581	
public abstract String	*getPrefixForUri(String)* on page 581	Returns the appropriate name-space prefix for the given XML name-space URI.
public abstract String[]	*getStrings()* on page 581	Returns all the string values contained by this document.
public abstract String	*getValue(String...)* on page 581	Returns the value of the first element with the given route.
public abstract List< String >	*getValues(String...)* on page 582	Returns all the values of elements with the given route.
public abstract void	*putAttribute(String, String...)* on page 582	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	*putDocument(IParserDocument, String...)* on page 583	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	*putValue(String, String...)* on page 583	Sets the value of the first element with the given route.
public abstract boolean	*removeAttribute(String...)* on page 584	Removes first element with the given route.

Modifier and Type	Member	Description
public abstract boolean	*removeAttributes(String...)* on page 584	Removes all the attribute with the given route.
public abstract boolean	*removeDocument(String...)* on page 584	Removes first element with the given route For removing multiple element use setDocuemtns with null arguments.
public abstract void	*setAttributes(List< String >, String...)* on page 585	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	*setDocuments(List< IParserDocument >, String...)* on page 585	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	*setElementName(String, String...)* on page 586	Sets the name of the root element with the given route Use empty route for setting root name of this document.
public abstract void	*setValues(List< String >, String...)* on page 586	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	*toXMLString()* on page 586	Returns the XML string representation of this object.

Inherited members from IPersistable

Modifier and Type	Member	Description
public void	*read(BufferedReader)* on page 593	
public void	*write(BufferedWriter)* on page 593	

ODataComplexType() constructor

Syntax

```
public ODataComplexType ()
```

ODataComplexType(int[], String[]) constructor

Syntax

```
protected ODataComplexType (
    int[] routes,
    String[] values
)
```

ODataComplexType(ParserDocument) constructor

Syntax

```
public ODataComplexType (ParserDocument document)
```

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
Consists of APIs related to OData Entity Set.

Package

```
com.sap.mobile.lib.parser
```

Syntax

```
public class ODataEntitySet extends ParserDocument implements
IODataEntitySet
```

Implemented interfaces

- *IODataEntitySet* on page 398

Members
All members of ODataEntitySet, including inherited members. **Constructors**

Modifier and Type	Constructor	Description
public	*ODataEntitySet()* on page 136	
protected	*ODataEntitySet(int[], String[])* on page 136	
public	*ODataEntitySet(ParserDocument)* on page 136	

Methods

Modifier and Type	Method	Description
public String	*getName()* on page 136	
public boolean	*isCreatable()* on page 136	
public boolean	*isDeletable()* on page 137	
public boolean	*isSearchable()* on page 137	
public boolean	*isSearchable(String)* on page 137	Returns the value of the given OData attribute.
public boolean	*isUpdatable()* on page 137	

Inherited members from IParserDocument

Modifier and Type	Member	Description
public abstract IParserDocument	*clone()* on page 574	Creates a copy of this object.
public abstract String	*getAttribute(String...)* on page 574	Returns the value of the first attribute with the given route.
public abstract List< String >	*getAttributes(String...)* on page 575	Returns all the values of attributes with the given route.
public abstract Map< String, String >	*getChildAttributeMap(String...)* on page 575	Returns all the name-value pairs of attributes contained by the element with the given route.
public abstract List< String >	*getChildAttributes(String...)* on page 575	Returns all the values of attributes contained by the element with the given route.
public abstract List< IParserDocument >	*getChildDocuments(String...)* on page 576	Returns the elements contained by the element with the given route.
public abstract List< IParserDocument >	*getChildDocumentsWithAttribute(String, String, String...)* on page 576	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public abstract List< IParserDocument >	*getChildDocumentsWithAttribute(String, String, boolean, String...)* on page 577	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public abstract IParserDocument	*getDocument(String...)* on page 577	Returns the first element with the given route.
public abstract List< IParserDocument >	*getDocuments(String...)* on page 578	Returns all the elements with the given route.
public abstract List< IParserDocument >	*getDocumentsWithAttribute(String, String, String...)* on page 578	Returns the elements with the given route that contains the given attribute with the given value.
public abstract List< IParserDocument >	*getDocumentsWithAttribute(String, String, boolean, String...)* on page 579	Returns the elements with the given route that contains the given attribute with the given value.

Modifier and Type	Member	Description
public abstract IParserDocument	*getDocumentWithAttribute(String, String, String...)* on page 579	Returns the first element with the given route that contains the given attribute with the given value.
public abstract IParserDocument	*getDocumentWithAttribute(String, String, boolean, String...)* on page 580	Returns the first element with the given route that contains the given attribute with the given value.
public abstract String	*getElementName()* on page 580	Returns The name of the root element of this document.
public abstract String	*getFunctionImportComplexPropertyValue(String...)* on page 581	
public abstract String	*getPrefixForUri(String)* on page 581	Returns the appropriate name-space prefix for the given XML name-space URI.
public abstract String[]	*getStrings()* on page 581	Returns all the string values contained by this document.
public abstract String	*getValue(String...)* on page 581	Returns the value of the first element with the given route.
public abstract List< String >	*getValues(String...)* on page 582	Returns all the values of elements with the given route.
public abstract void	*putAttribute(String, String...)* on page 582	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	*putDocument(IParserDocument, String...)* on page 583	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	*putValue(String, String...)* on page 583	Sets the value of the first element with the given route.

Modifier and Type	Member	Description
public abstract boolean	*removeAttribute(String...)* on page 584	Removes first element with the given route.
public abstract boolean	*removeAttributes(String...)* on page 584	Removes all the attribute with the given route.
public abstract boolean	*removeDocument(String...)* on page 584	Removes first element with the given route For removing multiple element use setDocuemtns with null arguments.
public abstract void	*setAttributes(List< String >, String...)* on page 585	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	*setDocuments(List< IParserDocument >, String...)* on page 585	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	*setElementName(String, String...)* on page 586	Sets the name of the root element with the given route Use empty route for setting root name of this document.
public abstract void	*setValues(List< String >, String...)* on page 586	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	*toXMLString()* on page 586	Returns the XML string representation of this object.

Inherited members from IPersistable

Modifier and Type	Member	Description
public void	*read(BufferedReader)* on page 593	
public void	*write(BufferedWriter)* on page 593	

ODataEntitySet() constructor

Syntax

```
public ODataEntitySet ()
```

ODataEntitySet(int[], String[]) constructor

Syntax

```
protected ODataEntitySet (
    int[] routes,
    String[] values
)
```

ODataEntitySet(ParserDocument) constructor

Syntax

```
public ODataEntitySet (ParserDocument document)
```

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
Consists of APIs related to OData EntityType.

Package

```
com.sap.mobile.lib.parser
```

Syntax

```
public class ODataEntityType extends ParserDocument implements
IODataEntityType
```

Implemented interfaces

- *IODataEntityType* on page 405

Derived classes

- *ODataReturnEntityType* on page 260

Members

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

Modifier and Type	Constructor	Description
public	*ODataEntityType()* on page 143	
protected	*ODataEntityType(int[], String[])* on page 143	
public	*ODataEntityType(ParserDocument)* on page 143	

Methods

Modifier and Type	Method	Description
public List< IODataProperty >	*getGPUseInSearchPropertiesData()* on page 143	Returns The list of appropriate OData elements with 'true' use-in-search (Generic Player names-pace) attribute value.
public List< IODataProperty >	*getGPVisibleInDetailPropertiesData()* on page 144	Returns The list of appropriate OData elements with 'true' visible-in-detail (Generic Player names-pace) attribute value.
public List< IODataProperty >	*getGPVisibleInListPropertiesData()* on page 144	Returns The list of appropriate OData elements with 'true' visible-in-list (Generic Player names-pace) attribute value.

Modifier and Type	Method	Description
public List< String >	*getKeyPropertyNames()* on page 144	Returns the list of the values of the 'PropertyRef' OData element contained by the 'Key' OData element.
public String	*getName()* on page 144	Returns The value of the appropriate OData attribute.
public List< IODataNavigationProperty >	*getNavigationProperties()* on page 145	Returns The list of appropriate OData elements.
public IODataNavigationProperty	*getNavigationProperty(String)* on page 145	Returns The appropriate OData element with the given name.
public List< IODataProperty >	*getProperties()* on page 145	Returns The list of appropriate OData elements.
public List< IODataProperty >	*getPropertiesWithAttribute(String, String)* on page 145	Returns The list of appropriate OData elements with given attribute value.
public List< IODataProperty >	*getPropertiesWithAttribute(String, String, boolean)* on page 146	Returns The list of appropriate OData elements with given attribute value.
public IODataProperty	*getProperty(String)* on page 146	Returns The appropriate OData element with the given name.
public List< IODataProperty >	*getSAPSearchablePropertiesData()* on page 146	Returns The list of appropriate OData elements with 'true' searchable (SAP names-pace) attribute value.
protected IODataSchema	*getSchema()* on page 146	
public List< IODataProperty >	*getSearchablePropertiesData(String)* on page 147	Returns The list of appropriate OData elements with 'true' attribute value of the given attribute.
public boolean	*hasStream()* on page 147	Returns The value of the appropriate OData attribute.
protected void	*setSchema(IODataSchema)* on page 147	

Inherited members from IParserDocument

Modifier and Type	Member	Description
public abstract IParserDocument	*clone()* on page 574	Creates a copy of this object.
public abstract String	*getAttribute(String...)* on page 574	Returns the value of the first attribute with the given route.
public abstract List< String >	*getAttributes(String...)* on page 575	Returns all the values of attributes with the given route.
public abstract Map< String, String >	*getChildAttributeMap(String...)* on page 575	Returns all the name-value pairs of attributes contained by the element with the given route.
public abstract List< String >	*getChildAttributes(String...)* on page 575	Returns all the values of attributes contained by the element with the given route.
public abstract List< IParserDocument >	*getChildDocuments(String...)* on page 576	Returns the elements contained by the element with the given route.
public abstract List< IParserDocument >	*getChildDocumentsWithAttribute(String, String, String...)* on page 576	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public abstract List< IParserDocument >	*getChildDocumentsWithAttribute(String, String, boolean, String...)* on page 577	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public abstract IParserDocument	*getDocument(String...)* on page 577	Returns the first element with the given route.
public abstract List< IParserDocument >	*getDocuments(String...)* on page 578	Returns all the elements with the given route.
public abstract List< IParserDocument >	*getDocumentsWithAttribute(String, String, String...)* on page 578	Returns the elements with the given route that contains the given attribute with the given value.
public abstract List< IParserDocument >	*getDocumentsWithAttribute(String, String, boolean, String...)* on page 579	Returns the elements with the given route that contains the given attribute with the given value.

Modifier and Type	Member	Description
public abstract IParserDocument	*getDocumentWithAttribute(String, String, String...)* on page 579	Returns the first element with the given route that contains the given attribute with the given value.
public abstract IParserDocument	*getDocumentWithAttribute(String, String, boolean, String...)* on page 580	Returns the first element with the given route that contains the given attribute with the given value.
public abstract String	*getElementName()* on page 580	Returns The name of the root element of this document.
public abstract String	*getFunctionImportComplexPropertyValue(String...)* on page 581	
public abstract String	*getPrefixForUri(String)* on page 581	Returns the appropriate name-space prefix for the given XML name-space URI.
public abstract String[]	*getStrings()* on page 581	Returns all the string values contained by this document.
public abstract String	*getValue(String...)* on page 581	Returns the value of the first element with the given route.
public abstract List< String >	*getValues(String...)* on page 582	Returns all the values of elements with the given route.
public abstract void	*putAttribute(String, String...)* on page 582	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	*putDocument(IParserDocument, String...)* on page 583	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	*putValue(String, String...)* on page 583	Sets the value of the first element with the given route.

Modifier and Type	Member	Description
public abstract boolean	*removeAttribute(String...)* on page 584	Removes first element with the given route.
public abstract boolean	*removeAttributes(String...)* on page 584	Removes all the attribute with the given route.
public abstract boolean	*removeDocument(String...)* on page 584	Removes first element with the given route For removing multiple element use setDocuemtns with null arguments.
public abstract void	*setAttributes(List< String >, String...)* on page 585	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	*setDocuments(List< IParserDocument >, String...)* on page 585	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	*setElementName(String, String...)* on page 586	Sets the name of the root element with the given route Use empty route for setting root name of this document.
public abstract void	*setValues(List< String >, String...)* on page 586	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	*toXMLString()* on page 586	Returns the XML string representation of this object.

Inherited members from IPersistable

Modifier and Type	Member	Description
public void	*read(BufferedReader)* on page 593	
public void	*write(BufferedWriter)* on page 593	

ODataEntityType() constructor

Syntax

```
public ODataEntityType ()
```

ODataEntityType(int[], String[]) constructor

Syntax

```
protected ODataEntityType (
    int[] routes,
    String[] values
)
```

ODataEntityType(ParserDocument) constructor

Syntax

```
public ODataEntityType (ParserDocument document)
```

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
Consists of APIs related to OData Entry.

Package

```
com.sap.mobile.lib.parser
```

Syntax

```
public class ODataEntry extends ParserDocument implements
IODataEntry
```

Implemented interfaces

- *IODataEntry* on page 415

Derived classes

- *ODataReturnTypeEntry* on page 241
- *ODataSubscriptionEntry* on page 289

Members

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

Modifier and Type	Variable	Description
protected transient JsonObject	jsonObject	JSON related variables
protected transient IOData-Schema	schema	
protected String	collectionId	
protected cacheState	Cachestate	
protected boolean	isLocalEntry	
protected Long	cache_timestamp	
protected static transient static final String	FILTER	
protected static transient static final String	FILTER_EQ	
protected static transient static final String	FILTER_AND	
protected static transient static final int	TRUE	
protected static transient static final int	FALSE	
protected static transient static final int	NOT_TESTED	

Constructors

Modifier and Type	Constructor	Description
public	*ODataEntry()* on page 158	
public	*ODataEntry(boolean)* on page 158	

Modifier and Type	Constructor	Description
protected	*ODataEntry(int[], String[])* on page 158	
public	*ODataEntry(IODataSchema)* on page 158	
public	*ODataEntry(JsonObject)* on page 158	Json Related
public	*ODataEntry(ParserDocument)* on page 158	
public	*ODataEntry(ParserDocument, IODataSchema)* on page 158	

Methods

Modifier and Type	Method	Description
protected void	*addPropertyValues(IODataProperty, Map< String, String >, String)* on page 159	
public ODataEntry	*clone()* on page 159	Creates a copy of this object.
protected void	*fillPropertyData(IODataProperty, String...)* on page 159	
protected void	*fillPropertyDataWithAttribute(IODataProperty, String, String, boolean, String...)* on page 159	
public List< IODataLink >	*getActionLinks()* on page 159	Returns OData Link objects that are set as action links (Has semantics (SAP name-space) attribute with value 'action')
public String	*getAuthorName()* on page 160	Returns The value of the 'name' OData element of the 'author' OData element.
public cacheState	*getCachestate()* on page 160	
public Long	*getCacheTimestamp()* on page 160	

Modifier and Type	Method	Description
public String	*getCollectionId()* on page 160	Returns the Id of the OCata Collection that this Entry belongs to.
public String	*getContentType()* on page 160	Returns the content type of the entry.
public String	*getEtag()* on page 161	Returns the Id of the OData Collection that this Entry belongs to.
public String	*getFilterUrl()* on page 161	Returns the full execution URL hat can be used for filtering collection search for this single entry.
public List< IODataProperty >	*getGPUseInSearchPropertiesData()* on page 161	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 >	*getGPVisibleInDetailPropertiesData()* on page 161	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 >	*getGPVisibleInListPropertiesData()* on page 162	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 >	*getIcons()* on page 162	Returns the list of the appropriate OData elements.

Modifier and Type	Method	Description
public String	*getId()* on page 162	Returns The Id of this OData Entry (value of appropriate OData Id element)
public boolean	*getIsLocal()* on page 162	
public Map< String, String >	*getKeyPropertyValues()* on page 162	Returns the values of the properties that are marked as key properties in the OData Schema document.
public Date	*getLastUpdated()* on page 163	Returns The parsed value of the 'updated' OData Element.
public List< IODataLink >	*getLinks()* on page 163	Returns the list of the appropriate OData elements.
public String	*getMediaSrc()* on page 163	Returns the media source if the entry has a media content.
public List< IODataProperty >	*getPropertiesData()* on page 163	Returns the value and meta information (retrieved from OData Schema document) of the properties of this Odata Entry document.
public List< IODataProperty >	*getPropertiesDataWithAttribute(String, String)* on page 164	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 >	*getPropertiesDataWithAttribute(String, String, boolean)* on page 164	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	*getPropertiesDocument()* on page 164	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	Method	Description
public String	*getPropertyValue(String...)* on page 165	Returns the value of the appropriate property.
public List< String >	*getPropertyValues(List< String[]>)* on page 165	Return list of property values for the given property paths.
public Map< String, String >	*getPropertyValues()* on page 166	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 >	*getRelatedDataLinks()* on page 166	Returns OData Link objects that represents links to Related Data.
public List< IODataProperty >	*getSAPSearchableProperties-Data()* on page 166	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	*getSchema()* on page 166	Returns the appropriate OData Schema object.
public IODataLink	*getSelfLink()* on page 167	Returns OData Link object that should be used for self related operations (with 'rel' attribute value 'self' or 'edit')
public IODataLink	*getSubscriptionLink()* on page 167	Returns OData Link object that should be used for subscription or null if there is no subscription link defined.
public String	*getSummary()* on page 167	Returns The value of the appropriate OData element.
public String	*getTitle()* on page 167	Returns The value of the appropriate OData element.
protected void	*materialize()* on page 167	

Modifier and Type	Method	Description
protected void	*parseCollectionId()* on page 168	
protected long	*parseEdmTime(String)* on page 168	
public void	*putComplexPropertyValue(String, String...)* on page 168	Puts the new property element as a sub-element of the 'complex properties' OData element.
public void	*putContentType(String)* on page 168	Puts the content type for a new entry object.
public void	*putDocument(IParserDocument, String...)* on page 169	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	*putId(String)* on page 169	Sets id of this OData Entry document (value of appropriate OData Id element)
public void	*putMediaSrc(String)* on page 169	Puts the media source for a new entry object.
public void	*putPropertyValue(String, String)* on page 169	Puts the new property element as a sub-element of the 'properties' OData element.
public void	*putPropertyValue(String, String, boolean)* on page 170	Puts the new property element as a sub-element of the 'properties' OData element.
public void	*read(BufferedReader)* on page 170	
protected String	*resolveTargetCollection(IODataLink)* on page 171	
public void	*setAuthorName(String)* on page 171	Sets the value of the 'name' OData element of the 'author' OData element.

Modifier and Type	Method	Description
public void	*setCachestate(cacheState)* on page 171	
public void	*setCacheTimestamp(Long)* on page 171	
public void	*setCollectionId(String)* on page 171	Maintains the Id of the OCata Collection that this Entry belongs to.
public void	*setIsLocal(boolean)* on page 171	
public void	*setSchema(IODataSchema)* on page 172	Maintains the reference to the appropriate OData Schema object.
public void	*setSummary(String)* on page 172	Sets the value of the appropriate OData element.
public void	*setTitle(String)* on page 172	Sets the value of the appropriate OData element.
public void	*write(BufferedWriter)* on page 172	

Inherited members from IParserDocument

Modifier and Type	Member	Description
public abstract IParserDocument	*clone()* on page 574	Creates a copy of this object.
public abstract String	*getAttribute(String...)* on page 574	Returns the value of the first attribute with the given route.
public abstract List< String >	*getAttributes(String...)* on page 575	Returns all the values of attributes with the given route.
public abstract Map< String, String >	*getChildAttributeMap(String...)* on page 575	Returns all the name-value pairs of attributes contained by the element with the given route.
public abstract List< String >	*getChildAttributes(String...)* on page 575	Returns all the values of attributes contained by the element with the given route.

Modifier and Type	Member	Description
public abstract List< IParserDocument >	*getChildDocuments(String...)* on page 576	Returns the elements contained by the element with the given route.
public abstract List< IParserDocument >	*getChildDocumentsWithAttribute(String, String, String...)* on page 576	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public abstract List< IParserDocument >	*getChildDocumentsWithAttribute(String, String, boolean, String...)* on page 577	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public abstract IParserDocument	*getDocument(String...)* on page 577	Returns the first element with the given route.
public abstract List< IParserDocument >	*getDocuments(String...)* on page 578	Returns all the elements with the given route.
public abstract List< IParserDocument >	*getDocumentsWithAttribute(String, String, String...)* on page 578	Returns the elements with the given route that contains the given attribute with the given value.
public abstract List< IParserDocument >	*getDocumentsWithAttribute(String, String, boolean, String...)* on page 579	Returns the elements with the given route that contains the given attribute with the given value.
public abstract IParserDocument	*getDocumentWithAttribute(String, String, String...)* on page 579	Returns the first element with the given route that contains the given attribute with the given value.
public abstract IParserDocument	*getDocumentWithAttribute(String, String, boolean, String...)* on page 580	Returns the first element with the given route that contains the given attribute with the given value.
public abstract String	*getElementName()* on page 580	Returns The name of the root element of this document.
public abstract String	*getFunctionImportComplexPropertyValue(String...)* on page 581	

Modifier and Type	Member	Description
public abstract String	*getPrefixForUri(String)* on page 581	Returns the appropriate name-space prefix for the given XML name-space URI.
public abstract String[]	*getStrings()* on page 581	Returns all the string values contained by this document.
public abstract String	*getValue(String...)* on page 581	Returns the value of the first element with the given route.
public abstract List< String >	*getValues(String...)* on page 582	Returns all the values of elements with the given route.
public abstract void	*putAttribute(String, String...)* on page 582	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	*putDocument(IParserDocument, String...)* on page 583	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	*putValue(String, String...)* on page 583	Sets the value of the first element with the given route.
public abstract boolean	*removeAttribute(String...)* on page 584	Removes first element with the given route.
public abstract boolean	*removeAttributes(String...)* on page 584	Removes all the attribute with the given route.
public abstract boolean	*removeDocument(String...)* on page 584	Removes first element with the given route For removing multiple element use setDocuemtns with null arguments.

Modifier and Type	Member	Description
public abstract void	*setAttributes(List< String >, String...)* on page 585	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	*setDocuments(List< IParserDocument >, String...)* on page 585	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	*setElementName(String, String...)* on page 586	Sets the name of the root element with the given route Use empty route for setting root name of this document.
public abstract void	*setValues(List< String >, String...)* on page 586	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	*toXMLString()* on page 586	Returns the XML string representation of this object.

Inherited members from IPersistable

Modifier and Type	Member	Description
public void	*read(BufferedReader)* on page 593	
public void	*write(BufferedWriter)* on page 593	

ODataEntry() constructor

Syntax

```
public ODataEntry ()
```

ODataEntry(boolean) constructor

Syntax

```
public ODataEntry (boolean isComplex)
```

ODataEntry(int[], String[]) constructor

Syntax

```
protected ODataEntry (
    int[] routes,
    String[] values
)
```

ODataEntry(IODataSchema) constructor

Syntax

```
public ODataEntry (IODataSchema schema)
```

ODataEntry(JsonObject) constructor
Json Related

Syntax

```
public ODataEntry (JsonObject entry)
```

ODataEntry(ParserDocument) constructor

Syntax

```
public ODataEntry (ParserDocument document)
```

ODataEntry(ParserDocument, IODataSchema) constructor

Syntax

```
public ODataEntry (
    ParserDocument document,
    IODataSchema schema
)
```

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 name-space) 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 name-space) 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 name-space) 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.

Remarks
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

Remarks
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

Remarks
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

Remarks
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

Remarks
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(IODataLink) method

Syntax

```
protected String resolveTargetCollection (IODataLink 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
Consists of APIs related to OData Error.

Package

```
com.sap.mobile.lib.parser
```

Syntax

```
public class ODataError extends ParserDocument implements
IODataError
```

Implemented interfaces

- *IODataError* on page 440

Members
All members of ODataError, including inherited members. **Constructors**

Modifier and Type	Constructor	Description
public	*ODataError()* on page 179	
protected	*ODataError(int[], String[])* on page 179	

Modifier and Type	Constructor	Description
public	*ODataError(JsonObject)* on page 179	
public	*ODataError(ParserDocument)* on page 179	

Methods

Modifier and Type	Method	Description
public String	*getErrorCode()* on page 179	Returns The value of the 'code' OData element.
public String	*getLang()* on page 179	Returns The value of the appropriate OData attribute of the 'message' element.
public String	*getMessage()* on page 180	Return the localized error message.
protected void	*setCode(String)* on page 180	
protected void	*setLang(String)* on page 180	
protected void	*setMessage(String)* on page 180	

Inherited members from IParserDocument

Modifier and Type	Member	Description
public abstract IParserDocument	*clone()* on page 574	Creates a copy of this object.
public abstract String	*getAttribute(String...)* on page 574	Returns the value of the first attribute with the given route.
public abstract List< String >	*getAttributes(String...)* on page 575	Returns all the values of attributes with the given route.
public abstract Map< String, String >	*getChildAttributeMap(String...)* on page 575	Returns all the name-value pairs of attributes contained by the element with the given route.
public abstract List< String >	*getChildAttributes(String...)* on page 575	Returns all the values of attributes contained by the element with the given route.

Modifier and Type	Member	Description
public abstract List< IParserDocument >	*getChildDocuments(String...)* on page 576	Returns the elements contained by the element with the given route.
public abstract List< IParserDocument >	*getChildDocumentsWithAttribute(String, String, String...)* on page 576	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public abstract List< IParserDocument >	*getChildDocumentsWithAttribute(String, String, boolean, String...)* on page 577	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public abstract IParserDocument	*getDocument(String...)* on page 577	Returns the first element with the given route.
public abstract List< IParserDocument >	*getDocuments(String...)* on page 578	Returns all the elements with the given route.
public abstract List< IParserDocument >	*getDocumentsWithAttribute(String, String, String...)* on page 578	Returns the elements with the given route that contains the given attribute with the given value.
public abstract List< IParserDocument >	*getDocumentsWithAttribute(String, String, boolean, String...)* on page 579	Returns the elements with the given route that contains the given attribute with the given value.
public abstract IParserDocument	*getDocumentWithAttribute(String, String, String...)* on page 579	Returns the first element with the given route that contains the given attribute with the given value.
public abstract IParserDocument	*getDocumentWithAttribute(String, String, boolean, String...)* on page 580	Returns the first element with the given route that contains the given attribute with the given value.
public abstract String	*getElementName()* on page 580	Returns The name of the root element of this document.
public abstract String	*getFunctionImportComplexPropertyValue(String...)* on page 581	

Modifier and Type	Member	Description
public abstract String	*getPrefixForUri(String)* on page 581	Returns the appropriate name-space prefix for the given XML name-space URI.
public abstract String[]	*getStrings()* on page 581	Returns all the string values contained by this document.
public abstract String	*getValue(String...)* on page 581	Returns the value of the first element with the given route.
public abstract List< String >	*getValues(String...)* on page 582	Returns all the values of elements with the given route.
public abstract void	*putAttribute(String, String...)* on page 582	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	*putDocument(IParserDocument, String...)* on page 583	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	*putValue(String, String...)* on page 583	Sets the value of the first element with the given route.
public abstract boolean	*removeAttribute(String...)* on page 584	Removes first element with the given route.
public abstract boolean	*removeAttributes(String...)* on page 584	Removes all the attribute with the given route.
public abstract boolean	*removeDocument(String...)* on page 584	Removes first element with the given route For removing multiple element use setDocuemtns with null arguments.

Modifier and Type	Member	Description
public abstract void	*setAttributes(List< String >, String...)* on page 585	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	*setDocuments(List< IParserDocument >, String...)* on page 585	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	*setElementName(String, String...)* on page 586	Sets the name of the root element with the given route Use empty route for setting root name of this document.
public abstract void	*setValues(List< String >, String...)* on page 586	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	*toXMLString()* on page 586	Returns the XML string representation of this object.

Inherited members from IPersistable

Modifier and Type	Member	Description
public void	*read(BufferedReader)* on page 593	
public void	*write(BufferedWriter)* on page 593	

ODataError() constructor

Syntax

```
public ODataError ()
```

ODataError(int[], String[]) constructor

Syntax

```
protected ODataError (
    int[] routes,
    String[] values
)
```

ODataError(JsonObject) constructor

Syntax

```
public ODataError (JsonObject error)
```

ODataError(ParserDocument) constructor

Syntax

```
public ODataError (ParserDocument document)
```

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

setCode(String) method

Syntax
```
protected void setCode (String code)
```

setLang(String) method

Syntax
```
protected void setLang (String lang)
```

setMessage(String) method

Syntax
```
protected void setMessage (String message)
```

ODataFeed class
Consists of APIs related to OData Feed.

Package
```
com.sap.mobile.lib.parser
```

Syntax
```
public class ODataFeed implements IODataFeed
```

Implemented interfaces

- *IODataFeed* on page 445

Members
All members of ODataFeed, including inherited members. **Methods**

Modifier and Type	Method	Description
public String	*getAuthor()* on page 181	Returns the name of the Author of the OData Feed.
public List< String >	*getDeletedEntries()* on page 181	Returns the list of links of the Deleted Entries.
public IODataLink	*getDeltaLink()* on page 182	Returns the latest delta link token.
public List< IODataEntry >	*getEntries()* on page 182	Returns the entries in the feed that have been updated/ entire list of entries in the collection.
public String	*getId()* on page 182	Returns the id of the OData Feed.
public String	*getLastUpdated()* on page 182	Returns the date/time of last update on the OData Feed.
public List< IODataLink >	*getLinks()* on page 182	
protected IODataSchema	*getSchema()* on page 183	
public String	*getTitle()* on page 183	Returns the Title of the OData Feed.
protected void	*setDeltaLink(IODataLink)* on page 183	
protected void	*setSchema(IODataSchema)* on page 183	

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
Consists of APIs related to OData FunctionImport.

Package

```
com.sap.mobile.lib.parser
```

Syntax

```
public class ODataFunctionImport extends ParserDocument
implements IODataFunctionImport
```

Implemented interfaces

- *IODataFunctionImport* on page 448

Members

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

Modifier and Type	Variable	Description
protected String	baseUrl	

Constructors

Modifier and Type	Constructor	Description
public	*ODataFunctionImport()* on page 189	
protected	*ODataFunctionImport(int[], String[])* on page 189	
public	*ODataFunctionImport(Parser-Document)* on page 189	

Methods

Modifier and Type	Method	Description
public String	*getActionFor()* on page 189	Returns The value of the appropriate OData attribute.
public String	*getCollectionId()* on page 189	Returns The value of the 'EntitySet' OData attribute.
public String	*getEntitySet()* on page 189	Returns The value of the 'EntitySet' OData attribute.
public String	*getExecutionUrl(Map< String, String >)* on page 190	Calculate the full execution URL for executing this Function Import according to the passed paramteres.
public String	*getHTTPMethod()* on page 190	Returns The value of the appropriate OData attribute.
public List< String >	*getInputParameterNames()* on page 190	Returns The list of the appropriate OData element with 'In' or 'InOut' attribute value.

Modifier and Type	Method	Description
public String	*getName()* on page 190	Returns The value of the appropriate OData attribute.
public List< String >	*getOutputParameterNames()* on page 191	Returns The list of the appropriate OData element with 'Out' or 'InOut' attribute value.
public List< IODataParameter >	*getParameters()* on page 191	Returns The list of the appropriate OData element.
public String	*getReturnType()* on page 191	Returns The value of the appropriate OData attribute.
public RETURNTYPE_ENUM	*getReturnTypeEnum()* on page 191	Returns The return type of this Function Import OData document.
public void	*read(BufferedReader)* on page 191	
public void	*setBaseUrl(String)* on page 192	
public void	*write(BufferedWriter)* on page 192	

Inherited members from IParserDocument

Modifier and Type	Member	Description
public abstract IParserDocument	*clone()* on page 574	Creates a copy of this object.
public abstract String	*getAttribute(String...)* on page 574	Returns the value of the first attribute with the given route.
public abstract List< String >	*getAttributes(String...)* on page 575	Returns all the values of attributes with the given route.
public abstract Map< String, String >	*getChildAttributeMap(String...)* on page 575	Returns all the name-value pairs of attributes contained by the element with the given route.
public abstract List< String >	*getChildAttributes(String...)* on page 575	Returns all the values of attributes contained by the element with the given route.

Modifier and Type	Member	Description
public abstract List< IParserDocument >	*getChildDocuments(String...)* on page 576	Returns the elements contained by the element with the given route.
public abstract List< IParserDocument >	*getChildDocumentsWithAttribute(String, String, String...)* on page 576	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public abstract List< IParserDocument >	*getChildDocumentsWithAttribute(String, String, boolean, String...)* on page 577	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public abstract IParserDocument	*getDocument(String...)* on page 577	Returns the first element with the given route.
public abstract List< IParserDocument >	*getDocuments(String...)* on page 578	Returns all the elements with the given route.
public abstract List< IParserDocument >	*getDocumentsWithAttribute(String, String, String...)* on page 578	Returns the elements with the given route that contains the given attribute with the given value.
public abstract List< IParserDocument >	*getDocumentsWithAttribute(String, String, boolean, String...)* on page 579	Returns the elements with the given route that contains the given attribute with the given value.
public abstract IParserDocument	*getDocumentWithAttribute(String, String, String...)* on page 579	Returns the first element with the given route that contains the given attribute with the given value.
public abstract IParserDocument	*getDocumentWithAttribute(String, String, boolean, String...)* on page 580	Returns the first element with the given route that contains the given attribute with the given value.
public abstract String	*getElementName()* on page 580	Returns The name of the root element of this document.
public abstract String	*getFunctionImportComplexPropertyValue(String...)* on page 581	

Modifier and Type	Member	Description
public abstract String	*getPrefixForUri(String)* on page 581	Returns the appropriate name-space prefix for the given XML name-space URI.
public abstract String[]	*getStrings()* on page 581	Returns all the string values contained by this document.
public abstract String	*getValue(String...)* on page 581	Returns the value of the first element with the given route.
public abstract List< String >	*getValues(String...)* on page 582	Returns all the values of elements with the given route.
public abstract void	*putAttribute(String, String...)* on page 582	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	*putDocument(IParserDocument, String...)* on page 583	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	*putValue(String, String...)* on page 583	Sets the value of the first element with the given route.
public abstract boolean	*removeAttribute(String...)* on page 584	Removes first element with the given route.
public abstract boolean	*removeAttributes(String...)* on page 584	Removes all the attribute with the given route.
public abstract boolean	*removeDocument(String...)* on page 584	Removes first element with the given route For removing multiple element use setDocuemtns with null arguments.

Modifier and Type	Member	Description
public abstract void	*setAttributes(List< String >, String...)* on page 585	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	*setDocuments(List< IParserDocument >, String...)* on page 585	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	*setElementName(String, String...)* on page 586	Sets the name of the root element with the given route Use empty route for setting root name of this document.
public abstract void	*setValues(List< String >, String...)* on page 586	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	*toXMLString()* on page 586	Returns the XML string representation of this object.

Inherited members from IPersistable

Modifier and Type	Member	Description
public void	*read(BufferedReader)* on page 593	
public void	*write(BufferedWriter)* on page 593	

ODataFunctionImport() constructor

Syntax

```
public ODataFunctionImport ()
```

ODataFunctionImport(int[], String[]) constructor

Syntax

```
protected ODataFunctionImport (
    int[] routes,
    String[] values
)
```

ODataFunctionImport(ParserDocument) constructor

Syntax

```
public ODataFunctionImport (ParserDocument document)
```

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 RETURNTYPE_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
Consists of APIs related to OData Icon.

Package

```
com.sap.mobile.lib.parser
```

Syntax

```
public class ODataIcon extends ParserDocument implements
IODataIcon
```

Implemented interfaces

- *IODataIcon* on page 457

Members

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

Modifier and Type	Variable	Description
protected String	baseUrl	

Constructors

Modifier and Type	Constructor	Description
public	*ODataIcon()* on page 197	
protected	*ODataIcon(int[], String[])* on page 197	
public	*ODataIcon(ParserDocument)* on page 197	

Methods

Modifier and Type	Method	Description
public int	*getHeight()* on page 197	Returns The value of the appropriate OData attribute.
public String	*getUrl()* on page 197	Returns The value of the appropriate OData attribute.
public int	*getWidth()* on page 198	Returns The value of the appropriate OData attribute.
public void	*read(BufferedReader)* on page 198	
protected void	*setBaseUrl(String)* on page 198	
public void	*write(BufferedWriter)* on page 198	

Inherited members from IParserDocument

Modifier and Type	Member	Description
public abstract IParserDocument	*clone()* on page 574	Creates a copy of this object.

Modifier and Type	Member	Description
public abstract String	*getAttribute(String...)* on page 574	Returns the value of the first attribute with the given route.
public abstract List< String >	*getAttributes(String...)* on page 575	Returns all the values of attributes with the given route.
public abstract Map< String, String >	*getChildAttributeMap(String...)* on page 575	Returns all the name-value pairs of attributes contained by the element with the given route.
public abstract List< String >	*getChildAttributes(String...)* on page 575	Returns all the values of attributes contained by the element with the given route.
public abstract List< IParserDocument >	*getChildDocuments(String...)* on page 576	Returns the elements contained by the element with the given route.
public abstract List< IParserDocument >	*getChildDocumentsWithAttribute(String, String, String...)* on page 576	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public abstract List< IParserDocument >	*getChildDocumentsWithAttribute(String, String, boolean, String...)* on page 577	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public abstract IParserDocument	*getDocument(String...)* on page 577	Returns the first element with the given route.
public abstract List< IParserDocument >	*getDocuments(String...)* on page 578	Returns all the elements with the given route.
public abstract List< IParserDocument >	*getDocumentsWithAttribute(String, String, String...)* on page 578	Returns the elements with the given route that contains the given attribute with the given value.
public abstract List< IParserDocument >	*getDocumentsWithAttribute(String, String, boolean, String...)* on page 579	Returns the elements with the given route that contains the given attribute with the given value.

Modifier and Type	Member	Description
public abstract IParserDocument	*getDocumentWithAttribute(String, String, String...)* on page 579	Returns the first element with the given route that contains the given attribute with the given value.
public abstract IParserDocument	*getDocumentWithAttribute(String, String, boolean, String...)* on page 580	Returns the first element with the given route that contains the given attribute with the given value.
public abstract String	*getElementName()* on page 580	Returns The name of the root element of this document.
public abstract String	*getFunctionImportComplexPropertyValue(String...)* on page 581	
public abstract String	*getPrefixForUri(String)* on page 581	Returns the appropriate name-space prefix for the given XML name-space URI.
public abstract String[]	*getStrings()* on page 581	Returns all the string values contained by this document.
public abstract String	*getValue(String...)* on page 581	Returns the value of the first element with the given route.
public abstract List< String >	*getValues(String...)* on page 582	Returns all the values of elements with the given route.
public abstract void	*putAttribute(String, String...)* on page 582	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	*putDocument(IParserDocument, String...)* on page 583	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	*putValue(String, String...)* on page 583	Sets the value of the first element with the given route.

Modifier and Type	Member	Description
public abstract boolean	*removeAttribute(String...)* on page 584	Removes first element with the given route.
public abstract boolean	*removeAttributes(String...)* on page 584	Removes all the attribute with the given route.
public abstract boolean	*removeDocument(String...)* on page 584	Removes first element with the given route For removing multiple element use setDocuemtns with null arguments.
public abstract void	*setAttributes(List< String >, String...)* on page 585	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	*setDocuments(List< IParserDocument >, String...)* on page 585	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	*setElementName(String, String...)* on page 586	Sets the name of the root element with the given route Use empty route for setting root name of this document.
public abstract void	*setValues(List< String >, String...)* on page 586	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	*toXMLString()* on page 586	Returns the XML string representation of this object.

Inherited members from IPersistable

Modifier and Type	Member	Description
public void	*read(BufferedReader)* on page 593	
public void	*write(BufferedWriter)* on page 593	

ODataIcon() constructor

Syntax

```
public ODataIcon ()
```

ODataIcon(int[], String[]) constructor

Syntax

```
protected ODataIcon (
    int[] routes,
    String[] values
)
```

ODataIcon(ParserDocument) constructor

Syntax

```
public ODataIcon (ParserDocument document)
```

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
Consists of APIs related to OData link.

Package

```
com.sap.mobile.lib.parser
```

Syntax

```
public class ODataLink extends ParserDocument implements
IODataLink
```

Implemented interfaces

- *IODataLink* on page 463

Members
All members of ODataLink, including inherited members. **Variables**

Modifier and Type	Variable	Description
protected String	targetCollectionId	
protected String	baseUrl	
protected IODataSchema	schema	

Constructors

Modifier and Type	Constructor	Description
public	*ODataLink()* on page 204	
protected	*ODataLink(int[], String[])* on page 204	
public	*ODataLink(ParserDocument)* on page 204	

Methods

Modifier and Type	Method	Description
public String	*getHref()* on page 205	Returns the value of the appropriate OData attribute.
public List< IODataEntry >	*getInlineEntries()* on page 205	Returns the list of OData Entries contained by the appropriate OData 'inline' element.
public List< String >	*getInputParameterNames()* on page 205	Returns the list of the appropriate OData Parameter elements that should be used as input parameter.
public List< String >	*getOutputParameterNames()* on page 205	Returns the list of the appropriate OData Parameter elements that should be used as output parameter.
public List< IODataParameter >	*getParameters()* on page 206	Returns the list of the appropriate OData Parameter elements.
public String	*getRel()* on page 206	Returns the value of the appropriate OData attribute.
public IODataSchema	*getSchema()* on page 206	Returns the Schema that is to be used for 'Inline entries'.
public String	*getSemantics()* on page 206	Returns The value of the appropriate OData extension (vCard) attribute.
public String	*getTargetCollectionId()* on page 206	Returns the Id of the collection that this link points to (if any)
public String	*getTitle()* on page 207	Returns the value of the appropriate OData attribute.
public String	*getUrl()* on page 207	Returns the full URL for this OData Link object without parameters.
public String	*getUrlWithParameters(Map< String, String >)* on page 207	Returns the full URL for this OData Link object extended with the given parameter names and values.
public void	*read(BufferedReader)* on page 207	

Modifier and Type	Method	Description
protected void	*setBaseUrl(String)* on page 208	
public void	*setSchema(IODataSchema)* on page 208	Sets the Schema that is to be used for 'Inline entries'.
public void	*setTargetCollectionId(String)* on page 208	Maintains the Id of the collection that this link points to (if any)
public void	*write(BufferedWriter)* on page 208	

Inherited members from IParserDocument

Modifier and Type	Member	Description
public abstract IParserDocument	*clone()* on page 574	Creates a copy of this object.
public abstract String	*getAttribute(String...)* on page 574	Returns the value of the first attribute with the given route.
public abstract List< String >	*getAttributes(String...)* on page 575	Returns all the values of attributes with the given route.
public abstract Map< String, String >	*getChildAttributeMap(String...)* on page 575	Returns all the name-value pairs of attributes contained by the element with the given route.
public abstract List< String >	*getChildAttributes(String...)* on page 575	Returns all the values of attributes contained by the element with the given route.
public abstract List< IParserDocument >	*getChildDocuments(String...)* on page 576	Returns the elements contained by the element with the given route.
public abstract List< IParserDocument >	*getChildDocumentsWithAttribute(String, String, String...)* on page 576	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public abstract List< IParserDocument >	*getChildDocumentsWithAttribute(String, String, boolean, String...)* on page 577	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	*getDocument(String...)* on page 577	Returns the first element with the given route.
public abstract List< IParserDocument >	*getDocuments(String...)* on page 578	Returns all the elements with the given route.
public abstract List< IParserDocument >	*getDocumentsWithAttribute(String, String, String...)* on page 578	Returns the elements with the given route that contains the given attribute with the given value.
public abstract List< IParserDocument >	*getDocumentsWithAttribute(String, String, boolean, String...)* on page 579	Returns the elements with the given route that contains the given attribute with the given value.
public abstract IParserDocument	*getDocumentWithAttribute(String, String, String...)* on page 579	Returns the first element with the given route that contains the given attribute with the given value.
public abstract IParserDocument	*getDocumentWithAttribute(String, String, boolean, String...)* on page 580	Returns the first element with the given route that contains the given attribute with the given value.
public abstract String	*getElementName()* on page 580	Returns The name of the root element of this document.
public abstract String	*getFunctionImportComplexPropertyValue(String...)* on page 581	
public abstract String	*getPrefixForUri(String)* on page 581	Returns the appropriate name-space prefix for the given XML name-space URI.
public abstract String[]	*getStrings()* on page 581	Returns all the string values contained by this document.
public abstract String	*getValue(String...)* on page 581	Returns the value of the first element with the given route.
public abstract List< String >	*getValues(String...)* on page 582	Returns all the values of elements with the given route.

Modifier and Type	Member	Description
public abstract void	*putAttribute(String, String...)* on page 582	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	*putDocument(IParserDocument, String...)* on page 583	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	*putValue(String, String...)* on page 583	Sets the value of the first element with the given route.
public abstract boolean	*removeAttribute(String...)* on page 584	Removes first element with the given route.
public abstract boolean	*removeAttributes(String...)* on page 584	Removes all the attribute with the given route.
public abstract boolean	*removeDocument(String...)* on page 584	Removes first element with the given route For removing multiple element use setDocuemtns with null arguments.
public abstract void	*setAttributes(List< String >, String...)* on page 585	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	*setDocuments(List< IParserDocument >, String...)* on page 585	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	*setElementName(String, String...)* on page 586	Sets the name of the root element with the given route Use empty route for setting root name of this document.
public abstract void	*setValues(List< String >, String...)* on page 586	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	*toXMLString()* on page 586	Returns the XML string representation of this object.

Inherited members from IPersistable

Modifier and Type	Member	Description
public void	*read(BufferedReader)* on page 593	
public void	*write(BufferedWriter)* on page 593	

ODataLink() constructor

Syntax

```
public ODataLink ()
```

ODataLink(int[], String[]) constructor

Syntax

```
protected ODataLink (
    int[] routes,
    String[] values
)
```

ODataLink(ParserDocument) constructor

Syntax

```
public ODataLink (ParserDocument document)
```

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
Consists of APIs related to OData EntityType.

Package

```
com.sap.mobile.lib.parser
```

Syntax

```
public class ODataNavigationProperty extends ParserDocument
implements IODataNavigationProperty
```

Implemented interfaces

- *IODataNavigationProperty* on page 474

Members
All members of ODataNavigationProperty, including inherited members. **Constructors**

Modifier and Type	Constructor	Description
public	*ODataNavigationProperty()* on page 213	
protected	*ODataNavigationProperty(int[], String[])* on page 213	
public	*ODataNavigationProperty(ParserDocument)* on page 213	

Methods

Modifier and Type	Method	Description
public String	*getFromRole()* on page 214	Returns The value of the appropriate OData attribute.
public String	*getName()* on page 214	Returns The value of the appropriate OData attribute.
public String	*getRelationship()* on page 214	Returns The value of the appropriate OData attribute.
public String	*getToRole()* on page 214	Returns The value of the appropriate OData attribute.

Inherited members from IParserDocument

Modifier and Type	Member	Description
public abstract IParserDocument	*clone()* on page 574	Creates a copy of this object.
public abstract String	*getAttribute(String...)* on page 574	Returns the value of the first attribute with the given route.
public abstract List< String >	*getAttributes(String...)* on page 575	Returns all the values of attributes with the given route.
public abstract Map< String, String >	*getChildAttributeMap(String...)* on page 575	Returns all the name-value pairs of attributes contained by the element with the given route.
public abstract List< String >	*getChildAttributes(String...)* on page 575	Returns all the values of attributes contained by the element with the given route.
public abstract List< IParserDocument >	*getChildDocuments(String...)* on page 576	Returns the elements contained by the element with the given route.
public abstract List< IParserDocument >	*getChildDocumentsWithAttribute(String, String, String...)* on page 576	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public abstract List< IParserDocument >	*getChildDocumentsWithAttribute(String, String, boolean, String...)* on page 577	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	*getDocument(String...)* on page 577	Returns the first element with the given route.
public abstract List< IParserDocument >	*getDocuments(String...)* on page 578	Returns all the elements with the given route.
public abstract List< IParserDocument >	*getDocumentsWithAttribute(String, String, String...)* on page 578	Returns the elements with the given route that contains the given attribute with the given value.
public abstract List< IParserDocument >	*getDocumentsWithAttribute(String, String, boolean, String...)* on page 579	Returns the elements with the given route that contains the given attribute with the given value.
public abstract IParserDocument	*getDocumentWithAttribute(String, String, String...)* on page 579	Returns the first element with the given route that contains the given attribute with the given value.
public abstract IParserDocument	*getDocumentWithAttribute(String, String, boolean, String...)* on page 580	Returns the first element with the given route that contains the given attribute with the given value.
public abstract String	*getElementName()* on page 580	Returns The name of the root element of this document.
public abstract String	*getFunctionImportComplexPropertyValue(String...)* on page 581	
public abstract String	*getPrefixForUri(String)* on page 581	Returns the appropriate name-space prefix for the given XML name-space URI.
public abstract String[]	*getStrings()* on page 581	Returns all the string values contained by this document.
public abstract String	*getValue(String...)* on page 581	Returns the value of the first element with the given route.
public abstract List< String >	*getValues(String...)* on page 582	Returns all the values of elements with the given route.

Modifier and Type	Member	Description
public abstract void	*putAttribute(String, String...)* on page 582	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	*putDocument(IParserDocument, String...)* on page 583	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	*putValue(String, String...)* on page 583	Sets the value of the first element with the given route.
public abstract boolean	*removeAttribute(String...)* on page 584	Removes first element with the given route.
public abstract boolean	*removeAttributes(String...)* on page 584	Removes all the attribute with the given route.
public abstract boolean	*removeDocument(String...)* on page 584	Removes first element with the given route For removing multiple element use setDocuemtns with null arguments.
public abstract void	*setAttributes(List< String >, String...)* on page 585	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	*setDocuments(List< IParserDocument >, String...)* on page 585	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	*setElementName(String, String...)* on page 586	Sets the name of the root element with the given route Use empty route for setting root name of this document.
public abstract void	*setValues(List< String >, String...)* on page 586	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	*toXMLString()* on page 586	Returns the XML string representation of this object.

Inherited members from IPersistable

Modifier and Type	Member	Description
public void	*read(BufferedReader)* on page 593	
public void	*write(BufferedWriter)* on page 593	

ODataNavigationProperty() constructor

Syntax

```
public ODataNavigationProperty ()
```

ODataNavigationProperty(int[], String[]) constructor

Syntax

```
protected ODataNavigationProperty (
    int[] routes,
    String[] values
)
```

ODataNavigationProperty(ParserDocument) constructor

Syntax

```
public ODataNavigationProperty (ParserDocument document)
```

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
Consists of APIs related to OData OpenSearchDescription.

Package
```
com.sap.mobile.lib.parser
```

Syntax

```
public class ODataOpenSearchDescription extends ParserDocument
implements IODataOpenSearchDescription
```

Implemented interfaces

- *IODataOpenSearchDescription* on page 480

Members

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

Modifier and Type	Variable	Description
protected String	baseUrl	

Constructors

Modifier and Type	Constructor	Description
public	*ODataOpenSearchDescription()* on page 219	
protected	*ODataOpenSearchDescription(int[], String[])* on page 219	
public	*ODataOpenSearchDescription(ParserDocument)* on page 219	

Methods

Modifier and Type	Method	Description
public String	*getDescription()* on page 220	Returns The value of the appropriate OData element.
public String	*getShortName()* on page 220	Returns The value of the appropriate OData element.
public List< IODataURL >	*getUrls()* on page 220	Returns The list of the appropriate OData element.
public void	*read(BufferedReader)* on page 220	
protected void	*setBaseUrl(String)* on page 221	

Modifier and Type	Method	Description
public void	*write(BufferedWriter)* on page 221	

Inherited members from IParserDocument

Modifier and Type	Member	Description
public abstract IParserDocument	*clone()* on page 574	Creates a copy of this object.
public abstract String	*getAttribute(String...)* on page 574	Returns the value of the first attribute with the given route.
public abstract List< String >	*getAttributes(String...)* on page 575	Returns all the values of attributes with the given route.
public abstract Map< String, String >	*getChildAttributeMap(String...)* on page 575	Returns all the name-value pairs of attributes contained by the element with the given route.
public abstract List< String >	*getChildAttributes(String...)* on page 575	Returns all the values of attributes contained by the element with the given route.
public abstract List< IParserDocument >	*getChildDocuments(String...)* on page 576	Returns the elements contained by the element with the given route.
public abstract List< IParserDocument >	*getChildDocumentsWithAttribute(String, String, String...)* on page 576	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public abstract List< IParserDocument >	*getChildDocumentsWithAttribute(String, String, boolean, String...)* on page 577	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public abstract IParserDocument	*getDocument(String...)* on page 577	Returns the first element with the given route.
public abstract List< IParserDocument >	*getDocuments(String...)* on page 578	Returns all the elements with the given route.

Modifier and Type	Member	Description
public abstract List< IParserDocument >	*getDocumentsWithAttribute(String, String, String...)* on page 578	Returns the elements with the given route that contains the given attribute with the given value.
public abstract List< IParserDocument >	*getDocumentsWithAttribute(String, String, boolean, String...)* on page 579	Returns the elements with the given route that contains the given attribute with the given value.
public abstract IParserDocument	*getDocumentWithAttribute(String, String, String...)* on page 579	Returns the first element with the given route that contains the given attribute with the given value.
public abstract IParserDocument	*getDocumentWithAttribute(String, String, boolean, String...)* on page 580	Returns the first element with the given route that contains the given attribute with the given value.
public abstract String	*getElementName()* on page 580	Returns The name of the root element of this document.
public abstract String	*getFunctionImportComplexPropertyValue(String...)* on page 581	
public abstract String	*getPrefixForUri(String)* on page 581	Returns the appropriate name-space prefix for the given XML name-space URI.
public abstract String[]	*getStrings()* on page 581	Returns all the string values contained by this document.
public abstract String	*getValue(String...)* on page 581	Returns the value of the first element with the given route.
public abstract List< String >	*getValues(String...)* on page 582	Returns all the values of elements with the given route.
public abstract void	*putAttribute(String, String...)* on page 582	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	*putDocument(IParserDocument, String...)* on page 583	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	*putValue(String, String...)* on page 583	Sets the value of the first element with the given route.
public abstract boolean	*removeAttribute(String...)* on page 584	Removes first element with the given route.
public abstract boolean	*removeAttributes(String...)* on page 584	Removes all the attribute with the given route.
public abstract boolean	*removeDocument(String...)* on page 584	Removes first element with the given route For removing multiple element use setDocuemtns with null arguments.
public abstract void	*setAttributes(List< String >, String...)* on page 585	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	*setDocuments(List< IParserDocument >, String...)* on page 585	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	*setElementName(String, String...)* on page 586	Sets the name of the root element with the given route Use empty route for setting root name of this document.

Modifier and Type	Member	Description
public abstract void	*setValues(List< String >, String...)* on page 586	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	*toXMLString()* on page 586	Returns the XML string representation of this object.

Inherited members from IPersistable

Modifier and Type	Member	Description
public void	*read(BufferedReader)* on page 593	
public void	*write(BufferedWriter)* on page 593	

ODataOpenSearchDescription() constructor

Syntax

```
public ODataOpenSearchDescription ()
```

ODataOpenSearchDescription(int[], String[]) constructor

Syntax

```
protected ODataOpenSearchDescription (
    int[] routes,
    String[] values
)
```

ODataOpenSearchDescription(ParserDocument) constructor

Syntax

```
public ODataOpenSearchDescription (ParserDocument document)
```

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
Consists of APIs related to OData Parameter.

Package

```
com.sap.mobile.lib.parser
```

Syntax

```
public class ODataParameter extends ParserDocument implements
IODataParameter
```

Implemented interfaces

- *IODataParameter* on page 486

Members
All members of ODataParameter, including inherited members. **Constructors**

Modifier and Type	Constructor	Description
public	*ODataParameter()* on page 225	
protected	*ODataParameter(int[], String[])* on page 226	
public	*ODataParameter(ParserDocument)* on page 226	

Methods

Modifier and Type	Method	Description
public String	*getMode()* on page 226	Returns The value of the appropriate OData attribute.
public String	*getName()* on page 226	Returns The value of the appropriate OData attribute.
public String	*getType()* on page 226	Returns The value of the appropriate OData attribute.

Inherited members from IParserDocument

Modifier and Type	Member	Description
public abstract IParserDocument	*clone()* on page 574	Creates a copy of this object.
public abstract String	*getAttribute(String...)* on page 574	Returns the value of the first attribute with the given route.
public abstract List< String >	*getAttributes(String...)* on page 575	Returns all the values of attributes with the given route.
public abstract Map< String, String >	*getChildAttributeMap(String...)* on page 575	Returns all the name-value pairs of attributes contained by the element with the given route.
public abstract List< String >	*getChildAttributes(String...)* on page 575	Returns all the values of attributes contained by the element with the given route.
public abstract List< IParserDocument >	*getChildDocuments(String...)* on page 576	Returns the elements contained by the element with the given route.

Modifier and Type	Member	Description
public abstract List< IParserDocument >	*getChildDocumentsWithAttribute(String, String, String...)* on page 576	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public abstract List< IParserDocument >	*getChildDocumentsWithAttribute(String, String, boolean, String...)* on page 577	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public abstract IParserDocument	*getDocument(String...)* on page 577	Returns the first element with the given route.
public abstract List< IParserDocument >	*getDocuments(String...)* on page 578	Returns all the elements with the given route.
public abstract List< IParserDocument >	*getDocumentsWithAttribute(String, String, String...)* on page 578	Returns the elements with the given route that contains the given attribute with the given value.
public abstract List< IParserDocument >	*getDocumentsWithAttribute(String, String, boolean, String...)* on page 579	Returns the elements with the given route that contains the given attribute with the given value.
public abstract IParserDocument	*getDocumentWithAttribute(String, String, String...)* on page 579	Returns the first element with the given route that contains the given attribute with the given value.
public abstract IParserDocument	*getDocumentWithAttribute(String, String, boolean, String...)* on page 580	Returns the first element with the given route that contains the given attribute with the given value.
public abstract String	*getElementName()* on page 580	Returns The name of the root element of this document.
public abstract String	*getFunctionImportComplexPropertyValue(String...)* on page 581	
public abstract String	*getPrefixForUri(String)* on page 581	Returns the appropriate name-space prefix for the given XML name-space URI.

Modifier and Type	Member	Description
public abstract String[]	*getStrings()* on page 581	Returns all the string values contained by this document.
public abstract String	*getValue(String...)* on page 581	Returns the value of the first element with the given route.
public abstract List< String >	*getValues(String...)* on page 582	Returns all the values of elements with the given route.
public abstract void	*putAttribute(String, String...)* on page 582	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	*putDocument(IParserDocument, String...)* on page 583	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	*putValue(String, String...)* on page 583	Sets the value of the first element with the given route.
public abstract boolean	*removeAttribute(String...)* on page 584	Removes first element with the given route.
public abstract boolean	*removeAttributes(String...)* on page 584	Removes all the attribute with the given route.
public abstract boolean	*removeDocument(String...)* on page 584	Removes first element with the given route For removing multiple element use setDocuemtns with null arguments.
public abstract void	*setAttributes(List< String >, String...)* on page 585	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	*setDocuments(List< IParser-Document >, String...)* on page 585	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 abstract void	*setElementName(String, String...)* on page 586	Sets the name of the root ele-ment with the given route Use empty route for setting root name of this document.
public abstract void	*setValues(List< String >, String...)* on page 586	Sets all the values of the ele-ments with the given rout Val-ues 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	*toXMLString()* on page 586	Returns the XML string repre-sentation of this object.

Inherited members from IPersistable

Modifier and Type	Member	Description
public void	*read(BufferedReader)* on page 593	
public void	*write(BufferedWriter)* on page 593	

ODataParameter() constructor

Syntax

```
public ODataParameter ()
```

ODataParameter(int[], String[]) constructor

Syntax

```
protected ODataParameter (
    int[] routes,
    String[] values
)
```

ODataParameter(ParserDocument) constructor

Syntax

```
public ODataParameter (ParserDocument document)
```

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
Consists of APIs related to OData Property.

Package

```
com.sap.mobile.lib.parser
```

Syntax

```
public class ODataProperty extends ParserDocument implements
IODataProperty
```

Implemented interfaces

- *IODataProperty* on page 492

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

Modifier and Type	Class	Description
publicclass	*DetailDisplayOrderComparator* on page 233	
publicclass	*ListDisplayOrderComparator* on page 233	

Constructors

Modifier and Type	Constructor	Description
public	*ODataProperty()* on page 234	
protected	*ODataProperty(int[], String[])* on page 234	
public	*ODataProperty(ParserDocument)* on page 234	

Methods

Modifier and Type	Method	Description
public List< IODataProperty >	*getChildPropertiesData()* on page 234	Returns all the child properties added to this document with putChildProperty method.

Modifier and Type	Method	Description
public List< IODataProperty >	*getChildPropertiesDataWithAttribute(String, String)* on page 235	Returns list of appropriate contained Property OData elements with the given attribute value.
public List< IODataProperty >	*getChildPropertiesDataWithAttribute(String, String, boolean)* on page 235	Returns list of appropriate contained Property OData elements with the given attribute value.
public IODataProperty	*getChildPropertyData(String)* on page 235	Return a single child property added with putChildProperty method.
public String	*getCollation()* on page 236	Returns the value of the appropriate OData attribute.
public String	*getDefaultValue()* on page 236	Returns the value of the appropriate OData attribute.
public int	*getDetailDisplayOrder()* on page 236	In current version it return the same value as getListDisplayOrder.
public String	*getLabel()* on page 236	Returns The value of the appropriate OData attribute.
public int	*getListDisplayOrder()* on page 237	In current version it returns the same value as getDetailDisplayOrder.
public int	*getMaxLength()* on page 237	Returns the value of the appropriate OData attribute with defaultValue = 0;.
public String	*getName()* on page 237	Returns The value of the appropriate OData attribute.
public String	*getPrecision()* on page 237	Returns the value of the appropriate OData attribute.
public String	*getScale()* on page 237	Returns the value of the appropriate OData attribute.
public String	*getSemantics()* on page 238	Returns the value of the appropriate OData attribute with defaultValue = 0;.

Modifier and Type	Method	Description
public String	*getType()* on page 238	Returns The value of the appropriate OData attribute.
public String	*getValue()* on page 238	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	*hasFixedLength()* on page 238	Returns The value of the appropriate OData attribute.
public boolean	*isComplex()* on page 239	Returns if the property has complex type and has child properties.
public boolean	*isCreatable()* on page 239	Returns The value of the appropriate OData attribute.
public boolean	*isDeletable()* on page 239	Returns The value of the appropriate OData attribute.
public boolean	*isFilterable()* on page 239	Returns The value of the appropriate OData attribute.
public boolean	*isNullable()* on page 240	Returns The value of the appropriate OData attribute.
public boolean	*isSearchable()* on page 240	Returns The value of the appropriate OData attribute.
public boolean	*isUnicode()* on page 240	Returns the value of the appropriate OData attribute.
public boolean	*isUpdatable()* on page 240	Returns The value of the appropriate OData attribute.
public void	*putChildPropertyData(IODataProperty)* on page 240	Put new child property to this property document.
public void	*setValue(String)* on page 241	Sets the value of the property, represented by this object.

Inherited members from IParserDocument

Modifier and Type	Member	Description
public abstract IParserDocument	*clone()* on page 574	Creates a copy of this object.
public abstract String	*getAttribute(String...)* on page 574	Returns the value of the first attribute with the given route.
public abstract List< String >	*getAttributes(String...)* on page 575	Returns all the values of attributes with the given route.
public abstract Map< String, String >	*getChildAttributeMap(String...)* on page 575	Returns all the name-value pairs of attributes contained by the element with the given route.
public abstract List< String >	*getChildAttributes(String...)* on page 575	Returns all the values of attributes contained by the element with the given route.
public abstract List< IParserDocument >	*getChildDocuments(String...)* on page 576	Returns the elements contained by the element with the given route.
public abstract List< IParserDocument >	*getChildDocumentsWithAttribute(String, String, String...)* on page 576	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public abstract List< IParserDocument >	*getChildDocumentsWithAttribute(String, String, boolean, String...)* on page 577	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public abstract IParserDocument	*getDocument(String...)* on page 577	Returns the first element with the given route.
public abstract List< IParserDocument >	*getDocuments(String...)* on page 578	Returns all the elements with the given route.
public abstract List< IParserDocument >	*getDocumentsWithAttribute(String, String, String...)* on page 578	Returns the elements with the given route that contains the given attribute with the given value.
public abstract List< IParserDocument >	*getDocumentsWithAttribute(String, String, boolean, String...)* on page 579	Returns the elements with the given route that contains the given attribute with the given value.

Modifier and Type	Member	Description
public abstract IParserDocument	*getDocumentWithAttribute(String, String, String...)* on page 579	Returns the first element with the given route that contains the given attribute with the given value.
public abstract IParserDocument	*getDocumentWithAttribute(String, String, boolean, String...)* on page 580	Returns the first element with the given route that contains the given attribute with the given value.
public abstract String	*getElementName()* on page 580	Returns The name of the root element of this document.
public abstract String	*getFunctionImportComplexPropertyValue(String...)* on page 581	
public abstract String	*getPrefixForUri(String)* on page 581	Returns the appropriate name-space prefix for the given XML name-space URI.
public abstract String[]	*getStrings()* on page 581	Returns all the string values contained by this document.
public abstract String	*getValue(String...)* on page 581	Returns the value of the first element with the given route.
public abstract List< String >	*getValues(String...)* on page 582	Returns all the values of elements with the given route.
public abstract void	*putAttribute(String, String...)* on page 582	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	*putDocument(IParserDocument, String...)* on page 583	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	*putValue(String, String...)* on page 583	Sets the value of the first element with the given route.

Modifier and Type	Member	Description
public abstract boolean	*removeAttribute(String...)* on page 584	Removes first element with the given route.
public abstract boolean	*removeAttributes(String...)* on page 584	Removes all the attribute with the given route.
public abstract boolean	*removeDocument(String...)* on page 584	Removes first element with the given route For removing multiple element use setDocuemtns with null arguments.
public abstract void	*setAttributes(List< String >, String...)* on page 585	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	*setDocuments(List< IParserDocument >, String...)* on page 585	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	*setElementName(String, String...)* on page 586	Sets the name of the root element with the given route Use empty route for setting root name of this document.
public abstract void	*setValues(List< String >, String...)* on page 586	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	*toXMLString()* on page 586	Returns the XML string representation of this object.

Inherited members from IPersistable

Modifier and Type	Member	Description
public void	*read(BufferedReader)* on page 593	
public void	*write(BufferedWriter)* on page 593	

ODataProperty.DetailDisplayOrderComparator class

Package

```
com.sap.mobile.lib.parser.ODataProperty
```

Syntax

```
public class DetailDisplayOrderComparator
```

Members

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

Modifier and Type	Method	Description
public int	*compare(IODataProperty, IO-DataProperty)* on page 233	

compare(IODataProperty, IODataProperty) method

Syntax

```
public int compare (
    IODataProperty arg0,
    IODataProperty arg1
)
```

ODataProperty.ListDisplayOrderComparator class

Package

```
com.sap.mobile.lib.parser.ODataProperty
```

Syntax

```
public class ListDisplayOrderComparator
```

Members

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

Modifier and Type	Method	Description
public int	*compare(IODataProperty, IODataProperty)* on page 234	

compare(IODataProperty, IODataProperty) method

Syntax

```
public int compare (
    IODataProperty arg0,
    IODataProperty arg1
)
```

ODataProperty() constructor

Syntax

```
public ODataProperty ()
```

ODataProperty(int[], String[]) constructor

Syntax

```
protected ODataProperty (
    int[] routes,
    String[] values
)
```

ODataProperty(ParserDocument) constructor

Syntax

```
public ODataProperty (ParserDocument document)
```

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 defaultValue = 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 defaultValue = 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 defaultValue = 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.

Remarks
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.

Remarks
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
Consists of APIs related to OData ReturnTypeEntry.

Package

```
com.sap.mobile.lib.parser
```

Syntax

```
public class ODataReturnTypeEntry extends ODataEntry implements
IODataEntry
```

Base class

- *ODataEntry* on page 147

Implemented interfaces

- *IODataEntry* on page 415

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

Modifier and Type	Class	Description
protectedclass	*ODataReturnSchema* on page 254	

Variables

Modifier and Type	Variable	Description
protected static final String	_RETURNTYPE_COLLECTION	

Constructors

Modifier and Type	Constructor	Description
public	*ODataReturnTypeEntry(boolean)* on page 268	
public	*ODataReturnTypeEntry(ParserDocument, IODataFunctionImport, IODataSchema, boolean)* on page 268	

Methods

Modifier and Type	Method	Description
public void	*putPropertyValue(String, String)* on page 268	Puts the new property element as a sub-element of the 'properties' OData element.
public void	*putPropertyValue(String, String, boolean)* on page 269	Puts the new property element as a sub-element of the 'properties' OData element.
public void	*read(BufferedReader)* on page 269	
public void	*setCollectionId(String)* on page 269	Maintains the Id of the OCata Collection that this Entry belongs to.
public void	*setSchema(IODataSchema)* on page 270	Maintains the reference to the appropriate OData Schema object.
public void	*write(BufferedWriter)* on page 270	

Inherited members from ODataEntry

Modifier and Type	Member	Description
protected void	*addPropertyValues(IODataProperty, Map< String, String >, String)* on page 159	
public ODataEntry	*clone()* on page 159	Creates a copy of this object.
protected void	*fillPropertyData(IODataProperty, String...)* on page 159	
protected void	*fillPropertyDataWithAttribute(IODataProperty, String, String, boolean, String...)* on page 159	
public List< IODataLink >	*getActionLinks()* on page 159	Returns OData Link objects that are set as action links (Has semantics (SAP name-space) attribute with value 'action')
public String	*getAuthorName()* on page 160	Returns The value of the 'name' OData element of the 'author' OData element.
public cacheState	*getCachestate()* on page 160	
public Long	*getCacheTimestamp()* on page 160	
public String	*getCollectionId()* on page 160	Returns the Id of the OCata Collection that this Entry belongs to.
public String	*getContentType()* on page 160	Returns the content type of the entry.
public String	*getEtag()* on page 161	Returns the Id of the OData Collection that this Entry belongs to.
public String	*getFilterUrl()* on page 161	Returns the full execution URL hat can be used for filtering collection search for this single entry.

Modifier and Type	Member	Description
public List< IODataProperty >	*getGPUseInSearchProperties-Data()* on page 161	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 >	*getGPVisibleInDetailProperties-Data()* on page 161	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 >	*getGPVisibleInListProperties-Data()* on page 162	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 >	*getIcons()* on page 162	Returns the list of the appropriate OData elements.
public String	*getId()* on page 162	Returns The Id of this OData Entry (value of appropriate OData Id element)
public boolean	*getIsLocal()* on page 162	
public Map< String, String >	*getKeyPropertyValues()* on page 162	Returns the values of the properties that are marked as key properties in the OData Schema document.
public Date	*getLastUpdated()* on page 163	Returns The parsed value of the 'updated' OData Element.
public List< IODataLink >	*getLinks()* on page 163	Returns the list of the appropriate OData elements.
public String	*getMediaSrc()* on page 163	Returns the media source if the entry has a media content.

Modifier and Type	Member	Description
public List< IODataProperty >	*getPropertiesData()* on page 163	Returns the value and meta information (retrieved from OData Schema document) of the properties of this Odata Entry document.
public List< IODataProperty >	*getPropertiesDataWithAttribute(String, String)* on page 164	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 >	*getPropertiesDataWithAttribute(String, String, boolean)* on page 164	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	*getPropertiesDocument()* on page 164	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	*getPropertyValue(String...)* on page 165	Returns the value of the appropriate property.
public List< String >	*getPropertyValues(List< String[]>)* on page 165	Return list of property values for the given property paths.
public Map< String, String >	*getPropertyValues()* on page 166	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 >	*getRelatedDataLinks()* on page 166	Returns OData Link objects that represents links to Related Data.

Modifier and Type	Member	Description
public List< IODataProperty >	*getSAPSearchableProperties-Data()* on page 166	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	*getSchema()* on page 166	Returns the appropriate OData Schema object.
public IODataLink	*getSelfLink()* on page 167	Returns OData Link object that should be used for self related operations (with 'rel' attribute value 'self' or 'edit')
public IODataLink	*getSubscriptionLink()* on page 167	Returns OData Link object that should be used for subscription or null if there is no subscription link defined.
public String	*getSummary()* on page 167	Returns The value of the appropriate OData element.
public String	*getTitle()* on page 167	Returns The value of the appropriate OData element.
protected void	*materialize()* on page 167	
public	*ODataEntry()* on page 158	
public	*ODataEntry(boolean)* on page 158	
protected	*ODataEntry(int[], String[])* on page 158	
public	*ODataEntry(IODataSchema)* on page 158	
public	*ODataEntry(ParserDocument)* on page 158	
public	*ODataEntry(ParserDocument, IODataSchema)* on page 158	

Modifier and Type	Member	Description
public	*ODataEntry(JsonObject)* on page 158	Json Related
protected void	*parseCollectionId()* on page 168	
protected long	*parseEdmTime(String)* on page 168	
public void	*putComplexPropertyValue(String, String...)* on page 168	Puts the new property element as a sub-element of the 'complex properties' OData element.
public void	*putContentType(String)* on page 168	Puts the content type for a new entry object.
public void	*putDocument(IParserDocument, String...)* on page 169	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	*putId(String)* on page 169	Sets id of this OData Entry document (value of appropriate OData Id element)
public void	*putMediaSrc(String)* on page 169	Puts the media source for a new entry object.
protected String	*resolveTargetCollection(IODataLink)* on page 171	
public void	*setAuthorName(String)* on page 171	Sets the value of the 'name' OData element of the 'author' OData element.
public void	*setCachestate(cacheState)* on page 171	
public void	*setCacheTimestamp(Long)* on page 171	
public void	*setIsLocal(boolean)* on page 171	

Modifier and Type	Member	Description
public void	*setSummary(String)* on page 172	Sets the value of the appropriate OData element.
public void	*setTitle(String)* on page 172	Sets the value of the appropriate OData element.

Inherited members from IParserDocument

Modifier and Type	Member	Description
public abstract IParserDocument	*clone()* on page 574	Creates a copy of this object.
public abstract String	*getAttribute(String...)* on page 574	Returns the value of the first attribute with the given route.
public abstract List< String >	*getAttributes(String...)* on page 575	Returns all the values of attributes with the given route.
public abstract Map< String, String >	*getChildAttributeMap(String...)* on page 575	Returns all the name-value pairs of attributes contained by the element with the given route.
public abstract List< String >	*getChildAttributes(String...)* on page 575	Returns all the values of attributes contained by the element with the given route.
public abstract List< IParserDocument >	*getChildDocuments(String...)* on page 576	Returns the elements contained by the element with the given route.
public abstract List< IParserDocument >	*getChildDocumentsWithAttribute(String, String, String...)* on page 576	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public abstract List< IParserDocument >	*getChildDocumentsWithAttribute(String, String, boolean, String...)* on page 577	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public abstract IParserDocument	*getDocument(String...)* on page 577	Returns the first element with the given route.
public abstract List< IParserDocument >	*getDocuments(String...)* on page 578	Returns all the elements with the given route.

Modifier and Type	Member	Description
public abstract List< IParserDocument >	*getDocumentsWithAttribute(String, String, String...)* on page 578	Returns the elements with the given route that contains the given attribute with the given value.
public abstract List< IParserDocument >	*getDocumentsWithAttribute(String, String, boolean, String...)* on page 579	Returns the elements with the given route that contains the given attribute with the given value.
public abstract IParserDocument	*getDocumentWithAttribute(String, String, String...)* on page 579	Returns the first element with the given route that contains the given attribute with the given value.
public abstract IParserDocument	*getDocumentWithAttribute(String, String, boolean, String...)* on page 580	Returns the first element with the given route that contains the given attribute with the given value.
public abstract String	*getElementName()* on page 580	Returns The name of the root element of this document.
public abstract String	*getFunctionImportComplexPropertyValue(String...)* on page 581	
public abstract String	*getPrefixForUri(String)* on page 581	Returns the appropriate name-space prefix for the given XML name-space URI.
public abstract String[]	*getStrings()* on page 581	Returns all the string values contained by this document.
public abstract String	*getValue(String...)* on page 581	Returns the value of the first element with the given route.
public abstract List< String >	*getValues(String...)* on page 582	Returns all the values of elements with the given route.
public abstract void	*putAttribute(String, String...)* on page 582	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	*putDocument(IParserDocument, String...)* on page 583	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	*putValue(String, String...)* on page 583	Sets the value of the first element with the given route.
public abstract boolean	*removeAttribute(String...)* on page 584	Removes first element with the given route.
public abstract boolean	*removeAttributes(String...)* on page 584	Removes all the attribute with the given route.
public abstract boolean	*removeDocument(String...)* on page 584	Removes first element with the given route For removing multiple element use setDocuemtns with null arguments.
public abstract void	*setAttributes(List< String >, String...)* on page 585	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	*setDocuments(List< IParserDocument >, String...)* on page 585	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	*setElementName(String, String...)* on page 586	Sets the name of the root element with the given route Use empty route for setting root name of this document.

Modifier and Type	Member	Description
public abstract void	*setValues(List< String >, String...)* on page 586	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	*toXMLString()* on page 586	Returns the XML string representation of this object.

Inherited members from IPersistable

Modifier and Type	Member	Description
public void	*read(BufferedReader)* on page 593	
public void	*write(BufferedWriter)* on page 593	

Inherited members from IParserDocument

Modifier and Type	Member	Description
public abstract IParserDocument	*clone()* on page 574	Creates a copy of this object.
public abstract String	*getAttribute(String...)* on page 574	Returns the value of the first attribute with the given route.
public abstract List< String >	*getAttributes(String...)* on page 575	Returns all the values of attributes with the given route.
public abstract Map< String, String >	*getChildAttributeMap(String...)* on page 575	Returns all the name-value pairs of attributes contained by the element with the given route.
public abstract List< String >	*getChildAttributes(String...)* on page 575	Returns all the values of attributes contained by the element with the given route.
public abstract List< IParserDocument >	*getChildDocuments(String...)* on page 576	Returns the elements contained by the element with the given route.

Modifier and Type	Member	Description
public abstract List< IParserDocument >	*getChildDocumentsWithAttribute(String, String, String...)* on page 576	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public abstract List< IParserDocument >	*getChildDocumentsWithAttribute(String, String, boolean, String...)* on page 577	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public abstract IParserDocument	*getDocument(String...)* on page 577	Returns the first element with the given route.
public abstract List< IParserDocument >	*getDocuments(String...)* on page 578	Returns all the elements with the given route.
public abstract List< IParserDocument >	*getDocumentsWithAttribute(String, String, String...)* on page 578	Returns the elements with the given route that contains the given attribute with the given value.
public abstract List< IParserDocument >	*getDocumentsWithAttribute(String, String, boolean, String...)* on page 579	Returns the elements with the given route that contains the given attribute with the given value.
public abstract IParserDocument	*getDocumentWithAttribute(String, String, String...)* on page 579	Returns the first element with the given route that contains the given attribute with the given value.
public abstract IParserDocument	*getDocumentWithAttribute(String, String, boolean, String...)* on page 580	Returns the first element with the given route that contains the given attribute with the given value.
public abstract String	*getElementName()* on page 580	Returns The name of the root element of this document.
public abstract String	*getFunctionImportComplexPropertyValue(String...)* on page 581	
public abstract String	*getPrefixForUri(String)* on page 581	Returns the appropriate name-space prefix for the given XML name-space URI.

Modifier and Type	Member	Description
public abstract String[]	*getStrings()* on page 581	Returns all the string values contained by this document.
public abstract String	*getValue(String...)* on page 581	Returns the value of the first element with the given route.
public abstract List< String >	*getValues(String...)* on page 582	Returns all the values of elements with the given route.
public abstract void	*putAttribute(String, String...)* on page 582	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	*putDocument(IParserDocument, String...)* on page 583	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	*putValue(String, String...)* on page 583	Sets the value of the first element with the given route.
public abstract boolean	*removeAttribute(String...)* on page 584	Removes first element with the given route.
public abstract boolean	*removeAttributes(String...)* on page 584	Removes all the attribute with the given route.
public abstract boolean	*removeDocument(String...)* on page 584	Removes first element with the given route For removing multiple element use setDocuemtns with null arguments.
public abstract void	*setAttributes(List< String >, String...)* on page 585	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	*setDocuments(List< IParserDocument >, String...)* on page 585	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	*setElementName(String, String...)* on page 586	Sets the name of the root element with the given route Use empty route for setting root name of this document.
public abstract void	*setValues(List< String >, String...)* on page 586	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	*toXMLString()* on page 586	Returns the XML string representation of this object.

Inherited members from IPersistable

Modifier and Type	Member	Description
public void	*read(BufferedReader)* on page 593	
public void	*write(BufferedWriter)* on page 593	

ODataReturnTypeEntry.ODataReturnSchema class

Package

```
com.sap.mobile.lib.parser.ODataReturnTypeEntry
```

Syntax

```
protected class ODataReturnSchema extends ODataSchema implements
ILocalSchema
```

Base class

- *ODataSchema* on page 270

Implemented interfaces

- *ILocalSchema* on page 368

Members

All members of ODataReturnSchema, including inherited members. **Nested classes**

Modifier and Type	Class	Description
protectedclass	*ODataReturnEntityType* on page 260	

Variables

Modifier and Type	Variable	Description
protected List< IODataProperty >	referenceProperties	
protected ODataComplexType	complexType	

Constructors

Modifier and Type	Constructor	Description
public	*ODataReturnSchema()* on page 266	
public	*ODataReturnSchema(List< IODataProperty >)* on page 267	
public	*ODataReturnSchema(List< IODataProperty >, ODataComplexType)* on page 267	

Methods

Modifier and Type	Method	Description
public void	*addProperty(IODataProperty)* on page 267	
public ODataComplexType	*getComplexType(String)* on page 267	

Modifier and Type	Method	Description
public ODataEntityType	*getEntityTypeForCollection(String)* on page 267	
public void	*read(BufferedReader)* on page 267	
public void	*write(BufferedWriter)* on page 267	

Inherited members from ODataSchema

Modifier and Type	Member	Description
public ODataAssociation	*getAssociation(String)* on page 276	Returns the appropriate OData Association element with the given relationship attribute.
public List< IODataAssociation >	*getAssociations()* on page 276	Returns the list of the appropriate OData elements.
public ODataAssociationSet	*getAssociationSet(String)* on page 277	Returns the appropriate AssociationSet with for given association.
public List< IODataAssociationSet >	*getAssociationSets()* on page 277	Returns the list of the appropriate OData elements.
public List< IODataComplexType >	*getComplexTypes()* on page 277	Returns The list of the appropriate OData element.
public ODataEntitySet	*getEntitySet(String)* on page 278	Returns The appropriate OData EntitySet.
public ODataEntityType	*getEntityType(String)* on page 278	Returns The 'EntityType' OData element associated with the reference argument.
public List< IODataFunctionImport >	*getFunctionImports()* on page 279	Returns The list of the 'FunctionImport' OData element.
public List< IODataFunctionImport >	*getFunctionImportsForCollection(String)* on page 279	Returns List of FunctionImports valid for the appropriate collection.
public IODataServiceDocument	*getServiceDocument()* on page 279	Returns the appropriate OData Service Document.

Modifier and Type	Member	Description
public String	*getTargetCollectionIdForNavigationProperty(String, String)* on page 279	Resolves the target collection Id of the given OData Navigation Property element.
public	*ODataSchema()* on page 276	
protected	*ODataSchema(int[], String[])* on page 276	
public	*ODataSchema(ParserDocument)* on page 276	
public void	*setServiceDocument(IODataServiceDocument)* on page 280	Maintains reference to the appropriate OData Service Document.

Inherited members from IParserDocument

Modifier and Type	Member	Description
public abstract IParserDocument	*clone()* on page 574	Creates a copy of this object.
public abstract String	*getAttribute(String...)* on page 574	Returns the value of the first attribute with the given route.
public abstract List< String >	*getAttributes(String...)* on page 575	Returns all the values of attributes with the given route.
public abstract Map< String, String >	*getChildAttributeMap(String...)* on page 575	Returns all the name-value pairs of attributes contained by the element with the given route.
public abstract List< String >	*getChildAttributes(String...)* on page 575	Returns all the values of attributes contained by the element with the given route.
public abstract List< IParserDocument >	*getChildDocuments(String...)* on page 576	Returns the elements contained by the element with the given route.
public abstract List< IParserDocument >	*getChildDocumentsWithAttribute(String, String, String...)* on page 576	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 >	*getChildDocumentsWithAttribute(String, String, boolean, String...)* on page 577	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public abstract IParserDocument	*getDocument(String...)* on page 577	Returns the first element with the given route.
public abstract List< IParserDocument >	*getDocuments(String...)* on page 578	Returns all the elements with the given route.
public abstract List< IParserDocument >	*getDocumentsWithAttribute(String, String, String...)* on page 578	Returns the elements with the given route that contains the given attribute with the given value.
public abstract List< IParserDocument >	*getDocumentsWithAttribute(String, String, boolean, String...)* on page 579	Returns the elements with the given route that contains the given attribute with the given value.
public abstract IParserDocument	*getDocumentWithAttribute(String, String, String...)* on page 579	Returns the first element with the given route that contains the given attribute with the given value.
public abstract IParserDocument	*getDocumentWithAttribute(String, String, boolean, String...)* on page 580	Returns the first element with the given route that contains the given attribute with the given value.
public abstract String	*getElementName()* on page 580	Returns The name of the root element of this document.
public abstract String	*getFunctionImportComplexPropertyValue(String...)* on page 581	
public abstract String	*getPrefixForUri(String)* on page 581	Returns the appropriate name-space prefix for the given XML name-space URI.
public abstract String[]	*getStrings()* on page 581	Returns all the string values contained by this document.

Modifier and Type	Member	Description
public abstract String	*getValue(String...)* on page 581	Returns the value of the first element with the given route.
public abstract List< String >	*getValues(String...)* on page 582	Returns all the values of elements with the given route.
public abstract void	*putAttribute(String, String...)* on page 582	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	*putDocument(IParserDocument, String...)* on page 583	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	*putValue(String, String...)* on page 583	Sets the value of the first element with the given route.
public abstract boolean	*removeAttribute(String...)* on page 584	Removes first element with the given route.
public abstract boolean	*removeAttributes(String...)* on page 584	Removes all the attribute with the given route.
public abstract boolean	*removeDocument(String...)* on page 584	Removes first element with the given route For removing multiple element use setDocuemtns with null arguments.
public abstract void	*setAttributes(List< String >, String...)* on page 585	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	*setDocuments(List< IParser-Document >, String...)* on page 585	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	*setElementName(String, String...)* on page 586	Sets the name of the root element with the given route Use empty route for setting root name of this document.
public abstract void	*setValues(List< String >, String...)* on page 586	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	*toXMLString()* on page 586	Returns the XML string representation of this object.

Inherited members from IPersistable

Modifier and Type	Member	Description
public void	*read(BufferedReader)* on page 593	
public void	*write(BufferedWriter)* on page 593	

ODataReturnTypeEntry.ODataReturnSchema.ODataReturnEntityType class

Package

```
com.sap.mobile.lib.parser.ODataReturnTypeEntry.ODataReturnSchema
```

Syntax

```
protected class ODataReturnEntityType extends ODataEntityType
```

Base class

- *ODataEntityType* on page 137

Members

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

Modifier and Type	Variable	Description
protected List< IODataProperty >	referenceProperties	

Constructors

Modifier and Type	Constructor	Description
public	*ODataReturnEntityType(List< IODataProperty >)* on page 266	

Methods

Modifier and Type	Method	Description
public List< IODataProperty >	*getProperties()* on page 266	

Inherited members from ODataEntityType

Modifier and Type	Member	Description
public List< IODataProperty >	*getGPUseInSearchProperties-Data()* on page 143	Returns The list of appropriate OData elements with 'true' use-in-search (Generic Player names-pace) attribute value.
public List< IODataProperty >	*getGPVisibleInDetailProper-tiesData()* on page 144	Returns The list of appropriate OData elements with 'true' visi-ble-in-detail (Generic Player names-pace) attribute value.
public List< IODataProperty >	*getGPVisibleInListProperties-Data()* on page 144	Returns The list of appropriate OData elements with 'true' visi-ble-in-list (Generic Player names-pace) attribute value.

Modifier and Type	Member	Description
public List< String >	*getKeyPropertyNames()* on page 144	Returns the list of the values of the 'PropertyRef' OData element contained by the 'Key' OData element.
public String	*getName()* on page 144	Returns The value of the appropriate OData attribute.
public List< IODataNavigationProperty >	*getNavigationProperties()* on page 145	Returns The list of appropriate OData elements.
public IODataNavigationProperty	*getNavigationProperty(String)* on page 145	Returns The appropriate OData element with the given name.
public List< IODataProperty >	*getPropertiesWithAttribute(String, String)* on page 145	Returns The list of appropriate OData elements with given attribute value.
public List< IODataProperty >	*getPropertiesWithAttribute(String, String, boolean)* on page 146	Returns The list of appropriate OData elements with given attribute value.
public IODataProperty	*getProperty(String)* on page 146	Returns The appropriate OData element with the given name.
public List< IODataProperty >	*getSAPSearchablePropertiesData()* on page 146	Returns The list of appropriate OData elements with 'true' searchable (SAP names-pace) attribute value.
protected IODataSchema	*getSchema()* on page 146	
public List< IODataProperty >	*getSearchablePropertiesData(String)* on page 147	Returns The list of appropriate OData elements with 'true' attribute value of the given attribute.
public boolean	*hasStream()* on page 147	Returns The value of the appropriate OData attribute.
public	*ODataEntityType()* on page 143	
protected	*ODataEntityType(int[], String[])* on page 143	

Modifier and Type	Member	Description
public	*ODataEntityType(ParserDocument)* on page 143	
protected void	*setSchema(IODataSchema)* on page 147	

Inherited members from IParserDocument

Modifier and Type	Member	Description
public abstract IParserDocument	*clone()* on page 574	Creates a copy of this object.
public abstract String	*getAttribute(String...)* on page 574	Returns the value of the first attribute with the given route.
public abstract List< String >	*getAttributes(String...)* on page 575	Returns all the values of attributes with the given route.
public abstract Map< String, String >	*getChildAttributeMap(String...)* on page 575	Returns all the name-value pairs of attributes contained by the element with the given route.
public abstract List< String >	*getChildAttributes(String...)* on page 575	Returns all the values of attributes contained by the element with the given route.
public abstract List< IParserDocument >	*getChildDocuments(String...)* on page 576	Returns the elements contained by the element with the given route.
public abstract List< IParserDocument >	*getChildDocumentsWithAttribute(String, String, String...)* on page 576	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public abstract List< IParserDocument >	*getChildDocumentsWithAttribute(String, String, boolean, String...)* on page 577	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public abstract IParserDocument	*getDocument(String...)* on page 577	Returns the first element with the given route.
public abstract List< IParserDocument >	*getDocuments(String...)* on page 578	Returns all the elements with the given route.

Modifier and Type	Member	Description
public abstract List< IParserDocument >	*getDocumentsWithAttribute(String, String, String...)* on page 578	Returns the elements with the given route that contains the given attribute with the given value.
public abstract List< IParserDocument >	*getDocumentsWithAttribute(String, String, boolean, String...)* on page 579	Returns the elements with the given route that contains the given attribute with the given value.
public abstract IParserDocument	*getDocumentWithAttribute(String, String, String...)* on page 579	Returns the first element with the given route that contains the given attribute with the given value.
public abstract IParserDocument	*getDocumentWithAttribute(String, String, boolean, String...)* on page 580	Returns the first element with the given route that contains the given attribute with the given value.
public abstract String	*getElementName()* on page 580	Returns The name of the root element of this document.
public abstract String	*getFunctionImportComplexPropertyValue(String...)* on page 581	
public abstract String	*getPrefixForUri(String)* on page 581	Returns the appropriate name-space prefix for the given XML name-space URI.
public abstract String[]	*getStrings()* on page 581	Returns all the string values contained by this document.
public abstract String	*getValue(String...)* on page 581	Returns the value of the first element with the given route.
public abstract List< String >	*getValues(String...)* on page 582	Returns all the values of elements with the given route.
public abstract void	*putAttribute(String, String...)* on page 582	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	*putDocument(IParserDocument, String...)* on page 583	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	*putValue(String, String...)* on page 583	Sets the value of the first element with the given route.
public abstract boolean	*removeAttribute(String...)* on page 584	Removes first element with the given route.
public abstract boolean	*removeAttributes(String...)* on page 584	Removes all the attribute with the given route.
public abstract boolean	*removeDocument(String...)* on page 584	Removes first element with the given route For removing multiple element use setDocuemtns with null arguments.
public abstract void	*setAttributes(List< String >, String...)* on page 585	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	*setDocuments(List< IParserDocument >, String...)* on page 585	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	*setElementName(String, String...)* on page 586	Sets the name of the root element with the given route Use empty route for setting root name of this document.

Modifier and Type	Member	Description
public abstract void	*setValues(List< String >, String...)* on page 586	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	*toXMLString()* on page 586	Returns the XML string representation of this object.

Inherited members from IPersistable

Modifier and Type	Member	Description
public void	*read(BufferedReader)* on page 593	
public void	*write(BufferedWriter)* on page 593	

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
```

ODataReturnTypeEntry(boolean) constructor

Syntax

```
public ODataReturnTypeEntry (boolean isComplex)
```

ODataReturnTypeEntry(ParserDocument, IODataFunctionImport, IODataSchema, boolean) constructor

Syntax

```
public ODataReturnTypeEntry (
    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

Remarks
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

Remarks
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

_RETURNTYPE_COLLECTION variable

Syntax

```
protected static final String _RETURNTYPE_COLLECTION
```

ODataSchema class
Consists of APIs related to OData Schema.

Package

```
com.sap.mobile.lib.parser
```

Syntax

```
public class ODataSchema extends ParserDocument implements
IODataSchema
```

Implemented interfaces

- *IODataSchema* on page 509

Derived classes

- *ODataReturnSchema* on page 254

Members

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

Modifier and Type	Variable	Description
protected IODataServiceDocument	serviceDocument	

Constructors

Modifier and Type	Constructor	Description
public	*ODataSchema()* on page 276	
protected	*ODataSchema(int[], String[])* on page 276	
public	*ODataSchema(ParserDocument)* on page 276	

Methods

Modifier and Type	Method	Description
public ODataAssociation	*getAssociation(String)* on page 276	Returns the appropriate OData Association element with the given relationship attribute.
public List< IODataAssociation >	*getAssociations()* on page 276	Returns the list of the appropriate OData elements.
public ODataAssociationSet	*getAssociationSet(String)* on page 277	Returns the appropriate AssociationSet with for given association.
public List< IODataAssociationSet >	*getAssociationSets()* on page 277	Returns the list of the appropriate OData elements.

Modifier and Type	Method	Description
public ODataComplexType	*getComplexType(String)* on page 277	Returns The 'ComplexType' OData element associated with the reference.
public List< IODataComplex-Type >	*getComplexTypes()* on page 277	Returns The list of the appropriate OData element.
public ODataEntitySet	*getEntitySet(String)* on page 278	Returns The appropriate OData EntitySet.
public ODataEntityType	*getEntityType(String)* on page 278	Returns The 'EntityType' OData element associated with the reference argument.
public ODataEntityType	*getEntityTypeForCollection(String)* on page 278	Returns the 'EntityType' OData element contained by the 'EntitySet' element that is associated with the collectionId matching.
public List< IODataFunctionImport >	*getFunctionImports()* on page 279	Returns The list of the 'FunctionImport' OData element.
public List< IODataFunctionImport >	*getFunctionImportsForCollection(String)* on page 279	Returns List of FunctionImports valid for the appropriate collection.
public IODataServiceDocument	*getServiceDocument()* on page 279	Returns the appropriate OData Service Document.
public String	*getTargetCollectionIdForNavigationProperty(String, String)* on page 279	Resolves the target collection Id of the given OData Navigation Property element.
public void	*setServiceDocument(IODataServiceDocument)* on page 280	Maintains reference to the appropriate OData Service Document.

Inherited members from IParserDocument

Modifier and Type	Member	Description
public abstract IParserDocument	*clone()* on page 574	Creates a copy of this object.
public abstract String	*getAttribute(String...)* on page 574	Returns the value of the first attribute with the given route.

Modifier and Type	Member	Description
public abstract List< String >	*getAttributes(String...)* on page 575	Returns all the values of attributes with the given route.
public abstract Map< String, String >	*getChildAttributeMap(String...)* on page 575	Returns all the name-value pairs of attributes contained by the element with the given route.
public abstract List< String >	*getChildAttributes(String...)* on page 575	Returns all the values of attributes contained by the element with the given route.
public abstract List< IParserDocument >	*getChildDocuments(String...)* on page 576	Returns the elements contained by the element with the given route.
public abstract List< IParserDocument >	*getChildDocumentsWithAttribute(String, String, String...)* on page 576	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public abstract List< IParserDocument >	*getChildDocumentsWithAttribute(String, String, boolean, String...)* on page 577	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public abstract IParserDocument	*getDocument(String...)* on page 577	Returns the first element with the given route.
public abstract List< IParserDocument >	*getDocuments(String...)* on page 578	Returns all the elements with the given route.
public abstract List< IParserDocument >	*getDocumentsWithAttribute(String, String, String...)* on page 578	Returns the elements with the given route that contains the given attribute with the given value.
public abstract List< IParserDocument >	*getDocumentsWithAttribute(String, String, boolean, String...)* on page 579	Returns the elements with the given route that contains the given attribute with the given value.
public abstract IParserDocument	*getDocumentWithAttribute(String, String, String...)* on page 579	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	*getDocumentWithAttribute(String, String, boolean, String...)* on page 580	Returns the first element with the given route that contains the given attribute with the given value.
public abstract String	*getElementName()* on page 580	Returns The name of the root element of this document.
public abstract String	*getFunctionImportComplexPropertyValue(String...)* on page 581	
public abstract String	*getPrefixForUri(String)* on page 581	Returns the appropriate name-space prefix for the given XML name-space URI.
public abstract String[]	*getStrings()* on page 581	Returns all the string values contained by this document.
public abstract String	*getValue(String...)* on page 581	Returns the value of the first element with the given route.
public abstract List< String >	*getValues(String...)* on page 582	Returns all the values of elements with the given route.
public abstract void	*putAttribute(String, String...)* on page 582	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	*putDocument(IParserDocument, String...)* on page 583	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	*putValue(String, String...)* on page 583	Sets the value of the first element with the given route.
public abstract boolean	*removeAttribute(String...)* on page 584	Removes first element with the given route.

Modifier and Type	Member	Description
public abstract boolean	*removeAttributes(String...)* on page 584	Removes all the attribute with the given route.
public abstract boolean	*removeDocument(String...)* on page 584	Removes first element with the given route For removing multiple element use setDocuemtns with null arguments.
public abstract void	*setAttributes(List< String >, String...)* on page 585	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	*setDocuments(List< IParserDocument >, String...)* on page 585	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	*setElementName(String, String...)* on page 586	Sets the name of the root element with the given route Use empty route for setting root name of this document.
public abstract void	*setValues(List< String >, String...)* on page 586	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	*toXMLString()* on page 586	Returns the XML string representation of this object.

Inherited members from IPersistable

Modifier and Type	Member	Description
public void	*read(BufferedReader)* on page 593	
public void	*write(BufferedWriter)* on page 593	

ODataSchema() constructor

Syntax

```
public ODataSchema ()
```

ODataSchema(int[], String[]) constructor

Syntax

```
protected ODataSchema (
    int[] routes,
    String[] values
)
```

ODataSchema(ParserDocument) constructor

Syntax

```
public ODataSchema (ParserDocument document)
```

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: 'namsepace.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: 'namsepace.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
Consists of APIs related to OData Service Document.

Package

```
com.sap.mobile.lib.parser
```

Syntax

```
public class ODataServiceDocument extends ParserDocument
implements IODataServiceDocument
```

Implemented interfaces

- *IODataServiceDocument* on page 521

Members
All members of ODataServiceDocument, including inherited members. **Variables**

Modifier and Type	Variable	Description
protected IODataSchema	schema	
protected boolean	isJson	
protected Map< String, IODataOpenSearchDescription >	openSearchDescriptions	
protected JsonObject	gwServiceDocument	

Constructors

Modifier and Type	Constructor	Description
public	*ODataServiceDocument()* on page 285	
protected	*ODataServiceDocument(int[], String[])* on page 286	
public	*ODataServiceDocument(JsonObject)* on page 286	
public	*ODataServiceDocument(ParserDocument)* on page 286	

Methods

Modifier and Type	Method	Description
public List< IODataCollection >	*getAllCollections()* on page 286	Returns the list of all 'collection' OData element contained by the 'workspace' elements.
public String	*getBaseUrl()* on page 286	Returns The value of the 'base' OData attribute.
public String	*getEtag()* on page 286	Returns The value of the 'etag' OData attribute.
public String	*getLanguage()* on page 287	Returns the value of the 'lang' OData attribute.
public IODataOpenSearchDescription	*getOpenSearchDescription(String)* on page 287	Returns the appropriate OpenSearch Description Document for the given collection.
public IODataSchema	*getSchema()* on page 287	Returns the appropriate OData Schema document.

Modifier and Type	Method	Description
public String	*getSchemaUrl()* on page 287	Returns The full URL that can be used for retrieving the OData Schema document.
public List< IODataWorkspace >	*getWorkspaces()* on page 288	Returns the list of appropriate OData elements.
public void	*read(BufferedReader)* on page 288	
public void	*setOpenSearchDescription(String, IODataOpenSearchDescription)* on page 288	Maintains the appropriate OpenSearch Description Document for the given collection.
public void	*setSchema(IODataSchema)* on page 288	Maintains the appropriate OData Schema document.
public void	*write(BufferedWriter)* on page 289	

Inherited members from IParserDocument

Modifier and Type	Member	Description
public abstract IParserDocument	*clone()* on page 574	Creates a copy of this object.
public abstract String	*getAttribute(String...)* on page 574	Returns the value of the first attribute with the given route.
public abstract List< String >	*getAttributes(String...)* on page 575	Returns all the values of attributes with the given route.
public abstract Map< String, String >	*getChildAttributeMap(String...)* on page 575	Returns all the name-value pairs of attributes contained by the element with the given route.
public abstract List< String >	*getChildAttributes(String...)* on page 575	Returns all the values of attributes contained by the element with the given route.
public abstract List< IParserDocument >	*getChildDocuments(String...)* on page 576	Returns the elements contained by the element with the given route.

Modifier and Type	Member	Description
public abstract List< IParserDocument >	*getChildDocumentsWithAttribute(String, String, String...)* on page 576	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public abstract List< IParserDocument >	*getChildDocumentsWithAttribute(String, String, boolean, String...)* on page 577	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public abstract IParserDocument	*getDocument(String...)* on page 577	Returns the first element with the given route.
public abstract List< IParserDocument >	*getDocuments(String...)* on page 578	Returns all the elements with the given route.
public abstract List< IParserDocument >	*getDocumentsWithAttribute(String, String, String...)* on page 578	Returns the elements with the given route that contains the given attribute with the given value.
public abstract List< IParserDocument >	*getDocumentsWithAttribute(String, String, boolean, String...)* on page 579	Returns the elements with the given route that contains the given attribute with the given value.
public abstract IParserDocument	*getDocumentWithAttribute(String, String, String...)* on page 579	Returns the first element with the given route that contains the given attribute with the given value.
public abstract IParserDocument	*getDocumentWithAttribute(String, String, boolean, String...)* on page 580	Returns the first element with the given route that contains the given attribute with the given value.
public abstract String	*getElementName()* on page 580	Returns The name of the root element of this document.
public abstract String	*getFunctionImportComplexPropertyValue(String...)* on page 581	
public abstract String	*getPrefixForUri(String)* on page 581	Returns the appropriate name-space prefix for the given XML name-space URI.

Modifier and Type	Member	Description
public abstract String[]	*getStrings()* on page 581	Returns all the string values contained by this document.
public abstract String	*getValue(String...)* on page 581	Returns the value of the first element with the given route.
public abstract List< String >	*getValues(String...)* on page 582	Returns all the values of elements with the given route.
public abstract void	*putAttribute(String, String...)* on page 582	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	*putDocument(IParserDocument, String...)* on page 583	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	*putValue(String, String...)* on page 583	Sets the value of the first element with the given route.
public abstract boolean	*removeAttribute(String...)* on page 584	Removes first element with the given route.
public abstract boolean	*removeAttributes(String...)* on page 584	Removes all the attribute with the given route.
public abstract boolean	*removeDocument(String...)* on page 584	Removes first element with the given route For removing multiple element use setDocuemtns with null arguments.
public abstract void	*setAttributes(List< String >, String...)* on page 585	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	*setDocuments(List< IParser-Document >, String...)* on page 585	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 abstract void	*setElementName(String, String...)* on page 586	Sets the name of the root ele-ment with the given route Use empty route for setting root name of this document.
public abstract void	*setValues(List< String >, String...)* on page 586	Sets all the values of the ele-ments with the given rout Val-ues 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	*toXMLString()* on page 586	Returns the XML string repre-sentation of this object.

Inherited members from IPersistable

Modifier and Type	Member	Description
public void	*read(BufferedReader)* on page 593	
public void	*write(BufferedWriter)* on page 593	

ODataServiceDocument() constructor

Syntax

```
public ODataServiceDocument ()
```

ODataServiceDocument(int[], String[]) constructor

Syntax

```
protected ODataServiceDocument (
    int[] routes,
    String[] values
)
```

ODataServiceDocument(JsonObject) constructor

Syntax

```
public ODataServiceDocument (JsonObject document)
```

ODataServiceDocument(ParserDocument) constructor

Syntax

```
public ODataServiceDocument (ParserDocument document)
```

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
Consists of APIs related to OData SubscrptionEntry.

Package

```
com.sap.mobile.lib.parser
```

Syntax

```
public class ODataSubscriptionEntry extends ODataEntry
implements IODataSubscriptionEntry
```

Base class

- *ODataEntry* on page 147

Implemented interfaces

- *IODataSubscriptionEntry* on page 529

Members

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

Modifier and Type	Constructor	Description
public	*ODataSubscriptionEntry()* on page 308	
protected	*ODataSubscriptionEntry(int[], String[])* on page 308	
public	*ODataSubscriptionEntry(ParserDocument)* on page 308	
public	*ODataSubscriptionEntry(String, String)* on page 308	
public	*ODataSubscriptionEntry(String, String, String, String, String, String)* on page 308	

Methods

Modifier and Type	Method	Description
public String	*getCollection()* on page 309	Returns The value of the appropriate entry property.
public String	*getDeliveryAddress()* on page 309	Returns The value of the appropriate entry property.
public String	*getFilter()* on page 309	Returns The value of the appropriate entry property.

Modifier and Type	Method	Description
public String	*getSelect()* on page 309	Returns The value of the appropriate entry property.
public void	*setCollection(String)* on page 309	Sets the value of the appropriate entry property.
public void	*setDeliveryAddress(String)* on page 310	Sets the value of the appropriate entry property.
public void	*setFilter(String)* on page 310	Sets the value of the appropriate entry property.
public void	*setSelect(String)* on page 310	Sets the value of the appropriate entry property.

Inherited members from ODataEntry

Modifier and Type	Member	Description
protected void	*addPropertyValues(IODataProperty, Map< String, String >, String)* on page 159	
public ODataEntry	*clone()* on page 159	Creates a copy of this object.
protected void	*fillPropertyData(IODataProperty, String...)* on page 159	
protected void	*fillPropertyDataWithAttribute(IODataProperty, String, String, boolean, String...)* on page 159	
public List< IODataLink >	*getActionLinks()* on page 159	Returns OData Link objects that are set as action links (Has semantics (SAP name-space) attribute with value 'action')
public String	*getAuthorName()* on page 160	Returns The value of the 'name' OData element of the 'author' OData element.
public cacheState	*getCachestate()* on page 160	
public Long	*getCacheTimestamp()* on page 160	

Modifier and Type	Member	Description
public String	*getCollectionId()* on page 160	Returns the Id of the OCata Collection that this Entry belongs to.
public String	*getContentType()* on page 160	Returns the content type of the entry.
public String	*getEtag()* on page 161	Returns the Id of the OData Collection that this Entry belongs to.
public String	*getFilterUrl()* on page 161	Returns the full execution URL hat can be used for filtering collection search for this single entry.
public List< IODataProperty >	*getGPUseInSearchPropertiesData()* on page 161	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 >	*getGPVisibleInDetailPropertiesData()* on page 161	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 >	*getGPVisibleInListPropertiesData()* on page 162	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 >	*getIcons()* on page 162	Returns the list of the appropriate OData elements.

Modifier and Type	Member	Description
public String	*getId()* on page 162	Returns The Id of this OData Entry (value of appropriate OData Id element)
public boolean	*getIsLocal()* on page 162	
public Map< String, String >	*getKeyPropertyValues()* on page 162	Returns the values of the properties that are marked as key properties in the OData Schema document.
public Date	*getLastUpdated()* on page 163	Returns The parsed value of the 'updated' OData Element.
public List< IODataLink >	*getLinks()* on page 163	Returns the list of the appropriate OData elements.
public String	*getMediaSrc()* on page 163	Returns the media source if the entry has a media content.
public List< IODataProperty >	*getPropertiesData()* on page 163	Returns the value and meta information (retrieved from OData Schema document) of the properties of this Odata Entry document.
public List< IODataProperty >	*getPropertiesDataWithAttribute(String, String)* on page 164	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 >	*getPropertiesDataWithAttribute(String, String, boolean)* on page 164	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	*getPropertiesDocument()* on page 164	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	*getPropertyValue(String...)* on page 165	Returns the value of the appropriate property.
public List< String >	*getPropertyValues(List< String[]>)* on page 165	Return list of property values for the given property paths.
public Map< String, String >	*getPropertyValues()* on page 166	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 >	*getRelatedDataLinks()* on page 166	Returns OData Link objects that represents links to Related Data.
public List< IODataProperty >	*getSAPSearchableProperties-Data()* on page 166	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	*getSchema()* on page 166	Returns the appropriate OData Schema object.
public IODataLink	*getSelfLink()* on page 167	Returns OData Link object that should be used for self related operations (with 'rel' attribute value 'self' or 'edit')
public IODataLink	*getSubscriptionLink()* on page 167	Returns OData Link object that should be used for subscription or null if there is no subscription link defined.
public String	*getSummary()* on page 167	Returns The value of the appropriate OData element.
public String	*getTitle()* on page 167	Returns The value of the appropriate OData element.
protected void	*materialize()* on page 167	
public	*ODataEntry()* on page 158	

Modifier and Type	Member	Description
public	*ODataEntry(boolean)* on page 158	
protected	*ODataEntry(int[], String[])* on page 158	
public	*ODataEntry(IODataSchema)* on page 158	
public	*ODataEntry(ParserDocument)* on page 158	
public	*ODataEntry(ParserDocument, IODataSchema)* on page 158	
public	*ODataEntry(JsonObject)* on page 158	Json Related
protected void	*parseCollectionId()* on page 168	
protected long	*parseEdmTime(String)* on page 168	
public void	*putComplexPropertyValue(String, String...)* on page 168	Puts the new property element as a sub-element of the 'complex properties' OData element.
public void	*putContentType(String)* on page 168	Puts the content type for a new entry object.
public void	*putDocument(IParserDocument, String...)* on page 169	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	*putId(String)* on page 169	Sets id of this OData Entry document (value of appropriate OData Id element)
public void	*putMediaSrc(String)* on page 169	Puts the media source for a new entry object.

Modifier and Type	Member	Description
public void	*putPropertyValue(String, String)* on page 169	Puts the new property element as a sub-element of the 'properties' OData element.
public void	*putPropertyValue(String, String, boolean)* on page 170	Puts the new property element as a sub-element of the 'properties' OData element.
public void	*read(BufferedReader)* on page 170	
protected String	*resolveTargetCollection(IODataLink)* on page 171	
public void	*setAuthorName(String)* on page 171	Sets the value of the 'name' OData element of the 'author' OData element.
public void	*setCachestate(cacheState)* on page 171	
public void	*setCacheTimestamp(Long)* on page 171	
public void	*setCollectionId(String)* on page 171	Maintains the Id of the OCata Collection that this Entry belongs to.
public void	*setIsLocal(boolean)* on page 171	
public void	*setSchema(IODataSchema)* on page 172	Maintains the reference to the appropriate OData Schema object.
public void	*setSummary(String)* on page 172	Sets the value of the appropriate OData element.
public void	*setTitle(String)* on page 172	Sets the value of the appropriate OData element.
public void	*write(BufferedWriter)* on page 172	

Inherited members from IParserDocument

Modifier and Type	Member	Description
public abstract IParserDocument	*clone()* on page 574	Creates a copy of this object.
public abstract String	*getAttribute(String...)* on page 574	Returns the value of the first attribute with the given route.
public abstract List< String >	*getAttributes(String...)* on page 575	Returns all the values of attributes with the given route.
public abstract Map< String, String >	*getChildAttributeMap(String...)* on page 575	Returns all the name-value pairs of attributes contained by the element with the given route.
public abstract List< String >	*getChildAttributes(String...)* on page 575	Returns all the values of attributes contained by the element with the given route.
public abstract List< IParserDocument >	*getChildDocuments(String...)* on page 576	Returns the elements contained by the element with the given route.
public abstract List< IParserDocument >	*getChildDocumentsWithAttribute(String, String, String...)* on page 576	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public abstract List< IParserDocument >	*getChildDocumentsWithAttribute(String, String, boolean, String...)* on page 577	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public abstract IParserDocument	*getDocument(String...)* on page 577	Returns the first element with the given route.
public abstract List< IParserDocument >	*getDocuments(String...)* on page 578	Returns all the elements with the given route.
public abstract List< IParserDocument >	*getDocumentsWithAttribute(String, String, String...)* on page 578	Returns the elements with the given route that contains the given attribute with the given value.
public abstract List< IParserDocument >	*getDocumentsWithAttribute(String, String, boolean, String...)* on page 579	Returns the elements with the given route that contains the given attribute with the given value.

Modifier and Type	Member	Description
public abstract IParserDocument	*getDocumentWithAttribute(String, String, String...)* on page 579	Returns the first element with the given route that contains the given attribute with the given value.
public abstract IParserDocument	*getDocumentWithAttribute(String, String, boolean, String...)* on page 580	Returns the first element with the given route that contains the given attribute with the given value.
public abstract String	*getElementName()* on page 580	Returns The name of the root element of this document.
public abstract String	*getFunctionImportComplexPropertyValue(String...)* on page 581	
public abstract String	*getPrefixForUri(String)* on page 581	Returns the appropriate name-space prefix for the given XML name-space URI.
public abstract String[]	*getStrings()* on page 581	Returns all the string values contained by this document.
public abstract String	*getValue(String...)* on page 581	Returns the value of the first element with the given route.
public abstract List< String >	*getValues(String...)* on page 582	Returns all the values of elements with the given route.
public abstract void	*putAttribute(String, String...)* on page 582	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	*putDocument(IParserDocument, String...)* on page 583	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	*putValue(String, String...)* on page 583	Sets the value of the first element with the given route.

Modifier and Type	Member	Description
public abstract boolean	*removeAttribute(String...)* on page 584	Removes first element with the given route.
public abstract boolean	*removeAttributes(String...)* on page 584	Removes all the attribute with the given route.
public abstract boolean	*removeDocument(String...)* on page 584	Removes first element with the given route For removing multiple element use setDocuemtns with null arguments.
public abstract void	*setAttributes(List< String >, String...)* on page 585	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	*setDocuments(List< IParserDocument >, String...)* on page 585	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	*setElementName(String, String...)* on page 586	Sets the name of the root element with the given route Use empty route for setting root name of this document.
public abstract void	*setValues(List< String >, String...)* on page 586	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	*toXMLString()* on page 586	Returns the XML string representation of this object.

Inherited members from IPersistable

Modifier and Type	Member	Description
public void	*read(BufferedReader)* on page 593	
public void	*write(BufferedWriter)* on page 593	

Inherited members from IODataEntry

Modifier and Type	Member	Description
public abstract List< IOData-Link >	*getActionLinks()* on page 425	Returns OData Link objects that are set as action links (Has semantics (SAP name-space) attribute with value 'action')
public abstract String	*getAuthorName()* on page 425	Returns The value of the 'name' OData element of the 'author' OData element.
public cacheState	*getCachestate()* on page 426	
public Long	*getCacheTimestamp()* on page 426	
public abstract String	*getCollectionId()* on page 426	Returns the Id of the OCata Collection that this Entry belongs to.
public abstract String	*getContentType()* on page 426	Returns the content type of the entry.
public abstract String	*getEtag()* on page 426	Returns the Id of the OData Collection that this Entry belongs to.
public abstract String	*getFilterUrl()* on page 427	Returns the full execution URL hat can be used for filtering collection search for this single entry.

Modifier and Type	Member	Description
public abstract List< IODataProperty >	*getGPUseInSearchPropertiesData()* on page 427	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 >	*getGPVisibleInDetailPropertiesData()* on page 427	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 >	*getGPVisibleInListPropertiesData()* on page 427	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 >	*getIcons()* on page 428	Returns the list of the appropriate OData elements.
public abstract String	*getId()* on page 428	Returns The Id of this OData Entry (value of appropriate OData Id element)
public boolean	*getIsLocal()* on page 428	
public abstract Map< String, String >	*getKeyPropertyValues()* on page 428	Returns the values of the properties that are marked as key properties in the OData Schema document.
public abstract Date	*getLastUpdated()* on page 428	Returns The parsed value of the 'updated' OData Element.
public abstract List< IODataLink >	*getLinks()* on page 429	Returns the list of the appropriate OData elements.
public abstract String	*getMediaSrc()* on page 429	Returns the media source if the entry has a media content.

Modifier and Type	Member	Description
public abstract List< IODataProperty >	*getPropertiesData()* on page 429	Returns the value and meta information (retrieved from OData Schema document) of the properties of this Odata Entry document.
public abstract List< IODataProperty >	*getPropertiesDataWithAttribute(String, String)* on page 429	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 >	*getPropertiesDataWithAttribute(String, String, boolean)* on page 430	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	*getPropertiesDocument()* on page 430	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	*getPropertyValue(String...)* on page 431	Returns the value of the appropriate property.
public abstract< T > T	*getPropertyValueParsed(String...)* on page 431	Returns the value of the appropriate property parsed to it's real type.
public abstract Map< String, String >	*getPropertyValues()* on page 432	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 >	*getPropertyValues(List< String[]>)* on page 432	Return list of property values for the given property paths.

Modifier and Type	Member	Description
public abstract List< IOData-Link >	*getRelatedDataLinks()* on page 432	Returns OData Link objects that represents links to Related Data.
public abstract List< IODataP-roperty >	*getSAPSearchableProperties-Data()* on page 433	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	*getSchema()* on page 433	Returns the appropriate OData Schema object.
public abstract IODataLink	*getSelfLink()* on page 433	Returns OData Link object that should be used for self related operations (with 'rel' attribute value 'self' or 'edit')
public abstract IODataLink	*getSubscriptionLink()* on page 433	Returns OData Link object that should be used for subscription or null if there is no subscription link defined.
public abstract String	*getSummary()* on page 434	Returns The value of the appropriate OData element.
public abstract String	*getTitle()* on page 434	Returns The value of the appropriate OData element.
public abstract void	*putComplexPropertyVal-ue(String, String...)* on page 434	Puts the new property element as a sub-element of the 'complex properties' OData element.
public abstract void	*putContentType(String)* on page 434	Puts the content type for a new entry object.
public abstract void	*putId(String)* on page 435	Sets id of this OData Entry document (value of appropriate OData Id element)
public abstract void	*putMediaSrc(String)* on page 435	Puts the media source for a new entry object.

Modifier and Type	Member	Description
public abstract void	*putPropertyValue(String, String)* on page 435	Puts the new property element as a sub-element of the 'properties' OData element.
public abstract void	*putPropertyValue(String, String, boolean)* on page 436	Puts the new property element as a sub-element of the 'properties' OData element.
public abstract void	*setAuthorName(String)* on page 436	Sets the value of the 'name' OData element of the 'author' OData element.
public void	*setCachestate(cacheState)* on page 436	
public void	*setCacheTimestamp(Long)* on page 436	
public abstract void	*setCollectionId(String)* on page 437	Maintains the Id of the OCata Collection that this Entry belongs to.
public void	*setIsLocal(boolean)* on page 437	
public abstract void	*setSchema(IODataSchema)* on page 437	Maintains the reference to the appropriate OData Schema object.
public abstract void	*setSummary(String)* on page 437	Sets the value of the appropriate OData element.
public abstract void	*setTitle(String)* on page 437	Sets the value of the appropriate OData element.

Inherited members from IParserDocument

Modifier and Type	Member	Description
public abstract IParserDocument	*clone()* on page 574	Creates a copy of this object.
public abstract String	*getAttribute(String...)* on page 574	Returns the value of the first attribute with the given route.
public abstract List< String >	*getAttributes(String...)* on page 575	Returns all the values of attributes with the given route.

Modifier and Type	Member	Description
public abstract Map< String, String >	*getChildAttribute-Map(String...)* on page 575	Returns all the name-value pairs of attributes contained by the element with the given route.
public abstract List< String >	*getChildAttributes(String...)* on page 575	Returns all the values of attributes contained by the element with the given route.
public abstract List< IParserDocument >	*getChildDocuments(String...)* on page 576	Returns the elements contained by the element with the given route.
public abstract List< IParserDocument >	*getChildDocumentsWithAttribute(String, String, String...)* on page 576	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public abstract List< IParserDocument >	*getChildDocumentsWithAttribute(String, String, boolean, String...)* on page 577	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public abstract IParserDocument	*getDocument(String...)* on page 577	Returns the first element with the given route.
public abstract List< IParserDocument >	*getDocuments(String...)* on page 578	Returns all the elements with the given route.
public abstract List< IParserDocument >	*getDocumentsWithAttribute(String, String, String...)* on page 578	Returns the elements with the given route that contains the given attribute with the given value.
public abstract List< IParserDocument >	*getDocumentsWithAttribute(String, String, boolean, String...)* on page 579	Returns the elements with the given route that contains the given attribute with the given value.
public abstract IParserDocument	*getDocumentWithAttribute(String, String, String...)* on page 579	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	*getDocumentWithAttribute(String, String, boolean, String...)* on page 580	Returns the first element with the given route that contains the given attribute with the given value.
public abstract String	*getElementName()* on page 580	Returns The name of the root element of this document.
public abstract String	*getFunctionImportComplexPropertyValue(String...)* on page 581	
public abstract String	*getPrefixForUri(String)* on page 581	Returns the appropriate name-space prefix for the given XML name-space URI.
public abstract String[]	*getStrings()* on page 581	Returns all the string values contained by this document.
public abstract String	*getValue(String...)* on page 581	Returns the value of the first element with the given route.
public abstract List< String >	*getValues(String...)* on page 582	Returns all the values of elements with the given route.
public abstract void	*putAttribute(String, String...)* on page 582	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	*putDocument(IParserDocument, String...)* on page 583	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	*putValue(String, String...)* on page 583	Sets the value of the first element with the given route.
public abstract boolean	*removeAttribute(String...)* on page 584	Removes first element with the given route.

Modifier and Type	Member	Description
public abstract boolean	*removeAttributes(String...)* on page 584	Removes all the attribute with the given route.
public abstract boolean	*removeDocument(String...)* on page 584	Removes first element with the given route For removing multiple element use setDocuemtns with null arguments.
public abstract void	*setAttributes(List< String >, String...)* on page 585	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	*setDocuments(List< IParserDocument >, String...)* on page 585	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	*setElementName(String, String...)* on page 586	Sets the name of the root element with the given route Use empty route for setting root name of this document.
public abstract void	*setValues(List< String >, String...)* on page 586	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	*toXMLString()* on page 586	Returns the XML string representation of this object.

Inherited members from IPersistable

Modifier and Type	Member	Description
public void	*read(BufferedReader)* on page 593	
public void	*write(BufferedWriter)* on page 593	

ODataSubscriptionEntry() constructor

Syntax

```
public ODataSubscriptionEntry ()
```

ODataSubscriptionEntry(int[], String[]) constructor

Syntax

```
protected ODataSubscriptionEntry (
    int[] routes,
    String[] values
)
```

ODataSubscriptionEntry(ParserDocument) constructor

Syntax

```
public ODataSubscriptionEntry (ParserDocument document)
```

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
)
```

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
Consists of APIs related to OData URL.

Package

```
com.sap.mobile.lib.parser
```

Syntax

```
public class ODataURL extends ParserDocument implements
IODataURL
```

Implemented interfaces

- *IODataURL* on page 541

Members

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

Modifier and Type	Variable	Description
protected String	baseUrl	

Constructors

Modifier and Type	Constructor	Description
public	*ODataURL()* on page 315	
protected	*ODataURL(int[], String[])* on page 316	
public	*ODataURL(ParserDocument)* on page 316	

Methods

Modifier and Type	Method	Description
public List< String >	*getMandatoryTemplateParameters()* on page 316	Returns the list of mandatory template parameter names.
protected List< String >	*getMandatoryTemplateParameters(String)* on page 316	
public List< String >	*getOptionalTemplateParameters()* on page 316	Returns the list of optional template parameter names.
protected List< String >	*getOptionalTemplateParameters(String)* on page 316	
public String	*getTemplate()* on page 317	Returns the value of the appropriate OData attribute.
public List< String >	*getTemplateParameters()* on page 317	Returns the list of all template parameter names.
public String	*getType()* on page 317	Returns the value of the appropriate OData attribute.

Modifier and Type	Method	Description
public String	*getUrl()* on page 317	Returns the full URL of this OData attribute without parameters.
public String	*getUrlFromTemplate(Map< String, String >)* on page 318	Returns the full URL of this OData attribute extended with parameter names and values according to the given parameter map.
public void	*read(BufferedReader)* on page 318	
protected void	*setBaseUrl(String)* on page 318	
public void	*write(BufferedWriter)* on page 318	

Inherited members from IParserDocument

Modifier and Type	Member	Description
public abstract IParserDocument	*clone()* on page 574	Creates a copy of this object.
public abstract String	*getAttribute(String...)* on page 574	Returns the value of the first attribute with the given route.
public abstract List< String >	*getAttributes(String...)* on page 575	Returns all the values of attributes with the given route.
public abstract Map< String, String >	*getChildAttributeMap(String...)* on page 575	Returns all the name-value pairs of attributes contained by the element with the given route.
public abstract List< String >	*getChildAttributes(String...)* on page 575	Returns all the values of attributes contained by the element with the given route.
public abstract List< IParserDocument >	*getChildDocuments(String...)* on page 576	Returns the elements contained by the element with the given route.

Modifier and Type	Member	Description
public abstract List< IParserDocument >	*getChildDocumentsWithAttribute(String, String, String...)* on page 576	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public abstract List< IParserDocument >	*getChildDocumentsWithAttribute(String, String, boolean, String...)* on page 577	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public abstract IParserDocument	*getDocument(String...)* on page 577	Returns the first element with the given route.
public abstract List< IParserDocument >	*getDocuments(String...)* on page 578	Returns all the elements with the given route.
public abstract List< IParserDocument >	*getDocumentsWithAttribute(String, String, String...)* on page 578	Returns the elements with the given route that contains the given attribute with the given value.
public abstract List< IParserDocument >	*getDocumentsWithAttribute(String, String, boolean, String...)* on page 579	Returns the elements with the given route that contains the given attribute with the given value.
public abstract IParserDocument	*getDocumentWithAttribute(String, String, String...)* on page 579	Returns the first element with the given route that contains the given attribute with the given value.
public abstract IParserDocument	*getDocumentWithAttribute(String, String, boolean, String...)* on page 580	Returns the first element with the given route that contains the given attribute with the given value.
public abstract String	*getElementName()* on page 580	Returns The name of the root element of this document.
public abstract String	*getFunctionImportComplexPropertyValue(String...)* on page 581	
public abstract String	*getPrefixForUri(String)* on page 581	Returns the appropriate name-space prefix for the given XML name-space URI.

Modifier and Type	Member	Description
public abstract String[]	*getStrings()* on page 581	Returns all the string values contained by this document.
public abstract String	*getValue(String...)* on page 581	Returns the value of the first element with the given route.
public abstract List< String >	*getValues(String...)* on page 582	Returns all the values of elements with the given route.
public abstract void	*putAttribute(String, String...)* on page 582	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	*putDocument(IParserDocument, String...)* on page 583	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	*putValue(String, String...)* on page 583	Sets the value of the first element with the given route.
public abstract boolean	*removeAttribute(String...)* on page 584	Removes first element with the given route.
public abstract boolean	*removeAttributes(String...)* on page 584	Removes all the attribute with the given route.
public abstract boolean	*removeDocument(String...)* on page 584	Removes first element with the given route For removing multiple element use setDocuemtns with null arguments.
public abstract void	*setAttributes(List< String >, String...)* on page 585	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	*setDocuments(List< IParser-Document >, String...)* on page 585	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 abstract void	*setElementName(String, String...)* on page 586	Sets the name of the root ele-ment with the given route Use empty route for setting root name of this document.
public abstract void	*setValues(List< String >, String...)* on page 586	Sets all the values of the ele-ments with the given rout Val-ues 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	*toXMLString()* on page 586	Returns the XML string repre-sentation of this object.

Inherited members from IPersistable

Modifier and Type	Member	Description
public void	*read(BufferedReader)* on page 593	
public void	*write(BufferedWriter)* on page 593	

ODataURL() constructor

Syntax

```
public ODataURL ()
```

ODataURL(int[], String[]) constructor

Syntax

```
protected ODataURL (
    int[] routes,
    String[] values
)
```

ODataURL(ParserDocument) constructor

Syntax

```
public ODataURL (ParserDocument document)
```

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
Consists of APIs related to OData Workspace.

Package

```
com.sap.mobile.lib.parser
```

Syntax

```
public class ODataWorkspace extends ParserDocument implements
IODataWorkspace
```

Implemented interfaces

- *IODataWorkspace* on page 547

Members
All members of ODataWorkspace, including inherited members. **Variables**

Modifier and Type	Variable	Description
protected String	baseUrl	

Constructors

Modifier and Type	Constructor	Description
public	*ODataWorkspace()* on page 323	
protected	*ODataWorkspace(int[], String[])* on page 323	
public	*ODataWorkspace(ParserDocument)* on page 323	

Methods

Modifier and Type	Method	Description
public List< IODataCollection >	*getCollections()* on page 324	Returns The list of of 'collection' OData element.

Modifier and Type	Method	Description
public String	*getSemantics()* on page 324	Returns the value of the appropriate OData attribute.
public String	*getTitle()* on page 324	Returns the value of the appropriate OData element.
protected void	*setBaseUrl(String)* on page 324	

Inherited members from IParserDocument

Modifier and Type	Member	Description
public abstract IParserDocument	*clone()* on page 574	Creates a copy of this object.
public abstract String	*getAttribute(String...)* on page 574	Returns the value of the first attribute with the given route.
public abstract List< String >	*getAttributes(String...)* on page 575	Returns all the values of attributes with the given route.
public abstract Map< String, String >	*getChildAttributeMap(String...)* on page 575	Returns all the name-value pairs of attributes contained by the element with the given route.
public abstract List< String >	*getChildAttributes(String...)* on page 575	Returns all the values of attributes contained by the element with the given route.
public abstract List< IParserDocument >	*getChildDocuments(String...)* on page 576	Returns the elements contained by the element with the given route.
public abstract List< IParserDocument >	*getChildDocumentsWithAttribute(String, String, String...)* on page 576	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public abstract List< IParserDocument >	*getChildDocumentsWithAttribute(String, String, boolean, String...)* on page 577	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public abstract IParserDocument	*getDocument(String...)* on page 577	Returns the first element with the given route.

Modifier and Type	Member	Description
public abstract List< IParserDocument >	*getDocuments(String...)* on page 578	Returns all the elements with the given route.
public abstract List< IParserDocument >	*getDocumentsWithAttribute(String, String, String...)* on page 578	Returns the elements with the given route that contains the given attribute with the given value.
public abstract List< IParserDocument >	*getDocumentsWithAttribute(String, String, boolean, String...)* on page 579	Returns the elements with the given route that contains the given attribute with the given value.
public abstract IParserDocument	*getDocumentWithAttribute(String, String, String...)* on page 579	Returns the first element with the given route that contains the given attribute with the given value.
public abstract IParserDocument	*getDocumentWithAttribute(String, String, boolean, String...)* on page 580	Returns the first element with the given route that contains the given attribute with the given value.
public abstract String	*getElementName()* on page 580	Returns The name of the root element of this document.
public abstract String	*getFunctionImportComplexPropertyValue(String...)* on page 581	
public abstract String	*getPrefixForUri(String)* on page 581	Returns the appropriate name-space prefix for the given XML name-space URI.
public abstract String[]	*getStrings()* on page 581	Returns all the string values contained by this document.
public abstract String	*getValue(String...)* on page 581	Returns the value of the first element with the given route.
public abstract List< String >	*getValues(String...)* on page 582	Returns all the values of elements with the given route.

Modifier and Type	Member	Description
public abstract void	*putAttribute(String, String...)* on page 582	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	*putDocument(IParserDocument, String...)* on page 583	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	*putValue(String, String...)* on page 583	Sets the value of the first element with the given route.
public abstract boolean	*removeAttribute(String...)* on page 584	Removes first element with the given route.
public abstract boolean	*removeAttributes(String...)* on page 584	Removes all the attribute with the given route.
public abstract boolean	*removeDocument(String...)* on page 584	Removes first element with the given route For removing multiple element use setDocuemtns with null arguments.
public abstract void	*setAttributes(List< String >, String...)* on page 585	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	*setDocuments(List< IParserDocument >, String...)* on page 585	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	*setElementName(String, String...)* on page 586	Sets the name of the root element with the given route Use empty route for setting root name of this document.
public abstract void	*setValues(List< String >, String...)* on page 586	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	*toXMLString()* on page 586	Returns the XML string representation of this object.

Inherited members from IPersistable

Modifier and Type	Member	Description
public void	*read(BufferedReader)* on page 593	
public void	*write(BufferedWriter)* on page 593	

ODataWorkspace() constructor

Syntax

```
public ODataWorkspace ()
```

ODataWorkspace(int[], String[]) constructor

Syntax

```
protected ODataWorkspace (
    int[] routes,
    String[] values
)
```

ODataWorkspace(ParserDocument) constructor

Syntax

```
public ODataWorkspace (ParserDocument document)
```

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
Class which contains APIs for parsing service document, metadata document, function imports, entries, feeds etc.

Package

```
com.sap.mobile.lib.parser
```

Syntax

```
public class Parser implements IParser
```

Implemented interfaces

- *IParser* on page 553

Members
All members of Parser, including inherited members. **Variables**

Modifier and Type	Variable	Description
protected SAXParser	parser	
protected File	defaultFolder	
protected int	logLevel	
protected ILogger	logger	
protected IPreferences	preferences	
protected static final String	NAMEMAP_FILENAME	

Constructors

Modifier and Type	Constructor	Description
public	*Parser(IPreferences, ILogger)* on page 328	

Methods

Modifier and Type	Method	Description
public String	*buildODataDocument(IParser-Document)* on page 328	Builds a valid OData Entry XML Post body from the entry argument.

Modifier and Type	Method	Description
public String	*buildODataEntryRequestBody(IODataEntry, String, IODataSchema, int)* on page 328	Builds a valid OData Entry JSON Post body from the entry argument.
public void	*enableParserPerformanceLog(boolean, Context)* on page 329	This method is to be called if performance data point are to be enabled for Parser.
public IParserDocument	*parse(InputStream)* on page 329	Parses the stream source of document and converts it to a Java Object containing all the information that were contained by the source.
public IParserDocument	*parse(String)* on page 330	Parses the Source and converts it to a Java Object containing all the information that were contained by the source.
public List< IODataEntry >	*parseFunctionImportResult(String, IODataFunctionImport, IODataSchema)* on page 330	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 >	*parseFunctionImportResult(InputStream, IODataFunctionImport, IODataSchema)* on page 331	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 >	*parseODataEntries(String, String, IODataSchema)* on page 332	Parses SAPData structure that represent either a single OData Entry or an OData Feed with several OData entries.

Modifier and Type	Method	Description
public List< IODataEntry >	*parseODataEntries(InputStream, String, IODataSchema)* on page 332	Parses SAPData structure from stream that represent either a single OData Entry or an OData Feed of several OData entries.
public IODataError	*parseODataError(String)* on page 333	Parses the OData Error.
public IODataError	*parseODataError(InputStream)* on page 333	Parses the OData Error from stream.
public IODataFeed	*parseODataFeed(String, String, IODataSchema)* on page 334	Parse OData Feed, support for Delta Query.
public IODataFeed	*parseODataFeed(InputStream, String, IODataSchema)* on page 334	Parse OData Feed from stream, support for Delta Query.
public IODataOpenSearchDescription	*parseODataOpenSearchDescription(String, String, IODataServiceDocument)* on page 334	Parses the OData Open Search Description.
public IODataOpenSearchDescription	*parseODataOpenSearchDescription(InputStream, String, IODataServiceDocument)* on page 335	Parses the OData Open Search Description from stream.
public IODataSchema	*parseODataSchema(String, IODataServiceDocument)* on page 335	Parses the OData Schema.
public IODataSchema	*parseODataSchema(InputStream, IODataServiceDocument)* on page 336	Parses the OData Schema from stream.
public IODataServiceDocument	*parseODataServiceDocument(String)* on page 336	Parses the OData Service Document.
public IODataServiceDocument	*parseODataServiceDocument(InputStream)* on page 337	Parses the OData Service Document from stream.
protected synchronized void	*readNameMap()* on page 337	
protected void	*writeNameMap(int)* on page 337	

Parser(IPreferences, ILogger) constructor

Syntax

```
public Parser (
    IPreferences preferences,
    ILogger logger
) throws ParserException
```

buildODataDocument(IParserDocument) method
Builds a valid OData Entry XML Post body from the entry argument.

Syntax

```
public String buildODataDocument (IParserDocument document)
throws ParserException
```

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(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 If the document source is invalid 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
```

logger variable

Syntax

```
protected ILogger logger
```

logLevel variable

Syntax

```
protected int logLevel
```

NAMEMAP_FILENAME variable

Syntax

```
protected static final String NAMEMAP_FILENAME
```

parser variable

Syntax

```
protected SAXParser parser
```

preferences variable

Syntax

```
protected IPreferences preferences
```

ParserException class
Main exception throwable by Parser or Odata documents.

Package

```
com.sap.mobile.lib.parser
```

Syntax

```
public class ParserException
```

Members
All members of ParserException, including inherited members. **Constructors**

Modifier and Type	Constructor	Description
public	*ParserException()* on page 339	Constructor.
public	*ParserException(int, String)* on page 339	
public	*ParserException(int, String, Throwable)* on page 339	
public	*ParserException(String)* on page 340	Constructor.
public	*ParserException(String, Throwable)* on page 340	Constructor.
public	*ParserException(Throwable)* on page 340	Constructor.

Methods

Modifier and Type	Method	Description
public int	*getErrorCode()* on page 340	

ParserException() constructor
Constructor.

Syntax

```
public ParserException ()
```

ParserException(int, String) constructor

Syntax

```
public ParserException (
    int iErrorCode,
    String detailMessage
)
```

ParserException(int, String, Throwable) constructor

Syntax

```
public ParserException (
    int iErrorCode,
    String detailMessage,
    Throwable throwable
)
```

ParserException(String) constructor
Constructor.

Syntax

```
public ParserException (String detailMessage)
```

Parameters

- **detailMessage –** Error message

ParserException(String, Throwable) constructor
Constructor.

Syntax

```
public ParserException (
    String detailMessage,
    Throwable throwable
)
```

Parameters

- **detailMessage –** Error message
- **throwable –** Route exception

ParserException(Throwable) constructor
Constructor.

Syntax

```
public ParserException (Throwable throwable)
```

Parameters

- **throwable –** Route exception

getErrorCode() method

Syntax

```
public int getErrorCode ()
```

Semantics class
Constant class with possible values of 'semantics' (SAP name-space) OData attribute collected from vCard 2.1 specification.

Package

```
com.sap.mobile.lib.parser
```

Syntax

```
public class Semantics
```

Members

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

Modifier and Type	Variable	Description
public static final String	DELIMITER_PARAMETER	
public static final String	DELIMITER_VALUE	
public static final String	DELIMITER_GROUPING	
public static final String	PROPERTY_SEMANTIC_SAP_EXTENSION_ACTION	
public static final String	PROPERTY_PARAMETER_ENCODING	
public static final String	PARAMETER_ENCODING_DEFAULT	
public static final String	PARAMETER_ENCODING_7BIT	
public static final String	PARAMETER_ENCODING_8BIT	
public static final String	PARAMETER_ENCODING_QUOTED_PRINTABLE	
public static final String	PARAMETER_ENCODING_BASE64	
public static final String	PROPERTY_PARAMETER_CHARSET	
public static final String	PARAMETER_CHARSET_DEFAULT	
public static final String	PROPERTY_PARAMETER_LANGUAGE	
public static final String	PARAMETER_LANGUAGE_DEFAULT	

Modifier and Type	Variable	Description
public static final String	PROPERTY_PARAMETER_VALUELOCATION	
public static final String	PARAMETER_VALUELOCATION_DEFAULT	
public static final String	PARAMETER_VALUELOCATION_URL	
public static final String	PARAMETER_VALUELOCATION_CONTENT_ID	
public static final String	PROPERTY_PARAMETER_TYPE	
public static final String	PROPERTY_SEMANTIC_NAME	
public static final String	PROPERTY_SEMANTIC_FORMATTED_NAME	
public static final String	PROPERTY_SEMANTIC_NICKNAME	
public static final String	PROPERTY_SEMANTIC_PHOTO	
public static final String	PROPERTY_SEMANTIC_PHOTO_TYPE_GIF	
public static final String	PROPERTY_SEMANTIC_PHOTO_TYPE_CGM	
public static final String	PROPERTY_SEMANTIC_PHOTO_TYPE_WMF	
public static final String	PROPERTY_SEMANTIC_PHOTO_TYPE_BMP	
public static final String	PROPERTY_SEMANTIC_PHOTO_TYPE_MET	
public static final String	PROPERTY_SEMANTIC_PHOTO_TYPE_DIB	
public static final String	PROPERTY_SEMANTIC_PHOTO_TYPE_PICT	

Modifier and Type	Variable	Description
public static final String	PROPERTY_SEMANTIC_PHOTO_TYPE_TIFF	
public static final String	PROPERTY_SEMANTIC_PHOTO_TYPE_PS	
public static final String	PROPERTY_SEMANTIC_PHOTO_TYPE_PDF	
public static final String	PROPERTY_SEMANTIC_PHOTO_TYPE_JPEG	
public static final String	PROPERTY_SEMANTIC_PHOTO_TYPE_MPEG	
public static final String	PROPERTY_SEMANTIC_PHOTO_TYPE_MPEG2	
public static final String	PROPERTY_SEMANTIC_PHOTO_TYPE_AVI	
public static final String	PROPERTY_SEMANTIC_PHOTO_TYPE_QTIME	
public static final String	PROPERTY_SEMANTIC_BIRTHDAY	
public static final String	PROPERTY_SEMANTIC_ADDRESS	
public static final String	PROPERTY_SEMANTIC_ADDRESS_TYPE_DOMESTIC	
public static final String	PROPERTY_SEMANTIC_ADDRESS_TYPE_INTERNATIONAL	Default.
public static final String	PROPERTY_SEMANTIC_ADDRESS_TYPE_POSTAL	Default.
public static final String	PROPERTY_SEMANTIC_ADDRESS_TYPE_PARCEL	Default.

Modifier and Type	Variable	Description
public static final String	PROPERTY_SEMANTIC_ADDRESS_TYPE_HOME	
public static final String	PROPERTY_SEMANTIC_ADDRESS_TYPE_WORK	Default.
public static final String	PROPERTY_SEMANTIC_LABEL	
public static final String	PROPERTY_SEMANTIC_LABEL_TYPE_DOMESTIC	
public static final String	PROPERTY_SEMANTIC_LABEL_TYPE_INTERNATIONAL	Default.
public static final String	PROPERTY_SEMANTIC_LABEL_TYPE_POSTAL	Default.
public static final String	PROPERTY_SEMANTIC_LABEL_TYPE_PARCEL	Default.
public static final String	PROPERTY_SEMANTIC_TYPE_HOME	
public static final String	PROPERTY_SEMANTIC_TYPE_WORK	Default.
public static final String	PROPERTY_SEMANTIC_TEL	
public static final String	PROPERTY_SEMANTIC_TEL_TYPE_PREF	
public static final String	PROPERTY_SEMANTIC_TEL_TYPE_WORK	
public static final String	PROPERTY_SEMANTIC_TEL_TYPE_HOME	
public static final String	PROPERTY_SEMANTIC_TEL_TYPE_VOICE	Default.
public static final String	PROPERTY_SEMANTIC_TEL_TYPE_FAX	

Modifier and Type	Variable	Description
public static final String	PROPERTY_SEMANTIC_TEL_TYPE_MSG	
public static final String	PROPERTY_SEMANTIC_TEL_TYPE_CELL	
public static final String	PROPERTY_SEMANTIC_TEL_TYPE_PAGER	
public static final String	PROPERTY_SEMANTIC_TEL_TYPE_BBS	
public static final String	PROPERTY_SEMANTIC_TEL_TYPE_MODEM	
public static final String	PROPERTY_SEMANTIC_TEL_TYPE_CAR	
public static final String	PROPERTY_SEMANTIC_TEL_TYPE_ISDN	
public static final String	PROPERTY_SEMANTIC_TEL_TYPE_VIDEO	
public static final String	PROPERTY_SEMANTIC_EMAIL	
public static final String	PROPERTY_SEMANTIC_EMAIL_TYPE_AOL	
public static final String	PROPERTY_SEMANTIC_EMAIL_TYPE_APPLELINK	
public static final String	PROPERTY_SEMANTIC_EMAIL_TYPE_ATTMAIL	
public static final String	PROPERTY_SEMANTIC_EMAIL_TYPE_CIS	
public static final String	PROPERTY_SEMANTIC_EMAIL_TYPE_EWORLD	
public static final String	PROPERTY_SEMANTIC_EMAIL_TYPE_INTERNET	Default.

Modifier and Type	Variable	Description
public static final String	PROPERTY_SEMANTIC_EMAIL_TYPE_IBMMAIL	
public static final String	PROPERTY_SEMANTIC_EMAIL_TYPE_MCIMAIL	
public static final String	PROPERTY_SEMANTIC_EMAIL_TYPE_POWERSHARE	
public static final String	PROPERTY_SEMANTIC_EMAIL_TYPE_PRODIGY	
public static final String	PROPERTY_SEMANTIC_EMAIL_TYPE_TLX	
public static final String	PROPERTY_SEMANTIC_EMAIL_TYPE_X400	
public static final String	PROPERTY_SEMANTIC_MAILER	
public static final String	PROPERTY_SEMANTIC_TIMEZONE	
public static final String	PROPERTY_SEMANTIC_GEOLOCATION	
public static final String	PROPERTY_SEMANTIC_TITLE	
public static final String	PROPERTY_SEMANTIC_ROLE	
public static final String	PROPERTY_SEMANTIC_LOGO	
public static final String	PROPERTY_SEMANTIC_LOGO_TYPE_GIF	
public static final String	PROPERTY_SEMANTIC_LOGO_TYPE_CGM	
public static final String	PROPERTY_SEMANTIC_LOGO_TYPE_WMF	

Modifier and Type	Variable	Description
public static final String	PROPERTY_SEMANTIC_LOGO_TYPE_BMP	
public static final String	PROPERTY_SEMANTIC_LOGO_TYPE_MET	
public static final String	PROPERTY_SEMANTIC_LOGO_TYPE_DIB	
public static final String	PROPERTY_SEMANTIC_LOGO_TYPE_PICT	
public static final String	PROPERTY_SEMANTIC_LOGO_TYPE_TIFF	
public static final String	PROPERTY_SEMANTIC_LOGO_TYPE_PS	
public static final String	PROPERTY_SEMANTIC_LOGO_TYPE_PDF	
public static final String	PROPERTY_SEMANTIC_LOGO_TYPE_JPEG	
public static final String	PROPERTY_SEMANTIC_LOGO_TYPE_MPEG	
public static final String	PROPERTY_SEMANTIC_LOGO_TYPE_MPEG2	
public static final String	PROPERTY_SEMANTIC_LOGO_TYPE_AVI	
public static final String	PROPERTY_SEMANTIC_LOGO_TYPE_QTIME	
public static final String	PROPERTY_SEMANTIC_AGENT	
public static final String	PROPERTY_SEMANTIC_ORG	
public static final String	PROPERTY_SEMANTIC_NOTE	
public static final String	PROPERTY_SEMANTIC_REVISION	

Modifier and Type	Variable	Description
public static final String	PROPERTY_SEMANTIC_SOUND	
public static final String	PROPERTY_SEMANTIC_SOUND_TYPE_WAVE	
public static final String	PROPERTY_SEMANTIC_SOUND_TYPE_PCM	
public static final String	PROPERTY_SEMANTIC_SOUND_TYPE_AIFF	
public static final String	PROPERTY_SEMANTIC_URL	
public static final String	PROPERTY_SEMANTIC_UID	
public static final String	PROPERTY_SEMANTIC_VERSION	
public static final String	PROPERTY_SEMANTIC_KEY	
public static final String	PROPERTY_SEMANTIC_KEY_TYPE_X509	
public static final String	PROPERTY_SEMANTIC_KEY_TYPE_PGP	

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
```

Constants interface

Package

```
com.sap.mobile.lib.parser
```

Syntax

```
public interface Constants
```

Members

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

Modifier and Type	Variable	Description
public static final String	SHARED_PREFERENCES	Shared preferences.
public static final int	DEFAULT_CONNEC-TION_TIMEOUT	Default connection timeout.
public static final int	DEFAULT_SOCKET_CON-NECTION_TIMEOUT	Default socket connection time-out.
public static final int	DEFAULT_HTTP_PORT	Default HTTP port.
public static final int	DEFAULT_HTTPS_PORT	Default HTTPS port.
public static final String	DEFAULT_SAP_APPLICA-TIONID_HEADER_VALUE	Default application ID.
public static final String	DEFAULT_PROXY_HOST	Default proxy host.
public static final int	DEFAULT_PROXY_PORT	Default proxy port.
public static final String	HTTP_HANDLER_CLASS	Socket Connection handler class.
public static final String	IMO_HANDLER_CLASS	IMO Connection handler class.

Modifier and Type	Variable	Description
public static final String	DEFAULT_HANDLER_CLASS_NAME	Default handler class.
public static final boolean	DEFAULT_PERSISTENCE_BOOLEAN_SECUREMODE	Default security mode.
public static final int	DEFAULT_PERSISTENCE_BYTE_BUFFER_SIZE	Default buffer size.
public static final int	MIN_PERSISTENCE_BYTE_BUFFER_SIZE	Minimum buffer size.
public static final int	MAX_PERSISTENCE_BYTE_BUFFER_SIZE	Maximum buffer size.
public static final String	DEFAULT_CIPHER_TRANSFORMATION	Default cipher transformation.
public static final int	DEFAULT_STORE_CAPACITY	Default cache capacity.
public static final int	MAXIMUM_STORE_CAPACITY	Maximum cache capacity.
public static final int	DEFAULT_SEARCH_LIMIT	Default for maximum search results retrieved from cache.
public static final int	DEFAULT_LOG_LEVEL	Default log level.
public static final boolean	DEFAULT_SAPPASSPORT_ENABLED	SAP Passport enablement default setting.
public static final boolean	DEFAULT_BUSINESSTRANSACTION_ENABLED	SAP Business Transaction XML enablement default setting.

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
```

ILocalSchema interface

Interface to define the given schema is used for a locally created document.

Package

```
com.sap.mobile.lib.parser
```

Syntax

```
public interface ILocalSchema
```

Derived classes

- *ODataReturnSchema* on page 254

IODataAssociation interface

Represents the appropriate OData element.

Package

```
com.sap.mobile.lib.parser
```

Syntax

```
public abstract interface IODataAssociation extends
IParserDocument
```

Implemented interfaces

- *IParserDocument* on page 565

Derived classes

- *ODataAssociation* on page 99

Derived interfaces

- *IODataAssociationSet* on page 377

Members

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

Modifier and Type	Interface	Description
public abstractinterface	*IODataAssociationEnd* on page 373	Represents the appropriate OData element.

Variables

Modifier and Type	Variable	Description
public static final String	ELEMENT_ASSOCIATION	Name of the appropriate OData element.
public static final String	ATTRIBUTE_NAME	Name of the appropriate OData attribute.
public static final String	ATTRIBUTE_ASSOCIATION	Name of the appropriate OData attribute.
public static final String	ELEMENT_ASSOCIATIO-NEND	Name of the appropriate OData element.

Methods

Modifier and Type	Method	Description
public abstract IODataAssociationEnd	*getAssociationEnd(String)* on page 375	Returns the value of the appropriate Association End OData element with the given role.
public abstract List< IODataAssociationEnd >	*getAssociationEnds()* on page 376	Returns list of the appropriate OData elements.
public abstract String	*getName()* on page 376	Returns the value of the appropriate OData attribute.

Inherited members from IParserDocument

Modifier and Type	Member	Description
public abstract IParserDocument	*clone()* on page 574	Creates a copy of this object.
public abstract String	*getAttribute(String...)* on page 574	Returns the value of the first attribute with the given route.
public abstract List< String >	*getAttributes(String...)* on page 575	Returns all the values of attributes with the given route.
public abstract Map< String, String >	*getChildAttribute-Map(String...)* on page 575	Returns all the name-value pairs of attributes contained by the element with the given route.
public abstract List< String >	*getChildAttributes(String...)* on page 575	Returns all the values of attributes contained by the element with the given route.

Modifier and Type	Member	Description
public abstract List< IParserDocument >	*getChildDocuments(String...)* on page 576	Returns the elements contained by the element with the given route.
public abstract List< IParserDocument >	*getChildDocumentsWithAttribute(String, String, String...)* on page 576	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public abstract List< IParserDocument >	*getChildDocumentsWithAttribute(String, String, boolean, String...)* on page 577	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public abstract IParserDocument	*getDocument(String...)* on page 577	Returns the first element with the given route.
public abstract List< IParserDocument >	*getDocuments(String...)* on page 578	Returns all the elements with the given route.
public abstract List< IParserDocument >	*getDocumentsWithAttribute(String, String, String...)* on page 578	Returns the elements with the given route that contains the given attribute with the given value.
public abstract List< IParserDocument >	*getDocumentsWithAttribute(String, String, boolean, String...)* on page 579	Returns the elements with the given route that contains the given attribute with the given value.
public abstract IParserDocument	*getDocumentWithAttribute(String, String, String...)* on page 579	Returns the first element with the given route that contains the given attribute with the given value.
public abstract IParserDocument	*getDocumentWithAttribute(String, String, boolean, String...)* on page 580	Returns the first element with the given route that contains the given attribute with the given value.
public abstract String	*getElementName()* on page 580	Returns The name of the root element of this document.
public abstract String	*getFunctionImportComplexPropertyValue(String...)* on page 581	

Modifier and Type	Member	Description
public abstract String	*getPrefixForUri(String)* on page 581	Returns the appropriate name-space prefix for the given XML name-space URI.
public abstract String[]	*getStrings()* on page 581	Returns all the string values contained by this document.
public abstract String	*getValue(String...)* on page 581	Returns the value of the first element with the given route.
public abstract List< String >	*getValues(String...)* on page 582	Returns all the values of elements with the given route.
public abstract void	*putAttribute(String, String...)* on page 582	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	*putDocument(IParserDocument, String...)* on page 583	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	*putValue(String, String...)* on page 583	Sets the value of the first element with the given route.
public abstract boolean	*removeAttribute(String...)* on page 584	Removes first element with the given route.
public abstract boolean	*removeAttributes(String...)* on page 584	Removes all the attribute with the given route.
public abstract boolean	*removeDocument(String...)* on page 584	Removes first element with the given route For removing multiple element use setDocuemtns with null arguments.

Modifier and Type	Member	Description
public abstract void	*setAttributes(List< String >, String...)* on page 585	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	*setDocuments(List< IParserDocument >, String...)* on page 585	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	*setElementName(String, String...)* on page 586	Sets the name of the root element with the given route Use empty route for setting root name of this document.
public abstract void	*setValues(List< String >, String...)* on page 586	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	*toXMLString()* on page 586	Returns the XML string representation of this object.

Inherited members from IPersistable

Modifier and Type	Member	Description
public void	*read(BufferedReader)* on page 593	
public void	*write(BufferedWriter)* on page 593	

IODataAssociation.IODataAssociationEnd interface
Represents the appropriate OData element.

Package

```
com.sap.mobile.lib.parser.IODataAssociation
```

Syntax

```
public abstract interface IODataAssociationEnd
```

Derived classes

- *ODataAssociationEnd* on page 103

Members
All members of IODataAssociationEnd, including inherited members. **Variables**

Modifier and Type	Variable	Description
public static final String	ATTRIBUTE_ROLE	Name of the appropriate OData attribute.
public static final String	ATTRIBUTE_TYPE	Name of the appropriate OData attribute.
public static final String	ATTRIBUTE_ENTITYSET	Name of the appropriate OData attribute.
public static final String	ATTRIBUTE_MULTIPLICITY	Name of the appropriate OData attribute.

Methods

Modifier and Type	Method	Description
public abstract String	*getCollectionId()* on page 374	Returns the value of the appropriate EntitySet OData attribute.
public abstract String	*getEntitySet()* on page 374	Returns the value of the appropriate OData attribute.
public abstract String	*getMultiplicity()* on page 374	Returns the value of the appropriate OData attribute.
public abstract String	*getRole()* on page 374	Returns the value of the appropriate OData attribute.

Modifier and Type	Method	Description
public abstract String	*getType()* on page 375	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.

Package

```
com.sap.mobile.lib.parser
```

Syntax

```
public abstract interface IODataAssociationSet extends
IODataAssociation
```

Implemented interfaces

- *IODataAssociation* on page 368

Derived classes

- *ODataAssociationSet* on page 106

Members
All members of IODataAssociationSet, including inherited members. **Variables**

Modifier and Type	Variable	Description
public static final String	ELEMENT_ASSOCIATION-SET	Name of the appropriate OData element.

Methods

Modifier and Type	Method	Description
public abstract String	*getAssociation()* on page 381	Returns the value of appropriate OData element.

Inherited members from IODataAssociation

Modifier and Type	Member	Description
public abstract IODataAssociationEnd	*getAssociationEnd(String)* on page 375	Returns the value of the appropriate Association End OData element with the given role.

Modifier and Type	Member	Description
public abstract List< IODataAssociationEnd >	*getAssociationEnds()* on page 376	Returns list of the appropriate OData elements.
public abstract String	*getName()* on page 376	Returns the value of the appropriate OData attribute.

Inherited members from IParserDocument

Modifier and Type	Member	Description
public abstract IParserDocument	*clone()* on page 574	Creates a copy of this object.
public abstract String	*getAttribute(String...)* on page 574	Returns the value of the first attribute with the given route.
public abstract List< String >	*getAttributes(String...)* on page 575	Returns all the values of attributes with the given route.
public abstract Map< String, String >	*getChildAttributeMap(String...)* on page 575	Returns all the name-value pairs of attributes contained by the element with the given route.
public abstract List< String >	*getChildAttributes(String...)* on page 575	Returns all the values of attributes contained by the element with the given route.
public abstract List< IParserDocument >	*getChildDocuments(String...)* on page 576	Returns the elements contained by the element with the given route.
public abstract List< IParserDocument >	*getChildDocumentsWithAttribute(String, String, String...)* on page 576	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public abstract List< IParserDocument >	*getChildDocumentsWithAttribute(String, String, boolean, String...)* on page 577	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public abstract IParserDocument	*getDocument(String...)* on page 577	Returns the first element with the given route.
public abstract List< IParserDocument >	*getDocuments(String...)* on page 578	Returns all the elements with the given route.

Modifier and Type	Member	Description
public abstract List< IParserDocument >	*getDocumentsWithAttribute(String, String, String...)* on page 578	Returns the elements with the given route that contains the given attribute with the given value.
public abstract List< IParserDocument >	*getDocumentsWithAttribute(String, String, boolean, String...)* on page 579	Returns the elements with the given route that contains the given attribute with the given value.
public abstract IParserDocument	*getDocumentWithAttribute(String, String, String...)* on page 579	Returns the first element with the given route that contains the given attribute with the given value.
public abstract IParserDocument	*getDocumentWithAttribute(String, String, boolean, String...)* on page 580	Returns the first element with the given route that contains the given attribute with the given value.
public abstract String	*getElementName()* on page 580	Returns The name of the root element of this document.
public abstract String	*getFunctionImportComplexPropertyValue(String...)* on page 581	
public abstract String	*getPrefixForUri(String)* on page 581	Returns the appropriate name-space prefix for the given XML name-space URI.
public abstract String[]	*getStrings()* on page 581	Returns all the string values contained by this document.
public abstract String	*getValue(String...)* on page 581	Returns the value of the first element with the given route.
public abstract List< String >	*getValues(String...)* on page 582	Returns all the values of elements with the given route.
public abstract void	*putAttribute(String, String...)* on page 582	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	*putDocument(IParserDocument, String...)* on page 583	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	*putValue(String, String...)* on page 583	Sets the value of the first element with the given route.
public abstract boolean	*removeAttribute(String...)* on page 584	Removes first element with the given route.
public abstract boolean	*removeAttributes(String...)* on page 584	Removes all the attribute with the given route.
public abstract boolean	*removeDocument(String...)* on page 584	Removes first element with the given route For removing multiple element use setDocuemtns with null arguments.
public abstract void	*setAttributes(List< String >, String...)* on page 585	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	*setDocuments(List< IParserDocument >, String...)* on page 585	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	*setElementName(String, String...)* on page 586	Sets the name of the root element with the given route Use empty route for setting root name of this document.

Modifier and Type	Member	Description
public abstract void	*setValues(List< String >, String...)* on page 586	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	*toXMLString()* on page 586	Returns the XML string representation of this object.

Inherited members from IPersistable

Modifier and Type	Member	Description
public void	*read(BufferedReader)* on page 593	
public void	*write(BufferedWriter)* on page 593	

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.

Package
```
com.sap.mobile.lib.parser
```

Syntax

```
public abstract interface IODataCollection extends
IParserDocument
```

Implemented interfaces

- *IParserDocument* on page 565

Derived classes

- *ODataCollection* on page 115

Members

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

Modifier and Type	Variable	Description
public static final String	ELEMENT_COLLECTION	Name of the appropriate OData element.
public static final String	ATTRIBUTE_SEMANTICS	Name of the appropriate OData attribute.
public static final String	ELEMENT_TITLE	Name of the appropriate OData element.
public static final String	ELEMENT_MEMBERTITLE	Name of the appropriate OData element.
public static final String	ATTRIBUTE_HREF	Name of the appropriate OData attribute.
public static final String	ATTRIBUTE_CREATABLE	Name of the appropriate OData attribute.
public static final String	ATTRIBUTE_UPDATABLE	Name of the appropriate OData attribute.
public static final String	ATTRIBUTE_DELETABLE	Name of the appropriate OData attribute.
public static final String	ATTRIBUTE_SEARCHABLE	Name of the appropriate OData attribute.
public static final String	ATTRIBUTE_FILTERABLE	Name of the appropriate OData attribute.
public static final String	ATTRIBUTE_DISPLAYOR-DER	Name of the appropriate OData extension attribute.

Modifier and Type	Variable	Description
public static final String	ATTRIBUTE_VAL-UE_REL_SEARCH	Possible value of the appropri-ate OData attribute.
public static final String	ELEMENT_LINK	Name of the appropriate OData element.

Methods

Modifier and Type	Method	Description
public abstract int	*getDisplayOrder()* on page 387	Returns the value of the appro-priate OData extension attrib-ute.
public abstract String	*getHref()* on page 388	Returns the value of the 'href' OData attribute.
public abstract List< IODataI-con >	*getIcons()* on page 388	Returns list of the appropriate OData elements.
public abstract String	*getId()* on page 388	Returns the value of the 'href' OData attribute as a relative href (matchable with appropriate en-titiySet)
public abstract List< IOData-Link >	*getLinks()* on page 388	Returns the value of the appro-priate OData elements.
public abstract String	*getMemberTitle()* on page 388	Returns the value of the appro-priate OData element.
public abstract IODataLink	*getSearchLink()* on page 389	Returns OData Link object that should be used for retrieving Open Search Description XML.
public abstract String	*getSemantics()* on page 389	Returns the value of the appro-priate OData attribute.
public abstract IODataLink	*getSubscriptionLink()* on page 389	Returns OData Link object that should be used for subscription or null if there is no subscription link defined.
public abstract String	*getTitle()* on page 389	Returns the value of the appro-priate OData element.

Modifier and Type	Method	Description
public abstract String	*getUrl()* on page 390	Returns OData Link object that should be used for self related operations.
public abstract boolean	*isCreatable()* on page 390	Returns the value of the appropriate OData attribute.
public abstract boolean	*isDeletable()* on page 390	Returns the value of the appropriate OData attribute.
public abstract boolean	*isFilterable()* on page 390	Returns the value of the appropriate OData attribute.
public abstract boolean	*isSearchable()* on page 390	Returns the value of the appropriate OData attribute.
public abstract boolean	*isUpdatable()* on page 391	Returns the value of the appropriate OData attribute.
public abstract void	*setEntitySet(IODataEntitySet)* on page 391	Sets the data held by the appropriate element of the OData Schema.

Inherited members from IParserDocument

Modifier and Type	Member	Description
public abstract IParserDocument	*clone()* on page 574	Creates a copy of this object.
public abstract String	*getAttribute(String...)* on page 574	Returns the value of the first attribute with the given route.
public abstract List< String >	*getAttributes(String...)* on page 575	Returns all the values of attributes with the given route.
public abstract Map< String, String >	*getChildAttributeMap(String...)* on page 575	Returns all the name-value pairs of attributes contained by the element with the given route.
public abstract List< String >	*getChildAttributes(String...)* on page 575	Returns all the values of attributes contained by the element with the given route.
public abstract List< IParserDocument >	*getChildDocuments(String...)* on page 576	Returns the elements contained by the element with the given route.

Modifier and Type	Member	Description
public abstract List< IParserDocument >	*getChildDocumentsWithAttribute(String, String, String...)* on page 576	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public abstract List< IParserDocument >	*getChildDocumentsWithAttribute(String, String, boolean, String...)* on page 577	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public abstract IParserDocument	*getDocument(String...)* on page 577	Returns the first element with the given route.
public abstract List< IParserDocument >	*getDocuments(String...)* on page 578	Returns all the elements with the given route.
public abstract List< IParserDocument >	*getDocumentsWithAttribute(String, String, String...)* on page 578	Returns the elements with the given route that contains the given attribute with the given value.
public abstract List< IParserDocument >	*getDocumentsWithAttribute(String, String, boolean, String...)* on page 579	Returns the elements with the given route that contains the given attribute with the given value.
public abstract IParserDocument	*getDocumentWithAttribute(String, String, String...)* on page 579	Returns the first element with the given route that contains the given attribute with the given value.
public abstract IParserDocument	*getDocumentWithAttribute(String, String, boolean, String...)* on page 580	Returns the first element with the given route that contains the given attribute with the given value.
public abstract String	*getElementName()* on page 580	Returns The name of the root element of this document.
public abstract String	*getFunctionImportComplexPropertyValue(String...)* on page 581	
public abstract String	*getPrefixForUri(String)* on page 581	Returns the appropriate name-space prefix for the given XML name-space URI.

Modifier and Type	Member	Description
public abstract String[]	*getStrings()* on page 581	Returns all the string values contained by this document.
public abstract String	*getValue(String...)* on page 581	Returns the value of the first element with the given route.
public abstract List< String >	*getValues(String...)* on page 582	Returns all the values of elements with the given route.
public abstract void	*putAttribute(String, String...)* on page 582	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	*putDocument(IParserDocument, String...)* on page 583	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	*putValue(String, String...)* on page 583	Sets the value of the first element with the given route.
public abstract boolean	*removeAttribute(String...)* on page 584	Removes first element with the given route.
public abstract boolean	*removeAttributes(String...)* on page 584	Removes all the attribute with the given route.
public abstract boolean	*removeDocument(String...)* on page 584	Removes first element with the given route For removing multiple element use setDocuemtns with null arguments.
public abstract void	*setAttributes(List< String >, String...)* on page 585	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	*setDocuments(List< IParser-Document >, String...)* on page 585	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 abstract void	*setElementName(String, String...)* on page 586	Sets the name of the root ele-ment with the given route Use empty route for setting root name of this document.
public abstract void	*setValues(List< String >, String...)* on page 586	Sets all the values of the ele-ments with the given rout Val-ues 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	*toXMLString()* on page 586	Returns the XML string repre-sentation of this object.

Inherited members from IPersistable

Modifier and Type	Member	Description
public void	*read(BufferedReader)* on page 593	
public void	*write(BufferedWriter)* on page 593	

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 entitiySet)

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.

Remarks
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.

Package

```
com.sap.mobile.lib.parser
```

Syntax

```
public abstract interface IODataComplexType extends
IParserDocument
```

Implemented interfaces

- *IParserDocument* on page 565

Derived classes

- *ODataComplexType* on page 127

Members
All members of IODataComplexType, including inherited members. **Variables**

Modifier and Type	Variable	Description
public static final String	ELEMENT_COMPLEXTYPE	Name of the appropriate OData element.

Modifier and Type	Variable	Description
public static final String	ATTRIBUTE_NAME	Name of the appropriate OData attribute.
public static final String	ELEMENT_PROPERTY	Name of the appropriate OData element.

Methods

Modifier and Type	Method	Description
public abstract String	*getName()* on page 397	Returns the value of the appropriate OData element.
public abstract List< IODataProperty >	*getProperties()* on page 398	Returns the list of the appropriate OData elements.

Inherited members from IParserDocument

Modifier and Type	Member	Description
public abstract IParserDocument	*clone()* on page 574	Creates a copy of this object.
public abstract String	*getAttribute(String...)* on page 574	Returns the value of the first attribute with the given route.
public abstract List< String >	*getAttributes(String...)* on page 575	Returns all the values of attributes with the given route.
public abstract Map< String, String >	*getChildAttributeMap(String...)* on page 575	Returns all the name-value pairs of attributes contained by the element with the given route.
public abstract List< String >	*getChildAttributes(String...)* on page 575	Returns all the values of attributes contained by the element with the given route.
public abstract List< IParserDocument >	*getChildDocuments(String...)* on page 576	Returns the elements contained by the element with the given route.
public abstract List< IParserDocument >	*getChildDocumentsWithAttribute(String, String, String...)* on page 576	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 >	*getChildDocumentsWithAttribute(String, String, boolean, String...)* on page 577	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public abstract IParserDocument	*getDocument(String...)* on page 577	Returns the first element with the given route.
public abstract List< IParserDocument >	*getDocuments(String...)* on page 578	Returns all the elements with the given route.
public abstract List< IParserDocument >	*getDocumentsWithAttribute(String, String, String...)* on page 578	Returns the elements with the given route that contains the given attribute with the given value.
public abstract List< IParserDocument >	*getDocumentsWithAttribute(String, String, boolean, String...)* on page 579	Returns the elements with the given route that contains the given attribute with the given value.
public abstract IParserDocument	*getDocumentWithAttribute(String, String, String...)* on page 579	Returns the first element with the given route that contains the given attribute with the given value.
public abstract IParserDocument	*getDocumentWithAttribute(String, String, boolean, String...)* on page 580	Returns the first element with the given route that contains the given attribute with the given value.
public abstract String	*getElementName()* on page 580	Returns The name of the root element of this document.
public abstract String	*getFunctionImportComplexPropertyValue(String...)* on page 581	
public abstract String	*getPrefixForUri(String)* on page 581	Returns the appropriate name-space prefix for the given XML name-space URI.
public abstract String[]	*getStrings()* on page 581	Returns all the string values contained by this document.

Modifier and Type	Member	Description
public abstract String	*getValue(String...)* on page 581	Returns the value of the first element with the given route.
public abstract List< String >	*getValues(String...)* on page 582	Returns all the values of elements with the given route.
public abstract void	*putAttribute(String, String...)* on page 582	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	*putDocument(IParserDocument, String...)* on page 583	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	*putValue(String, String...)* on page 583	Sets the value of the first element with the given route.
public abstract boolean	*removeAttribute(String...)* on page 584	Removes first element with the given route.
public abstract boolean	*removeAttributes(String...)* on page 584	Removes all the attribute with the given route.
public abstract boolean	*removeDocument(String...)* on page 584	Removes first element with the given route For removing multiple element use setDocuemtns with null arguments.
public abstract void	*setAttributes(List< String >, String...)* on page 585	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	*setDocuments(List< IParser-Document >, String...)* on page 585	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 abstract void	*setElementName(String, String...)* on page 586	Sets the name of the root ele-ment with the given route Use empty route for setting root name of this document.
public abstract void	*setValues(List< String >, String...)* on page 586	Sets all the values of the ele-ments with the given rout Val-ues 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	*toXMLString()* on page 586	Returns the XML string repre-sentation of this object.

Inherited members from IPersistable

Modifier and Type	Member	Description
public void	*read(BufferedReader)* on page 593	
public void	*write(BufferedWriter)* on page 593	

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.

Package
```
com.sap.mobile.lib.parser
```

Syntax
```
public abstract interface IODataEntitySet extends
IParserDocument
```

Implemented interfaces

- *IParserDocument* on page 565

Derived classes

- *ODataEntitySet* on page 132

Members

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

Modifier and Type	Variable	Description
public static final String	ELEMENT_ENTITYSET	Name of the appropriate OData element.
public static final String	ATTRIBUTE_NAME	Name of the appropriate OData attribute.
public static final String	ATTRIBUTE_CREATABLE	Name of the appropriate OData attribute.
public static final String	ATTRIBUTE_UPDATABLE	Name of the appropriate OData attribute.
public static final String	ATTRIBUTE_DELETABLE	Name of the appropriate OData attribute.
public static final String	ATTRIBUTE_SEARCHABLE	Name of the appropriate OData attribute.

Methods

Modifier and Type	Method	Description
public abstract String	*getName()* on page 403	
public abstract boolean	*isCreatable()* on page 403	
public abstract boolean	*isDeletable()* on page 403	
public abstract boolean	*isSearchable()* on page 403	
public abstract boolean	*isSearchable(String)* on page 404	Returns the value of the given OData attribute.
public abstract boolean	*isUpdatable()* on page 404	

Inherited members from IParserDocument

Modifier and Type	Member	Description
public abstract IParserDocument	*clone()* on page 574	Creates a copy of this object.

Modifier and Type	Member	Description
public abstract String	*getAttribute(String...)* on page 574	Returns the value of the first attribute with the given route.
public abstract List< String >	*getAttributes(String...)* on page 575	Returns all the values of attributes with the given route.
public abstract Map< String, String >	*getChildAttributeMap(String...)* on page 575	Returns all the name-value pairs of attributes contained by the element with the given route.
public abstract List< String >	*getChildAttributes(String...)* on page 575	Returns all the values of attributes contained by the element with the given route.
public abstract List< IParserDocument >	*getChildDocuments(String...)* on page 576	Returns the elements contained by the element with the given route.
public abstract List< IParserDocument >	*getChildDocumentsWithAttribute(String, String, String...)* on page 576	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public abstract List< IParserDocument >	*getChildDocumentsWithAttribute(String, String, boolean, String...)* on page 577	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public abstract IParserDocument	*getDocument(String...)* on page 577	Returns the first element with the given route.
public abstract List< IParserDocument >	*getDocuments(String...)* on page 578	Returns all the elements with the given route.
public abstract List< IParserDocument >	*getDocumentsWithAttribute(String, String, String...)* on page 578	Returns the elements with the given route that contains the given attribute with the given value.
public abstract List< IParserDocument >	*getDocumentsWithAttribute(String, String, boolean, String...)* on page 579	Returns the elements with the given route that contains the given attribute with the given value.

Modifier and Type	Member	Description
public abstract IParserDocument	*getDocumentWithAttribute(String, String, String...)* on page 579	Returns the first element with the given route that contains the given attribute with the given value.
public abstract IParserDocument	*getDocumentWithAttribute(String, String, boolean, String...)* on page 580	Returns the first element with the given route that contains the given attribute with the given value.
public abstract String	*getElementName()* on page 580	Returns The name of the root element of this document.
public abstract String	*getFunctionImportComplexPropertyValue(String...)* on page 581	
public abstract String	*getPrefixForUri(String)* on page 581	Returns the appropriate name-space prefix for the given XML name-space URI.
public abstract String[]	*getStrings()* on page 581	Returns all the string values contained by this document.
public abstract String	*getValue(String...)* on page 581	Returns the value of the first element with the given route.
public abstract List< String >	*getValues(String...)* on page 582	Returns all the values of elements with the given route.
public abstract void	*putAttribute(String, String...)* on page 582	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	*putDocument(IParserDocument, String...)* on page 583	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	*putValue(String, String...)* on page 583	Sets the value of the first element with the given route.

Modifier and Type	Member	Description
public abstract boolean	*removeAttribute(String...)* on page 584	Removes first element with the given route.
public abstract boolean	*removeAttributes(String...)* on page 584	Removes all the attribute with the given route.
public abstract boolean	*removeDocument(String...)* on page 584	Removes first element with the given route For removing multiple element use setDocuemtns with null arguments.
public abstract void	*setAttributes(List< String >, String...)* on page 585	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	*setDocuments(List< IParserDocument >, String...)* on page 585	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	*setElementName(String, String...)* on page 586	Sets the name of the root element with the given route Use empty route for setting root name of this document.
public abstract void	*setValues(List< String >, String...)* on page 586	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	*toXMLString()* on page 586	Returns the XML string representation of this object.

Inherited members from IPersistable

Modifier and Type	Member	Description
public void	*read(BufferedReader)* on page 593	
public void	*write(BufferedWriter)* on page 593	

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.

Package

```
com.sap.mobile.lib.parser
```

Syntax

```
public abstract interface IODataEntityType extends
IParserDocument
```

Implemented interfaces

- *IParserDocument* on page 565

Derived classes

- *ODataEntityType* on page 137

Members
All members of IODataEntityType, including inherited members. **Variables**

Modifier and Type	Variable	Description
public static final String	ELEMENT_ENTITYTYPE	Name of the appropriate OData element.

Modifier and Type	Variable	Description
public static final String	ATTRIBUTE_NAME	Name of the appropriate OData attribute.
public static final String	ATTRIBUTE_HASSTREAM	Name of the appropriate OData attribute.
public static final String	ELEMENT_KEY	Name of the appropriate OData element.
public static final String	ELEMENT_PROPERTYREF	Name of the appropriate OData element.
public static final String	ELEMENT_PROPERTY	Name of the appropriate OData element.

Methods

Modifier and Type	Method	Description
public abstract List< IODataProperty >	*getGPUseInSearchPropertiesData()* on page 411	Returns The list of appropriate OData elements with 'true' use-in-search (Generic Player names-pace) attribute value.
public abstract List< IODataProperty >	*getGPVisibleInDetailPropertiesData()* on page 411	Returns The list of appropriate OData elements with 'true' visible-in-detail (Generic Player names-pace) attribute value.
public abstract List< IODataProperty >	*getGPVisibleInListPropertiesData()* on page 411	Returns The list of appropriate OData elements with 'true' visible-in-list (Generic Player names-pace) attribute value.
public abstract List< String >	*getKeyPropertyNames()* on page 411	Returns the list of the values of the 'PropertyRef' OData element contained by the 'Key' OData element.
public abstract String	*getName()* on page 412	Returns The value of the appropriate OData attribute.
public abstract List< IODataNavigationProperty >	*getNavigationProperties()* on page 412	Returns The list of appropriate OData elements.
public abstract IODataNavigationProperty	*getNavigationProperty(String)* on page 412	Returns The appropriate OData element with the given name.

Modifier and Type	Method	Description
public abstract List< IODataProperty >	*getProperties()* on page 412	Returns The list of appropriate OData elements.
public abstract List< IODataProperty >	*getPropertiesWithAttribute(String, String)* on page 413	Returns The list of appropriate OData elements with given attribute value.
public abstract List< IODataProperty >	*getPropertiesWithAttribute(String, String, boolean)* on page 413	Returns The list of appropriate OData elements with given attribute value.
public abstract IODataProperty	*getProperty(String)* on page 413	Returns The appropriate OData element with the given name.
public abstract List< IODataProperty >	*getSAPSearchablePropertiesData()* on page 413	Returns The list of appropriate OData elements with 'true' searchable (SAP names-pace) attribute value.
public abstract List< IODataProperty >	*getSearchablePropertiesData(String)* on page 414	Returns The list of appropriate OData elements with 'true' attribute value of the given attribute.
public abstract boolean	*hasStream()* on page 414	Returns The value of the appropriate OData attribute.

Inherited members from IParserDocument

Modifier and Type	Member	Description
public abstract IParserDocument	*clone()* on page 574	Creates a copy of this object.
public abstract String	*getAttribute(String...)* on page 574	Returns the value of the first attribute with the given route.
public abstract List< String >	*getAttributes(String...)* on page 575	Returns all the values of attributes with the given route.
public abstract Map< String, String >	*getChildAttributeMap(String...)* on page 575	Returns all the name-value pairs of attributes contained by the element with the given route.
public abstract List< String >	*getChildAttributes(String...)* on page 575	Returns all the values of attributes contained by the element with the given route.

Modifier and Type	Member	Description
public abstract List< IParserDocument >	*getChildDocuments(String...)* on page 576	Returns the elements contained by the element with the given route.
public abstract List< IParserDocument >	*getChildDocumentsWithAttribute(String, String, String...)* on page 576	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public abstract List< IParserDocument >	*getChildDocumentsWithAttribute(String, String, boolean, String...)* on page 577	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public abstract IParserDocument	*getDocument(String...)* on page 577	Returns the first element with the given route.
public abstract List< IParserDocument >	*getDocuments(String...)* on page 578	Returns all the elements with the given route.
public abstract List< IParserDocument >	*getDocumentsWithAttribute(String, String, String...)* on page 578	Returns the elements with the given route that contains the given attribute with the given value.
public abstract List< IParserDocument >	*getDocumentsWithAttribute(String, String, boolean, String...)* on page 579	Returns the elements with the given route that contains the given attribute with the given value.
public abstract IParserDocument	*getDocumentWithAttribute(String, String, String...)* on page 579	Returns the first element with the given route that contains the given attribute with the given value.
public abstract IParserDocument	*getDocumentWithAttribute(String, String, boolean, String...)* on page 580	Returns the first element with the given route that contains the given attribute with the given value.
public abstract String	*getElementName()* on page 580	Returns The name of the root element of this document.
public abstract String	*getFunctionImportComplexPropertyValue(String...)* on page 581	

Modifier and Type	Member	Description
public abstract String	*getPrefixForUri(String)* on page 581	Returns the appropriate name-space prefix for the given XML name-space URI.
public abstract String[]	*getStrings()* on page 581	Returns all the string values contained by this document.
public abstract String	*getValue(String...)* on page 581	Returns the value of the first element with the given route.
public abstract List< String >	*getValues(String...)* on page 582	Returns all the values of elements with the given route.
public abstract void	*putAttribute(String, String...)* on page 582	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	*putDocument(IParserDocument, String...)* on page 583	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	*putValue(String, String...)* on page 583	Sets the value of the first element with the given route.
public abstract boolean	*removeAttribute(String...)* on page 584	Removes first element with the given route.
public abstract boolean	*removeAttributes(String...)* on page 584	Removes all the attribute with the given route.
public abstract boolean	*removeDocument(String...)* on page 584	Removes first element with the given route For removing multiple element use setDocuemtns with null arguments.

Modifier and Type	Member	Description
public abstract void	*setAttributes(List< String >, String...)* on page 585	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	*setDocuments(List< IParserDocument >, String...)* on page 585	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	*setElementName(String, String...)* on page 586	Sets the name of the root element with the given route Use empty route for setting root name of this document.
public abstract void	*setValues(List< String >, String...)* on page 586	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	*toXMLString()* on page 586	Returns the XML string representation of this object.

Inherited members from IPersistable

Modifier and Type	Member	Description
public void	*read(BufferedReader)* on page 593	
public void	*write(BufferedWriter)* on page 593	

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 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 abstract 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 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.

Package

```
com.sap.mobile.lib.parser
```

Syntax

```
public abstract interface IODataEntry extends IParserDocument
```

Implemented interfaces

- *IParserDocument* on page 565

Derived classes

- *ODataEntry* on page 147
- *ODataReturnTypeEntry* on page 241

Derived interfaces

- *IODataSubscriptionEntry* on page 529

Members
All members of IODataEntry, including inherited members. **Variables**

Modifier and Type	Variable	Description
public static final String	PROPERTY_LEVEL_SEPARATOR	
public static final String	ELEMENT_ENTRY	Name of the appropriate OData element.
public static final String	ELEMENT_TITLE	Name of the appropriate OData element.
public static final String	ELEMENT_SUMMARY	Name of the appropriate OData element.
public static final String	ELEMENT_CATEGORY	Name of the appropriate OData element.
public static final String	ATTRIBUTE_TERM	Name of the appropriate OData attribute.
public static final String	ELEMENT_CONTENT	Name of the appropriate OData element.
public static final String	ELEMENT_PROPERTIES	Name of the appropriate OData element.
public static final String	ELEMENT_LINK	Name of the appropriate OData element.
public static final String	ELEMENT_UPDATED	Name of the appropriate OData element.
public static final String	ELEMENT_AUTHOR	Name of the appropriate OData element.
public static final String	ELEMENT_NAME	Name of the appropriate OData element.
public static final String	ATTRIBUTE_SEMANTICS	Name of the appropriate OData attribute.
public static final String	ATTRIBUTE_VALUE_SEMANTICS_ACTION	Value option for appropriate OData attribute.

Methods

Modifier and Type	Method	Description
public abstract List< IOData-Link >	*getActionLinks()* on page 425	Returns OData Link objects that are set as action links (Has semantics (SAP name-space) attribute with value 'action')
public abstract String	*getAuthorName()* on page 425	Returns The value of the 'name' OData element of the 'author' OData element.
public cacheState	*getCachestate()* on page 426	
public Long	*getCacheTimestamp()* on page 426	
public abstract String	*getCollectionId()* on page 426	Returns the Id of the OCata Collection that this Entry belongs to.
public abstract String	*getContentType()* on page 426	Returns the content type of the entry.
public abstract String	*getEtag()* on page 426	Returns the Id of the OData Collection that this Entry belongs to.
public abstract String	*getFilterUrl()* on page 427	Returns the full execution URL hat can be used for filtering collection search for this single entry.
public abstract List< IODataP-roperty >	*getGPUseInSearchProperties-Data()* on page 427	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.
public abstract List< IODataP-roperty >	*getGPVisibleInDetailProper-tiesData()* on page 427	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 name-space) attribute value.

Modifier and Type	Method	Description
public abstract List< IODataProperty >	*getGPVisibleInListProperties-Data()* on page 427	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 >	*getIcons()* on page 428	Returns the list of the appropriate OData elements.
public abstract String	*getId()* on page 428	Returns The Id of this OData Entry (value of appropriate OData Id element)
public boolean	*getIsLocal()* on page 428	
public abstract Map< String, String >	*getKeyPropertyValues()* on page 428	Returns the values of the properties that are marked as key properties in the OData Schema document.
public abstract Date	*getLastUpdated()* on page 428	Returns The parsed value of the 'updated' OData Element.
public abstract List< IODataLink >	*getLinks()* on page 429	Returns the list of the appropriate OData elements.
public abstract String	*getMediaSrc()* on page 429	Returns the media source if the entry has a media content.
public abstract List< IODataProperty >	*getPropertiesData()* on page 429	Returns the value and meta information (retrieved from OData Schema document) of the properties of this Odata Entry document.
public abstract List< IODataProperty >	*getPropertiesDataWithAttribute(String, String)* on page 429	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	Method	Description
public abstract List< IODataProperty >	*getPropertiesDataWithAttribute(String, String, boolean)* on page 430	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	*getPropertiesDocument()* on page 430	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	*getPropertyValue(String...)* on page 431	Returns the value of the appropriate property.
public abstract< T > T	*getPropertyValueParsed(String...)* on page 431	Returns the value of the appropriate property parsed to it's real type.
public abstract Map< String, String >	*getPropertyValues()* on page 432	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 >	*getPropertyValues(List< String[]>)* on page 432	Return list of property values for the given property paths.
public abstract List< IODataLink >	*getRelatedDataLinks()* on page 432	Returns OData Link objects that represents links to Related Data.
public abstract List< IODataProperty >	*getSAPSearchablePropertiesData()* on page 433	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	*getSchema()* on page 433	Returns the appropriate OData Schema object.

Modifier and Type	Method	Description
public abstract IODataLink	*getSelfLink()* on page 433	Returns OData Link object that should be used for self related operations (with 'rel' attribute value 'self' or 'edit')
public abstract IODataLink	*getSubscriptionLink()* on page 433	Returns OData Link object that should be used for subscription or null if there is no subscription link defined.
public abstract String	*getSummary()* on page 434	Returns The value of the appropriate OData element.
public abstract String	*getTitle()* on page 434	Returns The value of the appropriate OData element.
public abstract void	*putComplexPropertyValue(String, String...)* on page 434	Puts the new property element as a sub-element of the 'complex properties' OData element.
public abstract void	*putContentType(String)* on page 434	Puts the content type for a new entry object.
public abstract void	*putId(String)* on page 435	Sets id of this OData Entry document (value of appropriate OData Id element)
public abstract void	*putMediaSrc(String)* on page 435	Puts the media source for a new entry object.
public abstract void	*putPropertyValue(String, String)* on page 435	Puts the new property element as a sub-element of the 'properties' OData element.
public abstract void	*putPropertyValue(String, String, boolean)* on page 436	Puts the new property element as a sub-element of the 'properties' OData element.
public abstract void	*setAuthorName(String)* on page 436	Sets the value of the 'name' OData element of the 'author' OData element.
public void	*setCachestate(cacheState)* on page 436	
public void	*setCacheTimestamp(Long)* on page 436	

Modifier and Type	Method	Description
public abstract void	*setCollectionId(String)* on page 437	Maintains the Id of the OCata Collection that this Entry belongs to.
public void	*setIsLocal(boolean)* on page 437	
public abstract void	*setSchema(IODataSchema)* on page 437	Maintains the reference to the appropriate OData Schema object.
public abstract void	*setSummary(String)* on page 437	Sets the value of the appropriate OData element.
public abstract void	*setTitle(String)* on page 437	Sets the value of the appropriate OData element.

Inherited members from IParserDocument

Modifier and Type	Member	Description
public abstract IParserDocument	*clone()* on page 574	Creates a copy of this object.
public abstract String	*getAttribute(String...)* on page 574	Returns the value of the first attribute with the given route.
public abstract List< String >	*getAttributes(String...)* on page 575	Returns all the values of attributes with the given route.
public abstract Map< String, String >	*getChildAttributeMap(String...)* on page 575	Returns all the name-value pairs of attributes contained by the element with the given route.
public abstract List< String >	*getChildAttributes(String...)* on page 575	Returns all the values of attributes contained by the element with the given route.
public abstract List< IParserDocument >	*getChildDocuments(String...)* on page 576	Returns the elements contained by the element with the given route.
public abstract List< IParserDocument >	*getChildDocumentsWithAttribute(String, String, String...)* on page 576	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 >	*getChildDocumentsWithAttribute(String, String, boolean, String...)* on page 577	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public abstract IParserDocument	*getDocument(String...)* on page 577	Returns the first element with the given route.
public abstract List< IParserDocument >	*getDocuments(String...)* on page 578	Returns all the elements with the given route.
public abstract List< IParserDocument >	*getDocumentsWithAttribute(String, String, String...)* on page 578	Returns the elements with the given route that contains the given attribute with the given value.
public abstract List< IParserDocument >	*getDocumentsWithAttribute(String, String, boolean, String...)* on page 579	Returns the elements with the given route that contains the given attribute with the given value.
public abstract IParserDocument	*getDocumentWithAttribute(String, String, String...)* on page 579	Returns the first element with the given route that contains the given attribute with the given value.
public abstract IParserDocument	*getDocumentWithAttribute(String, String, boolean, String...)* on page 580	Returns the first element with the given route that contains the given attribute with the given value.
public abstract String	*getElementName()* on page 580	Returns The name of the root element of this document.
public abstract String	*getFunctionImportComplexPropertyValue(String...)* on page 581	
public abstract String	*getPrefixForUri(String)* on page 581	Returns the appropriate name-space prefix for the given XML name-space URI.
public abstract String[]	*getStrings()* on page 581	Returns all the string values contained by this document.

Modifier and Type	Member	Description
public abstract String	*getValue(String...)* on page 581	Returns the value of the first element with the given route.
public abstract List< String >	*getValues(String...)* on page 582	Returns all the values of elements with the given route.
public abstract void	*putAttribute(String, String...)* on page 582	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	*putDocument(IParserDocument, String...)* on page 583	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	*putValue(String, String...)* on page 583	Sets the value of the first element with the given route.
public abstract boolean	*removeAttribute(String...)* on page 584	Removes first element with the given route.
public abstract boolean	*removeAttributes(String...)* on page 584	Removes all the attribute with the given route.
public abstract boolean	*removeDocument(String...)* on page 584	Removes first element with the given route For removing multiple element use setDocuemtns with null arguments.
public abstract void	*setAttributes(List< String >, String...)* on page 585	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	*setDocuments(List< IParser-Document >, String...)* on page 585	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	*setElementName(String, String...)* on page 586	Sets the name of the root element with the given route Use empty route for setting root name of this document.
public abstract void	*setValues(List< String >, String...)* on page 586	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	*toXMLString()* on page 586	Returns the XML string representation of this object.

Inherited members from IPersistable

Modifier and Type	Member	Description
public void	*read(BufferedReader)* on page 593	
public void	*write(BufferedWriter)* on page 593	

IODataEntry.cacheState enum

Members

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

Modifier and Type	Variable	Description
public	Updated	

Modifier and Type	Variable	Description
public	Deleted	
public	Inserted	

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

getContentType() method
Returns the content type of the entry.

Syntax

```
public abstract String getContentType ()
```

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 name-space) 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 name-space) 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 name-space) 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.

Remarks
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

Remarks
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

Remarks
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

Remarks
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

Remarks
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

Remarks
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.

Package

```
com.sap.mobile.lib.parser
```

Syntax

```
public abstract interface IODataError extends IParserDocument
```

Implemented interfaces

- *IParserDocument* on page 565

Derived classes

- *ODataError* on page 174

Members

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

Modifier and Type	Variable	Description
public static final String	ELEMENT_ERROR	Name of the appropriate OData element.
public static final String	ATTRIBUTE_LANGUAGE	Name of the appropriate OData attribute.
public static final String	ELEMENT_ERRORCODE	Name of the appropriate OData element.
public static final String	ELEMENT_MESSAGE	Name of the appropriate OData element.

Methods

Modifier and Type	Method	Description
public abstract String	*getErrorCode()* on page 444	Returns The value of the 'code' OData element.
public abstract String	*getLang()* on page 444	Returns The value of the appropriate OData attribute of the 'message' element.
public abstract String	*getMessage()* on page 444	Return the localized error message.

Inherited members from IParserDocument

Modifier and Type	Member	Description
public abstract IParserDocument	*clone()* on page 574	Creates a copy of this object.
public abstract String	*getAttribute(String...)* on page 574	Returns the value of the first attribute with the given route.
public abstract List< String >	*getAttributes(String...)* on page 575	Returns all the values of attributes with the given route.
public abstract Map< String, String >	*getChildAttributeMap(String...)* on page 575	Returns all the name-value pairs of attributes contained by the element with the given route.
public abstract List< String >	*getChildAttributes(String...)* on page 575	Returns all the values of attributes contained by the element with the given route.
public abstract List< IParserDocument >	*getChildDocuments(String...)* on page 576	Returns the elements contained by the element with the given route.
public abstract List< IParserDocument >	*getChildDocumentsWithAttribute(String, String, String...)* on page 576	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public abstract List< IParserDocument >	*getChildDocumentsWithAttribute(String, String, boolean, String...)* on page 577	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public abstract IParserDocument	*getDocument(String...)* on page 577	Returns the first element with the given route.
public abstract List< IParserDocument >	*getDocuments(String...)* on page 578	Returns all the elements with the given route.
public abstract List< IParserDocument >	*getDocumentsWithAttribute(String, String, String...)* on page 578	Returns the elements with the given route that contains the given attribute with the given value.
public abstract List< IParserDocument >	*getDocumentsWithAttribute(String, String, boolean, String...)* on page 579	Returns the elements with the given route that contains the given attribute with the given value.

Modifier and Type	Member	Description
public abstract IParserDocument	*getDocumentWithAttribute(String, String, String...)* on page 579	Returns the first element with the given route that contains the given attribute with the given value.
public abstract IParserDocument	*getDocumentWithAttribute(String, String, boolean, String...)* on page 580	Returns the first element with the given route that contains the given attribute with the given value.
public abstract String	*getElementName()* on page 580	Returns The name of the root element of this document.
public abstract String	*getFunctionImportComplexPropertyValue(String...)* on page 581	
public abstract String	*getPrefixForUri(String)* on page 581	Returns the appropriate name-space prefix for the given XML name-space URI.
public abstract String[]	*getStrings()* on page 581	Returns all the string values contained by this document.
public abstract String	*getValue(String...)* on page 581	Returns the value of the first element with the given route.
public abstract List< String >	*getValues(String...)* on page 582	Returns all the values of elements with the given route.
public abstract void	*putAttribute(String, String...)* on page 582	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	*putDocument(IParserDocument, String...)* on page 583	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	*putValue(String, String...)* on page 583	Sets the value of the first element with the given route.

Modifier and Type	Member	Description
public abstract boolean	*removeAttribute(String...)* on page 584	Removes first element with the given route.
public abstract boolean	*removeAttributes(String...)* on page 584	Removes all the attribute with the given route.
public abstract boolean	*removeDocument(String...)* on page 584	Removes first element with the given route For removing multiple element use setDocuemtns with null arguments.
public abstract void	*setAttributes(List< String >, String...)* on page 585	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	*setDocuments(List< IParserDocument >, String...)* on page 585	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	*setElementName(String, String...)* on page 586	Sets the name of the root element with the given route Use empty route for setting root name of this document.
public abstract void	*setValues(List< String >, String...)* on page 586	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	*toXMLString()* on page 586	Returns the XML string representation of this object.

Inherited members from IPersistable

Modifier and Type	Member	Description
public void	*read(BufferedReader)* on page 593	
public void	*write(BufferedWriter)* on page 593	

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
Consists of APIs related to OData Feed.

Package

```
com.sap.mobile.lib.parser
```

Syntax

```
public interface IODataFeed
```

Derived classes

- *ODataFeed* on page 180

Members
All members of IODataFeed, including inherited members. **Methods**

Modifier and Type	Method	Description
public String	*getAuthor()* on page 446	Returns the name of the Author of the OData Feed.
public List< String >	*getDeletedEntries()* on page 446	Returns the list of links of the Deleted Entries.
public IODataLink	*getDeltaLink()* on page 446	Returns the latest delta link token.

Modifier and Type	Method	Description
public List< IODataEntry >	*getEntries()* on page 447	Returns the entries in the feed that have been updated/ entire list of entries in the collection.
public String	*getId()* on page 447	Returns the id of the OData Feed.
public String	*getLastUpdated()* on page 447	Returns the date/time of last update on the OData Feed.
public List< IODataLink >	*getLinks()* on page 447	
public String	*getTitle()* on page 447	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.

Package

```
com.sap.mobile.lib.parser
```

Syntax

```
public abstract interface IODataFunctionImport extends
IParserDocument
```

Implemented interfaces

- *IParserDocument* on page 565

Derived classes

- *ODataFunctionImport* on page 183

Members
All members of IODataFunctionImport, including inherited members. **Variables**

Modifier and Type	Variable	Description
public static final String	ELEMENT_FUNCTIONA-LIMPORT	Name of the appropriate OData element.
public static final String	ELEMENT_PARAMETER	Name of the appropriate OData element.
public static final String	ATTRIBUTE_NAME	Name of the appropriate OData attribute.
public static final String	ATTRIBUTE_ACTION_FOR	Name of the appropriate OData attribute.
public static final String	ATTRIBUTE_RETURNTYPE	Name of the appropriate OData attribute.
public static final String	ATTRIBUTE_HTTPME-THOD	Name of the appropriate OData attribute.
public static final String	ATTRIBUTE_ENTITYSET	Name of the appropriate OData attribute.

Methods

Modifier and Type	Method	Description
public abstract String	*getActionFor()* on page 454	Returns The value of the appropriate OData attribute.
public abstract String	*getCollectionId()* on page 454	Returns The value of the 'EntitySet' OData attribute.
public abstract String	*getEntitySet()* on page 454	Returns The value of the 'EntitySet' OData attribute.
public abstract String	*getExecutionUrl(Map< String, String >)* on page 455	Calculate the full execution URL for executing this Function Import according to the passed paramteres.
public abstract String	*getHTTPMethod()* on page 455	Returns The value of the appropriate OData attribute.
public abstract List< String >	*getInputParameterNames()* on page 455	Returns The list of the appropriate OData element with 'In' or 'InOut' attribute value.
public abstract String	*getName()* on page 455	Returns The value of the appropriate OData attribute.
public abstract List< String >	*getOutputParameterNames()* on page 456	Returns The list of the appropriate OData element with 'Out' or 'InOut' attribute value.
public abstract List< IOData-Parameter >	*getParameters()* on page 456	Returns The list of the appropriate OData element.
public abstract String	*getReturnType()* on page 456	Returns The value of the appropriate OData attribute.
public RETURNTYPE_ENUM	*getReturnTypeEnum()* on page 456	Returns The return type of this Function Import OData document.

Inherited members from IParserDocument

Modifier and Type	Member	Description
public abstract IParserDocument	*clone()* on page 574	Creates a copy of this object.
public abstract String	*getAttribute(String...)* on page 574	Returns the value of the first attribute with the given route.

Modifier and Type	Member	Description
public abstract List< String >	*getAttributes(String...)* on page 575	Returns all the values of attributes with the given route.
public abstract Map< String, String >	*getChildAttributeMap(String...)* on page 575	Returns all the name-value pairs of attributes contained by the element with the given route.
public abstract List< String >	*getChildAttributes(String...)* on page 575	Returns all the values of attributes contained by the element with the given route.
public abstract List< IParserDocument >	*getChildDocuments(String...)* on page 576	Returns the elements contained by the element with the given route.
public abstract List< IParserDocument >	*getChildDocumentsWithAttribute(String, String, String...)* on page 576	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public abstract List< IParserDocument >	*getChildDocumentsWithAttribute(String, String, boolean, String...)* on page 577	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public abstract IParserDocument	*getDocument(String...)* on page 577	Returns the first element with the given route.
public abstract List< IParserDocument >	*getDocuments(String...)* on page 578	Returns all the elements with the given route.
public abstract List< IParserDocument >	*getDocumentsWithAttribute(String, String, String...)* on page 578	Returns the elements with the given route that contains the given attribute with the given value.
public abstract List< IParserDocument >	*getDocumentsWithAttribute(String, String, boolean, String...)* on page 579	Returns the elements with the given route that contains the given attribute with the given value.
public abstract IParserDocument	*getDocumentWithAttribute(String, String, String...)* on page 579	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	*getDocumentWithAttribute(String, String, boolean, String...)* on page 580	Returns the first element with the given route that contains the given attribute with the given value.
public abstract String	*getElementName()* on page 580	Returns The name of the root element of this document.
public abstract String	*getFunctionImportComplexPropertyValue(String...)* on page 581	
public abstract String	*getPrefixForUri(String)* on page 581	Returns the appropriate name-space prefix for the given XML name-space URI.
public abstract String[]	*getStrings()* on page 581	Returns all the string values contained by this document.
public abstract String	*getValue(String...)* on page 581	Returns the value of the first element with the given route.
public abstract List< String >	*getValues(String...)* on page 582	Returns all the values of elements with the given route.
public abstract void	*putAttribute(String, String...)* on page 582	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	*putDocument(IParserDocument, String...)* on page 583	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	*putValue(String, String...)* on page 583	Sets the value of the first element with the given route.
public abstract boolean	*removeAttribute(String...)* on page 584	Removes first element with the given route.

Modifier and Type	Member	Description
public abstract boolean	*removeAttributes(String...)* on page 584	Removes all the attribute with the given route.
public abstract boolean	*removeDocument(String...)* on page 584	Removes first element with the given route For removing multiple element use setDocuemtns with null arguments.
public abstract void	*setAttributes(List< String >, String...)* on page 585	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	*setDocuments(List< IParserDocument >, String...)* on page 585	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	*setElementName(String, String...)* on page 586	Sets the name of the root element with the given route Use empty route for setting root name of this document.
public abstract void	*setValues(List< String >, String...)* on page 586	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	*toXMLString()* on page 586	Returns the XML string representation of this object.

Inherited members from IPersistable

Modifier and Type	Member	Description
public void	*read(BufferedReader)* on page 593	
public void	*write(BufferedWriter)* on page 593	

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	RETURNTYPE_SIMPLE	
public	RETURNTYPE_COMPLEX	
public	RETURNTYPE_ENTRY	
public	RETURNTYPE_FEED	
public	RETURNTYPE_SIM-PLE_COLLECTION	
public	RETURNTYPE_COM-PLEX_COLLECTION	

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 RETURNTYPE_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.

Package

```
com.sap.mobile.lib.parser
```

Syntax

```
public interface IODataIcon extends IParserDocument
```

Implemented interfaces

- *IParserDocument* on page 565

Derived classes

- *ODataIcon* on page 192

Members

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

Modifier and Type	Variable	Description
public static final String	ELEMENT_ICON	Name of the appropriate OData element.
public static final String	ATTRIBUTE_WIDTH	Name of the appropriate OData attribute.
public static final String	ATTRIBUTE_HEIGHT	Name of the appropriate OData attribute.

Methods

Modifier and Type	Method	Description
public int	*getHeight()* on page 462	Returns The value of the appropriate OData attribute.
public String	*getUrl()* on page 462	Returns The value of the appropriate OData attribute.
public int	*getWidth()* on page 462	Returns The value of the appropriate OData attribute.

Inherited members from IParserDocument

Modifier and Type	Member	Description
public abstract IParserDocument	*clone()* on page 574	Creates a copy of this object.
public abstract String	*getAttribute(String...)* on page 574	Returns the value of the first attribute with the given route.

Modifier and Type	Member	Description
public abstract List< String >	*getAttributes(String...)* on page 575	Returns all the values of attributes with the given route.
public abstract Map< String, String >	*getChildAttributeMap(String...)* on page 575	Returns all the name-value pairs of attributes contained by the element with the given route.
public abstract List< String >	*getChildAttributes(String...)* on page 575	Returns all the values of attributes contained by the element with the given route.
public abstract List< IParserDocument >	*getChildDocuments(String...)* on page 576	Returns the elements contained by the element with the given route.
public abstract List< IParserDocument >	*getChildDocumentsWithAttribute(String, String, String...)* on page 576	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public abstract List< IParserDocument >	*getChildDocumentsWithAttribute(String, String, boolean, String...)* on page 577	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public abstract IParserDocument	*getDocument(String...)* on page 577	Returns the first element with the given route.
public abstract List< IParserDocument >	*getDocuments(String...)* on page 578	Returns all the elements with the given route.
public abstract List< IParserDocument >	*getDocumentsWithAttribute(String, String, String...)* on page 578	Returns the elements with the given route that contains the given attribute with the given value.
public abstract List< IParserDocument >	*getDocumentsWithAttribute(String, String, boolean, String...)* on page 579	Returns the elements with the given route that contains the given attribute with the given value.
public abstract IParserDocument	*getDocumentWithAttribute(String, String, String...)* on page 579	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	*getDocumentWithAttribute(String, String, boolean, String...)* on page 580	Returns the first element with the given route that contains the given attribute with the given value.
public abstract String	*getElementName()* on page 580	Returns The name of the root element of this document.
public abstract String	*getFunctionImportComplexPropertyValue(String...)* on page 581	
public abstract String	*getPrefixForUri(String)* on page 581	Returns the appropriate name-space prefix for the given XML name-space URI.
public abstract String[]	*getStrings()* on page 581	Returns all the string values contained by this document.
public abstract String	*getValue(String...)* on page 581	Returns the value of the first element with the given route.
public abstract List< String >	*getValues(String...)* on page 582	Returns all the values of elements with the given route.
public abstract void	*putAttribute(String, String...)* on page 582	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	*putDocument(IParserDocument, String...)* on page 583	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	*putValue(String, String...)* on page 583	Sets the value of the first element with the given route.
public abstract boolean	*removeAttribute(String...)* on page 584	Removes first element with the given route.

Modifier and Type	Member	Description
public abstract boolean	*removeAttributes(String...)* on page 584	Removes all the attribute with the given route.
public abstract boolean	*removeDocument(String...)* on page 584	Removes first element with the given route For removing multiple element use setDocuemtns with null arguments.
public abstract void	*setAttributes(List< String >, String...)* on page 585	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	*setDocuments(List< IParserDocument >, String...)* on page 585	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	*setElementName(String, String...)* on page 586	Sets the name of the root element with the given route Use empty route for setting root name of this document.
public abstract void	*setValues(List< String >, String...)* on page 586	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	*toXMLString()* on page 586	Returns the XML string representation of this object.

Inherited members from IPersistable

Modifier and Type	Member	Description
public void	*read(BufferedReader)* on page 593	
public void	*write(BufferedWriter)* on page 593	

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.

Package

```
com.sap.mobile.lib.parser
```

Syntax

```
public abstract interface IODataLink extends IParserDocument
```

Implemented interfaces

- *IParserDocument* on page 565

Derived classes

- *ODataLink* on page 199

Members
All members of IODataLink, including inherited members. **Variables**

Modifier and Type	Variable	Description
public static final String	ELEMENT_LINK	Name of the appropriate OData element.
public static final String	ELEMENT_INLINE	Name of the appropriate OData element.
public static final String	ELEMENT_PARAMETER	Name of the appropriate OData element.
public static final String	ELEMENT_PARAMETER-SET	Name of the appropriate OData element.

Modifier and Type	Variable	Description
public static final String	ATTRIBUTE_REL_VALUE_EDIT	Value option for the appropriate OData parameter.
public static final String	ATTRIBUTE_REL_VALUE_SELF	Value option for the appropriate OData parameter.
public static final String	ATTRIBUTE_HREF	Name of the appropriate OData attribute.
public static final String	ATTRIBUTE_REL	Name of the appropriate OData attribute.
public static final String	ATTRIBUTE_TITLE	Name of the appropriate OData attribute.
public static final String	ATTRIBUTE_SEMANTICS	Name of the appropriate OData attribute.
public static final String	ATTRIBUTE_VALUEPART_RELATED	String that should be part of every rel attribute of a Related Data Link.
public static final String	ATTRIBUTE_VALUEPART_DELTA	String that should be part of every rel attribute of a Delta.
public static final String	ATTRIBUTE_VALUESUFFIX_SUBSCRIPTION	String that should be end of every rel attribute of a Subscription Link.

Methods

Modifier and Type	Method	Description
public abstract String	*getHref()* on page 469	Returns the value of the appropriate OData attribute.
public abstract List< IODataEntry >	*getInlineEntries()* on page 469	Returns the list of OData Entries contained by the appropriate OData 'inline' element.
public abstract List< String >	*getInputParameterNames()* on page 469	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 >	*getOutputParameterNames()* on page 469	Returns the list of the appropriate OData Parameter elements that should be used as output parameter.
public abstract List< IOData-Parameter >	*getParameters()* on page 470	Returns the list of the appropriate OData Parameter elements.
public abstract String	*getRel()* on page 470	Returns the value of the appropriate OData attribute.
public abstract IODataSchema	*getSchema()* on page 470	Returns the Schema that is to be used for 'Inline entries'.
public abstract String	*getSemantics()* on page 470	Returns The value of the appropriate OData extension (vCard) attribute.
public abstract String	*getTargetCollectionId()* on page 471	Returns the Id of the collection that this link points to (if any)
public abstract String	*getTitle()* on page 471	Returns the value of the appropriate OData attribute.
public abstract String	*getUrl()* on page 471	Returns the full URL for this OData Link object without parameters.
public abstract String	*getUrlWithParameters(Map< String, String >)* on page 471	Returns the full URL for this OData Link object extended with the given parameter names and values.
public abstract void	*setSchema(IODataSchema)* on page 472	Sets the Schema that is to be used for 'Inline entries'.
public abstract void	*setTargetCollectionId(String)* on page 472	Maintains the Id of the collection that this link points to (if any)

Inherited members from IParserDocument

Modifier and Type	Member	Description
public abstract IParserDocument	*clone()* on page 574	Creates a copy of this object.

Modifier and Type	Member	Description
public abstract String	*getAttribute(String...)* on page 574	Returns the value of the first attribute with the given route.
public abstract List< String >	*getAttributes(String...)* on page 575	Returns all the values of attributes with the given route.
public abstract Map< String, String >	*getChildAttributeMap(String...)* on page 575	Returns all the name-value pairs of attributes contained by the element with the given route.
public abstract List< String >	*getChildAttributes(String...)* on page 575	Returns all the values of attributes contained by the element with the given route.
public abstract List< IParserDocument >	*getChildDocuments(String...)* on page 576	Returns the elements contained by the element with the given route.
public abstract List< IParserDocument >	*getChildDocumentsWithAttribute(String, String, String...)* on page 576	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public abstract List< IParserDocument >	*getChildDocumentsWithAttribute(String, String, boolean, String...)* on page 577	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public abstract IParserDocument	*getDocument(String...)* on page 577	Returns the first element with the given route.
public abstract List< IParserDocument >	*getDocuments(String...)* on page 578	Returns all the elements with the given route.
public abstract List< IParserDocument >	*getDocumentsWithAttribute(String, String, String...)* on page 578	Returns the elements with the given route that contains the given attribute with the given value.
public abstract List< IParserDocument >	*getDocumentsWithAttribute(String, String, boolean, String...)* on page 579	Returns the elements with the given route that contains the given attribute with the given value.

Modifier and Type	Member	Description
public abstract IParserDocument	*getDocumentWithAttribute(String, String, String...)* on page 579	Returns the first element with the given route that contains the given attribute with the given value.
public abstract IParserDocument	*getDocumentWithAttribute(String, String, boolean, String...)* on page 580	Returns the first element with the given route that contains the given attribute with the given value.
public abstract String	*getElementName()* on page 580	Returns The name of the root element of this document.
public abstract String	*getFunctionImportComplexPropertyValue(String...)* on page 581	
public abstract String	*getPrefixForUri(String)* on page 581	Returns the appropriate name-space prefix for the given XML name-space URI.
public abstract String[]	*getStrings()* on page 581	Returns all the string values contained by this document.
public abstract String	*getValue(String...)* on page 581	Returns the value of the first element with the given route.
public abstract List< String >	*getValues(String...)* on page 582	Returns all the values of elements with the given route.
public abstract void	*putAttribute(String, String...)* on page 582	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	*putDocument(IParserDocument, String...)* on page 583	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	*putValue(String, String...)* on page 583	Sets the value of the first element with the given route.

Modifier and Type	Member	Description
public abstract boolean	*removeAttribute(String...)* on page 584	Removes first element with the given route.
public abstract boolean	*removeAttributes(String...)* on page 584	Removes all the attribute with the given route.
public abstract boolean	*removeDocument(String...)* on page 584	Removes first element with the given route For removing multiple element use setDocuemtns with null arguments.
public abstract void	*setAttributes(List< String >, String...)* on page 585	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	*setDocuments(List< IParserDocument >, String...)* on page 585	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	*setElementName(String, String...)* on page 586	Sets the name of the root element with the given route Use empty route for setting root name of this document.
public abstract void	*setValues(List< String >, String...)* on page 586	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	*toXMLString()* on page 586	Returns the XML string representation of this object.

Inherited members from IPersistable

Modifier and Type	Member	Description
public void	*read(BufferedReader)* on page 593	
public void	*write(BufferedWriter)* on page 593	

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.

Package

```
com.sap.mobile.lib.parser
```

Syntax

```
public abstract interface IODataNavigationProperty extends
IParserDocument
```

Implemented interfaces

- *IParserDocument* on page 565

Derived classes

- *ODataNavigationProperty* on page 209

Members
All members of IODataNavigationProperty, including inherited members. **Variables**

Modifier and Type	Variable	Description
public static final String	ELEMENT_NAVIGATION-PROPERTY	Name of the appropriate OData element.
public static final String	ATTRIBUTE_NAME	Name of the appropriate OData attribute.
public static final String	ATTRIBUTE_RELATION-SHIP	Name of the appropriate OData attribute.

Modifier and Type	Variable	Description
public static final String	ATTRIBUTE_FROMROLE	Name of the appropriate OData attribute.
public static final String	ATTRIBUTE_TOROLE	Name of the appropriate OData attribute.

Methods

Modifier and Type	Method	Description
public abstract String	*getFromRole()* on page 478	Returns The value of the appropriate OData attribute.
public abstract String	*getName()* on page 479	Returns The value of the appropriate OData attribute.
public abstract String	*getRelationship()* on page 479	Returns The value of the appropriate OData attribute.
public abstract String	*getToRole()* on page 479	Returns The value of the appropriate OData attribute.

Inherited members from IParserDocument

Modifier and Type	Member	Description
public abstract IParserDocument	*clone()* on page 574	Creates a copy of this object.
public abstract String	*getAttribute(String...)* on page 574	Returns the value of the first attribute with the given route.
public abstract List< String >	*getAttributes(String...)* on page 575	Returns all the values of attributes with the given route.
public abstract Map< String, String >	*getChildAttributeMap(String...)* on page 575	Returns all the name-value pairs of attributes contained by the element with the given route.
public abstract List< String >	*getChildAttributes(String...)* on page 575	Returns all the values of attributes contained by the element with the given route.
public abstract List< IParserDocument >	*getChildDocuments(String...)* on page 576	Returns the elements contained by the element with the given route.

Modifier and Type	Member	Description
public abstract List< IParserDocument >	*getChildDocumentsWithAttribute(String, String, String...)* on page 576	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public abstract List< IParserDocument >	*getChildDocumentsWithAttribute(String, String, boolean, String...)* on page 577	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public abstract IParserDocument	*getDocument(String...)* on page 577	Returns the first element with the given route.
public abstract List< IParserDocument >	*getDocuments(String...)* on page 578	Returns all the elements with the given route.
public abstract List< IParserDocument >	*getDocumentsWithAttribute(String, String, String...)* on page 578	Returns the elements with the given route that contains the given attribute with the given value.
public abstract List< IParserDocument >	*getDocumentsWithAttribute(String, String, boolean, String...)* on page 579	Returns the elements with the given route that contains the given attribute with the given value.
public abstract IParserDocument	*getDocumentWithAttribute(String, String, String...)* on page 579	Returns the first element with the given route that contains the given attribute with the given value.
public abstract IParserDocument	*getDocumentWithAttribute(String, String, boolean, String...)* on page 580	Returns the first element with the given route that contains the given attribute with the given value.
public abstract String	*getElementName()* on page 580	Returns The name of the root element of this document.
public abstract String	*getFunctionImportComplexPropertyValue(String...)* on page 581	
public abstract String	*getPrefixForUri(String)* on page 581	Returns the appropriate name-space prefix for the given XML name-space URI.

Modifier and Type	Member	Description
public abstract String[]	*getStrings()* on page 581	Returns all the string values contained by this document.
public abstract String	*getValue(String...)* on page 581	Returns the value of the first element with the given route.
public abstract List< String >	*getValues(String...)* on page 582	Returns all the values of elements with the given route.
public abstract void	*putAttribute(String, String...)* on page 582	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	*putDocument(IParserDocument, String...)* on page 583	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	*putValue(String, String...)* on page 583	Sets the value of the first element with the given route.
public abstract boolean	*removeAttribute(String...)* on page 584	Removes first element with the given route.
public abstract boolean	*removeAttributes(String...)* on page 584	Removes all the attribute with the given route.
public abstract boolean	*removeDocument(String...)* on page 584	Removes first element with the given route For removing multiple element use setDocuemtns with null arguments.
public abstract void	*setAttributes(List< String >, String...)* on page 585	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	*setDocuments(List< IParser-Document >, String...)* on page 585	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	*setElementName(String, String...)* on page 586	Sets the name of the root element with the given route Use empty route for setting root name of this document.
public abstract void	*setValues(List< String >, String...)* on page 586	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	*toXMLString()* on page 586	Returns the XML string representation of this object.

Inherited members from IPersistable

Modifier and Type	Member	Description
public void	*read(BufferedReader)* on page 593	
public void	*write(BufferedWriter)* on page 593	

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.

Package

```
com.sap.mobile.lib.parser
```

Syntax

```
public abstract interface IODataOpenSearchDescription extends
IParserDocument,
```

Implemented interfaces

- *IParserDocument* on page 565

Derived classes

- *ODataOpenSearchDescription* on page 214

Members
All members of IODataOpenSearchDescription, including inherited members. **Variables**

Modifier and Type	Variable	Description
public static final String	ELEMENT_OPENSEARCH-DESCRIPTION	Name of the appropriate OData element.

Modifier and Type	Variable	Description
public static final String	ELEMENT_SHORTNAME	Name of the appropriate OData element.
public static final String	ELEMENT_DESCRIPTION	Name of the appropriate OData element.
public static final String	ELEMENT_URL	Name of the appropriate OData element.

Methods

Modifier and Type	Method	Description
public abstract String	*getDescription()* on page 484	Returns The value of the appropriate OData element.
public abstract String	*getShortName()* on page 485	Returns The value of the appropriate OData element.
public abstract List< IODataURL >	*getUrls()* on page 485	Returns The list of the appropriate OData element.

Inherited members from IParserDocument

Modifier and Type	Member	Description
public abstract IParserDocument	*clone()* on page 574	Creates a copy of this object.
public abstract String	*getAttribute(String...)* on page 574	Returns the value of the first attribute with the given route.
public abstract List< String >	*getAttributes(String...)* on page 575	Returns all the values of attributes with the given route.
public abstract Map< String, String >	*getChildAttributeMap(String...)* on page 575	Returns all the name-value pairs of attributes contained by the element with the given route.
public abstract List< String >	*getChildAttributes(String...)* on page 575	Returns all the values of attributes contained by the element with the given route.
public abstract List< IParserDocument >	*getChildDocuments(String...)* on page 576	Returns the elements contained by the element with the given route.

Modifier and Type	Member	Description
public abstract List< IParserDocument >	*getChildDocumentsWithAttribute(String, String, String...)* on page 576	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public abstract List< IParserDocument >	*getChildDocumentsWithAttribute(String, String, boolean, String...)* on page 577	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public abstract IParserDocument	*getDocument(String...)* on page 577	Returns the first element with the given route.
public abstract List< IParserDocument >	*getDocuments(String...)* on page 578	Returns all the elements with the given route.
public abstract List< IParserDocument >	*getDocumentsWithAttribute(String, String, String...)* on page 578	Returns the elements with the given route that contains the given attribute with the given value.
public abstract List< IParserDocument >	*getDocumentsWithAttribute(String, String, boolean, String...)* on page 579	Returns the elements with the given route that contains the given attribute with the given value.
public abstract IParserDocument	*getDocumentWithAttribute(String, String, String...)* on page 579	Returns the first element with the given route that contains the given attribute with the given value.
public abstract IParserDocument	*getDocumentWithAttribute(String, String, boolean, String...)* on page 580	Returns the first element with the given route that contains the given attribute with the given value.
public abstract String	*getElementName()* on page 580	Returns The name of the root element of this document.
public abstract String	*getFunctionImportComplexPropertyValue(String...)* on page 581	
public abstract String	*getPrefixForUri(String)* on page 581	Returns the appropriate name-space prefix for the given XML name-space URI.

Modifier and Type	Member	Description
public abstract String[]	*getStrings()* on page 581	Returns all the string values contained by this document.
public abstract String	*getValue(String...)* on page 581	Returns the value of the first element with the given route.
public abstract List< String >	*getValues(String...)* on page 582	Returns all the values of elements with the given route.
public abstract void	*putAttribute(String, String...)* on page 582	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	*putDocument(IParserDocument, String...)* on page 583	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	*putValue(String, String...)* on page 583	Sets the value of the first element with the given route.
public abstract boolean	*removeAttribute(String...)* on page 584	Removes first element with the given route.
public abstract boolean	*removeAttributes(String...)* on page 584	Removes all the attribute with the given route.
public abstract boolean	*removeDocument(String...)* on page 584	Removes first element with the given route For removing multiple element use setDocuemtns with null arguments.
public abstract void	*setAttributes(List< String >, String...)* on page 585	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	*setDocuments(List< IParser-Document >, String...)* on page 585	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	*setElementName(String, String...)* on page 586	Sets the name of the root element with the given route Use empty route for setting root name of this document.
public abstract void	*setValues(List< String >, String...)* on page 586	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	*toXMLString()* on page 586	Returns the XML string representation of this object.

Inherited members from IPersistable

Modifier and Type	Member	Description
public void	*read(BufferedReader)* on page 593	
public void	*write(BufferedWriter)* on page 593	

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.

Package

```
com.sap.mobile.lib.parser
```

Syntax

```
public abstract interface IODataParameter extends
IParserDocument
```

Implemented interfaces

- *IParserDocument* on page 565

Derived classes

- *ODataParameter* on page 221

Members

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

Modifier and Type	Variable	Description
public static final String	ELEMENT_PARAMETER	Name of the appropriate OData element.
public static final String	VALUE_MODE_IN	Value option for the 'Mode' OData attribute.
public static final String	VALUE_MODE_OUT	Value option for the 'Mode' OData attribute.
public static final String	ATTRIBUTE_NAME	Name of the appropriate OData attribute.
public static final String	ATTRIBUTE_TYPE	Name of the appropriate OData attribute.
public static final String	ATTRIBUTE_MODE	Name of the appropriate OData attribute.

Methods

Modifier and Type	Method	Description
public abstract String	*getMode()* on page 490	Returns The value of the appropriate OData attribute.

Modifier and Type	Method	Description
public abstract String	*getName()* on page 490	Returns The value of the appropriate OData attribute.
public abstract String	*getType()* on page 491	Returns The value of the appropriate OData attribute.

Inherited members from IParserDocument

Modifier and Type	Member	Description
public abstract IParserDocument	*clone()* on page 574	Creates a copy of this object.
public abstract String	*getAttribute(String...)* on page 574	Returns the value of the first attribute with the given route.
public abstract List< String >	*getAttributes(String...)* on page 575	Returns all the values of attributes with the given route.
public abstract Map< String, String >	*getChildAttributeMap(String...)* on page 575	Returns all the name-value pairs of attributes contained by the element with the given route.
public abstract List< String >	*getChildAttributes(String...)* on page 575	Returns all the values of attributes contained by the element with the given route.
public abstract List< IParserDocument >	*getChildDocuments(String...)* on page 576	Returns the elements contained by the element with the given route.
public abstract List< IParserDocument >	*getChildDocumentsWithAttribute(String, String, String...)* on page 576	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public abstract List< IParserDocument >	*getChildDocumentsWithAttribute(String, String, boolean, String...)* on page 577	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public abstract IParserDocument	*getDocument(String...)* on page 577	Returns the first element with the given route.
public abstract List< IParserDocument >	*getDocuments(String...)* on page 578	Returns all the elements with the given route.

Modifier and Type	Member	Description
public abstract List< IParserDocument >	*getDocumentsWithAttribute(String, String, String...)* on page 578	Returns the elements with the given route that contains the given attribute with the given value.
public abstract List< IParserDocument >	*getDocumentsWithAttribute(String, String, boolean, String...)* on page 579	Returns the elements with the given route that contains the given attribute with the given value.
public abstract IParserDocument	*getDocumentWithAttribute(String, String, String...)* on page 579	Returns the first element with the given route that contains the given attribute with the given value.
public abstract IParserDocument	*getDocumentWithAttribute(String, String, boolean, String...)* on page 580	Returns the first element with the given route that contains the given attribute with the given value.
public abstract String	*getElementName()* on page 580	Returns The name of the root element of this document.
public abstract String	*getFunctionImportComplexPropertyValue(String...)* on page 581	
public abstract String	*getPrefixForUri(String)* on page 581	Returns the appropriate name-space prefix for the given XML name-space URI.
public abstract String[]	*getStrings()* on page 581	Returns all the string values contained by this document.
public abstract String	*getValue(String...)* on page 581	Returns the value of the first element with the given route.
public abstract List< String >	*getValues(String...)* on page 582	Returns all the values of elements with the given route.
public abstract void	*putAttribute(String, String...)* on page 582	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	*putDocument(IParserDocument, String...)* on page 583	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	*putValue(String, String...)* on page 583	Sets the value of the first element with the given route.
public abstract boolean	*removeAttribute(String...)* on page 584	Removes first element with the given route.
public abstract boolean	*removeAttributes(String...)* on page 584	Removes all the attribute with the given route.
public abstract boolean	*removeDocument(String...)* on page 584	Removes first element with the given route For removing multiple element use setDocuemtns with null arguments.
public abstract void	*setAttributes(List< String >, String...)* on page 585	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	*setDocuments(List< IParserDocument >, String...)* on page 585	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	*setElementName(String, String...)* on page 586	Sets the name of the root element with the given route Use empty route for setting root name of this document.

Modifier and Type	Member	Description
public abstract void	*setValues(List< String >, String...)* on page 586	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	*toXMLString()* on page 586	Returns the XML string representation of this object.

Inherited members from IPersistable

Modifier and Type	Member	Description
public void	*read(BufferedReader)* on page 593	
public void	*write(BufferedWriter)* on page 593	

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.

Package

```
com.sap.mobile.lib.parser
```

Syntax

```
public abstract interface IODataProperty extends IParserDocument
```

Implemented interfaces

- *IParserDocument* on page 565

Derived classes

- *ODataProperty* on page 227

Members
All members of IODataProperty, including inherited members. **Variables**

Modifier and Type	Variable	Description
public static final String	ELEMENT_PROPERTY	Name of the appropriate OData element.
public static final String	ATTRIBUTE_NAME	Name of the appropriate OData attribute.
public static final String	ATTRIBUTE_TYPE	Name of the appropriate OData attribute.
public static final String	ATTRIBUTE_NULLABLE	Name of the appropriate OData attribute.
public static final String	ATTRIBUTE_FIXED-LENGTH	Name of the appropriate OData attribute.
public static final String	ATTRIBUTE_LABEL	Name of the appropriate OData attribute.

Modifier and Type	Variable	Description
public static final String	ATTRIBUTE_CREATABLE	Name of the appropriate OData attribute.
public static final String	ATTRIBUTE_UPDATABLE	Name of the appropriate OData attribute.
public static final String	ATTRIBUTE_DELETABLE	Name of the appropriate OData attribute.
public static final String	ATTRIBUTE_SEARCHABLE	Name of the appropriate OData attribute.
public static final String	ATTRIBUTE_FILTERABLE	Name of the appropriate OData attribute.
public static final String	ATTRIBUTE_UNICODE	Name of the appropriate OData attribute.
public static final String	ATTRIBUTE_DEFAULTVAL-UE	Name of the appropriate OData attribute.
public static final String	ATTRIBUTE_PRECISION	Name of the appropriate OData attribute.
public static final String	ATTRIBUTE_SCALE	Name of the appropriate OData attribute.
public static final String	ATTRIBUTE_COLLATION	Name of the appropriate OData attribute.
public static final String	ATTRIBUTE_MAXLENGTH	Name of the appropriate OData attribute.
public static final String	ATTRIBUTE_USEIN-SEARCH	Name of the appropriate OData attribute.
public static final String	ATTRIBUTE_VISIBLEIN-LIST	Name of the appropriate OData attribute.
public static final String	ATTRIBUTE_VISIBLEINDE-TAIL	Name of the appropriate OData attribute.
public static final String	ATTRIBUTE_SEMANTICS	Name of the appropriate OData attribute.
public static final String	ATTRIBUTE_LIST_DIS-PLAYORDER	Name of the display-order OData attribute.

Modifier and Type	Variable	Description
public static final String	ATTRIBUTE_DETAIL_DISPLAYORDER	Name of the display-order OData attribute.

Methods

Modifier and Type	Method	Description
public abstract List< IODataProperty >	*getChildPropertiesData()* on page 499	Returns all the child properties added to this document with putChildProperty method.
public abstract List< IODataProperty >	*getChildPropertiesDataWithAttribute(String, String)* on page 499	Returns list of appropriate contained Property OData elements with the given attribute value.
public abstract List< IODataProperty >	*getChildPropertiesDataWithAttribute(String, String, boolean)* on page 500	Returns list of appropriate contained Property OData elements with the given attribute value.
public abstract IODataProperty	*getChildPropertyData(String)* on page 500	Return a single child property added with putChildProperty method.
public abstract String	*getCollation()* on page 501	Returns the value of the appropriate OData attribute.
public abstract String	*getDefaultValue()* on page 501	Returns the value of the appropriate OData attribute.
public abstract int	*getDetailDisplayOrder()* on page 501	In current version it return the same value as getListDisplayOrder.
public abstract String	*getLabel()* on page 501	Returns The value of the appropriate OData attribute.
public abstract int	*getListDisplayOrder()* on page 501	In current version it returns the same value as getDetailDisplayOrder.
public abstract int	*getMaxLength()* on page 502	Returns the value of the appropriate OData attribute with defaultValue = 0;.
public abstract String	*getName()* on page 502	Returns The value of the appropriate OData attribute.

Modifier and Type	Method	Description
public abstract String	*getPrecision()* on page 502	Returns the value of the appropriate OData attribute.
public abstract String	*getScale()* on page 502	Returns the value of the appropriate OData attribute.
public abstract String	*getSemantics()* on page 503	Returns the value of the appropriate OData attribute with defaultValue = 0;.
public abstract String	*getType()* on page 503	Returns The value of the appropriate OData attribute.
public abstract String	*getValue()* on page 503	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	*hasFixedLength()* on page 503	Returns The value of the appropriate OData attribute.
public abstract boolean	*isComplex()* on page 504	Returns if the property has complex type and has child properties.
public abstract boolean	*isCreatable()* on page 504	Returns The value of the appropriate OData attribute.
public abstract boolean	*isDeletable()* on page 504	Returns The value of the appropriate OData attribute.
public abstract boolean	*isFilterable()* on page 504	Returns The value of the appropriate OData attribute.
public abstract boolean	*isNullable()* on page 504	Returns The value of the appropriate OData attribute.
public abstract boolean	*isSearchable()* on page 505	Returns The value of the appropriate OData attribute.
public abstract boolean	*isUnicode()* on page 505	Returns the value of the appropriate OData attribute.
public abstract boolean	*isUpdatable()* on page 505	Returns The value of the appropriate OData attribute.

Modifier and Type	Method	Description
public abstract void	*putChildPropertyData(IODataProperty)* on page 505	Put new child property to this property document.
public abstract void	*setValue(String)* on page 506	Sets the value of the property, represented by this object.

Inherited members from IParserDocument

Modifier and Type	Member	Description
public abstract IParserDocument	*clone()* on page 574	Creates a copy of this object.
public abstract String	*getAttribute(String...)* on page 574	Returns the value of the first attribute with the given route.
public abstract List< String >	*getAttributes(String...)* on page 575	Returns all the values of attributes with the given route.
public abstract Map< String, String >	*getChildAttributeMap(String...)* on page 575	Returns all the name-value pairs of attributes contained by the element with the given route.
public abstract List< String >	*getChildAttributes(String...)* on page 575	Returns all the values of attributes contained by the element with the given route.
public abstract List< IParserDocument >	*getChildDocuments(String...)* on page 576	Returns the elements contained by the element with the given route.
public abstract List< IParserDocument >	*getChildDocumentsWithAttribute(String, String, String...)* on page 576	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public abstract List< IParserDocument >	*getChildDocumentsWithAttribute(String, String, boolean, String...)* on page 577	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public abstract IParserDocument	*getDocument(String...)* on page 577	Returns the first element with the given route.
public abstract List< IParserDocument >	*getDocuments(String...)* on page 578	Returns all the elements with the given route.

Modifier and Type	Member	Description
public abstract List< IParserDocument >	*getDocumentsWithAttribute(String, String, String...)* on page 578	Returns the elements with the given route that contains the given attribute with the given value.
public abstract List< IParserDocument >	*getDocumentsWithAttribute(String, String, boolean, String...)* on page 579	Returns the elements with the given route that contains the given attribute with the given value.
public abstract IParserDocument	*getDocumentWithAttribute(String, String, String...)* on page 579	Returns the first element with the given route that contains the given attribute with the given value.
public abstract IParserDocument	*getDocumentWithAttribute(String, String, boolean, String...)* on page 580	Returns the first element with the given route that contains the given attribute with the given value.
public abstract String	*getElementName()* on page 580	Returns The name of the root element of this document.
public abstract String	*getFunctionImportComplexPropertyValue(String...)* on page 581	
public abstract String	*getPrefixForUri(String)* on page 581	Returns the appropriate name-space prefix for the given XML name-space URI.
public abstract String[]	*getStrings()* on page 581	Returns all the string values contained by this document.
public abstract String	*getValue(String...)* on page 581	Returns the value of the first element with the given route.
public abstract List< String >	*getValues(String...)* on page 582	Returns all the values of elements with the given route.
public abstract void	*putAttribute(String, String...)* on page 582	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	*putDocument(IParserDocument, String...)* on page 583	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	*putValue(String, String...)* on page 583	Sets the value of the first element with the given route.
public abstract boolean	*removeAttribute(String...)* on page 584	Removes first element with the given route.
public abstract boolean	*removeAttributes(String...)* on page 584	Removes all the attribute with the given route.
public abstract boolean	*removeDocument(String...)* on page 584	Removes first element with the given route For removing multiple element use setDocuemtns with null arguments.
public abstract void	*setAttributes(List< String >, String...)* on page 585	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	*setDocuments(List< IParserDocument >, String...)* on page 585	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	*setElementName(String, String...)* on page 586	Sets the name of the root element with the given route Use empty route for setting root name of this document.

Modifier and Type	Member	Description
public abstract void	*setValues(List< String >, String...)* on page 586	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	*toXMLString()* on page 586	Returns the XML string representation of this object.

Inherited members from IPersistable

Modifier and Type	Member	Description
public void	*read(BufferedReader)* on page 593	
public void	*write(BufferedWriter)* on page 593	

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 defaultValue = 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 defaultValue = 0;

getMaxLength() method
Returns the value of the appropriate OData attribute with defaultValue = 0;.

Syntax

```
public abstract 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 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 defaultValue = 0;.

Syntax
```
public abstract String getSemantics ()
```

Returns
The value of the appropriate OData attribute with defaultValue = 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.

Remarks
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.

Remarks
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.

Package

```
com.sap.mobile.lib.parser
```

Syntax

```
public abstract interface IODataSchema extends IParserDocument
```

Implemented interfaces

- *IParserDocument* on page 565

Derived classes

- *ODataSchema* on page 270

Members

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

Modifier and Type	Variable	Description
public static final String	ATTRIBUTE_NAME	Name of the appropriate OData attribute.
public static final String	ATTRIBUTE_ENTITYTYPE	Name of the appropriate OData attribute.
public static final String	ATTRIBUTE_ENTITYSET	Name of the appropriate OData attribute.
public static final String	ATTRIBUTE_NAMESPACE	Name of the appropriate OData attribute.
public static final String	ELEMENT_EDMX	Name of the appropriate OData element.
public static final String	ELEMENT_DATASERVICES	Name of the appropriate OData element.
public static final String	ELEMENT_SCHEMA	Name of the appropriate OData element.
public static final String	ELEMENT_ENTITYCON-TAINER	Name of the appropriate OData element.
public static final String	ELEMENT_ENTITYSET	Name of the appropriate OData element.
public static final String	ACTION_FOR	name of the appropriate Odata attribute
public static final String	ELEMENT_FUNCTIONA-LIMPORT	Name of the appropriate OData element.
public static final String	ELEMENT_COMPLEXTYPE	Name of the appropriate OData element.
public static final String	ELEMENT_ENTITYTYPE	Name of the appropriate OData element.

Methods

Modifier and Type	Method	Description
public abstract IODataAssociation	*getAssociation(String)* on page 515	Returns the appropriate OData Association element with the given relationship attribute.
public abstract List< IODataAssociation >	*getAssociations()* on page 515	Returns the list of the appropriate OData elements.
public abstract IODataAssociationSet	*getAssociationSet(String)* on page 515	Returns the appropriate AssociationSet with for given association.
public abstract List< IODataAssociationSet >	*getAssociationSets()* on page 516	Returns the list of the appropriate OData elements.
public abstract IODataComplexType	*getComplexType(String)* on page 516	Returns The 'ComplexType' OData element associated with the reference.
public abstract List< IODataComplexType >	*getComplexTypes()* on page 516	Returns The list of the appropriate OData element.
public abstract IODataEntitySet	*getEntitySet(String)* on page 517	Returns The appropriate OData EntitySet.
public abstract IODataEntityType	*getEntityType(String)* on page 517	Returns The 'EntityType' OData element associated with the reference argument.
public abstract IODataEntityType	*getEntityTypeForCollection(String)* on page 517	Returns the 'EntityType' OData element contained by the 'EntitySet' element that is associated with the collectionId matching.
public abstract List< IODataFunctionImport >	*getFunctionImports()* on page 518	Returns The list of the 'FunctionImport' OData element.
public abstract List< IODataFunctionImport >	*getFunctionImportsForCollection(String)* on page 518	Returns List of FunctionImports valid for the appropriate collection.
public abstract IODataServiceDocument	*getServiceDocument()* on page 518	Returns the appropriate OData Service Document.
public abstract String	*getTargetCollectionIdForNavigationProperty(String, String)* on page 518	Resolves the target collection Id of the given OData Navigation Property element.

Modifier and Type	Method	Description
public abstract void	*setServiceDocument(IOData-ServiceDocument)* on page 519	Maintains reference to the appropriate OData Service Document.

Inherited members from IParserDocument

Modifier and Type	Member	Description
public abstract IParserDocument	*clone()* on page 574	Creates a copy of this object.
public abstract String	*getAttribute(String...)* on page 574	Returns the value of the first attribute with the given route.
public abstract List< String >	*getAttributes(String...)* on page 575	Returns all the values of attributes with the given route.
public abstract Map< String, String >	*getChildAttribute-Map(String...)* on page 575	Returns all the name-value pairs of attributes contained by the element with the given route.
public abstract List< String >	*getChildAttributes(String...)* on page 575	Returns all the values of attributes contained by the element with the given route.
public abstract List< IParserDocument >	*getChildDocuments(String...)* on page 576	Returns the elements contained by the element with the given route.
public abstract List< IParserDocument >	*getChildDocumentsWithAttribute(String, String, String...)* on page 576	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public abstract List< IParserDocument >	*getChildDocumentsWithAttribute(String, String, boolean, String...)* on page 577	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public abstract IParserDocument	*getDocument(String...)* on page 577	Returns the first element with the given route.
public abstract List< IParserDocument >	*getDocuments(String...)* on page 578	Returns all the elements with the given route.

Modifier and Type	Member	Description
public abstract List< IParserDocument >	*getDocumentsWithAttribute(String, String, String...)* on page 578	Returns the elements with the given route that contains the given attribute with the given value.
public abstract List< IParserDocument >	*getDocumentsWithAttribute(String, String, boolean, String...)* on page 579	Returns the elements with the given route that contains the given attribute with the given value.
public abstract IParserDocument	*getDocumentWithAttribute(String, String, String...)* on page 579	Returns the first element with the given route that contains the given attribute with the given value.
public abstract IParserDocument	*getDocumentWithAttribute(String, String, boolean, String...)* on page 580	Returns the first element with the given route that contains the given attribute with the given value.
public abstract String	*getElementName()* on page 580	Returns The name of the root element of this document.
public abstract String	*getFunctionImportComplexPropertyValue(String...)* on page 581	
public abstract String	*getPrefixForUri(String)* on page 581	Returns the appropriate name-space prefix for the given XML name-space URI.
public abstract String[]	*getStrings()* on page 581	Returns all the string values contained by this document.
public abstract String	*getValue(String...)* on page 581	Returns the value of the first element with the given route.
public abstract List< String >	*getValues(String...)* on page 582	Returns all the values of elements with the given route.
public abstract void	*putAttribute(String, String...)* on page 582	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	*putDocument(IParserDocument, String...)* on page 583	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	*putValue(String, String...)* on page 583	Sets the value of the first element with the given route.
public abstract boolean	*removeAttribute(String...)* on page 584	Removes first element with the given route.
public abstract boolean	*removeAttributes(String...)* on page 584	Removes all the attribute with the given route.
public abstract boolean	*removeDocument(String...)* on page 584	Removes first element with the given route For removing multiple element use setDocuemtns with null arguments.
public abstract void	*setAttributes(List< String >, String...)* on page 585	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	*setDocuments(List< IParserDocument >, String...)* on page 585	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	*setElementName(String, String...)* on page 586	Sets the name of the root element with the given route Use empty route for setting root name of this document.

Modifier and Type	Member	Description
public abstract void	*setValues(List< String >, String...)* on page 586	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	*toXMLString()* on page 586	Returns the XML string representation of this object.

Inherited members from IPersistable

Modifier and Type	Member	Description
public void	*read(BufferedReader)* on page 593	
public void	*write(BufferedWriter)* on page 593	

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: 'namsepace.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: 'namsepace.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.

Package

```
com.sap.mobile.lib.parser
```

Syntax

```
public abstract interface IODataServiceDocument extends
IParserDocument
```

Implemented interfaces

- *IParserDocument* on page 565

Derived classes

- *ODataServiceDocument* on page 280

Members
All members of IODataServiceDocument, including inherited members. **Variables**

Modifier and Type	Variable	Description
public static final String	ELEMENT_SERVICE	Name of the appropriate OData element.
public static final String	ELEMENT_WORKSPACE	Name of the appropriate OData element.
public static final String	ELEMENT_COLLECTION	Name of the appropriate OData element.

Modifier and Type	Variable	Description
public static final String	ATTRIBUTE_LANG	Name of the appropriate OData attribute.
public static final String	ATTRIBUTE_BASE	Name of the appropriate OData attribute.
public static final String	URL_SUFFIX_METADATA	URL value suffix for retrieving OData Schema document.

Methods

Modifier and Type	Method	Description
public abstract List< IOData-Collection >	*getAllCollections()* on page 526	Returns the list of all 'collection' OData element contained by the 'workspace' elements.
public abstract String	*getBaseUrl()* on page 526	Returns The value of the 'base' OData attribute.
public abstract String	*getEtag()* on page 526	Returns The value of the 'etag' OData attribute.
public abstract String	*getLanguage()* on page 526	Returns the value of the 'lang' OData attribute.
public abstract IODataOpen-SearchDescription	*getOpenSearchDescrip-tion(String)* on page 527	Returns the appropriate Open-Search Description Document for the given collection.
public abstract IODataSchema	*getSchema()* on page 527	Returns the appropriate OData Schema document.
public abstract String	*getSchemaUrl()* on page 527	Returns The full URL that can be used for retrieving the OData Schema document.
public abstract List< IOData-Workspace >	*getWorkspaces()* on page 527	Returns the list of appropriate OData elements.
public abstract void	*setOpenSearchDescrip-tion(String, IODataOpen-SearchDescription)* on page 528	Maintains the appropriate OpenSearch Description Docu-ment for the given collection.
public abstract void	*setSchema(IODataSchema)* on page 528	Maintains the appropriate OData Schema document.

Inherited members from IParserDocument

Modifier and Type	Member	Description
public abstract IParserDocument	*clone()* on page 574	Creates a copy of this object.
public abstract String	*getAttribute(String...)* on page 574	Returns the value of the first attribute with the given route.
public abstract List< String >	*getAttributes(String...)* on page 575	Returns all the values of attributes with the given route.
public abstract Map< String, String >	*getChildAttributeMap(String...)* on page 575	Returns all the name-value pairs of attributes contained by the element with the given route.
public abstract List< String >	*getChildAttributes(String...)* on page 575	Returns all the values of attributes contained by the element with the given route.
public abstract List< IParserDocument >	*getChildDocuments(String...)* on page 576	Returns the elements contained by the element with the given route.
public abstract List< IParserDocument >	*getChildDocumentsWithAttribute(String, String, String...)* on page 576	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public abstract List< IParserDocument >	*getChildDocumentsWithAttribute(String, String, boolean, String...)* on page 577	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public abstract IParserDocument	*getDocument(String...)* on page 577	Returns the first element with the given route.
public abstract List< IParserDocument >	*getDocuments(String...)* on page 578	Returns all the elements with the given route.
public abstract List< IParserDocument >	*getDocumentsWithAttribute(String, String, String...)* on page 578	Returns the elements with the given route that contains the given attribute with the given value.
public abstract List< IParserDocument >	*getDocumentsWithAttribute(String, String, boolean, String...)* on page 579	Returns the elements with the given route that contains the given attribute with the given value.

Modifier and Type	Member	Description
public abstract IParserDocument	*getDocumentWithAttribute(String, String, String...)* on page 579	Returns the first element with the given route that contains the given attribute with the given value.
public abstract IParserDocument	*getDocumentWithAttribute(String, String, boolean, String...)* on page 580	Returns the first element with the given route that contains the given attribute with the given value.
public abstract String	*getElementName()* on page 580	Returns The name of the root element of this document.
public abstract String	*getFunctionImportComplexPropertyValue(String...)* on page 581	
public abstract String	*getPrefixForUri(String)* on page 581	Returns the appropriate name-space prefix for the given XML name-space URI.
public abstract String[]	*getStrings()* on page 581	Returns all the string values contained by this document.
public abstract String	*getValue(String...)* on page 581	Returns the value of the first element with the given route.
public abstract List< String >	*getValues(String...)* on page 582	Returns all the values of elements with the given route.
public abstract void	*putAttribute(String, String...)* on page 582	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	*putDocument(IParserDocument, String...)* on page 583	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	*putValue(String, String...)* on page 583	Sets the value of the first element with the given route.

Modifier and Type	Member	Description
public abstract boolean	*removeAttribute(String...)* on page 584	Removes first element with the given route.
public abstract boolean	*removeAttributes(String...)* on page 584	Removes all the attribute with the given route.
public abstract boolean	*removeDocument(String...)* on page 584	Removes first element with the given route For removing multiple element use setDocuemtns with null arguments.
public abstract void	*setAttributes(List< String >, String...)* on page 585	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	*setDocuments(List< IParserDocument >, String...)* on page 585	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	*setElementName(String, String...)* on page 586	Sets the name of the root element with the given route Use empty route for setting root name of this document.
public abstract void	*setValues(List< String >, String...)* on page 586	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	*toXMLString()* on page 586	Returns the XML string representation of this object.

Inherited members from IPersistable

Modifier and Type	Member	Description
public void	*read(BufferedReader)* on page 593	
public void	*write(BufferedWriter)* on page 593	

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.

Package

```
com.sap.mobile.lib.parser
```

Syntax

```
public abstract interface IODataSubscriptionEntry extends
IODataEntry
```

Implemented interfaces

- *IODataEntry* on page 415

Derived classes

- *ODataSubscriptionEntry* on page 289

Members
All members of IODataSubscriptionEntry, including inherited members. **Variables**

Modifier and Type	Variable	Description
public static final String	ELEMENT_DELIVERYAD-DRESS	Name of the appropriate OData element.

Modifier and Type	Variable	Description
public static final String	ELEMENT_COLLECTION	Name of the appropriate OData element.
public static final String	ELEMENT_FILTER	Name of the appropriate OData element.
public static final String	ELEMENT_SELECT	Name of the appropriate OData element.

Methods

Modifier and Type	Method	Description
public abstract String	*getCollection()* on page 538	Returns The value of the appropriate entry property.
public abstract String	*getDeliveryAddress()* on page 539	Returns The value of the appropriate entry property.
public abstract String	*getFilter()* on page 539	Returns The value of the appropriate entry property.
public abstract String	*getSelect()* on page 539	Returns The value of the appropriate entry property.
public abstract void	*setCollection(String)* on page 539	Sets the value of the appropriate entry property.
public abstract void	*setDeliveryAddress(String)* on page 539	Sets the value of the appropriate entry property.
public abstract void	*setFilter(String)* on page 540	Sets the value of the appropriate entry property.
public abstract void	*setSelect(String)* on page 540	Sets the value of the appropriate entry property.

Inherited members from IODataEntry

Modifier and Type	Member	Description
public abstract List< IOData-Link >	*getActionLinks()* on page 425	Returns OData Link objects that are set as action links (Has semantics (SAP name-space) attribute with value 'action')

Modifier and Type	Member	Description
public abstract String	*getAuthorName()* on page 425	Returns The value of the 'name' OData element of the 'author' OData element.
public cacheState	*getCachestate()* on page 426	
public Long	*getCacheTimestamp()* on page 426	
public abstract String	*getCollectionId()* on page 426	Returns the Id of the OCata Collection that this Entry belongs to.
public abstract String	*getContentType()* on page 426	Returns the content type of the entry.
public abstract String	*getEtag()* on page 426	Returns the Id of the OData Collection that this Entry belongs to.
public abstract String	*getFilterUrl()* on page 427	Returns the full execution URL hat can be used for filtering collection search for this single entry.
public abstract List< IODataProperty >	*getGPUseInSearchPropertiesData()* on page 427	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 >	*getGPVisibleInDetailPropertiesData()* on page 427	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.

Modifier and Type	Member	Description
public abstract List< IODataProperty >	*getGPVisibleInListPropertiesData()* on page 427	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 >	*getIcons()* on page 428	Returns the list of the appropriate OData elements.
public abstract String	*getId()* on page 428	Returns The Id of this OData Entry (value of appropriate OData Id element)
public boolean	*getIsLocal()* on page 428	
public abstract Map< String, String >	*getKeyPropertyValues()* on page 428	Returns the values of the properties that are marked as key properties in the OData Schema document.
public abstract Date	*getLastUpdated()* on page 428	Returns The parsed value of the 'updated' OData Element.
public abstract List< IODataLink >	*getLinks()* on page 429	Returns the list of the appropriate OData elements.
public abstract String	*getMediaSrc()* on page 429	Returns the media source if the entry has a media content.
public abstract List< IODataProperty >	*getPropertiesData()* on page 429	Returns the value and meta information (retrieved from OData Schema document) of the properties of this Odata Entry document.
public abstract List< IODataProperty >	*getPropertiesDataWithAttribute(String, String)* on page 429	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 List< IODataProperty >	*getPropertiesDataWithAttribute(String, String, boolean)* on page 430	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	*getPropertiesDocument()* on page 430	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	*getPropertyValue(String...)* on page 431	Returns the value of the appropriate property.
public abstract< T > T	*getPropertyValueParsed(String...)* on page 431	Returns the value of the appropriate property parsed to it's real type.
public abstract Map< String, String >	*getPropertyValues()* on page 432	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 >	*getPropertyValues(List< String[]>)* on page 432	Return list of property values for the given property paths.
public abstract List< IODataLink >	*getRelatedDataLinks()* on page 432	Returns OData Link objects that represents links to Related Data.
public abstract List< IODataProperty >	*getSAPSearchablePropertiesData()* on page 433	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	*getSchema()* on page 433	Returns the appropriate OData Schema object.

Modifier and Type	Member	Description
public abstract IODataLink	*getSelfLink()* on page 433	Returns OData Link object that should be used for self related operations (with 'rel' attribute value 'self' or 'edit')
public abstract IODataLink	*getSubscriptionLink()* on page 433	Returns OData Link object that should be used for subscription or null if there is no subscription link defined.
public abstract String	*getSummary()* on page 434	Returns The value of the appropriate OData element.
public abstract String	*getTitle()* on page 434	Returns The value of the appropriate OData element.
public abstract void	*putComplexPropertyValue(String, String...)* on page 434	Puts the new property element as a sub-element of the 'complex properties' OData element.
public abstract void	*putContentType(String)* on page 434	Puts the content type for a new entry object.
public abstract void	*putId(String)* on page 435	Sets id of this OData Entry document (value of appropriate OData Id element)
public abstract void	*putMediaSrc(String)* on page 435	Puts the media source for a new entry object.
public abstract void	*putPropertyValue(String, String)* on page 435	Puts the new property element as a sub-element of the 'properties' OData element.
public abstract void	*putPropertyValue(String, String, boolean)* on page 436	Puts the new property element as a sub-element of the 'properties' OData element.
public abstract void	*setAuthorName(String)* on page 436	Sets the value of the 'name' OData element of the 'author' OData element.
public void	*setCachestate(cacheState)* on page 436	
public void	*setCacheTimestamp(Long)* on page 436	

Modifier and Type	Member	Description
public abstract void	*setCollectionId(String)* on page 437	Maintains the Id of the OCata Collection that this Entry belongs to.
public void	*setIsLocal(boolean)* on page 437	
public abstract void	*setSchema(IODataSchema)* on page 437	Maintains the reference to the appropriate OData Schema object.
public abstract void	*setSummary(String)* on page 437	Sets the value of the appropriate OData element.
public abstract void	*setTitle(String)* on page 437	Sets the value of the appropriate OData element.

Inherited members from IParserDocument

Modifier and Type	Member	Description
public abstract IParserDocument	*clone()* on page 574	Creates a copy of this object.
public abstract String	*getAttribute(String...)* on page 574	Returns the value of the first attribute with the given route.
public abstract List< String >	*getAttributes(String...)* on page 575	Returns all the values of attributes with the given route.
public abstract Map< String, String >	*getChildAttributeMap(String...)* on page 575	Returns all the name-value pairs of attributes contained by the element with the given route.
public abstract List< String >	*getChildAttributes(String...)* on page 575	Returns all the values of attributes contained by the element with the given route.
public abstract List< IParserDocument >	*getChildDocuments(String...)* on page 576	Returns the elements contained by the element with the given route.
public abstract List< IParserDocument >	*getChildDocumentsWithAttribute(String, String, String...)* on page 576	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 >	*getChildDocumentsWithAttribute(String, String, boolean, String...)* on page 577	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public abstract IParserDocument	*getDocument(String...)* on page 577	Returns the first element with the given route.
public abstract List< IParserDocument >	*getDocuments(String...)* on page 578	Returns all the elements with the given route.
public abstract List< IParserDocument >	*getDocumentsWithAttribute(String, String, String...)* on page 578	Returns the elements with the given route that contains the given attribute with the given value.
public abstract List< IParserDocument >	*getDocumentsWithAttribute(String, String, boolean, String...)* on page 579	Returns the elements with the given route that contains the given attribute with the given value.
public abstract IParserDocument	*getDocumentWithAttribute(String, String, String...)* on page 579	Returns the first element with the given route that contains the given attribute with the given value.
public abstract IParserDocument	*getDocumentWithAttribute(String, String, boolean, String...)* on page 580	Returns the first element with the given route that contains the given attribute with the given value.
public abstract String	*getElementName()* on page 580	Returns The name of the root element of this document.
public abstract String	*getFunctionImportComplexPropertyValue(String...)* on page 581	
public abstract String	*getPrefixForUri(String)* on page 581	Returns the appropriate name-space prefix for the given XML name-space URI.
public abstract String[]	*getStrings()* on page 581	Returns all the string values contained by this document.

Modifier and Type	Member	Description
public abstract String	*getValue(String...)* on page 581	Returns the value of the first element with the given route.
public abstract List< String >	*getValues(String...)* on page 582	Returns all the values of elements with the given route.
public abstract void	*putAttribute(String, String...)* on page 582	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	*putDocument(IParserDocument, String...)* on page 583	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	*putValue(String, String...)* on page 583	Sets the value of the first element with the given route.
public abstract boolean	*removeAttribute(String...)* on page 584	Removes first element with the given route.
public abstract boolean	*removeAttributes(String...)* on page 584	Removes all the attribute with the given route.
public abstract boolean	*removeDocument(String...)* on page 584	Removes first element with the given route For removing multiple element use setDocuemtns with null arguments.
public abstract void	*setAttributes(List< String >, String...)* on page 585	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	*setDocuments(List< IParser-Document >, String...)* on page 585	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	*setElementName(String, String...)* on page 586	Sets the name of the root element with the given route Use empty route for setting root name of this document.
public abstract void	*setValues(List< String >, String...)* on page 586	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	*toXMLString()* on page 586	Returns the XML string representation of this object.

Inherited members from IPersistable

Modifier and Type	Member	Description
public void	*read(BufferedReader)* on page 593	
public void	*write(BufferedWriter)* on page 593	

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.

Package

```
com.sap.mobile.lib.parser
```

Syntax

```
public abstract interface IODataURL extends IParserDocument
```

Implemented interfaces

- *IParserDocument* on page 565

Derived classes

- *ODataURL* on page 310

Members
All members of IODataURL, including inherited members. **Variables**

Modifier and Type	Variable	Description
public static final String	ELEMENT_URL	Name of the appropriate OData element.
public static final String	ATTRIBUTE_TEMPLATE	Name of the appropriate OData attribute.
public static final String	ATTRIBUTE_TYPE	Name of the appropriate OData attribute.

Methods

Modifier and Type	Method	Description
public abstract List< String >	*getMandatoryTemplateParameters()* on page 545	Returns the list of mandatory template parameter names.
public abstract List< String >	*getOptionalTemplateParameters()* on page 546	Returns the list of optional template parameter names.

Modifier and Type	Method	Description
public abstract String	*getTemplate()* on page 546	Returns the value of the appropriate OData attribute.
public abstract List< String >	*getTemplateParameters()* on page 546	Returns the list of all template parameter names.
public abstract String	*getType()* on page 546	Returns the value of the appropriate OData attribute.
public abstract String	*getUrl()* on page 546	Returns the full URL of this OData attribute without parameters.
public abstract String	*getUrlFromTemplate(Map< String, String >)* on page 547	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 abstract IParserDocument	*clone()* on page 574	Creates a copy of this object.
public abstract String	*getAttribute(String...)* on page 574	Returns the value of the first attribute with the given route.
public abstract List< String >	*getAttributes(String...)* on page 575	Returns all the values of attributes with the given route.
public abstract Map< String, String >	*getChildAttributeMap(String...)* on page 575	Returns all the name-value pairs of attributes contained by the element with the given route.
public abstract List< String >	*getChildAttributes(String...)* on page 575	Returns all the values of attributes contained by the element with the given route.
public abstract List< IParserDocument >	*getChildDocuments(String...)* on page 576	Returns the elements contained by the element with the given route.

Modifier and Type	Member	Description
public abstract List< IParserDocument >	*getChildDocumentsWithAttribute(String, String, String...)* on page 576	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public abstract List< IParserDocument >	*getChildDocumentsWithAttribute(String, String, boolean, String...)* on page 577	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public abstract IParserDocument	*getDocument(String...)* on page 577	Returns the first element with the given route.
public abstract List< IParserDocument >	*getDocuments(String...)* on page 578	Returns all the elements with the given route.
public abstract List< IParserDocument >	*getDocumentsWithAttribute(String, String, String...)* on page 578	Returns the elements with the given route that contains the given attribute with the given value.
public abstract List< IParserDocument >	*getDocumentsWithAttribute(String, String, boolean, String...)* on page 579	Returns the elements with the given route that contains the given attribute with the given value.
public abstract IParserDocument	*getDocumentWithAttribute(String, String, String...)* on page 579	Returns the first element with the given route that contains the given attribute with the given value.
public abstract IParserDocument	*getDocumentWithAttribute(String, String, boolean, String...)* on page 580	Returns the first element with the given route that contains the given attribute with the given value.
public abstract String	*getElementName()* on page 580	Returns The name of the root element of this document.
public abstract String	*getFunctionImportComplexPropertyValue(String...)* on page 581	
public abstract String	*getPrefixForUri(String)* on page 581	Returns the appropriate name-space prefix for the given XML name-space URI.

Modifier and Type	Member	Description
public abstract String[]	*getStrings()* on page 581	Returns all the string values contained by this document.
public abstract String	*getValue(String...)* on page 581	Returns the value of the first element with the given route.
public abstract List< String >	*getValues(String...)* on page 582	Returns all the values of elements with the given route.
public abstract void	*putAttribute(String, String...)* on page 582	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	*putDocument(IParserDocument, String...)* on page 583	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	*putValue(String, String...)* on page 583	Sets the value of the first element with the given route.
public abstract boolean	*removeAttribute(String...)* on page 584	Removes first element with the given route.
public abstract boolean	*removeAttributes(String...)* on page 584	Removes all the attribute with the given route.
public abstract boolean	*removeDocument(String...)* on page 584	Removes first element with the given route For removing multiple element use setDocuemtns with null arguments.
public abstract void	*setAttributes(List< String >, String...)* on page 585	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	*setDocuments(List< IParser-Document >, String...)* on page 585	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 abstract void	*setElementName(String, String...)* on page 586	Sets the name of the root ele-ment with the given route Use empty route for setting root name of this document.
public abstract void	*setValues(List< String >, String...)* on page 586	Sets all the values of the ele-ments with the given rout Val-ues 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	*toXMLString()* on page 586	Returns the XML string repre-sentation of this object.

Inherited members from IPersistable

Modifier and Type	Member	Description
public void	*read(BufferedReader)* on page 593	
public void	*write(BufferedWriter)* on page 593	

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
Consists of APIs related to OData Workspace.

Package

```
com.sap.mobile.lib.parser
```

Syntax

```
public abstract interface IODataWorkspace extends
IParserDocument
```

Implemented interfaces

- *IParserDocument* on page 565

Derived classes

- *ODataWorkspace* on page 319

Members

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

Modifier and Type	Variable	Description
public static final String	ELEMENT_WORKSPACE	Name of the appropriate OData element.
public static final String	ATTRIBUTE_SEMANTICS	Name of the appropriate OData attribute.
public static final String	ELEMENT_TITLE	Name of the appropriate OData element.

Methods

Modifier and Type	Method	Description
public abstract List< IOData-Collection >	*getCollections()* on page 552	Returns The list of of 'collection' OData element.
public abstract String	*getSemantics()* on page 552	Returns the value of the appropriate OData attribute.
public abstract String	*getTitle()* on page 552	Returns the value of the appropriate OData element.

Inherited members from IParserDocument

Modifier and Type	Member	Description
public abstract IParserDocument	*clone()* on page 574	Creates a copy of this object.
public abstract String	*getAttribute(String...)* on page 574	Returns the value of the first attribute with the given route.
public abstract List< String >	*getAttributes(String...)* on page 575	Returns all the values of attributes with the given route.

Modifier and Type	Member	Description
public abstract Map< String, String >	*getChildAttribute-Map(String...)* on page 575	Returns all the name-value pairs of attributes contained by the element with the given route.
public abstract List< String >	*getChildAttributes(String...)* on page 575	Returns all the values of attributes contained by the element with the given route.
public abstract List< IParserDocument >	*getChildDocuments(String...)* on page 576	Returns the elements contained by the element with the given route.
public abstract List< IParserDocument >	*getChildDocumentsWithAttribute(String, String, String...)* on page 576	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public abstract List< IParserDocument >	*getChildDocumentsWithAttribute(String, String, boolean, String...)* on page 577	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public abstract IParserDocument	*getDocument(String...)* on page 577	Returns the first element with the given route.
public abstract List< IParserDocument >	*getDocuments(String...)* on page 578	Returns all the elements with the given route.
public abstract List< IParserDocument >	*getDocumentsWithAttribute(String, String, String...)* on page 578	Returns the elements with the given route that contains the given attribute with the given value.
public abstract List< IParserDocument >	*getDocumentsWithAttribute(String, String, boolean, String...)* on page 579	Returns the elements with the given route that contains the given attribute with the given value.
public abstract IParserDocument	*getDocumentWithAttribute(String, String, String...)* on page 579	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	*getDocumentWithAttribute(String, String, boolean, String...)* on page 580	Returns the first element with the given route that contains the given attribute with the given value.
public abstract String	*getElementName()* on page 580	Returns The name of the root element of this document.
public abstract String	*getFunctionImportComplexPropertyValue(String...)* on page 581	
public abstract String	*getPrefixForUri(String)* on page 581	Returns the appropriate name-space prefix for the given XML name-space URI.
public abstract String[]	*getStrings()* on page 581	Returns all the string values contained by this document.
public abstract String	*getValue(String...)* on page 581	Returns the value of the first element with the given route.
public abstract List< String >	*getValues(String...)* on page 582	Returns all the values of elements with the given route.
public abstract void	*putAttribute(String, String...)* on page 582	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	*putDocument(IParserDocument, String...)* on page 583	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	*putValue(String, String...)* on page 583	Sets the value of the first element with the given route.
public abstract boolean	*removeAttribute(String...)* on page 584	Removes first element with the given route.

Modifier and Type	Member	Description
public abstract boolean	*removeAttributes(String...)* on page 584	Removes all the attribute with the given route.
public abstract boolean	*removeDocument(String...)* on page 584	Removes first element with the given route For removing multiple element use setDocuemtns with null arguments.
public abstract void	*setAttributes(List< String >, String...)* on page 585	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	*setDocuments(List< IParserDocument >, String...)* on page 585	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	*setElementName(String, String...)* on page 586	Sets the name of the root element with the given route Use empty route for setting root name of this document.
public abstract void	*setValues(List< String >, String...)* on page 586	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	*toXMLString()* on page 586	Returns the XML string representation of this object.

Inherited members from IPersistable

Modifier and Type	Member	Description
public void	*read(BufferedReader)* on page 593	
public void	*write(BufferedWriter)* on page 593	

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.

Package

```
com.sap.mobile.lib.parser
```

Syntax

```
public abstract interface IParser
```

Derived classes

- *Parser* on page 325

Members
All members of IParser, including inherited members. **Variables**

Modifier and Type	Variable	Description
public static final int	FORMAT_XML	XML Format for Building Post Body.
public static final int	FORMAT_JSON	JSON Format for Building Post Body.

Methods

Modifier and Type	Method	Description
public abstract String	*buildODataDocument(IParser-Document)* on page 556	Builds a valid OData Entry XML Post body from the entry argument.

Modifier and Type	Method	Description
public String	*buildODataEntryRequestBody(IODataEntry, String, IODataSchema, int)* on page 556	Builds a valid OData Entry JSON Post body from the entry argument.
public void	*enableParserPerformanceLog(boolean, Context)* on page 557	This method is to be called if performance data point are to be enabled for Parser.
public abstract IParserDocument	*parse(String)* on page 557	Parses the Source and converts it to a Java Object containing all the information that were contained by the source.
public abstract IParserDocument	*parse(InputStream)* on page 558	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 >	*parseFunctionImportResult(String, IODataFunctionImport, IODataSchema)* on page 558	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 >	*parseFunctionImportResult(InputStream, IODataFunctionImport, IODataSchema)* on page 559	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 >	*parseODataEntries(String, String, IODataSchema)* on page 559	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 >	*parseODataEntries(InputStream, String, IODataSchema)* on page 560	Parses SAPData structure from stream that represent either a single OData Entry or an OData Feed of several OData entries.
public abstract IODataError	*parseODataError(String)* on page 560	Parses the OData Error.
public abstract IODataError	*parseODataError(InputStream)* on page 561	Parses the OData Error from stream.
public IODataFeed	*parseODataFeed(String, String, IODataSchema)* on page 561	Parse OData Feed, support for Delta Query.
public IODataFeed	*parseODataFeed(InputStream, String, IODataSchema)* on page 562	Parse OData Feed from stream, support for Delta Query.
public abstract IODataOpenSearchDescription	*parseODataOpenSearchDescription(String, String, IODataServiceDocument)* on page 562	Parses the OData Open Search Description.
public abstract IODataOpenSearchDescription	*parseODataOpenSearchDescription(InputStream, String, IODataServiceDocument)* on page 563	Parses the OData Open Search Description from stream.
public abstract IODataSchema	*parseODataSchema(String, IODataServiceDocument)* on page 563	Parses the OData Schema.
public abstract IODataSchema	*parseODataSchema(InputStream, IODataServiceDocument)* on page 564	Parses the OData Schema from stream.
public abstract IODataServiceDocument	*parseODataServiceDocument(String)* on page 564	Parses the OData Service Document.
public abstract IODataServiceDocument	*parseODataServiceDocument(InputStream)* on page 565	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 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 abstract 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 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 If the document source is invalid 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

- **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 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.

Package

```
com.sap.mobile.lib.parser
```

Syntax

```
public abstract interface IParserDocument extends IPersistable
```

Implemented interfaces

- *IPersistable* on page 592

Derived interfaces

- *IODataAssociation* on page 368
- *IODataCollection* on page 381
- *IODataComplexType* on page 393
- *IODataEntitySet* on page 398
- *IODataEntityType* on page 405
- *IODataEntry* on page 415
- *IODataError* on page 440
- *IODataFunctionImport* on page 448
- *IODataIcon* on page 457
- *IODataLink* on page 463
- *IODataNavigationProperty* on page 474
- *IODataOpenSearchDescription* on page 480
- *IODataParameter* on page 486
- *IODataProperty* on page 492
- *IODataSchema* on page 509
- *IODataServiceDocument* on page 521
- *IODataURL* on page 541
- *IODataWorkspace* on page 547

Members

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

Modifier and Type	Variable	Description
public static final String	ROOT_DOCUMENT_NAME	The default root element name for a new document.
public static Map< String, String >	DEFAULT_PREFIXMAP-PING	The default XML Namespace-to-Prefix mapping used for building XMLS.
public static String	ELEMENT_FEED	Name of the appropriate OData element.
public static final String	ELEMENT_ID	Name of the appropriate OData element.

Modifier and Type	Variable	Description
public static final String	ATTRIBUTE_ETAG	Name of the appropriate OData element.
public static final String	XMLNS_ATOM_URI	Constant for XMLNS URI: http://www.w3.org/2005/Atom.
public static final String	XMLNS_GENERICPLAYER_URI	Constant for XMLNS URI: http://www.sap.com/Protocols/SAPData/GenericPlayer.
public static final String	XMLNS_SAP_URI	Constant for XMLNS URI: http://www.sap.com/Protocols/SAPData.
public static final String	XMLNS_EDM_URI	Constant for XMLNS URI: http://schemas.microsoft.com/ado/2007/05/edm.
public static final String	XMLNS_EDMX_URI	Constant for XMLNS URI: http://schemas.microsoft.com/ado/2007/06/edmx.
public static final String	XMLNS_METADATA_URI	Constant for XMLNS URI: http://schemas.microsoft.com/ado/2007/08/dataservices/metadata.
public static final String	XMLNS_DATASERVICES_URI	Constant for XMLNS URI: http://schemas.microsoft.com/ado/2007/08/dataservices.
public static final String	XMLNS_APPLICATION_URI	Constant for XMLNS URI: http://schemas.microsoft.com/ado/2007/08/dataservices.
public static final String	ATTRIBUTE_VALUEPREFIX_EDMTYPE	Value prefix for EDM Type type values.
public static final String	EDMTIME_PATTERN	EDM Time pattern.
public static final String[]	EDMDATETIME_PATTERNS	Possible EDM DateTime patterns Note: Some pattern are not supported by OData specification but still widely used.

Modifier and Type	Variable	Description
public static final String[]	EDMDATETIMEOFFSET_PATTERNS	Possible EDM TimeOffset patterns Note: Some pattern are not supported by OData specification but still widely used.

Methods

Modifier and Type	Method	Description
public abstract IParserDocument	*clone()* on page 574	Creates a copy of this object.
public abstract String	*getAttribute(String...)* on page 574	Returns the value of the first attribute with the given route.
public abstract List< String >	*getAttributes(String...)* on page 575	Returns all the values of attributes with the given route.
public abstract Map< String, String >	*getChildAttributeMap(String...)* on page 575	Returns all the name-value pairs of attributes contained by the element with the given route.
public abstract List< String >	*getChildAttributes(String...)* on page 575	Returns all the values of attributes contained by the element with the given route.
public abstract List< IParserDocument >	*getChildDocuments(String...)* on page 576	Returns the elements contained by the element with the given route.
public abstract List< IParserDocument >	*getChildDocumentsWithAttribute(String, String, String...)* on page 576	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public abstract List< IParserDocument >	*getChildDocumentsWithAttribute(String, String, boolean, String...)* on page 577	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public abstract IParserDocument	*getDocument(String...)* on page 577	Returns the first element with the given route.
public abstract List< IParserDocument >	*getDocuments(String...)* on page 578	Returns all the elements with the given route.

Modifier and Type	Method	Description
public abstract List< IParserDocument >	*getDocumentsWithAttribute(String, String, String...)* on page 578	Returns the elements with the given route that contains the given attribute with the given value.
public abstract List< IParserDocument >	*getDocumentsWithAttribute(String, String, boolean, String...)* on page 579	Returns the elements with the given route that contains the given attribute with the given value.
public abstract IParserDocument	*getDocumentWithAttribute(String, String, String...)* on page 579	Returns the first element with the given route that contains the given attribute with the given value.
public abstract IParserDocument	*getDocumentWithAttribute(String, String, boolean, String...)* on page 580	Returns the first element with the given route that contains the given attribute with the given value.
public abstract String	*getElementName()* on page 580	Returns The name of the root element of this document.
public abstract String	*getFunctionImportComplexPropertyValue(String...)* on page 581	
public abstract String	*getPrefixForUri(String)* on page 581	Returns the appropriate name-space prefix for the given XML name-space URI.
public abstract String[]	*getStrings()* on page 581	Returns all the string values contained by this document.
public abstract String	*getValue(String...)* on page 581	Returns the value of the first element with the given route.
public abstract List< String >	*getValues(String...)* on page 582	Returns all the values of elements with the given route.
public abstract void	*putAttribute(String, String...)* on page 582	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 abstract void	*putDocument(IParserDocument, String...)* on page 583	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	*putValue(String, String...)* on page 583	Sets the value of the first element with the given route.
public abstract boolean	*removeAttribute(String...)* on page 584	Removes first element with the given route.
public abstract boolean	*removeAttributes(String...)* on page 584	Removes all the attribute with the given route.
public abstract boolean	*removeDocument(String...)* on page 584	Removes first element with the given route For removing multiple element use setDocuemtns with null arguments.
public abstract void	*setAttributes(List< String >, String...)* on page 585	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	*setDocuments(List< IParserDocument >, String...)* on page 585	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	*setElementName(String, String...)* on page 586	Sets the name of the root element with the given route Use empty route for setting root name of this document.

Modifier and Type	Method	Description
public abstract void	*setValues(List< String >, String...)* on page 586	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	*toXMLString()* on page 586	Returns the XML string representation of this object.

Inherited members from IPersistable

Modifier and Type	Member	Description
public void	*read(BufferedReader)* on page 593	
public void	*write(BufferedWriter)* on page 593	

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	BINARY	
public	BOOLEAN	
public	DATETIME	
public	TIME	

Modifier and Type	Variable	Description
public	DATETIMEOFFSET	
public	DECIMAL	
public	FLOAT	
public	DOUBLE	
public	GUID	
public	SBYTE	
public	INT16	
public	INT32	
public	INT64	
public	BYTE	
public	STRING	
public	SINGLE	

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 TimeOffset 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
```

persistence package

dao package

model package

RouteManagerSchema class

Package

```
com.sap.mobile.lib.persistence.dao.model
```

Syntax

```
public class RouteManagerSchema implements IDbSchema
```

Members
All members of RouteManagerSchema, including inherited members. **Methods**

Modifier and Type	Method	Description
public byte[]	*getBlobCloumn()* on page 590	
public void	*setBlobCloumn(byte[])* on page 590	

getBlobCloumn() method

Syntax

```
public byte[] getBlobCloumn ()
```

setBlobCloumn(byte[]) method

Syntax

```
public void setBlobCloumn (byte[] blobCloumn)
```

EncryptionKeyManager class

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

Package

```
com.sap.mobile.lib.persistence
```

Syntax

```
public class EncryptionKeyManager
```

Members

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

Modifier and Type	Variable	Description
protected static String	encryptionKey	

Methods

Modifier and Type	Method	Description
public static String	*getEncryptionKey(Context)* on page 591	Returns the Encryption key,Generates unique 128 bit encryption for first time,and subsequent call returns the key set by setEncryptionKey API .

Modifier and Type	Method	Description
public static String	*resetEncryptionKey(Context)* on page 591	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	*setEncryptionKey(String, Context)* on page 592	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.

Remarks

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

```
EncryptionKeyManager.getEncryptionKey(getApplicaitonContex());
```

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(getApplicaitonContex());
```

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.

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

```
EncryptionKeyManager.setEncryptionKey("encryptionkey",getApplicatio
nContext());
```

encryptionKey variable

Syntax

```
protected static String encryptionKey
```

IPersistable interface
Interface that any object should implement that is to store by SDMPersistence.

Package

```
com.sap.mobile.lib.persistence
```

Syntax

```
public interface IPersistable
```

Derived classes

- *Logger* on page 716

Derived interfaces

- *IParserDocument* on page 565

Members
All members of IPersistable, including inherited members. **Methods**

Modifier and Type	Method	Description
public void	*read(BufferedReader)* on page 593	
public void	*write(BufferedWriter)* on page 593	

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

request package

Base class for connection handlers.

BaseRequest class

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

Package

```
com.sap.mobile.lib.request
```

Syntax

```
public class BaseRequest implements IRequest
```

Implemented interfaces

- *IRequest* on page 663

Derived classes

- *BatchRequest* on page 605

Members

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

Modifier and Type	Variable	Description
protected String	mUrl	
protected int	mRequestMethod	
protected byte[]	mData	
protected Map< String, String >	mHeaders	
protected int	mPriority	
protected transient INetListener	mListener	
protected HashMap< String, String >	eTagMap	
protected static String	HostURL	
protected static String	xsrfToken	
protected static ArrayList< String >	setCookie	
protected static boolean	isStreamEnabled	

Methods

Modifier and Type	Method	Description
public void	*disableDeltaHandling(boolean)* on page 596	Disables delta query handling.
public byte[]	*getData()* on page 597	If the request method is POST, this method is called from the network library.

Modifier and Type	Method	Description
public InputStream	*getDataStream()* on page 597	If the request method is POST, this method is called from the network library.
public Map< String, String >	*getHeaders()* on page 597	Returns the request headers set.
public INetListener	*getListener()* on page 598	Returns the listener to be used by the connectivity library to notify the registered listener about a successful or failed request operation.
public int	*getPriority()* on page 598	Returns the priority of the request.
public int	*getRequestMethod()* on page 599	Returns the request method.
public String	*getRequestUrl()* on page 599	Returns the URL where the request must be fired.
public boolean	*isDeltaHandlingDisabled()* on page 599	internal
public boolean	*isStreamEnabled()* on page 599	Specifies if the data streaming is enabled for this request.
public void	*setData(byte[])* on page 600	Set the request data in case of POST request.
public void	*setDataStream(InputStream)* on page 600	Set the request data stream in case of POST request.
public void	*setETag(String, int)* on page 601	sets the Etag for the request
public void	*setHeaders(Map< String, String >)* on page 601	Set the request headers.
public void	*setListener(INetListener)* on page 601	Client can register listeners to be used by the connectivity layer to notify the implementation about the result of the request.
public void	*setPriority(int)* on page 602	Sets the priority of the request.
public void	*setRequestMethod(int)* on page 602	Sets the request method.

Modifier and Type	Method	Description
public void	*setRequestUrl(String)* on page 603	Sets the URL for the request.
public void	*setStreamEnabled(boolean)* on page 603	Used to enable streaming of data when the size of the data to be fetched is greater than 200KB.
public boolean	*useCookies()* on page 603	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 void	*setListener(final INetListener)* on page 669	Client can register listeners to be used by the connectivity layer to notify the implementation about the result of the request.
public void	*setPriority(final int)* on page 670	Sets the priority of the request.
public void	*setRequestMethod(final int)* on page 670	Sets the type of HTTP request method.
public void	*setRequestUrl(final String)* on page 671	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

Remarks

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

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

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

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.

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

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

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.

Remarks
Method will return null if there is no registered listener.

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

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

Remarks
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.

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

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

Remarks
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

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

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

Remarks
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.

BaseRequest getrequest = new BaseRequest(); boolean usecookie = getrequest.useCookies();

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

Consists of methods related to batch request.

Package

```
com.sap.mobile.lib.request
```

Syntax

```
public class BatchRequest extends BaseRequest
```

Base class

- *BaseRequest* on page 593

Members

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

Modifier and Type	Variable	Description
protected String	batchRequestURL	
protected ArrayList< Object >	batchRequestList	
protected static String	BATCH_BOUNDARY_TEXT	

Constructors

Modifier and Type	Constructor	Description
public	*BatchRequest(String)* on page 608	Initializes the BatchRequest by providing the request URL.

Methods

Modifier and Type	Method	Description
public void	*addRequestToChangeset(IRequest)* on page 608	Adds a modify request such as HTTP POST/PUT/DELETE request to the change set.
public void	*addRetrieveRequestToBatch(IRequest)* on page 609	Adds a retrieve request to the batch.
public void	*closeExistingChangeSet()* on page 609	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	*disableDeltaHandling(boolean)* on page 596	Disables delta query handling.
public byte[]	*getData()* on page 597	If the request method is POST, this method is called from the network library.
public InputStream	*getDataStream()* on page 597	If the request method is POST, this method is called from the network library.
public Map< String, String >	*getHeaders()* on page 597	Returns the request headers set.
public INetListener	*getListener()* on page 598	Returns the listener to be used by the connectivity library to notify the registered listener about a successful or failed request operation.
public int	*getPriority()* on page 598	Returns the priority of the request.
public int	*getRequestMethod()* on page 599	Returns the request method.

Modifier and Type	Member	Description
public String	*getRequestUrl()* on page 599	Returns the URL where the request must be fired.
public boolean	*isDeltaHandlingDisabled()* on page 599	internal
public boolean	*isStreamEnabled()* on page 599	Specifies if the data streaming is enabled for this request.
public void	*setData(byte[])* on page 600	Set the request data in case of POST request.
public void	*setDataStream(InputStream)* on page 600	Set the request data stream in case of POST request.
public void	*setETag(String, int)* on page 601	sets the Etag for the request
public void	*setHeaders(Map<String, String>)* on page 601	Set the request headers.
public void	*setListener(INetListener)* on page 601	Client can register listeners to be used by the connectivity layer to notify the implementation about the result of the request.
public void	*setPriority(int)* on page 602	Sets the priority of the request.
public void	*setRequestMethod(int)* on page 602	Sets the request method.
public void	*setRequestUrl(String)* on page 603	Sets the URL for the request.
public void	*setStreamEnabled(boolean)* on page 603	Used to enable streaming of data when the size of the data to be fetched is greater than 200KB.
public boolean	*useCookies()* on page 603	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 void	*setListener(final INetListener)* on page 669	Client can register listeners to be used by the connectivity layer to notify the implementation about the result of the request.
public void	*setPriority(final int)* on page 670	Sets the priority of the request.
public void	*setRequestMethod(final int)* on page 670	Sets the type of HTTP request method.
public void	*setRequestUrl(final String)* on page 671	Sets the URL for the request.

Usage
Batch Request is to be used when more than one retrieve/modify requests need to be clubbed.

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(SDMBaseRequest.REQUEST_METHOD_DELETE);
deleteRequest.setRequestUrl("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();

BATCH_BOUNDARY_TEXT variable

Syntax

```
protected static String BATCH_BOUNDARY_TEXT
```

batchRequestList variable

Syntax

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

batchRequestURL variable

Syntax

```
protected String batchRequestURL
```

BundleRequest class

Consists of the methods used to bundle many requests into one.

Package

```
com.sap.mobile.lib.request
```

Syntax

```
public class BundleRequest implements IBundleRequest
```

Implemented interfaces

- *IBundleRequest* on page 653

Members

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

Modifier and Type	Constructor	Description
public	*BundleRequest()* on page 611	

Methods

Modifier and Type	Method	Description
public void	*addRequest(final IRequest)* on page 611	
public void	*clearRequests()* on page 611	Cleans out the request storage.
public IRequest[]	*getRequests()* on page 612	Returns all the requests from the storage.
public void	*removeRequest(final IRequest)* on page 612	

Inherited members from IBundleRequest

Modifier and Type	Member	Description
public void	*addRequest(IRequest)* on page 654	Adds a request to the storage.
public void	*removeRequest(IRequest)* on page 655	Removes the specific request from the storage.

Usage

Separate requests can be added and executed using BundleRequest.

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)
```

ConnectivityException class
connectivityException is used in request Library.

Package

```
com.sap.mobile.lib.request
```

Syntax

```
public class ConnectivityException
```

Members
All members of ConnectivityException, including inherited members. **Constructors**

Modifier and Type	Constructor	Description
public	*ConnectivityException()* on page 613	Constructs a new connectivityException.
public	*ConnectivityException(String)* on page 613	Constructs a new connectivityException.

Modifier and Type	Constructor	Description
public	*ConnectivityException(String, Throwable)* on page 613	Constructs a new connectivityException.
public	*ConnectivityException(Throwable)* on page 613	Constructs a new connectivityException.

ConnectivityException() constructor

Constructs a new connectivityException.

Syntax

```
public ConnectivityException ()
```

ConnectivityException(String) constructor

Constructs a new connectivityException.

Syntax

```
public ConnectivityException (String detailMessage)
```

Parameters

- **detailMessage –** the message to set.

ConnectivityException(String, Throwable) constructor

Constructs a new connectivityException.

Syntax

```
public ConnectivityException (
    String detailMessage,
    Throwable throwable
)
```

Parameters

- **detailMessage –** the message to set.
- **throwable –** the Throwable to set.

ConnectivityException(Throwable) constructor

Constructs a new connectivityException.

Syntax

```
public ConnectivityException (Throwable throwable)
```

Parameters

- **throwable –** the Throwable to set.

ConnectivityParameters class

Consists of the methods used to set the HTTP Parameters used for connection with the backend.

Package

```
com.sap.mobile.lib.request
```

Syntax

```
public class ConnectivityParameters implements
IConnectivityParameters
```

Implemented interfaces

- *IConnectivityParameters* on page 655

Members

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

Modifier and Type	Variable	Description
public static Boolean	isXcsrfEnabled	
public static boolean	autoredirectenabled	

Methods

Modifier and Type	Method	Description
public void	*enableXsrf(Boolean)* on page 615	Sets the XSRFEnabled flag.
public String	*getBaseUrl()* on page 616	Returns the base URL for the requests.
public Certificate[]	*getCertificate()* on page 616	
public String	*getLanguage()* on page 616	Returns the language setting.
public final TrustManager[]	*getTrustManagers()* on page 617	Returns an array of TrustManager instances.
public String	*getUserName()* on page 617	Returns the username.

Modifier and Type	Method	Description
public String	*getUserPassword()* on page 617	Returns the password.
public boolean	*isAutoRedirectEnabled()* on page 618	Returns whether auto redirect is enabled.
public void	*setAutoRedirectEnabled(boolean)* on page 618	Enables or disables auto redirect.
public void	*setBaseUrl(String)* on page 618	Sets the base URL for requests.
public void	*setCertificate(Certificate[])* on page 618	
public void	*setLanguage(final String)* on page 618	
public void	*setServerCertificate(Certificate[])* on page 619	
public void	*setServerCertificate(Certificate)* on page 619	
public void	*setUserName(String)* on page 619	Sets the username which must be used during authentication.
public void	*setUserPassword(String)* on page 619	Sets the password.

Inherited members from IConnectivityParameters

Modifier and Type	Member	Description
public void	*setLanguage(String)* on page 659	Sets the language used in connection.
public void	*setServerCertificate(final Certificate[])* on page 660	Sets the server certificate array.
public void	*setServerCertificate(final Certificate)* on page 660	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
```

isXcsrfEnabled variable

Syntax

```
public static Boolean isXcsrfEnabled
```

HttpChannelListeners class

Consists of interfaces and classes related to network edge authentication.

Package

```
com.sap.mobile.lib.request
```

Syntax

```
public class HttpChannelListeners
```

Members

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

Modifier and Type	Class	Description
publicclass	*Authenticationschema* on page 621	Consists of methods to set user credentials, realm and schema.
publicclass	*BasicCredetials* on page 622	Class represents basic credentials that is to be returned on a authentication challenge.
publicclass	*CookieCredetials* on page 623	Class represents cookie that is to be returned on a authentication challenge.

Nested interfaces

Modifier and Type	Interface	Description
publicinterface	*IAuthenticationChallengeListner* on page 624	Interface to be implemented to handle network edge authentication challenge.

Modifier and Type	Interface	Description
publicinterface	*ICredential* on page 625	Interface to be implemented to get the authorization headers like basic and cookie authentication header.
publicinterface	*IMutualSSLChallengeListener* on page 626	Interface to be implemented for Mutual SSL support.
publicinterface	*ISSLChallengeListener* on page 626	Interface to be implemented for single SSL support.

HttpChannelListeners.Authenticationschema class

Consists of methods to set user credentials, realm and schema.

Package

```
com.sap.mobile.lib.request.HttpChannelListeners
```

Syntax

```
public class Authenticationschema
```

Members

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

Modifier and Type	Variable	Description
public String	realm	
public String	schemaName	

Methods

Modifier and Type	Method	Description
public String	*getRealm()* on page 621	
public String	*getSchemeName()* on page 622	
public void	*processChallenge(ICredential, IRequest)* on page 622	

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
Class represents basic credentials that is to be returned on a authentication challenge.

Package

```
com.sap.mobile.lib.request.HttpChannelListeners
```

Syntax

```
public class BasicCredetials implements ICredential
```

Implemented interfaces

- *ICredential* on page 625

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

Modifier and Type	Variable	Description
public static String	uName	
public static String	passwd	

Constructors

Modifier and Type	Constructor	Description
public	*BasicCredetials(String, String)* on page 623	

Methods

Modifier and Type	Method	Description
public Map< String, Object >	*getAuthHeader()* on page 623	

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
Class represents cookie that is to be returned on a authentication challenge.

Package

```
com.sap.mobile.lib.request.HttpChannelListeners
```

Syntax

```
public class CookieCredetials implements ICredential
```

Implemented interfaces

- *ICredential* on page 625

Members

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

Modifier and Type	Variable	Description
protected static Cookie	cookieValue	

Constructors

Modifier and Type	Constructor	Description
public	*CookieCredetials(Cookie)* on page 624	

Methods

Modifier and Type	Method	Description
public Map< String, Object >	*getAuthHeader()* on page 624	

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

Interface to be implemented to handle network edge authentication challenge.

Package

```
com.sap.mobile.lib.request.HttpChannelListeners
```

Syntax

```
public interface IAuthenticationChallengeListner
```

Derived classes

- *AuthenticationChallengeListener* on page 636

Members

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

Modifier and Type	Method	Description
public ICredential	*OnAuthenticationFailed(Authenticationschema, HttpResponse)* on page 625	

OnAuthenticationFailed(Authenticationschema, HttpResponse) method

Syntax

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

HttpChannelListeners.ICredential interface

Interface to be implemented to get the authorization headers like basic and cookie authentication header.

Package

```
com.sap.mobile.lib.request.HttpChannelListeners
```

Syntax

```
public interface ICredential
```

Derived classes

- *BasicCredetials* on page 622
- *CookieCredetials* on page 623

Members

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

Modifier and Type	Method	Description
public Map< String, Object >	*getAuthHeader()* on page 626	

getAuthHeader() method

Syntax

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

HttpChannelListeners.IMutualSSLChallengeListener interface
Interface to be implemented for Mutual SSL support.

Package

```
com.sap.mobile.lib.request.HttpChannelListeners
```

Syntax

```
public interface IMutualSSLChallengeListener
```

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

Modifier and Type	Method	Description
public HttpsClientCertInfo	*getClientCertificate()* on page 626	

getClientCertificate() method

Syntax

```
public HttpsClientCertInfo getClientCertificate ()
```

HttpChannelListeners.ISSLChallengeListener interface
Interface to be implemented for single SSL support.

Package

```
com.sap.mobile.lib.request.HttpChannelListeners
```

Syntax

```
public interface ISSLChallengeListener
```

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

Modifier and Type	Method	Description
public boolean	*isServerTrusted(X509Certificate[])* on page 627	

isServerTrusted(X509Certificate[]) method

Syntax

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

PushRequest class

This class represents the need for receiving push messages.

Package

```
com.sap.mobile.lib.request
```

Syntax

```
public class PushRequest implements IRequest
```

Implemented interfaces

- *IRequest* on page 663

Members

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

Modifier and Type	Method	Description
public void	*disableDeltaHandling(boolean)* on page 629	Disables delta query handling.
public byte[]	*getData()* on page 629	If the request method is POST, this method is called from the network library.
public Map< String, String >	*getHeaders()* on page 630	Returns the request headers set.
public INetListener	*getListener()* on page 630	Returns the listener to be used by the connectivity library to notify the registered listener about a successful or failed request operation.
public int	*getPriority()* on page 630	Returns the priority of the request.

Modifier and Type	Method	Description
public int	*getRequestMethod()* on page 631	Retrieves the request method type.
public String	*getRequestUrl()* on page 631	Returns the URL where the request must be invoked.
public boolean	*isDeltaHandlingDisabled()* on page 631	internal
public void	*setData(byte[])* on page 632	Sets the request data in case of an HTTP POST request.
public void	*setHeaders(Map< String, String >)* on page 632	Sets the request headers.
public void	*setListener(INetListener)* on page 632	
public void	*setPriority(int)* on page 633	
public void	*setRequestMethod(int)* on page 633	
public void	*setRequestUrl(String)* on page 633	
public boolean	*useCookies()* on page 633	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 void	*setListener(final INetListener)* on page 669	Client can register listeners to be used by the connectivity layer to notify the implementation about the result of the request.
public void	*setPriority(final int)* on page 670	Sets the priority of the request.
public void	*setRequestMethod(final int)* on page 670	Sets the type of HTTP request method.

Modifier and Type	Member	Description
public void	*setRequestUrl(final String)* on page 671	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

Remarks
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.

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

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

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.

Remarks
Method will return null if there is no registered listener.

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

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.

Remarks

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.

BaseRequest getrequest = new BaseRequest(); boolean usecookie = getrequest.useCookies();

RequestManager class

Consists of the methods used to perform requests.

Package

```
com.sap.mobile.lib.request
```

Syntax

```
public class RequestManager implements IRequestManager,
IPreferenceChangeListener
```

Implemented interfaces

- *IRequestManager* on page 673
- *IPreferenceChangeListener* on page 84

Members

All members of RequestManager, including inherited members. **Nested classes**

Modifier and Type	Class	Description
publicclass	*AuthenticationChallengeListener* on page 636	The listener to register for authentication failure event.
publicclass	*MutualSSLChallengeListener* on page 637	Listener to set call back so that application can accept or reject the client certificate.
publicclass	*SSLChallengeListener* on page 637	Listener to set call back so that application can accept or reject the server certificate.

Variables

Modifier and Type	Variable	Description
public static final int	MAX_THREADS	
public static AuthenticationChallengeListener	authenticationListener	
protected static final String	TAG	
protected static ILogger	mLogger	
protected IConnectionHandler[]	mMainHandler	
protected Vector< Object >	mQueue	
protected Vector< IRequest >	mHQueue	
protected String	mMainHandlerClassName	
protected boolean	mPassportEnabled	
protected Vector< IRequest >	modifyingRequestQueue	
protected boolean	isPerformanceLoggingEnabled	

Modifier and Type	Variable	Description
protected SuccessThread	successNotifier	Success notification worker instance.

Constructors

Modifier and Type	Constructor	Description
public	*RequestManager(ILogger, IPreferences, IConnectivityParameters, int)* on page 639	Instantiates the RequestManager class.

Methods

Modifier and Type	Method	Description
public void	*clearPendingRequests(ILogger, Context)* on page 639	Clears all the persisted requests from database.
public void	*enablePerformanceLogging()* on page 639	Enables performance logging for Core Services.
public IConnectivityParameters	*getConnectivityParameters()* on page 640	Returns the ConnectivityParameters object containing the settings used by the Request library.
public ILogger	*getLogger()* on page 640	
public boolean	*isPerformanceLoggingEnabled()* on page 640	Returns whether the Performance Logging is enabled or not.
public void	*makeRequest(final IRequest)* on page 641	Puts a request object into the RequestManager object.
public void	*makeRequest(final IBundleRequest)* on page 641	Puts a bundle request object into the RequestManager object.
public static void	*setAuthenticationChallengeListener(IAuthenticationChallengeListner)* on page 641	Sets the authentication challenge listener so that application is notified upon authentication failure.
public void	*setListener(INetListener)* on page 642	Sets the listener for receiving success/failure call backs upon invoking a request.

Modifier and Type	Method	Description
public void	*setMutualSSLChallengeListener(IMutualSSLChallengeListener)* on page 642	Sets the call back for the application to accept or reject the client certificate.
public void	*setSSLChallengeListener(ISSLChallengeListener)* on page 642	Error notification worker.

Usage
This is the primary interface using which any kind of request could be performed.

RequestManager.AuthenticationChallengeListener class
The listener to register for authentication failure event.

Package
```
com.sap.mobile.lib.request.RequestManager
```

Syntax
```
public class AuthenticationChallengeListener implements
IAuthenticationChallengeListner
```

Implemented interfaces

- *IAuthenticationChallengeListner* on page 624

Members
All members of AuthenticationChallengeListener, including inherited members. **Methods**

Modifier and Type	Method	Description
public ICredential	*OnAuthenticationFailed(Authenticationschema, HttpResponse)* on page 636	

OnAuthenticationFailed(Authenticationschema, HttpResponse) method

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

RequestManager.MutualSSLChallengeListener class

Listener to set call back so that application can accept or reject the client certificate.

Package

```
com.sap.mobile.lib.request.RequestManager
```

Syntax

```
public class MutualSSLChallengeListener
```

Members

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

Modifier and Type	Method	Description
public HttpsClientCertInfo	*getClientCertificate(String)* on page 637	

getClientCertificate(String) method

Syntax

```
public HttpsClientCertInfo 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.

Package

```
com.sap.mobile.lib.request.RequestManager
```

Syntax

```
public class SSLChallengeListener
```

Members

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

Modifier and Type	Method	Description
public boolean	*checkServerTrusted(X509Certificate[])* on page 638	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.LIBRARY enum

Members
All members of LIBRARY, including inherited members. **Variables**

Modifier and Type	Variable	Description
public	LOAD	
public	MISSING	
public	PRESENT	

LOAD variable

Syntax

```
public LOAD
```

MISSING variable

Syntax

```
public MISSING
```

PRESENT variable

Syntax

```
public PRESENT
```

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
IConnectivitiyParameters Object containing the settings used by the Request library.

RequestManager reqMan = new RequestManager(logger, pref, param, 1);
IConnectivitiyParameters 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(IAuthenticationChallengeListner) method
Sets the authentication challenge listener so that application is notified upon authentication failure.

Syntax

```
public static void setAuthenticationChallengeListener
(IAuthenticationChallengeListner 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
```

successNotifier variable
Success notification worker instance.

Syntax

```
protected SuccessThread successNotifier
```

TAG variable

Syntax

```
protected static final String TAG
```

RequestStateElement class
Consists of information regarding the status of the request performed.

Package

```
com.sap.mobile.lib.request
```

Syntax

```
public class RequestStateElement implements
IRequestStateElement
```

Implemented interfaces

- *IRequestStateElement* on page 676

Members
All members of RequestStateElement, including inherited members. **Variables**

Modifier and Type	Variable	Description
protected int	mErrorCode	Stores the error type.
protected int	mHttpStatus	Stores the HTTP status if available.

Modifier and Type	Variable	Description
protected HttpResponse	mResponse	
protected Exception	mException	Stores the exception if available.

Constructors

Modifier and Type	Constructor	Description
public	*RequestStateElement()* on page 646	
public	*RequestStateElement(final int)* on page 646	
public	*RequestStateElement(final int, final Exception)* on page 646	
public	*RequestStateElement(final int, final int)* on page 646	
public	*RequestStateElement(final int, final int, final Exception)* on page 647	
public	*RequestStateElement(final int, HttpResponse)* on page 647	
public	*RequestStateElement(final int, HttpResponse, Exception)* on page 647	

Methods

Modifier and Type	Method	Description
public int	*getErrorCode()* on page 647	Returns the error code.
public Exception	*getException()* on page 648	Returns the exception if it is set.
public HttpResponse	*getHttpResponse()* on page 648	Returns the HttpResponse.
public int	*getHttpStatusCode()* on page 648	Returns the HTTP status if it is set.
public void	*setErrorCode(final int)* on page 649	Sets the error code.

Modifier and Type	Method	Description
public void	*setException(final Exception)* on page 649	Sets the exception.
public void	*setHttpResponse(HttpResponse)* on page 649	Sets the HttpResponse.
public void	*setHttpStatusCode(int)* on page 650	

Inherited members from IRequestStateElement

Modifier and Type	Member	Description
public abstract void	*setHttpStatusCode(final int)* on page 680	Sets the HTTP status.

RequestStateElement() constructor

Syntax

```
public RequestStateElement ()
```

RequestStateElement(final int) constructor

Syntax

```
public RequestStateElement (final int errorCode)
```

RequestStateElement(final int, final Exception) constructor

Syntax

```
public RequestStateElement (
    final int errorCode,
    final 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, 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
)
```

getErrorCode() method
Returns the error code.

Syntax

```
public int getErrorCode ()
```

Parameters

- **None –**

Returns
error code

Remarks
The error code can be any of the following:

- HTTP_ERROR
- PARSE_ERROR
- NETWORK_ERROR

- AUTHENTICATION_ERROR

RequestStateElement element; element.getErrorCode();

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.

Remarks
If the HTTP status is not set, the default value is -1.

RequestStateElement element; int code =element.getHttpStatusCode();

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
Consists of methods to retrieve the response after the request is performed.

Package

```
com.sap.mobile.lib.request
```

Syntax

```
public class ResponseImpl implements IResponse
```

Implemented interfaces

- *IResponse* on page 681

Members

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

Modifier and Type	Constructor	Description
public	*ResponseImpl(BasicStatus-Line)* on page 651	

Methods

Modifier and Type	Method	Description
protected void	*addBatchResponse(IRequest, IResponse)* on page 651	
public ArrayList< IResponse >	*getBatchResponse()* on page 652	Returns the list of responses from batch response.
public HashMap< IRequest, IResponse >	*getBatchResponseMap()* on page 652	Returns the mapping of requests with corresponding responses within a batch response.
public Map< String, String >	*getHeadersMap()* on page 652	Returns all the response headers as a HashMap containing header name and header value.

ResponseImpl(BasicStatusLine) constructor

Syntax

```
public ResponseImpl (BasicStatusLine basicStatusLine)
```

addBatchResponse(IRequest, IResponse) method

Syntax

```
protected void addBatchResponse (
    IRequest requestItem,
    IResponse responseItem
)
```

getBatchResponse() method
Returns the list of responses from batch response.

Syntax

```
public ArrayList< IResponse > 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, IResponse > 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();

ConnectionProtocolEnum enum

Members
All members of ConnectionProtocolEnum, including inherited members. **Variables**

Modifier and Type	Variable	Description
public	HTTPS	
public	HTTP	

HTTP variable

Syntax
```
public HTTP
```

HTTPS variable

Syntax
```
public HTTPS
```

IBundleRequest interface
Consists of interface for request bundle.

Package
```
com.sap.mobile.lib.request
```

Syntax
```
public interface IBundleRequest
```

Derived classes

- *BundleRequest* on page 610

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

Modifier and Type	Method	Description
public void	*addRequest(IRequest)* on page 654	Adds a request to the storage.
public void	*clearRequests()* on page 654	Cleans out the request storage.

Modifier and Type	Method	Description
public IRequest[]	*getRequests()* on page 655	Returns all the requests from the storage.
public void	*removeRequest(IRequest)* on page 655	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

Remarks
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.

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

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);

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

Package

```
com.sap.mobile.lib.request
```

Syntax

```
public interface IConnectivityParameters extends
```

Derived classes

- *ConnectivityParameters* on page 614

Members

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

Modifier and Type	Method	Description
public void	*enableXsrf(Boolean)* on page 657	Sets the XSRFEnabled flag.
public String	*getBaseUrl()* on page 657	Returns the base URL for the requests.
public String	*getLanguage()* on page 657	Returns the language setting.
public TrustManager[]	*getTrustManagers()* on page 658	Returns an array of TrustManager instances.
public String	*getUserName()* on page 658	Returns the username.
public String	*getUserPassword()* on page 658	Returns the password.
public boolean	*isAutoRedirectEnabled()* on page 659	Returns whether auto redirect is enabled.
public void	*setAutoRedirectEnabled(boolean)* on page 659	Enables or disables auto redirect.
public void	*setBaseUrl(String)* on page 659	Sets the base URL for requests.
public void	*setLanguage(String)* on page 659	Sets the language used in connection.
public void	*setServerCertificate(final Certificate[])* on page 660	Sets the server certificate array.
public void	*setServerCertificate(final Certificate)* on page 660	Sets a single server certificate.
public void	*setUserName(String)* on page 660	Sets the username which must be used during authentication.
public void	*setUserPassword(String)* on page 661	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);
```

INetListener interface

Consists of interface for request listener.

Package

```
com.sap.mobile.lib.request
```

Syntax

```
public interface INetListener
```

Derived classes

- *AppSettings* on page 755
- *ClientConnection* on page 760
- *UserManager* on page 776

Members

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

Modifier and Type	Method	Description
public void	*onError(IRequest, IResponse, IRequestStateElement)* on page 662	Request library uses this method in case of error/failure scenario during a request operation.
public void	*onSuccess(IRequest, IResponse)* on page 662	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

Remarks
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.

public class Activity implements INetListener { ... public void onError(IRequest arg0, IResponse arg1, IRequestStateElement arg2) {

arg1.getStatusLine().toString()

arg2.getErrorCode()); } ...}

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

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

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 }...}

IRequest interface
Consists of interface for requests.

Package

```
com.sap.mobile.lib.request
```

Syntax

```
public interface IRequest extends
```

Derived classes

- *BaseRequest* on page 593
- *PushRequest* on page 627

Members
All members of IRequest, including inherited members. **Variables**

Modifier and Type	Variable	Description
public static final int	PRIORITY_NORMAL	Normal priority. This is the default priority.

Modifier and Type	Variable	Description
public static final int	PRIORITY_HIGH	High priority. 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.
public static final int	REQUEST_METHOD_GET	HTTP GET method.
public static final int	REQUEST_METHOD_POST	HTTP POST method.
public static final int	REQUEST_METHOD_PUT	HTTP PUT method.
public static final int	REQUEST_METHOD_DELETE	HTTP DELETE method.
public static final int	ETAG_IF_MATCH	etag "if-match"
public static final int	ETAG_IF_NONE_MATCH	etag "if-none-match"
public static final int	ETAG_IF_RANGE	etag "if-range"

Methods

Modifier and Type	Method	Description
public void	*disableDeltaHandling(boolean)* on page 665	Disables delta query handling.
public byte[]	*getData()* on page 666	If the request method is POST, this method is called from the network library.
public Map< String, String >	*getHeaders()* on page 666	Returns the request headers set.
public INetListener	*getListener()* on page 667	Returns the listener to be used by the connectivity library to notify the registered listener about a successful or failed request operation.
public int	*getPriority()* on page 667	Returns the priority of the request.
public int	*getRequestMethod()* on page 667	Retrieves the request method type.

Modifier and Type	Method	Description
public String	*getRequestUrl()* on page 668	Returns the URL where the request must be invoked.
public boolean	*isDeltaHandlingDisabled()* on page 668	internal
public void	*setData(byte[])* on page 668	Sets the request data in case of an HTTP POST request.
public void	*setHeaders(Map< String, String >)* on page 669	Sets the request headers.
public void	*setListener(final INetListener)* on page 669	Client can register listeners to be used by the connectivity layer to notify the implementation about the result of the request.
public void	*setPriority(final int)* on page 670	Sets the priority of the request.
public void	*setRequestMethod(final int)* on page 670	Sets the type of HTTP request method.
public void	*setRequestUrl(final String)* on page 671	Sets the URL for the request.
public boolean	*useCookies()* on page 671	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

Remarks
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.

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

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

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.

Remarks
Method will return null if there is no registered listener.

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

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

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

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

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

Remarks
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.

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

Remarks
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.

BaseRequest getrequest = new BaseRequest(); boolean usecookie = getrequest.useCookies();

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
```

Remarks
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
```

Remarks
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.

Package

```
com.sap.mobile.lib.request
```

Syntax

```
public interface IRequestManager
```

Derived classes

- *RequestManager* on page 633

Members
All members of IRequestManager, including inherited members. **Methods**

Modifier and Type	Method	Description
public void	*clearPendingRequests(ILogger, Context)* on page 674	Clears all the persisted requests from database.
public void	*enablePerformanceLogging()* on page 674	Enables performance logging for Core Services.
public IConnectivityParameters	*getConnectivityParameters()* on page 674	Returns the ConnectivityParameters object containing the settings used by the Request library.
public boolean	*isPerformanceLoggingEnabled()* on page 675	Returns whether the Performance Logging is enabled or not.
public void	*makeRequest(final IRequest)* on page 675	Puts a request object into the RequestManager object.
public void	*makeRequest(final IBundleRequest)* on page 675	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
IConnectivitiyParameters Object containing the settings used by the Request library.

RequestManager reqMan = new RequestManager(logger, pref, param, 1);
IConnectivitiyParameters 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.

Package

```
com.sap.mobile.lib.request
```

Syntax

```
public abstract interface IRequestStateElement
```

Derived classes

- *RequestStateElement* on page 644

Members

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

Modifier and Type	Variable	Description
public static final int	NO_ERROR	
public static final int	HTTP_ERROR	Server response status > 302.
public static final int	PARSE_ERROR	Problem with parsing the response xml.
public static final int	NETWORK_ERROR	There was a network error during a read/write to/from stream.
public static final int	AUTHENTICATION_ERROR	Authentication error.
public static final int	CLIENT_ERROR	Client error.
public static final int	REQUEST_ERROR	Problem with parsing the request.

Methods

Modifier and Type	Method	Description
public abstract int	*getErrorCode()* on page 677	Returns the error code.
public abstract Exception	*getException()* on page 677	Returns the exception if it is set.
public abstract HttpResponse	*getHttpResponse()* on page 678	Returns the HttpResponse.
public abstract int	*getHttpStatusCode()* on page 678	Returns the HTTP status if it is set.

Modifier and Type	Method	Description
public abstract void	*setErrorCode(final int)* on page 679	Sets the error code.
public abstract void	*setException(final Exception)* on page 679	Sets the exception.
public abstract void	*setHttpResponse(HttpResponse)* on page 679	Sets the HttpResponse.
public abstract void	*setHttpStatusCode(final int)* on page 680	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

Remarks
The error code can be any of the following:

- HTTP_ERROR
- PARSE_ERROR
- NETWORK_ERROR
- AUTHENTICATION_ERROR

RequestStateElement element; element.getErrorCode();

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.

Remarks
If the HTTP status is not set, the default value is -1.

RequestStateElement element; int code =element.getHttpStatusCode();

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.

Package

```
com.sap.mobile.lib.request
```

Syntax

```
public interface IResponse extends
```

Derived classes

- *ResponseImpl* on page 650

Members

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

Modifier and Type	Method	Description
public ArrayList< IResponse >	*getBatchResponse()* on page 682	Returns the list of responses from batch response.
public HashMap< IRequest, IResponse >	*getBatchResponseMap()* on page 682	Returns the mapping of requests with corresponding responses within a batch response.
public Map< String, String >	*getHeadersMap()* on page 682	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< IResponse > 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, IResponse > 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();

sdmcache package

ISDMCache interface
The SDMCache component is responsible for storing and accessing OData related objects in the memory of the device.

Package

```
com.sap.mobile.lib.sdmcache
```

Syntax

```
public interface ISDMCache extends ISDMPersistable
```

Implemented interfaces

- *ISDMPersistable* on page 1084

Derived classes

- *SDMCache* on page 1141

Members
All members of ISDMCache, including inherited members. **Variables**

Modifier and Type	Variable	Description
public static final int	FULLTERM_PREFIX_SEARCH	Constant ID of Full Term Prefix-search algorithm: Searching for the full search-term as a prefix of searchable values.
public static final int	FULLTERM_CONTAIN_SEARCH	Constant ID of Full Term Contain-search algorithm: Searching for the full search-term as a part of searchable values.
public static final int	TOKENIZED_PREFIX_SEARCH	Constant ID of Tokenized Prefix-search algorithm: Searching for all the tokens of the search-term as a prefix of searchable values. Tokens can be found in different values of the same entry.

Modifier and Type	Variable	Description
public static final int	TOKENIZED_CONTAIN_SEARCH	Constant ID of Tokenized Contain-search algorithm: Searching for all the tokens of the search-term as a part of searchable values. Tokens can be found in different values of the same entry.
public static final int	TOKENIZED_CONTAIN_ALL_SEARCH	Constant ID of All Token Contain-search algorithm: Searching for all the tokens of the search-term as a part of searchable values. All tokens must be found in the same value.
public static final int	REGEX_SEARCH	Constant ID of regex search algorithm.
public static final int	DEFAULT_SEARCH	Constant ID of default algorithm:

Methods

Modifier and Type	Method	Description
public void	*clear()* on page 687	Removes all objects (including SDMOData Service Document and SDMOData Schema) from SDMCache.
public ISDMEntrySearch	*getEntrySearch()* on page 687	Returns the current search object that implements the search method that should be used during searching in entries.
public ISDMParserDocument	*getSDMODataDocument(String)* on page 687	Returns an SDMParserDocument object with the specified key if it is stored in SDMCache or null otherwise.
public List< ISDMODataEntry >	*getSDMODataEntries(String)* on page 687	Returns all of the SDMOData Entries that belong to the specified collection.

Modifier and Type	Method	Description
public ISDMODataEntry	*getSDMODataEntry(String)* on page 688	Returns an SDMOData Entry with the specified key if it is stored in SDMCache or null otherwise.
public ISDMODataSchema	*getSDMODataSchema()* on page 688	Returns the SDMOData Schema (aka Metadata) if it is stored in SDMCache or null otherwise.
public ISDMODataServiceDocument	*getSDMODataServiceDocument()* on page 688	Returns the SDMOData Service Document if it is stored in SDMCache or null otherwise.
public int	*getSearchAlgorithm()* on page 689	Returns the constant ID of the current search algorithm.
public List< ISDMParserDocument >	*getStoredDocuments()* on page 689	Returns all of the SDMParserDocuments from the store (including SDMODataEntries).
public boolean	*removeSDMODataDocument(String)* on page 689	Removes stored object from SDMCache with the specified key if it is stored.
public boolean	*removeSDMODataEntries(String)* on page 689	Removes SDMOData Entries from SDMCache that belong to the specified collection.
public void	*removeStoredDocuments()* on page 690	Removes all stored documents (except from Service Document and Schema) from SDMCache.
public List< ISDMODataEntry >	*searchSDMODataEntries(String, String)* on page 690	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	*setEntrySearch(ISDMEntrySearch)* on page 691	Seats the new search object that implements the search method that should be used during searching in entries.

Modifier and Type	Method	Description
public void	*setSDMODataDocument(String, ISDMParserDocument)* on page 691	Stores an SDMParserDocument object in SDMCache.
public void	*setSDMODataEntries(List< ISDMODataEntry >)* on page 691	Stores several SDMOData Entries in SDMCache.
public void	*setSDMODataEntry(ISDMODataEntry)* on page 692	Stores an SDMOData Entry in SDMCache.
public void	*setSDMODataSchema(ISDMODataSchema)* on page 692	Stores SDMOData Schema in SDMCache.
public void	*setSDMODataServiceDocument(ISDMODataServiceDocument)* on page 692	Stores SDMOData Service Document in SDMCache.
public void	*setSearchAlgorithm(int)* on page 693	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	*read(BufferedReader)* on page 1085	
public void	*write(BufferedWriter)* on page 1085	

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 SDMOData Service Document and SDMOData 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 ISDMEntrySearch 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.

Remarks
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.

Remarks
It can be used to store data other than SDMODataEntries in the cache.

setSDMODataEntries(List< ISDMODataEntry >) method
Stores several SDMOData Entries in SDMCache.

Syntax

```
public void setSDMODataEntries (List< ISDMODataEntry > entries)
```

Parameters

- **entries –** SDMOData Entries to be stored

Exceptions

- **IllegalArgumentException –** if the argument is null.

Remarks
The collection ID is read out from the entry.

setSDMODataEntry(ISDMODataEntry) method
Stores an SDMOData Entry in SDMCache.

Syntax

```
public void setSDMODataEntry (ISDMODataEntry entry)
```

Parameters

- **entry –** SDMOData Entry to be stored

Exceptions

- **IllegalArgumentException –** if the argument is null.

Remarks
The collection ID is read out from the entry.

setSDMODataSchema(ISDMODataSchema) method
Stores SDMOData Schema in SDMCache.

Syntax

```
public void setSDMODataSchema (ISDMODataSchema schema)
```

Parameters

- **schema –** SDMOData Schema to be stored

Exceptions

- **IllegalArgumentException –** if the argument is null.

setSDMODataServiceDocument(ISDMODataServiceDocument) method
Stores SDMOData Service Document in SDMCache.

Syntax

```
public void setSDMODataServiceDocument
(ISDMODataServiceDocument 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
```

Remarks

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
```

Remarks

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
```

Remarks

Tokens can be found in different values of the same entry.

ISDMEntrySearch interface

Interface for search objects that can be used to search for entries in SDMCache.

Package

```
com.sap.mobile.lib.sdmcache
```

Syntax

```
public interface ISDMEntrySearch
```

Derived classes

- *SDMCache* on page 1141

Members
All members of ISDMEntrySearch, including inherited members. **Methods**

Modifier and Type	Method	Description
public boolean	*searchInEntry(String, String, List< String >, ISDMODataEntry, List< String[]>, int)* on page 695	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 searchAlgorythm
)
```

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.
- **searchAlgorythm –** The constant ID of the search algorithm.

Returns
True if the entry 'matches' with the given search-term, and false otherwise.

sdmconfiguration package

sdmconnectivity package
Base class for connection handlers.

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	HTTPS	
public	HTTP	

HTTP variable

Syntax

```
public HTTP
```

HTTPS variable

Syntax

```
public HTTPS
```

sdmparser package

sdmpersistence package

SDMPersistence class

Package

```
com.sap.mobile.lib.sdmpersistence
```

Syntax

```
public class SDMPersistence implements ISDMPersistence,
ISDMPreferenceChangeListener
```

Implemented interfaces

- *ISDMPersistence* on page 1085
- *ISDMPreferenceChangeListener* on page 1094

Members
All members of SDMPersistence, including inherited members. **Variables**

Modifier and Type	Variable	Description
protected static final String	SECURE_POSTFIX	
protected static final String	CACHE_KEY	
protected static final String	mLogTag	
protected File	defaultFolder	
protected Boolean	secureMode	
protected ISDMLogger	logger	
protected Integer	mLogLevel	
protected SDMEncryptDecrypt	encDec	
protected String	mCipherTransformation	
protected int	bufferSize	
protected ActivityManager	activityManager	

Constructors

Modifier and Type	Constructor	Description
public	*SDMPersistence(ISDMPreferences, ISDMLogger)* on page 699	Deprecated.
public	*SDMPersistence(ISDMPreferences, ISDMLogger, byte[], String)* on page 699	Deprecated.
protected	*SDMPersistence(ISDMPreferences, ISDMLogger, byte[], String, ActivityManager)* on page 699	

Methods

Modifier and Type	Method	Description
public void	*clear()* on page 700	Deprecated.
protected void	*deleteFiles(final boolean)* on page 700	

Modifier and Type	Method	Description
public static byte[]	*generateSecretKey()* on page 700	Deprecated.
public static byte[]	*generateSecretKey(String)* on page 700	Deprecated.
public boolean	*isDataPersisted(String)* on page 700	Deprecated.
protected boolean	*isValidKey(String)* on page 701	
public InputStream	*loadDataStream(String)* on page 701	Deprecated.
public byte[]	*loadRawData(String)* on page 701	Deprecated.
public boolean	*loadSDMCache(ISDMCache)* on page 701	Deprecated.
public boolean	*loadSDMCache(String, ISDMCache)* on page 702	Deprecated.
public void	*onPreferenceChanged(String, Object)* on page 702	Deprecated.
public boolean	*removeData(String)* on page 702	Deprecated.
public boolean	*removeSDMCache()* on page 702	Deprecated.
public boolean	*removeSDMCache(String)* on page 703	Deprecated.
public void	*setEncryptionKey(byte[], String)* on page 703	Deprecated.
public void	*storeDataStream(String, InputStream)* on page 703	Deprecated.
public void	*storeObject(String, ISDMPersistable)* on page 703	Deprecated.
public void	*storeRawData(String, byte[])* on page 704	Deprecated.

Modifier and Type	Method	Description
public void	*storeSDMCache(ISDMCache)* on page 704	Deprecated.
public void	*storeSDMCache(String, ISDMCache)* on page 704	Deprecated.

SDMPersistence(ISDMPreferences, ISDMLogger) constructor [deprecated]
Deprecated.

Syntax

```
public SDMPersistence (
    ISDMPreferences preferences,
    ISDMLogger logger
) throws SDMPersistenceException
```

Remarks
Deprecated

SDMPersistence(ISDMPreferences, ISDMLogger, byte[], String) constructor [deprecated]
Deprecated.

Syntax

```
public SDMPersistence (
    ISDMPreferences preferences,
    ISDMLogger logger,
    byte[] secretKey,
    String secretKeyAlgorithm
) throws SDMPersistenceException
```

Remarks
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 ()
```

Remarks
Deprecated

deleteFiles(final boolean) method

Syntax

```
protected void deleteFiles (final boolean secured)
```

generateSecretKey() method [deprecated]
Deprecated.

Syntax

```
public static byte[] generateSecretKey () throws
NoSuchAlgorithmException
```

Remarks
Deprecated

generateSecretKey(String) method [deprecated]
Deprecated.

Syntax

```
public static byte[] generateSecretKey (String secretKeyAlgorithm)
throws NoSuchAlgorithmException
```

Remarks
Deprecated

isDataPersisted(String) method [deprecated]
Deprecated.

Syntax

```
public boolean isDataPersisted (String key)
```

Remarks
Deprecated

isValidKey(String) method

Syntax

```
protected boolean isValidKey (String key)
```

loadDataStream(String) method [deprecated]
Deprecated.

Syntax

```
public InputStream loadDataStream (String key) throws
SDMPersistenceException
```

Remarks
Deprecated

loadRawData(String) method [deprecated]
Deprecated.

Syntax

```
public byte[] loadRawData (String key) throws
SDMPersistenceException
```

Remarks
Deprecated

loadSDMCache(ISDMCache) method [deprecated]
Deprecated.

Syntax

```
public boolean loadSDMCache (ISDMCache cache) throws
SDMPersistenceException
```

Remarks
Deprecated

loadSDMCache(String, ISDMCache) method [deprecated]
Deprecated.

Syntax

```
public boolean loadSDMCache (
    String key,
    ISDMCache cache
) throws SDMPersistenceException
```

Remarks
Deprecated

onPreferenceChanged(String, Object) method [deprecated]
Deprecated.

Syntax

```
public void onPreferenceChanged (
    String key,
    Object value
)
```

Remarks
Deprecated

removeData(String) method [deprecated]
Deprecated.

Syntax

```
public boolean removeData (String key) throws
SDMPersistenceException
```

Remarks
Deprecated

removeSDMCache() method [deprecated]
Deprecated.

Syntax

```
public boolean removeSDMCache () throws SDMPersistenceException
```

Remarks
Deprecated

removeSDMCache(String) method [deprecated]
Deprecated.

Syntax

```
public boolean removeSDMCache (String key) throws
SDMPersistenceException
```

Remarks
Deprecated

setEncryptionKey(byte[], String) method [deprecated]
Deprecated.

Syntax

```
public void setEncryptionKey (
    byte[] secretKey,
    String secretKeyAlgorithm
) throws SDMPersistenceException
```

Remarks
Deprecated

storeDataStream(String, InputStream) method [deprecated]
Deprecated.

Syntax

```
public void storeDataStream (
    String key,
    InputStream inputStream
) throws SDMPersistenceException
```

Remarks
Deprecated

storeObject(String, ISDMPersistable) method [deprecated]
Deprecated.

Syntax

```
public void storeObject (
    String key,
    ISDMPersistable object
) throws SDMPersistenceException
```

Remarks
Deprecated

storeRawData(String, byte[]) method [deprecated]
Deprecated.

Syntax

```
public void storeRawData (
    String key,
    byte[] data
) throws SDMPersistenceException
```

Remarks
Deprecated

storeSDMCache(ISDMCache) method [deprecated]
Deprecated.

Syntax

```
public void storeSDMCache (ISDMCache cache) throws
SDMPersistenceException
```

Remarks
Deprecated

storeSDMCache(String, ISDMCache) method [deprecated]
Deprecated.

Syntax

```
public void storeSDMCache (
    String key,
    ISDMCache cache
) throws SDMPersistenceException
```

Remarks
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
```

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
```

sdmuicomponents package

BooleanPreference class

Package

```
com.sap.mobile.lib.sdmuicomponents
```

Syntax

```
public class BooleanPreference
```

Members

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

Modifier and Type	Variable	Description
protected Context	mContext	
protected View	mView	
protected Boolean	defaultValue	
protected ISDMPreferences	pref	
protected final Handler	mHandler	
protected String	key	

Constructors

Modifier and Type	Constructor	Description
public	*BooleanPreference(Context)* on page 707	
public	*BooleanPreference(Context, AttributeSet)* on page 707	

Modifier and Type	Constructor	Description
public	*BooleanPreference(Context, AttributeSet, int)* on page 707	

Methods

Modifier and Type	Method	Description
public void	*onClick(View)* on page 707	
protected View	*onCreateView(ViewGroup)* on page 708	
public boolean	*onLongClick(View)* on page 708	

BooleanPreference(Context) constructor

Syntax

```
public BooleanPreference (Context context)
```

BooleanPreference(Context, AttributeSet) constructor

Syntax

```
public BooleanPreference (
    Context context,
    AttributeSet attrs
)
```

BooleanPreference(Context, AttributeSet, int) constructor

Syntax

```
public BooleanPreference (
    Context context,
    AttributeSet attrs,
    int defStyle
)
```

onClick(View) method

Syntax

```
public void onClick (View arg0)
```

onCreateView(ViewGroup) method

Syntax

```
protected View onCreateView (ViewGroup parent)
```

onLongClick(View) method

Syntax

```
public boolean onLongClick (View arg0)
```

defaultValue variable

Syntax

```
protected Boolean defaultValue
```

key variable

Syntax

```
protected String key
```

mContext variable

Syntax

```
protected Context mContext
```

mHandler variable

Syntax

```
protected final Handler mHandler
```

mView variable

Syntax

```
protected View mView
```

pref variable

Syntax

```
protected ISDMPreferences pref
```

FloatPreference class

Package

```
com.sap.mobile.lib.sdmuicomponents
```

Syntax

```
public class FloatPreference
```

Members

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

Modifier and Type	Variable	Description
protected Context	mContext	
protected EditText	et	
protected ViewGroup	layout	
protected SharedPreferences	sh	
protected float	defaultValue	

Constructors

Modifier and Type	Constructor	Description
public	*FloatPreference(Context, AttributeSet)* on page 709	

Methods

Modifier and Type	Method	Description
protected View	*onCreateDialogView()* on page 710	
protected void	*onDialogClosed(boolean)* on page 710	

FloatPreference(Context, AttributeSet) constructor

Syntax

```
public FloatPreference (
    Context context,
    AttributeSet attrs
)
```

onCreateDialogView() method

Syntax

```
protected View onCreateDialogView ()
```

onDialogClosed(boolean) method

Syntax

```
protected void onDialogClosed (boolean positiveResult)
```

defaultValue variable

Syntax

```
protected float defaultValue
```

et variable

Syntax

```
protected EditText et
```

layout variable

Syntax

```
protected ViewGroup layout
```

mContext variable

Syntax

```
protected Context mContext
```

sh variable

Syntax

```
protected SharedPreferences sh
```

IntegerPreference class

Package

```
com.sap.mobile.lib.sdmuicomponents
```

Syntax

```
public class IntegerPreference
```

Members

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

Modifier and Type	Variable	Description
protected Context	mContext	
protected EditText	et	
protected ViewGroup	layout	
protected SharedPreferences	sh	
protected int	defaultValue	

Constructors

Modifier and Type	Constructor	Description
public	*IntegerPreference(Context, AttributeSet)* on page 711	

Methods

Modifier and Type	Method	Description
protected View	*onCreateDialogView()* on page 711	
protected void	*onDialogClosed(boolean)* on page 712	

IntegerPreference(Context, AttributeSet) constructor

Syntax

```
public IntegerPreference (
    Context context,
    AttributeSet attrs
)
```

onCreateDialogView() method

Syntax

```
protected View onCreateDialogView ()
```

onDialogClosed(boolean) method

Syntax

```
protected void onDialogClosed (boolean positiveResult)
```

defaultValue variable

Syntax

```
protected int defaultValue
```

et variable

Syntax

```
protected EditText et
```

layout variable

Syntax

```
protected ViewGroup layout
```

mContext variable

Syntax

```
protected Context mContext
```

sh variable

Syntax

```
protected SharedPreferences sh
```

LongPreference class

Package

```
com.sap.mobile.lib.sdmuicomponents
```

Syntax

```
public class LongPreference
```

Members

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

Modifier and Type	Variable	Description
protected Context	mContext	
protected EditText	et	
protected ViewGroup	layout	
protected SharedPreferences	sh	
protected Long	defaultValue	

Constructors

Modifier and Type	Constructor	Description
public	*LongPreference(Context, AttributeSet)* on page 713	

Methods

Modifier and Type	Method	Description
protected View	*onCreateDialogView()* on page 713	
protected void	*onDialogClosed(boolean)* on page 713	

LongPreference(Context, AttributeSet) constructor

Syntax

```
public LongPreference (
    Context context,
    AttributeSet attrs
)
```

onCreateDialogView() method

Syntax

```
protected View onCreateDialogView ()
```

onDialogClosed(boolean) method

Syntax

```
protected void onDialogClosed (boolean positiveResult)
```

defaultValue variable

Syntax

```
protected Long defaultValue
```

et variable

Syntax

```
protected EditText et
```

layout variable

Syntax

```
protected ViewGroup layout
```

mContext variable

Syntax

```
protected Context mContext
```

sh variable

Syntax

```
protected SharedPreferences sh
```

StringPreference class

Package

```
com.sap.mobile.lib.sdmuicomponents
```

Syntax

```
public class StringPreference
```

Members

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

Modifier and Type	Variable	Description
protected Context	mContext	
protected EditText	et	
protected ViewGroup	layout	

Modifier and Type	Variable	Description
protected SharedPreferences	sh	
protected String	defaultValue	

Constructors

Modifier and Type	Constructor	Description
public	*StringPreference(Context, AttributeSet)* on page 715	

Methods

Modifier and Type	Method	Description
protected View	*onCreateDialogView()* on page 715	
protected void	*onDialogClosed(boolean)* on page 715	

StringPreference(Context, AttributeSet) constructor

Syntax

```
public StringPreference (
    Context context,
    AttributeSet attrs
)
```

onCreateDialogView() method

Syntax

```
protected View onCreateDialogView ()
```

onDialogClosed(boolean) method

Syntax

```
protected void onDialogClosed (boolean positiveResult)
```

defaultValue variable

Syntax

```
protected String defaultValue
```

et variable

Syntax

```
protected EditText et
```

layout variable

Syntax

```
protected ViewGroup layout
```

mContext variable

Syntax

```
protected Context mContext
```

sh variable

Syntax

```
protected SharedPreferences sh
```

supportability package

Logger class
ILogger implementation.

Package

```
com.sap.mobile.lib.supportability
```

Syntax

```
public class Logger implements ILogger, IPersistable
```

Implemented interfaces

- *ILogger* on page 739
- *IPersistable* on page 592

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

Modifier and Type	Class	Description
publicclass	*LogEntry* on page 720	A log entry.

Variables

Modifier and Type	Variable	Description
public static int	passportTraceLevel	
public static int	e2eStep	

Constructors

Modifier and Type	Constructor	Description
public	*Logger()* on page 724	Constructs a new Logger, an ILogger implementation.

Methods

Modifier and Type	Method	Description
public boolean	*canLog()* on page 724	Implementer should override this method!
public void	*cleanUp(final int)* on page 724	Deletes all entries weaker than the threshold priority.
public void	*d(final String, final String)* on page 724	Sends a DEBUG log message.
public void	*d(final String, final String, final Throwable)* on page 725	Sends a DEBUG log message and logs the exception.
public void	*d(final String, final String, final String)* on page 725	Sends a DEBUG log message.
public void	*d(final String, final String, final Throwable, final String)* on page 725	Sends a DEBUG log message and logs the exception.
public void	*e(final String, final String)* on page 726	Sends an ERROR log message.
public void	*e(final String, final String, final Throwable)* on page 726	Sends an ERROR log message and logs the exception.
public void	*e(final String, final String, final String)* on page 727	Sends an ERROR log message.
public void	*e(final String, final String, final Throwable, final String)* on page 727	Sends an ERROR log message and logs the exception.

Modifier and Type	Method	Description
public Enumeration< LogEntry >	*getLogElements()* on page 727	
public Vector< LogEntry >	*getLogElements(final int)* on page 728	Get the log elements above (and including) the threshold.
public Vector< LogEntry >	*getLogElementsByCorrelationId(final String)* on page 728	
public Vector< LogEntry >	*getLogElementsByPID(final long)* on page 728	
public Vector< LogEntry >	*getLogElementsByTag(final String)* on page 728	
public Vector< LogEntry >	*getLogElementsByTimeStamp(final long, final long)* on page 728	
public final int	*getLogLevel()* on page 728	Returns the log level.
public void	*i(final String, final String)* on page 729	Sends an INFO log message.
public void	*i(final String, final String, final Throwable)* on page 729	Sends a INFO log message and logs the exception.
public void	*i(final String, final String, final String)* on page 730	Sends an INFO log message.
public void	*i(final String, final String, final Throwable, final String)* on page 730	Sends a INFO log message and logs the exception.
public void	*log(final int, final String, final String, final Throwable, String)* on page 730	Logs a log message.
public void	*logFullLocation(boolean)* on page 731	Setting to control log full location (class-path and method name).
public boolean	*logsFullLocation()* on page 731	To get the setting which controls log output should contain full location (class and method name) or not.

Modifier and Type	Method	Description
public boolean	*logsToAndroid()* on page 731	To get the setting which controls log output to Android log.
public void	*logToAndroid(final boolean)* on page 732	Setting to control log output to Android log.
public void	*p(final String, final String)* on page 732	Sends a PERFORMANCE log message.
public void	*p(final String, final String, final String)* on page 732	Sends a PERFORMANCE log message.
public void	*read(BufferedReader)* on page 733	
public void	*setHeaderData(final String, final String, final String, final String, final String, final String, final String, final String, final String)* on page 733	Sets the log header fields.
public void	*setLogLevel(final int)* on page 734	Set the log level.
public void	*terminate()* on page 734	Clears collected log data.
public synchronized String	*toString()* on page 734	Get log data.
public void	*v(final String, final String)* on page 734	Sends a VERBOSE log message.
public void	*v(final String, final String, final Throwable)* on page 735	Sends a VERBOSE log message and logs the exception.
public void	*v(final String, final String, final String)* on page 735	Sends a VERBOSE log message.
public void	*v(final String, final String, final Throwable, final String)* on page 736	Sends a VERBOSE log message and logs the exception.
public void	*w(final String, final Throwable)* on page 736	Sends a WARN log message and logs the exception.
public void	*w(final String, final String, final Throwable)* on page 736	Sends a WARN log message and logs the exception.

Modifier and Type	Method	Description
public void	*w(final String, final String)* on page 737	Sends a WARN log message.
public void	*w(final String, final Throwable, final String)* on page 737	Sends a WARN log message and logs the exception.
public void	*w(final String, final String, final String)* on page 738	Sends a WARN log message.
public void	*w(final String, final String, final Throwable, final String)* on page 738	Sends a WARN log message and logs the exception.
public void	*write(BufferedWriter)* on page 739	

Logger.LogEntry class
A log entry.

Package
```
com.sap.mobile.lib.supportability.Logger
```

Syntax
```
public class LogEntry
```

Members
All members of LogEntry, including inherited members. **Variables**

Modifier and Type	Variable	Description
public long	when	
public int	priority	
public String	tag	
public String	message	
public String	caller	
public Throwable	ex	
public int	PID	

Constructors

Modifier and Type	Constructor	Description
public	*LogEntry()* on page 721	
public	*LogEntry(final int, final String, final String, final Throwable, final String, final int)* on page 721	

Methods

Modifier and Type	Method	Description
public LogEntry	*setCaller(String)* on page 722	
public LogEntry	*setMessage(final String)* on page 722	
public LogEntry	*setPID(int)* on page 722	
public LogEntry	*setPriority(int)* on page 722	
public LogEntry	*setPriority(String)* on page 722	
public LogEntry	*setTag(final String)* on page 722	
public LogEntry	*setThrowable(Throwable)* on page 722	
public LogEntry	*setWhen(long)* on page 722	
public String	*toString()* on page 723	

LogEntry() constructor

Syntax

```
public LogEntry ()
```

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
)
```

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.

Remarks
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

Remarks
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.

Remarks
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

Remarks
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.

Remarks
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

Remarks
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.

Remarks
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)

Remarks
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.

Remarks
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

Remarks
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

Remarks
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

Remarks
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.

Remarks
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

e2eStep variable

Syntax

```
public static int e2eStep
```

passportTraceLevel variable

Syntax

```
public static int passportTraceLevel
```

ILogger interface
Consists of APIs and constants used by logging framework.

Package

```
com.sap.mobile.lib.supportability
```

Syntax

```
public interface ILogger
```

Derived classes

- *Logger* on page 716

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

Modifier and Type	Variable	Description
public static final int	PERFORMANCE	Log level PERFORMANCE.
public static final int	VERBOSE	Log level VERBOSE.

Modifier and Type	Variable	Description
public static final int	DEBUG	Log level DEBUG.
public static final int	INFO	Log level INFO.
public static final int	WARN	Log level WARN.
public static final int	ERROR	Log level ERROR.
public static final int	ASSERT	Log level ASSERT.
public static final int	FATAL	Log level FATAL.

Methods

Modifier and Type	Method	Description
public boolean	*canLog()* on page 742	Implementer should override this method!
public void	*d(final String, final String)* on page 742	Sends a DEBUG log message.
public void	*d(final String, final String, final String)* on page 743	Sends a DEBUG log message.
public void	*d(final String, final String, final Throwable)* on page 743	Sends a DEBUG log message and logs the exception.
public void	*d(final String, final String, final Throwable, final String)* on page 744	Sends a DEBUG log message and logs the exception.
public void	*e(final String, final String)* on page 744	Sends an ERROR log message.
public void	*e(final String, final String, final String)* on page 744	Sends an ERROR log message.
public void	*e(final String, final String, final Throwable)* on page 745	Sends an ERROR log message and logs the exception.
public void	*e(final String, final String, final Throwable, final String)* on page 745	Sends an ERROR log message and logs the exception.
public int	*getLogLevel()* on page 746	Returns the log level.
public void	*i(final String, final String)* on page 746	Sends an INFO log message.

Modifier and Type	Method	Description
public void	*i(final String, final String, final String)* on page 746	Sends an INFO log message.
public void	*i(final String, final String, final Throwable)* on page 747	Sends a INFO log message and logs the exception.
public void	*i(final String, final String, final Throwable, final String)* on page 747	Sends a INFO log message and logs the exception.
public void	*logFullLocation(boolean)* on page 748	Setting to control log full location (class-path and method name).
public boolean	*logsFullLocation()* on page 748	To get the setting which controls log output should contain full location (class and method name) or not.
public void	*p(final String, final String)* on page 748	Sends a PERFORMANCE log message.
public void	*p(final String, final String, final String)* on page 749	Sends a PERFORMANCE log message.
public void	*setHeaderData(final String, final String, final String, final String, final String, final String, final String, final String, final String)* on page 749	Sets the log header fields.
public void	*setLogLevel(final int)* on page 750	Set the log level.
public void	*v(final String, final String)* on page 750	Sends a VERBOSE log message.
public void	*v(final String, final String, final String)* on page 750	Sends a VERBOSE log message.
public void	*v(final String, final String, final Throwable)* on page 751	Sends a VERBOSE log message and logs the exception.
public void	*v(final String, final String, final Throwable, final String)* on page 751	Sends a VERBOSE log message and logs the exception.

Modifier and Type	Method	Description
public void	*w(final String, final Throwable)* on page 752	Sends a WARN log message and logs the exception.
public void	*w(final String, final Throwable, final String)* on page 752	Sends a WARN log message and logs the exception.
public void	*w(final String, final String, final Throwable)* on page 752	Sends a WARN log message and logs the exception.
public void	*w(final String, final String, final Throwable, final String)* on page 753	Sends a WARN log message and logs the exception.
public void	*w(final String, final String)* on page 753	Sends a WARN log message.
public void	*w(final String, final String, final String)* on page 754	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.

Remarks
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

Remarks
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.

Remarks
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

Remarks
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.

Remarks
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

Remarks
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.

Remarks
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, 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)

Remarks
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.

Remarks
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

Remarks
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

Remarks
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

Remarks
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.

Remarks
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
```

smp package

rest package

AppSettings class
Consists of the methods used to retrieve/update Application settings from the SAP Mobile Platform.

Package
```
com.sap.smp.rest
```

Syntax

```
public class AppSettings implements ISDMNetListener,
INetListener
```

Implemented interfaces

- *ISDMNetListener* on page 837
- *INetListener* on page 661

Members

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

Modifier and Type	Constructor	Description
public	*AppSettings(ClientConnection)* on page 757	Initialize the AppSettings.

Methods

Modifier and Type	Method	Description
public String	*getApplicationEndPoint()* on page 757	Return the application end-point value.
public Object	*getConfigProperty(String)* on page 757	Return the value of the property for the provided key.
public HashMap< String, String >	*getConfigPropertyMap()* on page 758	Return a hash map of key and value pairs of properties.
public byte[]	*getCustomizationResourceBundle(String)* on page 758	Retrieve the customization resource bundle for the given resource name.
public com.sybase.persistence.DataVault.DVPasswordPolicy	*getPasswordPolicy()* on page 759	Return the DVPasswordPolicy (as defined in com.sybase.persistence.DataVault) which stores the information of the Password Policy.
public String	*getPushEndPoint()* on page 759	Return the Push end-point value.
public void	*setConfigProperty(HashMap< String, String >)* on page 759	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 SMPException
```

Parameters

- **key –** Name of the property.

Exceptions

- **SMPException class –**

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

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

getConfigPropertyMap() method

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

Syntax

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

Exceptions

- **SMPException class –**

```
try {
   AppSettings appSettings = new AppSettings(clientConnection);
   HashMap<String, String> property =
appSettings.getConfigPropertyMap();
} catch (SMPException 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 –**

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

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

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();
}
```

ClientConnection class

Consists of methods to establish connection with SAP Mobile Platform.

Package

```
com.sap.smp.rest
```

Syntax

```
public class ClientConnection implements ISDMNetListener,
INetListener
```

Implemented interfaces

- *ISDMNetListener* on page 837
- *INetListener* on page 661

Members

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

Modifier and Type	Constructor	Description
public	*ClientConnection(Context, String, String, String, RequestManager)* on page 762	Initialize the client connection with application context, application name, domain,security configuration and request manager.
public	*ClientConnection(Context, String, String, String, SDMRequestManager)* on page 763	Initialize the client connection with application context, application name, domain,security configuration and request manager.

Methods

Modifier and Type	Method	Description
public String	*getApplicationID()* on page 764	Return Application ID.
public RequestManager	*getDefaultRequestManager()* on page 764	
public String	*getDomain()* on page 764	Return Domain.
public SDMRequestManager	*getRequestManager()* on page 764	Return Request Manager object.
public String	*getSecurityConfig()* on page 764	Return Security Configuration.
public String	*getServerHost()* on page 765	Return Server host.
public void	*onError(IRequest, IResponse, IRequestStateElement)* on page 765	Request library uses this method in case of error/failure scenario during a request operation.
public void	*onSuccess(IRequest, IResponse)* on page 765	Request library uses this method in case of successful request.
public void	*setApplicationConnectionID(String)* on page 766	Set the application connection ID.
public void	*setConnectionProfile(String)* on page 766	Set the URL of the server.
public void	*setConnectionProfile(boolean, String, String, String, String)* on page 767	Set the value of host and port for the connection.
public void	*setDefaultRequestManager(RequestManager)* on page 767	
public void	*setTraceLevel(int)* on page 767	Set the end to end trace level.
public void	*startTrace()* on page 768	Start the end to end tracing.
public void	*stopTrace()* on page 768	Stop the end to end tracing.
public void	*uploadTrace()* on page 768	Upload the BTX file to solution manager for end to end tracing.

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.

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

```
                              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="">);
```

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.

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

```
                              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>="">);
```

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

Remarks

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.

public class Activity implements INetListener { ... public void onError(IRequest arg0, IResponse arg1, IRequestStateElement arg2) {

arg1.getStatusLine().toString()

arg2.getErrorCode()); } ...}

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

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

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 }...}

setApplicationConnectionID(String) method
Set the application connection ID.

Syntax

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

Parameters

- **appConID –** Application connection ID.

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

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

setConnectionProfile(String) method
Set the URL of the server.

Syntax

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

Parameters

- **url –** URL of the server.

```
clientConnection.setConnectionProfile("http://
&lt;Host&gt;:&lt;port&gt;&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();
```

PropertyID class
Consists of Core services constants.

Package

```
com.sap.smp.rest
```

Syntax

```
public class PropertyID
```

Members
All members of PropertyID, including inherited members. **Variables**

Modifier and Type	Variable	Description
public static final int	TrcLvl_HIGH	Constant to indicate High Trace level for End to End Tracing.
public static final int	TrcLvl_MEDIUM	Constant to indicate Medium Trace level for End to End Tracing.
public static final int	TrcLvl_LOW	Constant to indicate Low Trace level for End to End Tracing.
public static final int	TrcLvl_NONE	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
```

SMPException class

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

Package

```
com.sap.smp.rest
```

Syntax

```
public class SMPException
```

Members

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

Modifier and Type	Variable	Description
public static final int	ANY_INPUT_FIELD_NULL	Any of the input fields passed is null.
public static final int	APPLICATION_USER_ALREADY_REGISTERED	Attempt to register an application user which is already registered.
public static final int	APPLICATION_USER_NOT_REGISTERED	Attempt to delete the user which has not been registered.
public static final int	REGISTRATION_FAILED_UNKNOWN_ERROR	User registration timed out.
public static final int	REGISTRATION_LISTENER_NULL	Asynchronous user registration listener not registered with UserManager.
public static final int	SUP_INTERNAL_PARSING_ERROR	SUP Internal Parsing Error.
public static final int	EMPTY_RESPONSE_FROM_SERVER	Empty response string received from server.
public static final int	SINGLETON_INITIALIZATION_FAILED	singleton Initialization failed
public static final int	UPDATE_SETTINGS_CONTAINS_READONLY_FIELDS	Update Settings consists of one or more read only fields.
public static final int	APPLICATION_ID_NULL	Application is not initialized.

Modifier and Type	Variable	Description
public static final int	JSON_PARSING_FAILED	Internal error, JSON parsing has failed.
public static final int	INVALID_MODULE_ID	Invalid module handle ID.
public static final int	CAPTCHA_LISTEN-ER_NULL	Captcha listener is null.
public static final int	CLASS_INITIALIZA-TION_FAILED	Class initialization failed.
public static final int	E2E_NOT_STARTED	E2E Not started.
public static final int	BTX_UPLOAD_ERROR	E2E BTX upload error.
public static final int	HTTP_ERROR	HTTP error.
public static final int	PARSE_ERROR	Parse error.
public static final int	NETWORK_ERROR	Network error: Obtained when the URL is unreachable. Check AndroidManifest.xml if it has proper permissions.
public static final int	AUTHENTICATION_ERROR	Error while authenticating user.

Constructors

Modifier and Type	Constructor	Description
public	*SMPException(int)* on page 772	Constructs a SMPException with specified error code.
public	*SMPException(int, String)* on page 772	Constructs a SMPException with specified error code and error message.
public	*SMPException(String)* on page 772	Constructs a SMPException with specified error message.

Methods

Modifier and Type	Method	Description
public int	*getErrorCode()* on page 772	Returns the error code of this SMPException.

Modifier and Type	Method	Description
public String	*toString()* on page 773	Returns the complete error description of this SMPException.

SMPException(int) constructor
Constructs a SMPException with specified error code.

Syntax

```
public SMPException (int errorCode)
```

Parameters

- **errorCode –**

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

SMPException(String) constructor
Constructs a SMPException with specified error message.

Syntax

```
public SMPException (String message)
```

Parameters

- **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
```

Remarks
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
Consists of the methods to Register the user with the SAP Mobile Platform.

Package

```
com.sap.smp.rest
```

Syntax

```
public class UserManager implements ISDMNetListener,
INetListener
```

Implemented interfaces

- *ISDMNetListener* on page 837
- *INetListener* on page 661

Members
All members of UserManager, including inherited members. **Constructors**

Modifier and Type	Constructor	Description
public	*UserManager(ClientConnection)* on page 777	Initialize the UserManager.

Methods

Modifier and Type	Method	Description
public void	*deleteUser()* on page 777	Delete the current user from the SMP server.
public String	*getApplicationConnectionId()* on page 778	Return the application connection ID obtained from the server after successful registration.

Modifier and Type	Method	Description
public boolean	*isUserRegistered()* on page 778	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	*registerUser(boolean)* on page 778	Register the user with SAP Mobile Server.
public boolean	*registerUser(String, boolean)* on page 779	Register the user with the SAP Mobile Server.
public void	*setCaptchaChallengeListener(ISMPCaptchaChallengeListener)* on page 780	Set the CAPTCHA challenge listener in case of CAPTCHA enabled by the SAP Mobile Server.
public void	*setUserRegistrationListener(ISMPUserRegistrationListener)* on page 780	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 ()
```

Remarks
DeprecatedThis 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
SMPException
```

Parameters

- **isSynchronous –** Specifies whether it is synchronous or asynchronous registration.

Exceptions

- **SMPException class –**

Remarks
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.

```
Try{
UserManager userManager = new UserManager(clientConnection);
userManager.registerUser(true);                //for synchronous
registration
}
```

```
Catch(SMPException e){
}



Try{
UserManager userManager = new UserManager(clientConnection);
userManager.setUserRegistrationListener(this);
userManager.registerUser(false);        //for Asynchronous
registration
}
Catch(SMPException 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());
          }
}
```

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 –**

Remarks

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.

```
Try{
UserManager userManager = new UserManager(clientConnection);
UserManager.registerUser(<captcha text>,true);
}
Catch(SMPException e){
}
```

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.

Remarks

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.

```
UserManager userManager = new UserManager(clientConnection);
userManager.setCaptchaChallengeListener(<ISMPCaptchaChallengeListen
er Object>);
```

setUserRegistrationListener(ISMPUserRegistrationListener) method

Set the registration listener for asynchronous registration.

Syntax

```
public void setUserRegistrationListener
(ISMPUserRegistrationListener registrationListener)
```

Parameters

- **registrationListener –** SMP user registration listener.

Remarks

User has to implement the ISMPUserRegistrationListener and set it using the above listener to get the registration callback.

```
UserManager userManager = new UserManager(clientConnection);
userManager.setUserRegistrationListener(<ISMPUserRegistrationListen
er Object>);
```

SMPClientListeners interface

Consists of Interfaces used for Asynchronous user registrations with SAP Mobile Platform.

Package

```
com.sap.smp.rest
```

Syntax

```
public interface SMPClientListeners
```

Members

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

Modifier and Type	Interface	Description
publicinterface	*ISMPCaptchaChallengeListener* on page 781	Interface to get the Captcha Challenge.
publicinterface	*ISMPUserRegistrationListener* on page 782	Interface to get the result of Asynchronous Registration call.

SMPClientListeners.ISMPCaptchaChallengeListener interface

Interface to get the Captcha Challenge.

Package

```
com.sap.smp.rest.SMPClientListeners
```

Syntax

```
public interface ISMPCaptchaChallengeListener
```

Members

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

Modifier and Type	Method	Description
public String	*validateCaptcha(String)* on page 782	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>;
}
```

SMPClientListeners.ISMPUserRegistrationListener interface
Interface to get the result of Asynchronous Registration call.

Package
```
com.sap.smp.rest.SMPClientListeners
```

Syntax
```
public interface ISMPUserRegistrationListener
```

Members
All members of ISMPUserRegistrationListener, including inherited members. **Methods**

Modifier and Type	Method	Description
public void	*onAsyncRegistrationResult(State, ClientConnection, int, String)* on page 783	Call back method upon Asynchronous Registration call.

SMPClientListeners.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	SUCCESS	
public	FAILURE	

```
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
)
```

Parameters

- **registrationState –** represents the status of the Asynchronous Registration call.
- **clientConnection –** ClientConnection object to uniquely identify the Asynchronous Registration call.
- **errorCode –** Error Code in case of registrationState being 'FAILURE'.
- **errorMsg –** Error Message in case of registrationState being 'FAILURE'.

```
                  Try{
                  UserManager userManager = new
UserManager(clientConnection);
                  userManager.setUserRegistrationListener(this);
                  userManager.registerUser(false);     //for
Asynchronous registration
                  }
                  Catch(SMPException 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());
          }
       }
```

Deprecated API List

Starting with SAP Mobile Platform 3.0, the following protocols, classes, and methods are officially deprecated. SAP recommends you update the APIs to the newly refactored APIs listed in the section SAP Mobile Platform SDK > Developer > Migration > Migrating Native OData Applications. The deprecated SDM APIs are supported for backward compatibility in SAP Mobile Platform 3.0.

Deprecated Interfaces

- *ClientCertListener* on page 803
- *TrustManagerListener* on page 804
- *ISDMBundleRequest* on page 805
- *ISDMCacheLoadListener* on page 807
- *ISDMConnectionHandler* on page 809
- *ISDMConnectivitiyParameters* on page 812
- *ISDMLocalSchema* on page 817
- *ISDMLogger* on page 817
- *ISDMNetListener* on page 837
- *ISDMODataAssociation* on page 838
- *ISDMODataAssociationEnd* on page 846
- *ISDMODataAssociationSet* on page 849
- *ISDMODataCollection* on page 855
- *ISDMODataComplexType* on page 868
- *ISDMODataEntitySet* on page 875
- *ISDMODataEntityType* on page 883
- *ISDMODataEntry* on page 895

- *ISDMODataError* on page 919
- *ISDMODataFunctionImport* on page 926
- *ISDMODataIcon* on page 937
- *ISDMODataLink* on page 944
- *ISDMODataNavigationProperty* on page 956
- *ISDMODataOpenSearchDescription* on page 964
- *ISDMODataParameter* on page 971
- *ISDMODataProperty* on page 978
- *ISDMODataSchema* on page 997
- *ISDMODataServiceDocument* on page 1011
- *ISDMODataSubscriptionEntry* on page 1021
- *ISDMODataURL* on page 1035
- *ISDMODataWorkspace* on page 1043
- *ISDMParser* on page 1050
- *ISDMParserDocument* on page 1063
- *ISDMPersistable* on page 1084
- *ISDMPersistence* on page 1085
- *ISDMPreferenceChangeListener* on page 1094
- *ISDMPreferences* on page 1094
- *ISDMRequest* on page 1108
- *ISDMRequestManager* on page 1117
- *ISDMRequestStateElement* on page 1121
- *ISDMResponse* on page 1125
- *SDMConstants* on page 1160
- *IAuthenticationChallengeListner* on page 1169
- *ICredential* on page 1170
- *IMutualSSLChallengeListener* on page 1170
- *ISSLChallengeListener* on page 1171

Deprecated Classes

- *AbstractConnectionHandler* on page 787
- *ConnectionFactory* on page 794
- *CookieJar* on page 797
- *HttpsTrustManager* on page 799
- *HttpsClientCertInfo* on page 803
- *RouteManager* on page 1127
- *SAPSSLSocketFactory* on page 1128
- *SDMBaseRequest* on page 1129
- *SDMBundleRequest* on page 1139

- *SDMCache* on page 1141
- *SDMConnectivityException* on page 1154
- *SDMConnectivityParameters* on page 1155
- *SDMHttpChannelListeners* on page 1165
- *Authenticationschema* on page 1165
- *BasicCredetials* on page 1167
- *CookieCredetials* on page 1168
- *SDMLogger* on page 1171
- *SDMODataAssociation* on page 1195
- *SDMODataAssociationEnd* on page 1210
- *SDMODataAssociationSet* on page 1221
- *SDMODataCollection* on page 1241
- *SDMODataComplexType* on page 1263
- *SDMODataEntitySet* on page 1277
- *SDMODataEntityType* on page 1293
- *SDMODataEntry* on page 1313
- *SDMODataError* on page 1349
- *SDMODataFunctionImport* on page 1364
- *SDMODataIcon* on page 1383
- *SDMODataLink* on page 1399
- *SDMODataNavigationProperty* on page 1419
- *SDMODataOpenSearchDescription* on page 1435
- *SDMODataParameter* on page 1451
- *SDMODataProperty* on page 1466
- *SDMODataReturnTypeEntry* on page 1490
- *SDMODataReturnSchema* on page 1519
- *SDMODataReturnEntityType* on page 1536
- *SDMODataSchema* on page 1552
- *SDMODataServiceDocument* on page 1572
- *SDMODataSubscriptionEntry* on page 1591
- *SDMODataURL* on page 1625
- *SDMODataWorkspace* on page 1642
- *SDMParser* on page 1658
- *SDMParserDocument* on page 1672
- *SDMParserException* on page 1701
- *SDMParserHandler* on page 1703
- *SDMPersistenceException* on page 1706
- *SDMPreferences* on page 1708
- *SDMPreferencesException* on page 1723

- *SDMPushRequest* on page 1725
- *SDMRequestManager* on page 1733
- *AuthenticationChallengeListener* on page 1741
- *MutualSSLChallengeListener* on page 1742
- *SSLChallengeListener* on page 1742
- *SuccessThread* on page 1743
- *SDMRequestStateElement* on page 1744
- *SDMResponseImpl* on page 1750
- *SDMSemantics* on page 1752
- *SUPRoute* on page 1775
- *TrustSAPSSLSocketFactory* on page 1776

AbstractConnectionHandler class

Deprecated. since 3.0, Use com.sap.mobile.lib.request.AbstractConnectionHandler

Package

```
com.sap.mobile.lib.sdmconnectivity
```

Syntax

```
public abstract class AbstractConnectionHandler implements
ISDMConnectionHandler
```

Implemented interfaces

- *ISDMConnectionHandler* on page 809

Members

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

Modifier and Type	Variable	Description
protected static final int	MAX_TIMEOUT_COUNT	
protected static final String	TAG	
protected ISDMRequest	mRequest	
protected boolean	mCleanupRequestsOnError	
protected boolean	mError	
protected boolean	mUpdateListener	
protected ISDMConnectivitiy-Parameters	params	
protected ISDMLogger	mLogger	

Modifier and Type	Variable	Description
protected ISDMPreferences	mPreferences	
protected int	codeArray	
protected boolean	mStop	
protected ISDMRequestManager	mRequestManager	
protected TrustManager[]	mTrustManagers	

Constructors

Modifier and Type	Constructor	Description
public	*AbstractConnectionHandler(final ISDMRequestManager, final ISDMLogger, final ISDMPreferences)* on page 789	The default constructor.

Methods

Modifier and Type	Method	Description
protected String	*addBackendLanguageToUrl(String)* on page 790	Adds backend language URL parameter to the parameter.
protected String	*getBasicAuthHeader()* on page 790	Calculates the http basic authentication header value.
protected String	*getHost(String)* on page 790	Extracts the host part from URL string.
protected static String	*getIMEI()* on page 791	
public static String	*getRequestTypeById(int)* on page 791	
public boolean	*isSuccessful()* on page 791	Do we have error?
public abstract int	*makeHttpRequest()* on page 791	Make the request.
public void	*processRequestsFromQueue()* on page 791	Pick a request/bundle from the queue and process it/them.
protected String	*processUrl(String)* on page 791	

Modifier and Type	Method	Description
public void	*setCleanupRequestsOnError(boolean)* on page 792	Sets whether the thread should clean up the request queue in case of errors.
public void	*terminate()* on page 792	Close the thread.

Inherited members from ISDMConnectionHandler

Modifier and Type	Member	Description
public static final int	*AUTHENTICATION_ERROR* on page 811	
public static final int	*BAD_COVERAGE* on page 811	
public static final String	*CRLF* on page 811	
public static final int	*ERROR* on page 811	
public static final int	*FAILED_LOGIN* on page 811	
public static final int	*FAILED_LOGOUT* on page 811	
public static final int	*FAILURE* on page 812	
public static final int	*LOG* on page 812	
public static final int	*NO_ERROR* on page 812	
public static final int	*RETRY* on page 812	
public static final int	*SUCCESS* on page 812	
public static final int	*TIMEOUT* on page 812	

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 SDMRequestManager 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

Remarks
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 ()
```

Remarks
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 ISDMConnectivitiyParameters 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.

Package

```
com.sap.mobile.lib.sdmconnectivity
```

Syntax

```
public class ConnectionFactory implements
ISDMPreferenceChangeListener
```

Implemented interfaces

- *ISDMPreferenceChangeListener* on page 1094

Members

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

Modifier and Type	Constructor	Description
public	*ConnectionFactory(final ISDMLogger, final ISDMRequestManager, final ISDMPreferences)* on page 795	

Methods

Modifier and Type	Method	Description
public void	*clearHeaders()* on page 795	
public void	*close()* on page 795	
public static DefaultHttpClient	*getHttpClient(final String)* on page 795	
public HttpResponse	*makeRequest(final String, final byte[])* on page 795	Make the request.
public void	*onPreferenceChanged(String, Object)* on page 796	Callback method for preference change event.
public void	*setConnectionHeader(final String, final String)* on page 796	

Modifier and Type	Method	Description
public void	*setRequestMethod(final int)* on page 796	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

Package

```
com.sap.mobile.lib.sdmconnectivity
```

Syntax

```
public class CookieJar
```

Members

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

Modifier and Type	Variable	Description
protected static Map< String, Map >	cookieArray	
protected static Map< String, Cookie >	httpCookieList	

Constructors

Modifier and Type	Constructor	Description
public	*CookieJar()* on page 797	

Methods

Modifier and Type	Method	Description
public void	*addCookie(Cookie)* on page 798	
public void	*clear()* on page 798	
public boolean	*clearExpired(Date)* on page 798	
public List< Cookie >	*getCookies()* on page 798	
protected void	*setCookie(DefaultHttpClient, Object)* on page 798	

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
```

HttpsTrustManager class
Deprecated. since 3.0, Use com.sap.mobile.lib.request.HttpsTrustManager

Package

```
com.sap.mobile.lib.sdmconnectivity
```

Syntax

```
public class HttpsTrustManager
```

Members
All members of HttpsTrustManager, including inherited members. **Variables**

Modifier and Type	Variable	Description
protected static TrustManagerListener	s_oAppListener	
protected static ClientCertListener	c_oAppListener	
protected static final String	TAG	
public static HttpsClientCertInfo	s_oLastClientCertInfo	

Constructors

Modifier and Type	Constructor	Description
public	*HttpsTrustManager(TrustManager[])* on page 800	

Methods

Modifier and Type	Method	Description
public void	*checkClientTrusted(X509Certificate[], String)* on page 800	
public void	*checkServerTrusted(X509Certificate[], String)* on page 801	
public String	*chooseClientAlias(String[], Principal[], Socket)* on page 801	

Modifier and Type	Method	Description
public String	*chooseServerAlias(String, Principal[], Socket)* on page 801	
public X509Certificate[]	*getAcceptedIssuers()* on page 801	
public X509Certificate[]	*getCertificateChain(String)* on page 801	
public String[]	*getClientAliases(String, Principal[])* on page 801	
public PrivateKey	*getPrivateKey(String)* on page 802	
public String[]	*getServerAliases(String, Principal[])* on page 802	
public static synchronized void	*setClientCertificateListener(ClientCertListener)* on page 802	
public static synchronized void	*setTrustManagerListener(TrustManagerListener)* on page 802	

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 HttpsClientCertInfo 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

Package

```
com.sap.mobile.lib.sdmconnectivity.HttpsTrustManager
```

Syntax

```
public abstract interface ClientCertListener
```

Derived classes

- *MutualSSLChallengeListener* on page 1742

Members
All members of ClientCertListener, including inherited members. **Methods**

Modifier and Type	Method	Description
public abstract HttpsClientCertInfo	*getClientCertificate(String)* on page 803	

getClientCertificate(String) method

Syntax

```
public abstract HttpsClientCertInfo getClientCertificate
(String certAlias)
```

HttpsTrustManager.HttpsClientCertInfo class
Deprecated. since 3.0, Use
com.sap.mobile.lib.request.HttpsTrustManager.HttpsClientCertInfo

Package

```
com.sap.mobile.lib.sdmconnectivity.HttpsTrustManager
```

Syntax

```
public class HttpsClientCertInfo
```

Members

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

Modifier and Type	Variable	Description
protected X509Certificate	X509Certificate	
protected PrivateKey	PrivateKey	

Constructors

Modifier and Type	Constructor	Description
public	*HttpsClientCertInfo(java.security.cert.X509Certificate, PrivateKey)* on page 804	

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

Package

```
com.sap.mobile.lib.sdmconnectivity.HttpsTrustManager
```

Syntax

```
public abstract interface TrustManagerListener
```

Derived classes

- *SSLChallengeListener* on page 1742

Members

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

Modifier and Type	Method	Description
public abstract boolean	*checkServerTrusted(X509Certificate[])* on page 805	

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.

Package

```
com.sap.mobile.lib.sdmconnectivity
```

Syntax

```
public interface ISDMBundleRequest
```

Derived classes

- *SDMBundleRequest* on page 1139

Members

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

Modifier and Type	Method	Description
public void	*addRequest(ISDMRequest)* on page 806	Adds a request to the storage.
public void	*clearRequests()* on page 806	Cleans out the request storage.
public ISDMRequest[]	*getRequests()* on page 806	Returns all requests from the storage.

Modifier and Type	Method	Description
public void	*removeRequest(ISDMRequest)* on page 806	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

Remarks
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

ISDMCacheLoadListener interface

Deprecated. since 3.0 SDMCacheLoadListener should be responsible for reacting on notifications send after number of SDMOData entries loaded from the file system.

Package

```
com.sap.mobile.lib.sdmpersistence
```

Syntax

```
public interface ISDMCacheLoadListener
```

Members

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

Modifier and Type	Method	Description
public void	*onLoadFinished(ISDMCache)* on page 807	
public void	*onSDMODataEntriesLoaded(ISDMCache, List< ISDMODataEntry >)* on page 808	
public void	*onSDMODataSchemaLoaded(ISDMCache, ISDMODataSchema)* on page 808	
public void	*onSDMODataServiceDocumentLoaded(ISDMCache, ISDMODataServiceDocument)* on page 808	

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.

Package

```
com.sap.mobile.lib.sdmconnectivity
```

Syntax

```
public abstract interface ISDMConnectionHandler
```

Derived classes

- *AbstractConnectionHandler* on page 787

Members

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

Modifier and Type	Variable	Description
public static final int	NO_ERROR	
public static final int	ERROR	
public static final int	BAD_COVERAGE	
public static final int	SUCCESS	
public static final int	FAILURE	
public static final int	FAILED_LOGIN	
public static final int	FAILED_LOGOUT	
public static final int	RETRY	
public static final int	LOG	
public static final int	AUTHENTICATION_ERROR	
public static final int	TIMEOUT	
public static final String	CRLF	

Methods

Modifier and Type	Method	Description
public abstract boolean	*isSuccessful()* on page 810	Do we have error?

Modifier and Type	Method	Description
public abstract int	*makeHttpRequest()* on page 810	Make the request.
public abstract void	*processRequestsFromQueue()* on page 810	Pick a request/bundle from the queue and process it/them.
public abstract void	*setCleanupRequestsOnError(boolean)* on page 810	Sets whether the thread should clean up the request queue in case of errors.
public abstract void	*terminate()* on page 811	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 ()
```

Remarks
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
```

ISDMConnectivitiyParameters interface
Deprecated. since 3.0, Use com.sap.mobile.lib.request.IConnectivitiyParameters

Package

```
com.sap.mobile.lib.sdmconnectivity
```

Syntax

```
public interface ISDMConnectivitiyParameters
```

Derived classes

- *SDMConnectivityParameters* on page 1155

Members

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

Modifier and Type	Method	Description
public void	*enableXsrf(Boolean)* on page 813	Sets the XSRFEnabled flag.
public String	*getBaseUrl()* on page 814	
public String	*getLanguage()* on page 814	Returns the language setting.
public TrustManager[]	*getTrustManagers()* on page 814	Returns an array filled with TrustManager instances.
public String	*getUserName()* on page 814	Returns the username.
public String	*getUserPassword()* on page 815	Returns the password.
public boolean	*isAutoRedirectEnabled()* on page 815	Returns whether auto redirect is enabled.
public void	*setAutoRedirectEnabled(boolean)* on page 815	Enables or disables auto redirect.
public void	*setBaseUrl(String)* on page 815	Sets the base URL for requests.
public void	*setLanguage(String)* on page 815	Sets the language used in connection.
public void	*setServerCertificate(final Certificate[])* on page 816	Sets the server certificate.
public void	*setServerCertificate(final Certificate)* on page 816	Sets a single server certificate.
public void	*setUserName(String)* on page 816	Sets the username which must be used during authentication.
public void	*setUserPassword(String)* on page 816	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.

ISDMLocalSchema interface
Deprecated. since 3.0, Use ILocalSchema

Package

```
com.sap.mobile.lib.sdmparser
```

Syntax

```
public interface ISDMLocalSchema
```

Derived classes

- *SDMODataReturnSchema* on page 1519

ISDMLogger interface
Deprecated. since 3.0, Use com.sap.mobile.lib.supportability.ILogger

Package

```
com.sap.mobile.lib.supportability
```

Syntax

```
public interface ISDMLogger
```

Derived classes

- *SDMLogger* on page 1171

Members
All members of ISDMLogger, including inherited members. **Variables**

Modifier and Type	Variable	Description
public static final int	PERFORMANCE	Log level PERFORMANCE.
public static final int	VERBOSE	Log level VERBOSE.
public static final int	DEBUG	Log level DEBUG.
public static final int	INFO	Log level INFO.
public static final int	WARN	Log level WARN.
public static final int	ERROR	Log level ERROR.

Modifier and Type	Variable	Description
public static final int	ASSERT	Log level ASSERT.
public static final int	FATAL	Log level FATAL.

Methods

Modifier and Type	Method	Description
public boolean	*canLog()* on page 821	Implementer should override this method!
public void	*d(final String, final String)* on page 821	Sends a DEBUG log message.
public void	*d(final String, final String, final String)* on page 821	Sends a DEBUG log message.
public void	*d(final String, final String, final Throwable)* on page 822	Sends a DEBUG log message and logs the exception.
public void	*d(final String, final String, final Throwable, final String)* on page 822	Sends a DEBUG log message and logs the exception.
public void	*e(final String, final String)* on page 823	Sends an ERROR log message.
public void	*e(final String, final String, final String)* on page 823	Sends an ERROR log message.
public void	*e(final String, final String, final Throwable)* on page 823	Sends an ERROR log message and logs the exception.
public void	*e(final String, final String, final Throwable, final String)* on page 824	Sends an ERROR log message and logs the exception.
public int	*getLogLevel()* on page 824	Returns the log level.
public void	*i(final String, final String)* on page 825	Sends an INFO log message.
public void	*i(final String, final String, final String)* on page 825	Sends an INFO log message.
public void	*i(final String, final String, final Throwable)* on page 825	Sends a INFO log message and logs the exception.

Modifier and Type	Method	Description
public void	*i(final String, final String, final Throwable, final String)* on page 826	Sends a INFO log message and logs the exception.
public void	*logFullLocation(boolean)* on page 826	Setting to control log full location (class-path and method name).
public boolean	*logsFullLocation()* on page 827	To get the setting which controls log output should contain full location (class and method name) or not.
public void	*p(final String, final String)* on page 827	Sends a PERFORMANCE log message.
public void	*p(final String, final String, final String)* on page 827	Sends a PERFORMANCE log message.
public void	*setHeaderData(final String, final String, final String, final String, final String, final String, final String, final String, final String)* on page 828	Sets the log header fields.
public void	*setLogLevel(final int)* on page 828	Set the log level.
public void	*v(final String, final String)* on page 829	Sends a VERBOSE log message.
public void	*v(final String, final String, final String)* on page 829	Sends a VERBOSE log message.
public void	*v(final String, final String, final Throwable)* on page 829	Sends a VERBOSE log message and logs the exception.
public void	*v(final String, final String, final Throwable, final String)* on page 830	Sends a VERBOSE log message and logs the exception.
public void	*w(final String, final Throwable)* on page 830	Sends a WARN log message and logs the exception.
public void	*w(final String, final Throwable, final String)* on page 831	Sends a WARN log message and logs the exception.

Modifier and Type	Method	Description
public void	*w(final String, final String, final Throwable)* on page 831	Sends a WARN log message and logs the exception.
public void	*w(final String, final String, final Throwable, final String)* on page 832	Sends a WARN log message and logs the exception.
public void	*w(final String, final String)* on page 832	Sends a WARN log message.
public void	*w(final String, final String, final String)* on page 832	Sends a WARN log message.
public void	*wtf(final String, final Throwable)* on page 833	Use com.sap.mobile.lib.supportability.ILogger#w(String, Throwable) What a Terrible Failure: Reports an exception that should never happen.
public void	*wtf(final String, final Throwable, final String)* on page 833	Use com.sap.mobile.lib.supportability.ILogger#w(String, Throwable, String) What a Terrible Failure: Reports an exception that should never happen.
public void	*wtf(final String, final String)* on page 834	Use com.sap.mobile.lib.supportability.ILogger#w(String, String) What a Terrible Failure: Reports a condition that should never happen.
public void	*wtf(final String, final String, final String)* on page 834	Use com.sap.mobile.lib.supportability.ILogger#w(String, String, String) What a Terrible Failure: Reports a condition that should never happen.
public void	*wtf(final String, final String, final Throwable)* on page 835	Use com.sap.mobile.lib.supportability.ILogger#w(String, String, Throwable) What a Terrible Failure: Reports an exception that should never happen.

Modifier and Type	Method	Description
public void	*wtf(final String, final String, final Throwable, final String)* on page 835	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.

Remarks
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

Remarks
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.

Remarks
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

Remarks
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.

Remarks
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

Remarks
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.

Remarks
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, 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)

Remarks
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.

Remarks
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

Remarks
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

Remarks
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

Remarks
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.

Remarks
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

Remarks

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).

Remarks
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.

Remarks
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

Remarks
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).

Remarks
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.

Package
```
com.sap.mobile.lib.sdmconnectivity
```

Syntax
```
public interface ISDMNetListener
```

Derived classes

- *AppSettings* on page 755
- *ClientConnection* on page 760
- *UserManager* on page 776

Members
All members of ISDMNetListener, including inherited members. **Methods**

Modifier and Type	Method	Description
public void	*onError(ISDMRequest, ISDMResponse, ISDMRequestStateElement)* on page 837	This method is used by the connectivity layer when an error occurres during a request operation.
public void	*onSuccess(ISDMRequest, ISDMResponse)* on page 838	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 occurres 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.

Remarks

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.

Remarks

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.

Package

```
com.sap.mobile.lib.sdmparser
```

Syntax

```
public abstract interface ISDMODataAssociation extends
ISDMParserDocument
```

Implemented interfaces

- *ISDMParserDocument* on page 1063

Derived classes

- *SDMODataAssociation* on page 1195

Derived interfaces

- *ISDMODataAssociationSet* on page 849

Members

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

Modifier and Type	Variable	Description
public static final String	ELEMENT_ASSOCIATION	Name of the appropriate SDMOData element.
public static final String	ATTRIBUTE_NAME	Name of the appropriate SDMOData attribute.
public static final String	ATTRIBUTE_ASSOCIATION	Name of the appropriate SDMOData attribute.
public static final String	ELEMENT_ASSOCIATIO-NEND	Name of the appropriate SDMOData element.

Methods

Modifier and Type	Method	Description
public abstract ISDMODataAs-sociationEnd	*getAssociationEnd(String)* on page 844	Returns the value of the appro-priate Association End SDMO-Data element with the given role.
public abstract List< ISDMO-DataAssociationEnd >	*getAssociationEnds()* on page 845	Returns list of the appropriate SDMOData elements.
public abstract String	*getName()* on page 845	Returns the value of the appro-priate SDMOData attribute.

Inherited members from ISDMParserDocument

Modifier and Type	Member	Description
public static final String	*ATTRIBUTE_ETAG* on page 1082	Name of the appropriate SDMOData element.
public static final String	*ATTRIBUTE_VALUEPREFIX_EDMTYPE* on page 1082	Value prefix for EDM Type type values.
public abstract ISDMParserDocument	*clone()* on page 1069	Creates a copy of this object.
public static Map< String, String >	*DEFAULT_PREFIXMAPPING* on page 1082	The default XML Namespace-to-Prefix mapping used for building XMLS.
public static final String[]	*EDMDATETIME_PATTERNS* on page 1082	Possible EDM DateTime patterns Note: Some pattern are not supported by OData specification but still widely used.
public static final String[]	*EDMDATETIMEOFFSET_PATTERNS* on page 1082	Possible EDM TimeOffset patterns Note: Some pattern are not supported by OData specification but still widely used.
public static final String	*EDMTIME_PATTERN* on page 1082	EDM Time pattern.
public static String	*ELEMENT_FEED* on page 1083	Name of the appropriate SDMOData element.
public static final String	*ELEMENT_ID* on page 1083	Name of the appropriate SDMOData element.
public abstract String	*getAttribute(String...)* on page 1069	Returns the value of the first attribute with the given route.
public abstract List< String >	*getAttributes(String...)* on page 1070	Returns all the values of attributes with the given route.
public abstract Map< String, String >	*getChildAttributeMap(String...)* on page 1070	Returns all the name-value pairs of attributes contained by the element with the given route.
public abstract List< String >	*getChildAttributes(String...)* on page 1070	Returns all the values of attributes contained by the element with the given route.

Modifier and Type	Member	Description
public abstract List< ISDMParserDocument >	*getChildDocuments(String...)* on page 1071	Returns the elements contained by the element with the given route.
public abstract List< ISDMParserDocument >	*getChildDocumentsWithAttribute(String, String, String...)* on page 1071	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public abstract List< ISDMParserDocument >	*getChildDocumentsWithAttribute(String, String, boolean, String...)* on page 1072	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public abstract ISDMParserDocument	*getDocument(String...)* on page 1072	Returns the first element with the given route.
public abstract List< ISDMParserDocument >	*getDocuments(String...)* on page 1073	Returns all the elements with the given route.
public abstract List< ISDMParserDocument >	*getDocumentsWithAttribute(String, String, String...)* on page 1073	Returns the elements with the given route that contains the given attribute with the given value.
public abstract List< ISDMParserDocument >	*getDocumentsWithAttribute(String, String, boolean, String...)* on page 1074	Returns the elements with the given route that contains the given attribute with the given value.
public abstract ISDMParserDocument	*getDocumentWithAttribute(String, String, String...)* on page 1074	Returns the first element with the given route that contains the given attribute with the given value.
public abstract ISDMParserDocument	*getDocumentWithAttribute(String, String, boolean, String...)* on page 1075	Returns the first element with the given route that contains the given attribute with the given value.
public abstract String	*getElementName()* on page 1075	Returns The name of the root element of this document.
public abstract String	*getFunctionImportComplexPropertyValue(String...)* on page 1076	

Modifier and Type	Member	Description
public abstract String	*getPrefixForUri(String)* on page 1076	Returns the appropriate name-space prefix for the given XML name-space URI.
public abstract String[]	*getStrings()* on page 1076	Returns all the string values contained by this document.
public abstract String	*getValue(String...)* on page 1076	Returns the value of the first element with the given route.
public abstract List< String >	*getValues(String...)* on page 1077	Returns all the values of elements with the given route.
public abstract void	*putAttribute(String, String...)* on page 1077	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	*putDocument(ISDMParserDocument, String...)* on page 1078	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	*putValue(String, String...)* on page 1078	Sets the value of the first element with the given route.
public abstract boolean	*removeAttribute(String...)* on page 1079	Removes first element with the given route.
public abstract boolean	*removeAttributes(String...)* on page 1079	Removes all the attribute with the given route.
public abstract boolean	*removeDocument(String...)* on page 1079	Removes first element with the given route For removing multiple element use setDocuemtns with null arguments.
public static final String	*ROOT_DOCUMENT_NAME* on page 1083	The default root element name for a new document.

Modifier and Type	Member	Description
public abstract void	*setAttributes(List< String >, String...)* on page 1080	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	*setDocuments(List< ISDMParserDocument >, String...)* on page 1080	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	*setElementName(String, String...)* on page 1081	Sets the name of the root element with the given route Use empty route for setting root name of this document.
public abstract void	*setValues(List< String >, String...)* on page 1081	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	*toXMLString()* on page 1081	Returns the XML string representation of this object.
public static final String	*XMLNS_APPLICATION_URI* on page 1083	Constant for XMLNS URI: http://schemas.microsoft.com/ado/2007/08/dataservices.
public static final String	*XMLNS_ATOM_URI* on page 1083	Constant for XMLNS URI: http://www.w3.org/2005/Atom.

Modifier and Type	Member	Description
public static final String	*XMLNS_DATASERVICES_URI* on page 1083	Constant for XMLNS URI: http://schemas.microsoft.com/ado/2007/08/dataservices.
public static final String	*XMLNS_EDM_URI* on page 1083	Constant for XMLNS URI: http://schemas.microsoft.com/ado/2007/05/edm.
public static final String	*XMLNS_EDMX_URI* on page 1084	Constant for XMLNS URI: http://schemas.microsoft.com/ado/2007/06/edmx.
public static final String	*XMLNS_GENERICPLAYER_URI* on page 1084	Constant for XMLNS URI: http://www.sap.com/Protocols/SAPData/GenericPlayer.
public static final String	*XMLNS_METADATA_URI* on page 1084	Constant for XMLNS URI: http://schemas.microsoft.com/ado/2007/08/dataservices/metadata.
public static final String	*XMLNS_SAP_URI* on page 1084	Constant for XMLNS URI: http://www.sap.com/Protocols/SAPData.

Inherited members from ISDMPersistable

Modifier and Type	Member	Description
public void	*read(BufferedReader)* on page 1085	
public void	*write(BufferedWriter)* on page 1085	

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 SDMOData attribute

Returns
the value of the appropriate Association End SDMOData element

getAssociationEnds() method
Returns list of the appropriate SDMOData elements.

Syntax

```
public abstract List< ISDMODataAssociationEnd >
getAssociationEnds ()
```

Returns
list of the appropriate SDMOData elements

getName() method
Returns the value of the appropriate SDMOData attribute.

Syntax

```
public abstract String getName ()
```

Returns
the value of the appropriate SDMOData attribute

ATTRIBUTE_ASSOCIATION variable
Name of the appropriate SDMOData attribute.

Syntax

```
public static final String ATTRIBUTE_ASSOCIATION
```

ATTRIBUTE_NAME variable
Name of the appropriate SDMOData attribute.

Syntax

```
public static final String ATTRIBUTE_NAME
```

ELEMENT_ASSOCIATION variable
Name of the appropriate SDMOData element.

Syntax

```
public static final String ELEMENT_ASSOCIATION
```

ELEMENT_ASSOCIATIONEND variable
Name of the appropriate SDMOData element.

Syntax

```
public static final String ELEMENT_ASSOCIATIONEND
```

ISDMODataAssociation.ISDMODataAssociationEnd interface
Deprecated. since 3.0, Use IODataAssociationEnd Represents the appropriate SDMOData element.

Package

```
com.sap.mobile.lib.sdmparser.ISDMODataAssociation
```

Syntax

```
public abstract interface ISDMODataAssociationEnd
```

Derived classes

- *SDMODataAssociationEnd* on page 1210

Members
All members of ISDMODataAssociationEnd, including inherited members. **Variables**

Modifier and Type	Variable	Description
public static final String	ATTRIBUTE_ROLE	Name of the appropriate SDMOData attribute.
public static final String	ATTRIBUTE_TYPE	Name of the appropriate SDMOData attribute.
public static final String	ATTRIBUTE_ENTITYSET	Name of the appropriate SDMOData attribute.
public static final String	ATTRIBUTE_MULTIPLICITY	Name of the appropriate SDMOData attribute.

Methods

Modifier and Type	Method	Description
public abstract String	*getCollectionId()* on page 847	Returns the value of the appropriate EntitySet SDMOData attribute.

Modifier and Type	Method	Description
public abstract String	*getEntitySet()* on page 847	Returns the value of the appropriate SDMOData attribute.
public abstract String	*getMultiplicity()* on page 847	Returns the value of the appropriate SDMOData attribute.
public abstract String	*getRole()* on page 848	Returns the value of the appropriate SDMOData attribute.
public abstract String	*getType()* on page 848	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 SDMOData attribute.

Syntax
```
public abstract String getType ()
```

Returns
the value of the appropriate SDMOData attribute

ATTRIBUTE_ENTITYSET variable
Name of the appropriate SDMOData attribute.

Syntax
```
public static final String ATTRIBUTE_ENTITYSET
```

ATTRIBUTE_MULTIPLICITY variable
Name of the appropriate SDMOData attribute.

Syntax
```
public static final String ATTRIBUTE_MULTIPLICITY
```

ATTRIBUTE_ROLE variable
Name of the appropriate SDMOData attribute.

Syntax
```
public static final String ATTRIBUTE_ROLE
```

ATTRIBUTE_TYPE variable
Name of the appropriate SDMOData attribute.

Syntax
```
public static final String ATTRIBUTE_TYPE
```

ISDMODataAssociationSet interface

Deprecated. since 3.0, Use IODataAssociationSet Represents the appropriate SDMOData element.

Package

```
com.sap.mobile.lib.sdmparser
```

Syntax

```
public abstract interface ISDMODataAssociationSet extends
ISDMODataAssociation
```

Implemented interfaces

- *ISDMODataAssociation* on page 838

Derived classes

- *SDMODataAssociationSet* on page 1221

Members

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

Modifier and Type	Variable	Description
public static final String	ELEMENT_ASSOCIATION-SET	Name of the appropriate SDMOData element.

Methods

Modifier and Type	Method	Description
public abstract String	*getAssociation()* on page 855	Returns the value of appropriate SDMOData element.

Inherited members from ISDMODataAssociation

Modifier and Type	Member	Description
public static final String	*ATTRIBUTE_ASSOCIATION* on page 845	Name of the appropriate SDMOData attribute.
public static final String	*ATTRIBUTE_NAME* on page 845	Name of the appropriate SDMOData attribute.
public static final String	*ELEMENT_ASSOCIATION* on page 845	Name of the appropriate SDMOData element.

Modifier and Type	Member	Description
public static final String	*ELEMENT_ASSOCIATIONEND* on page 846	Name of the appropriate SDMOData element.
public abstract ISDMODataAssociationEnd	*getAssociationEnd(String)* on page 844	Returns the value of the appropriate Association End SDMOData element with the given role.
public abstract List< ISDMODataAssociationEnd >	*getAssociationEnds()* on page 845	Returns list of the appropriate SDMOData elements.
public abstract String	*getName()* on page 845	Returns the value of the appropriate SDMOData attribute.

Inherited members from ISDMParserDocument

Modifier and Type	Member	Description
public static final String	*ATTRIBUTE_ETAG* on page 1082	Name of the appropriate SDMOData element.
public static final String	*ATTRIBUTE_VALUEPREFIX_EDMTYPE* on page 1082	Value prefix for EDM Type type values.
public abstract ISDMParserDocument	*clone()* on page 1069	Creates a copy of this object.
public static Map< String, String >	*DEFAULT_PREFIXMAPPING* on page 1082	The default XML Namespace-to-Prefix mapping used for building XMLS.
public static final String[]	*EDMDATETIME_PATTERNS* on page 1082	Possible EDM DateTime patterns Note: Some pattern are not supported by OData specification but still widely used.
public static final String[]	*EDMDATETIMEOFFSET_PATTERNS* on page 1082	Possible EDM TimeOffset patterns Note: Some pattern are not supported by OData specification but still widely used.
public static final String	*EDMTIME_PATTERN* on page 1082	EDM Time pattern.
public static String	*ELEMENT_FEED* on page 1083	Name of the appropriate SDMOData element.

Modifier and Type	Member	Description
public static final String	*ELEMENT_ID* on page 1083	Name of the appropriate SDMOData element.
public abstract String	*getAttribute(String...)* on page 1069	Returns the value of the first attribute with the given route.
public abstract List< String >	*getAttributes(String...)* on page 1070	Returns all the values of attributes with the given route.
public abstract Map< String, String >	*getChildAttributeMap(String...)* on page 1070	Returns all the name-value pairs of attributes contained by the element with the given route.
public abstract List< String >	*getChildAttributes(String...)* on page 1070	Returns all the values of attributes contained by the element with the given route.
public abstract List< ISDMParserDocument >	*getChildDocuments(String...)* on page 1071	Returns the elements contained by the element with the given route.
public abstract List< ISDMParserDocument >	*getChildDocumentsWithAttribute(String, String, String...)* on page 1071	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public abstract List< ISDMParserDocument >	*getChildDocumentsWithAttribute(String, String, boolean, String...)* on page 1072	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public abstract ISDMParserDocument	*getDocument(String...)* on page 1072	Returns the first element with the given route.
public abstract List< ISDMParserDocument >	*getDocuments(String...)* on page 1073	Returns all the elements with the given route.
public abstract List< ISDMParserDocument >	*getDocumentsWithAttribute(String, String, String...)* on page 1073	Returns the elements with the given route that contains the given attribute with the given value.
public abstract List< ISDMParserDocument >	*getDocumentsWithAttribute(String, String, boolean, String...)* on page 1074	Returns the elements with the given route that contains the given attribute with the given value.

Modifier and Type	Member	Description
public abstract ISDMParserDocument	*getDocumentWithAttribute(String, String, String...)* on page 1074	Returns the first element with the given route that contains the given attribute with the given value.
public abstract ISDMParserDocument	*getDocumentWithAttribute(String, String, boolean, String...)* on page 1075	Returns the first element with the given route that contains the given attribute with the given value.
public abstract String	*getElementName()* on page 1075	Returns The name of the root element of this document.
public abstract String	*getFunctionImportComplexPropertyValue(String...)* on page 1076	
public abstract String	*getPrefixForUri(String)* on page 1076	Returns the appropriate name-space prefix for the given XML name-space URI.
public abstract String[]	*getStrings()* on page 1076	Returns all the string values contained by this document.
public abstract String	*getValue(String...)* on page 1076	Returns the value of the first element with the given route.
public abstract List< String >	*getValues(String...)* on page 1077	Returns all the values of elements with the given route.
public abstract void	*putAttribute(String, String...)* on page 1077	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	*putDocument(ISDMParserDocument, String...)* on page 1078	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	*putValue(String, String...)* on page 1078	Sets the value of the first element with the given route.

Modifier and Type	Member	Description
public abstract boolean	*removeAttribute(String...)* on page 1079	Removes first element with the given route.
public abstract boolean	*removeAttributes(String...)* on page 1079	Removes all the attribute with the given route.
public abstract boolean	*removeDocument(String...)* on page 1079	Removes first element with the given route For removing multiple element use setDocuemtns with null arguments.
public static final String	*ROOT_DOCUMENT_NAME* on page 1083	The default root element name for a new document.
public abstract void	*setAttributes(List< String >, String...)* on page 1080	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	*setDocuments(List< ISDMParserDocument >, String...)* on page 1080	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	*setElementName(String, String...)* on page 1081	Sets the name of the root element with the given route Use empty route for setting root name of this document.
public abstract void	*setValues(List< String >, String...)* on page 1081	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	*toXMLString()* on page 1081	Returns the XML string representation of this object.
public static final String	*XMLNS_APPLICATION_URI* on page 1083	Constant for XMLNS URI: http://schemas.microsoft.com/ado/2007/08/dataservices.
public static final String	*XMLNS_ATOM_URI* on page 1083	Constant for XMLNS URI: http://www.w3.org/2005/Atom.
public static final String	*XMLNS_DATASERVICES_URI* on page 1083	Constant for XMLNS URI: http://schemas.microsoft.com/ado/2007/08/dataservices.
public static final String	*XMLNS_EDM_URI* on page 1083	Constant for XMLNS URI: http://schemas.microsoft.com/ado/2007/05/edm.
public static final String	*XMLNS_EDMX_URI* on page 1084	Constant for XMLNS URI: http://schemas.microsoft.com/ado/2007/06/edmx.
public static final String	*XMLNS_GENERICPLAYER_URI* on page 1084	Constant for XMLNS URI: http://www.sap.com/Protocols/SAPData/GenericPlayer.
public static final String	*XMLNS_METADATA_URI* on page 1084	Constant for XMLNS URI: http://schemas.microsoft.com/ado/2007/08/dataservices/metadata.
public static final String	*XMLNS_SAP_URI* on page 1084	Constant for XMLNS URI: http://www.sap.com/Protocols/SAPData.

Inherited members from ISDMPersistable

Modifier and Type	Member	Description
public void	*read(BufferedReader)* on page 1085	
public void	*write(BufferedWriter)* on page 1085	

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 SDMOData element.

Syntax

```
public static final String ELEMENT_ASSOCIATIONSET
```

ISDMODataCollection interface
Deprecated. since 3.0, Use IODataCollection Represents the 'Collection' element of the SDMOData Service Document.

Package

```
com.sap.mobile.lib.sdmparser
```

Syntax

```
public abstract interface ISDMODataCollection extends
ISDMParserDocument
```

Implemented interfaces

- *ISDMParserDocument* on page 1063

Derived classes

- *SDMODataCollection* on page 1241

Members
All members of ISDMODataCollection, including inherited members. **Variables**

Modifier and Type	Variable	Description
public static final String	ELEMENT_COLLECTION	Name of the appropriate SDMOData element.
public static final String	ATTRIBUTE_SEMANTICS	Name of the appropriate SDMSDMOData attribute.

Modifier and Type	Variable	Description
public static final String	ELEMENT_TITLE	Name of the appropriate SDMOData element.
public static final String	ELEMENT_MEMBERTITLE	Name of the appropriate SDMOData element.
public static final String	ATTRIBUTE_HREF	Name of the appropriate SDMOData attribute.
public static final String	ATTRIBUTE_CREATABLE	Name of the appropriate SDMOData attribute.
public static final String	ATTRIBUTE_UPDATABLE	Name of the appropriate SDMOData attribute.
public static final String	ATTRIBUTE_DELETABLE	Name of the appropriate SDMOData attribute.
public static final String	ATTRIBUTE_SEARCHABLE	Name of the appropriate SDMOData attribute.
public static final String	ATTRIBUTE_FILTERABLE	Name of the appropriate SDMOData attribute.
public static final String	ATTRIBUTE_DISPLAYORDER	Name of the appropriate SDMOData extension attribute.
public static final String	ATTRIBUTE_VALUE_REL_SEARCH	Possible value of the appropriate SDMOData attribute.
public static final String	ELEMENT_LINK	Name of the appropriate SDMOData element.

Methods

Modifier and Type	Method	Description
public abstract int	*getDisplayOrder()* on page 863	Returns the value of the appropriate SDMOData extension attribute.
public abstract String	*getHref()* on page 863	Returns the value of the 'href' SDMOData attribute.
public abstract List< ISDMODataIcon >	*getIcons()* on page 863	Returns list of the appropriate SDMOData elements.

Modifier and Type	Method	Description
public abstract String	*getId()* on page 863	Returns the value of the 'href' SDMOData attribute as a relative href (matchable with appropriate entitiySet)
public abstract List< ISDMODataLink >	*getLinks()* on page 863	Returns the value of the appropriate SDMOData elements.
public abstract String	*getMemberTitle()* on page 864	Returns the value of the appropriate SDMSDMOData element.
public abstract ISDMODataLink	*getSearchLink()* on page 864	Returns SDMSDMOData Link object that should be used for retrieving Open Search Description XML.
public abstract String	*getSemantics()* on page 864	Returns the value of the appropriate SDMOData attribute.
public abstract ISDMODataLink	*getSubscriptionLink()* on page 864	Returns SDMSDMOData Link object that should be used for subscription or null if there is no subscription link defined.
public abstract String	*getTitle()* on page 865	Returns the value of the appropriate SDMOData element.
public abstract String	*getUrl()* on page 865	Returns SDMSDMOData Link object that should be used for self related operations.
public abstract boolean	*isCreatable()* on page 865	Returns the value of the appropriate SDMOData attribute.
public abstract boolean	*isDeletable()* on page 865	Returns the value of the appropriate SDMOData attribute.
public abstract boolean	*isFilterable()* on page 865	Returns the value of the appropriate SDMOData attribute.
public abstract boolean	*isSearchable()* on page 866	Returns the value of the appropriate SDMOData attribute.
public abstract boolean	*isUpdatable()* on page 866	Returns the value of the appropriate SDMOData attribute.

Modifier and Type	Method	Description
public abstract void	*setEntitySet(ISDMODataEntitySet)* on page 866	Sets the data held by the appropriate element of the SDMOData Schema.

Inherited members from ISDMParserDocument

Modifier and Type	Member	Description
public static final String	*ATTRIBUTE_ETAG* on page 1082	Name of the appropriate SDMOData element.
public static final String	*ATTRIBUTE_VALUEPREFIX_EDMTYPE* on page 1082	Value prefix for EDM Type type values.
public abstract ISDMParserDocument	*clone()* on page 1069	Creates a copy of this object.
public static Map< String, String >	*DEFAULT_PREFIXMAPPING* on page 1082	The default XML Namespace-to-Prefix mapping used for building XMLS.
public static final String[]	*EDMDATETIME_PATTERNS* on page 1082	Possible EDM DateTime patterns Note: Some pattern are not supported by OData specification but still widely used.
public static final String[]	*EDMDATETIMEOFFSET_PATTERNS* on page 1082	Possible EDM TimeOffset patterns Note: Some pattern are not supported by OData specification but still widely used.
public static final String	*EDMTIME_PATTERN* on page 1082	EDM Time pattern.
public static String	*ELEMENT_FEED* on page 1083	Name of the appropriate SDMOData element.
public static final String	*ELEMENT_ID* on page 1083	Name of the appropriate SDMOData element.
public abstract String	*getAttribute(String...)* on page 1069	Returns the value of the first attribute with the given route.
public abstract List< String >	*getAttributes(String...)* on page 1070	Returns all the values of attributes with the given route.

Modifier and Type	Member	Description
public abstract Map< String, String >	*getChildAttributeMap(String...)* on page 1070	Returns all the name-value pairs of attributes contained by the element with the given route.
public abstract List< String >	*getChildAttributes(String...)* on page 1070	Returns all the values of attributes contained by the element with the given route.
public abstract List< ISDMParserDocument >	*getChildDocuments(String...)* on page 1071	Returns the elements contained by the element with the given route.
public abstract List< ISDMParserDocument >	*getChildDocumentsWithAttribute(String, String, String...)* on page 1071	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public abstract List< ISDMParserDocument >	*getChildDocumentsWithAttribute(String, String, boolean, String...)* on page 1072	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public abstract ISDMParserDocument	*getDocument(String...)* on page 1072	Returns the first element with the given route.
public abstract List< ISDMParserDocument >	*getDocuments(String...)* on page 1073	Returns all the elements with the given route.
public abstract List< ISDMParserDocument >	*getDocumentsWithAttribute(String, String, String...)* on page 1073	Returns the elements with the given route that contains the given attribute with the given value.
public abstract List< ISDMParserDocument >	*getDocumentsWithAttribute(String, String, boolean, String...)* on page 1074	Returns the elements with the given route that contains the given attribute with the given value.
public abstract ISDMParserDocument	*getDocumentWithAttribute(String, String, String...)* on page 1074	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	*getDocumentWithAttribute(String, String, boolean, String...)* on page 1075	Returns the first element with the given route that contains the given attribute with the given value.
public abstract String	*getElementName()* on page 1075	Returns The name of the root element of this document.
public abstract String	*getFunctionImportComplexPropertyValue(String...)* on page 1076	
public abstract String	*getPrefixForUri(String)* on page 1076	Returns the appropriate name-space prefix for the given XML name-space URI.
public abstract String[]	*getStrings()* on page 1076	Returns all the string values contained by this document.
public abstract String	*getValue(String...)* on page 1076	Returns the value of the first element with the given route.
public abstract List< String >	*getValues(String...)* on page 1077	Returns all the values of elements with the given route.
public abstract void	*putAttribute(String, String...)* on page 1077	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	*putDocument(ISDMParserDocument, String...)* on page 1078	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	*putValue(String, String...)* on page 1078	Sets the value of the first element with the given route.
public abstract boolean	*removeAttribute(String...)* on page 1079	Removes first element with the given route.

Modifier and Type	Member	Description
public abstract boolean	*removeAttributes(String...)* on page 1079	Removes all the attribute with the given route.
public abstract boolean	*removeDocument(String...)* on page 1079	Removes first element with the given route For removing multiple element use setDocuemtns with null arguments.
public static final String	*ROOT_DOCUMENT_NAME* on page 1083	The default root element name for a new document.
public abstract void	*setAttributes(List< String >, String...)* on page 1080	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	*setDocuments(List< ISDMParserDocument >, String...)* on page 1080	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	*setElementName(String, String...)* on page 1081	Sets the name of the root element with the given route Use empty route for setting root name of this document.
public abstract void	*setValues(List< String >, String...)* on page 1081	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	*toXMLString()* on page 1081	Returns the XML string representation of this object.

Modifier and Type	Member	Description
public static final String	*XMLNS_APPLICATION_URI* on page 1083	Constant for XMLNS URI: http://schemas.microsoft.com/ado/2007/08/dataservices.
public static final String	*XMLNS_ATOM_URI* on page 1083	Constant for XMLNS URI: http://www.w3.org/2005/Atom.
public static final String	*XMLNS_DATASERVICES_URI* on page 1083	Constant for XMLNS URI: http://schemas.microsoft.com/ado/2007/08/dataservices.
public static final String	*XMLNS_EDM_URI* on page 1083	Constant for XMLNS URI: http://schemas.microsoft.com/ado/2007/05/edm.
public static final String	*XMLNS_EDMX_URI* on page 1084	Constant for XMLNS URI: http://schemas.microsoft.com/ado/2007/06/edmx.
public static final String	*XMLNS_GENERICPLAYER_URI* on page 1084	Constant for XMLNS URI: http://www.sap.com/Protocols/SAPData/GenericPlayer.
public static final String	*XMLNS_METADATA_URI* on page 1084	Constant for XMLNS URI: http://schemas.microsoft.com/ado/2007/08/dataservices/metadata.
public static final String	*XMLNS_SAP_URI* on page 1084	Constant for XMLNS URI: http://www.sap.com/Protocols/SAPData.

Inherited members from ISDMPersistable

Modifier and Type	Member	Description
public void	*read(BufferedReader)* on page 1085	
public void	*write(BufferedWriter)* on page 1085	

getDisplayOrder() method
Returns the value of the appropriate SDMOData extension attribute.

Syntax
```
public abstract int getDisplayOrder ()
```

Returns
The value of the appropriate SDMOData extension attribute

getHref() method
Returns the value of the 'href' SDMOData attribute.

Syntax
```
public abstract String getHref ()
```

Returns
The value of the 'href' SDMOData attribute

getIcons() method
Returns list of the appropriate SDMOData elements.

Syntax
```
public abstract 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 entitiySet)

Syntax
```
public abstract String getId ()
```

Returns
The value of the 'href' SDMOData attribute

getLinks() method
Returns the value of the appropriate SDMOData elements.

Syntax
```
public abstract List< ISDMODataLink > getLinks ()
```

Returns
The value of the appropriate SDMOData elements

getMemberTitle() method
Returns the value of the appropriate SDMSDMOData element.

Syntax

```
public abstract 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 abstract ISDMODataLink 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 SDMOData attribute.

Syntax
```
public abstract boolean isCreatable ()
```

Returns
The value of the appropriate SDMOData attribute

isDeletable() method
Returns the value of the appropriate SDMOData attribute.

Syntax
```
public abstract boolean isDeletable ()
```

Returns
The value of the appropriate SDMOData attribute

isFilterable() method
Returns the value of the appropriate SDMOData attribute.

Syntax
```
public abstract boolean isFilterable ()
```

Returns
The value of the appropriate SDMOData attribute

isSearchable() method
Returns the value of the appropriate SDMOData attribute.

Syntax

```
public abstract boolean isSearchable ()
```

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

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.

Remarks
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 SDMOData element.

Syntax

```
public static final String ELEMENT_MEMBERTITLE
```

ELEMENT_TITLE variable
Name of the appropriate SDMOData element.

Syntax

```
public static final String ELEMENT_TITLE
```

ISDMODataComplexType interface
Deprecated. since 3.0, Use IODataComplexType Represents the appropriate SDMOData element.

Package

```
com.sap.mobile.lib.sdmparser
```

Syntax

```
public abstract interface ISDMODataComplexType extends
ISDMParserDocument
```

Implemented interfaces

- *ISDMParserDocument* on page 1063

Derived classes

- *SDMODataComplexType* on page 1263

Members

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

Modifier and Type	Variable	Description
public static final String	ELEMENT_COMPLEXTYPE	Name of the appropriate SDMOData element.
public static final String	ATTRIBUTE_NAME	Name of the appropriate SDMOData attribute.
public static final String	ELEMENT_PROPERTY	Name of the appropriate SDMOData element.

Methods

Modifier and Type	Method	Description
public abstract String	*getName()* on page 874	Returns the value of the appropriate SDMOData element.
public abstract List< ISDMODataProperty >	*getProperties()* on page 874	Returns the list of the appropriate SDMOData elements.

Inherited members from ISDMParserDocument

Modifier and Type	Member	Description
public static final String	*ATTRIBUTE_ETAG* on page 1082	Name of the appropriate SDMOData element.
public static final String	*ATTRIBUTE_VALUEPREFIX_EDMTYPE* on page 1082	Value prefix for EDM Type type values.
public abstract ISDMParserDocument	*clone()* on page 1069	Creates a copy of this object.

Modifier and Type	Member	Description
public static Map< String, String >	*DEFAULT_PREFIXMAPPING* on page 1082	The default XML Namespace-to-Prefix mapping used for building XMLS.
public static final String[]	*EDMDATETIME_PATTERNS* on page 1082	Possible EDM DateTime patterns Note: Some pattern are not supported by OData specification but still widely used.
public static final String[]	*EDMDATETIMEOFFSET_PATTERNS* on page 1082	Possible EDM TimeOffset patterns Note: Some pattern are not supported by OData specification but still widely used.
public static final String	*EDMTIME_PATTERN* on page 1082	EDM Time pattern.
public static String	*ELEMENT_FEED* on page 1083	Name of the appropriate SDMOData element.
public static final String	*ELEMENT_ID* on page 1083	Name of the appropriate SDMOData element.
public abstract String	*getAttribute(String...)* on page 1069	Returns the value of the first attribute with the given route.
public abstract List< String >	*getAttributes(String...)* on page 1070	Returns all the values of attributes with the given route.
public abstract Map< String, String >	*getChildAttributeMap(String...)* on page 1070	Returns all the name-value pairs of attributes contained by the element with the given route.
public abstract List< String >	*getChildAttributes(String...)* on page 1070	Returns all the values of attributes contained by the element with the given route.
public abstract List< ISDMParserDocument >	*getChildDocuments(String...)* on page 1071	Returns the elements contained by the element with the given route.
public abstract List< ISDMParserDocument >	*getChildDocumentsWithAttribute(String, String, String...)* on page 1071	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 >	*getChildDocumentsWithAttribute(String, String, boolean, String...)* on page 1072	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public abstract ISDMParserDocument	*getDocument(String...)* on page 1072	Returns the first element with the given route.
public abstract List< ISDMParserDocument >	*getDocuments(String...)* on page 1073	Returns all the elements with the given route.
public abstract List< ISDMParserDocument >	*getDocumentsWithAttribute(String, String, String...)* on page 1073	Returns the elements with the given route that contains the given attribute with the given value.
public abstract List< ISDMParserDocument >	*getDocumentsWithAttribute(String, String, boolean, String...)* on page 1074	Returns the elements with the given route that contains the given attribute with the given value.
public abstract ISDMParserDocument	*getDocumentWithAttribute(String, String, String...)* on page 1074	Returns the first element with the given route that contains the given attribute with the given value.
public abstract ISDMParserDocument	*getDocumentWithAttribute(String, String, boolean, String...)* on page 1075	Returns the first element with the given route that contains the given attribute with the given value.
public abstract String	*getElementName()* on page 1075	Returns The name of the root element of this document.
public abstract String	*getFunctionImportComplexPropertyValue(String...)* on page 1076	
public abstract String	*getPrefixForUri(String)* on page 1076	Returns the appropriate name-space prefix for the given XML name-space URI.
public abstract String[]	*getStrings()* on page 1076	Returns all the string values contained by this document.

Modifier and Type	Member	Description
public abstract String	*getValue(String...)* on page 1076	Returns the value of the first element with the given route.
public abstract List< String >	*getValues(String...)* on page 1077	Returns all the values of elements with the given route.
public abstract void	*putAttribute(String, String...)* on page 1077	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	*putDocument(ISDMParserDocument, String...)* on page 1078	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	*putValue(String, String...)* on page 1078	Sets the value of the first element with the given route.
public abstract boolean	*removeAttribute(String...)* on page 1079	Removes first element with the given route.
public abstract boolean	*removeAttributes(String...)* on page 1079	Removes all the attribute with the given route.
public abstract boolean	*removeDocument(String...)* on page 1079	Removes first element with the given route For removing multiple element use setDocuemtns with null arguments.
public static final String	*ROOT_DOCUMENT_NAME* on page 1083	The default root element name for a new document.
public abstract void	*setAttributes(List< String >, String...)* on page 1080	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	*setDocuments(List< ISDMParserDocument >, String...)* on page 1080	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	*setElementName(String, String...)* on page 1081	Sets the name of the root element with the given route Use empty route for setting root name of this document.
public abstract void	*setValues(List< String >, String...)* on page 1081	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	*toXMLString()* on page 1081	Returns the XML string representation of this object.
public static final String	*XMLNS_APPLICATION_URI* on page 1083	Constant for XMLNS URI: http://schemas.microsoft.com/ado/2007/08/dataservices.
public static final String	*XMLNS_ATOM_URI* on page 1083	Constant for XMLNS URI: http://www.w3.org/2005/Atom.
public static final String	*XMLNS_DATASERVICES_URI* on page 1083	Constant for XMLNS URI: http://schemas.microsoft.com/ado/2007/08/dataservices.
public static final String	*XMLNS_EDM_URI* on page 1083	Constant for XMLNS URI: http://schemas.microsoft.com/ado/2007/05/edm.
public static final String	*XMLNS_EDMX_URI* on page 1084	Constant for XMLNS URI: http://schemas.microsoft.com/ado/2007/06/edmx.

Modifier and Type	Member	Description
public static final String	*XMLNS_GENERICPLAY-ER_URI* on page 1084	Constant for XMLNS URI: http://www.sap.com/Protocols/SAPData/GenericPlayer.
public static final String	*XMLNS_METADATA_URI* on page 1084	Constant for XMLNS URI: http://schemas.microsoft.com/ado/2007/08/dataservices/metadata.
public static final String	*XMLNS_SAP_URI* on page 1084	Constant for XMLNS URI: http://www.sap.com/Protocols/SAPData.

Inherited members from ISDMPersistable

Modifier and Type	Member	Description
public void	*read(BufferedReader)* on page 1085	
public void	*write(BufferedWriter)* on page 1085	

getName() method
Returns the value of the appropriate SDMOData element.

Syntax

```
public abstract String getName ()
```

Returns
The value of the appropriate SDMOData element

getProperties() method
Returns the list of the appropriate SDMOData elements.

Syntax

```
public abstract List< ISDMODataProperty > getProperties ()
```

Returns
The list of the appropriate SDMOData elements

ATTRIBUTE_NAME variable
Name of the appropriate SDMOData attribute.

Syntax

```
public static final String ATTRIBUTE_NAME
```

ELEMENT_COMPLEXTYPE variable
Name of the appropriate SDMOData element.

Syntax

```
public static final String ELEMENT_COMPLEXTYPE
```

ELEMENT_PROPERTY variable
Name of the appropriate SDMOData element.

Syntax

```
public static final String ELEMENT_PROPERTY
```

ISDMODataEntitySet interface
Deprecated. since 3.0, Use IODataEntitySet Represents the appropriate SDMOData element.

Package

```
com.sap.mobile.lib.sdmparser
```

Syntax

```
public abstract interface ISDMODataEntitySet extends
ISDMParserDocument
```

Implemented interfaces

- *ISDMParserDocument* on page 1063

Derived classes

- *SDMODataEntitySet* on page 1277

Members
All members of ISDMODataEntitySet, including inherited members. **Variables**

Modifier and Type	Variable	Description
public static final String	ELEMENT_ENTITYSET	Name of the appropriate SDMOData element.

Modifier and Type	Variable	Description
public static final String	ATTRIBUTE_NAME	Name of the appropriate SDMOData attribute.
public static final String	ATTRIBUTE_CREATABLE	Name of the appropriate SDMOData attribute.
public static final String	ATTRIBUTE_UPDATABLE	Name of the appropriate SDMOData attribute.
public static final String	ATTRIBUTE_DELETABLE	Name of the appropriate SDMOData attribute.
public static final String	ATTRIBUTE_SEARCHABLE	Name of the appropriate SDMOData attribute.

Methods

Modifier and Type	Method	Description
public abstract String	*getName()* on page 881	
public abstract boolean	*isCreatable()* on page 881	
public abstract boolean	*isDeletable()* on page 881	
public abstract boolean	*isSearchable()* on page 882	
public abstract boolean	*isSearchable(String)* on page 882	Returns the value of the given SDMOData attribute.
public abstract boolean	*isUpdatable()* on page 882	

Inherited members from ISDMParserDocument

Modifier and Type	Member	Description
public static final String	*ATTRIBUTE_ETAG* on page 1082	Name of the appropriate SDMOData element.
public static final String	*ATTRIBUTE_ VALUEPRE-FIX_EDMTYPE* on page 1082	Value prefix for EDM Type type values.
public abstract ISDMParserDocument	*clone()* on page 1069	Creates a copy of this object.

Modifier and Type	Member	Description
public static Map< String, String >	*DEFAULT_PREFIXMAPPING* on page 1082	The default XML Namespace-to-Prefix mapping used for building XMLS.
public static final String[]	*EDMDATETIME_PATTERNS* on page 1082	Possible EDM DateTime patterns Note: Some pattern are not supported by OData specification but still widely used.
public static final String[]	*EDMDATETIMEOFFSET_PATTERNS* on page 1082	Possible EDM TimeOffset patterns Note: Some pattern are not supported by OData specification but still widely used.
public static final String	*EDMTIME_PATTERN* on page 1082	EDM Time pattern.
public static String	*ELEMENT_FEED* on page 1083	Name of the appropriate SDMOData element.
public static final String	*ELEMENT_ID* on page 1083	Name of the appropriate SDMOData element.
public abstract String	*getAttribute(String...)* on page 1069	Returns the value of the first attribute with the given route.
public abstract List< String >	*getAttributes(String...)* on page 1070	Returns all the values of attributes with the given route.
public abstract Map< String, String >	*getChildAttributeMap(String...)* on page 1070	Returns all the name-value pairs of attributes contained by the element with the given route.
public abstract List< String >	*getChildAttributes(String...)* on page 1070	Returns all the values of attributes contained by the element with the given route.
public abstract List< ISDMParserDocument >	*getChildDocuments(String...)* on page 1071	Returns the elements contained by the element with the given route.
public abstract List< ISDMParserDocument >	*getChildDocumentsWithAttribute(String, String, String...)* on page 1071	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 >	*getChildDocumentsWithAttribute(String, String, boolean, String...)* on page 1072	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public abstract ISDMParserDocument	*getDocument(String...)* on page 1072	Returns the first element with the given route.
public abstract List< ISDMParserDocument >	*getDocuments(String...)* on page 1073	Returns all the elements with the given route.
public abstract List< ISDMParserDocument >	*getDocumentsWithAttribute(String, String, String...)* on page 1073	Returns the elements with the given route that contains the given attribute with the given value.
public abstract List< ISDMParserDocument >	*getDocumentsWithAttribute(String, String, boolean, String...)* on page 1074	Returns the elements with the given route that contains the given attribute with the given value.
public abstract ISDMParserDocument	*getDocumentWithAttribute(String, String, String...)* on page 1074	Returns the first element with the given route that contains the given attribute with the given value.
public abstract ISDMParserDocument	*getDocumentWithAttribute(String, String, boolean, String...)* on page 1075	Returns the first element with the given route that contains the given attribute with the given value.
public abstract String	*getElementName()* on page 1075	Returns The name of the root element of this document.
public abstract String	*getFunctionImportComplexPropertyValue(String...)* on page 1076	
public abstract String	*getPrefixForUri(String)* on page 1076	Returns the appropriate name-space prefix for the given XML name-space URI.
public abstract String[]	*getStrings()* on page 1076	Returns all the string values contained by this document.

Modifier and Type	Member	Description
public abstract String	*getValue(String...)* on page 1076	Returns the value of the first element with the given route.
public abstract List< String >	*getValues(String...)* on page 1077	Returns all the values of elements with the given route.
public abstract void	*putAttribute(String, String...)* on page 1077	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	*putDocument(ISDMParserDocument, String...)* on page 1078	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	*putValue(String, String...)* on page 1078	Sets the value of the first element with the given route.
public abstract boolean	*removeAttribute(String...)* on page 1079	Removes first element with the given route.
public abstract boolean	*removeAttributes(String...)* on page 1079	Removes all the attribute with the given route.
public abstract boolean	*removeDocument(String...)* on page 1079	Removes first element with the given route For removing multiple element use setDocuemtns with null arguments.
public static final String	*ROOT_DOCUMENT_NAME* on page 1083	The default root element name for a new document.
public abstract void	*setAttributes(List< String >, String...)* on page 1080	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	*setDocuments(List< ISDMParserDocument >, String...)* on page 1080	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	*setElementName(String, String...)* on page 1081	Sets the name of the root element with the given route Use empty route for setting root name of this document.
public abstract void	*setValues(List< String >, String...)* on page 1081	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	*toXMLString()* on page 1081	Returns the XML string representation of this object.
public static final String	*XMLNS_APPLICATION_URI* on page 1083	Constant for XMLNS URI: http://schemas.microsoft.com/ado/2007/08/dataservices.
public static final String	*XMLNS_ATOM_URI* on page 1083	Constant for XMLNS URI: http://www.w3.org/2005/Atom.
public static final String	*XMLNS_DATASERVICES_URI* on page 1083	Constant for XMLNS URI: http://schemas.microsoft.com/ado/2007/08/dataservices.
public static final String	*XMLNS_EDM_URI* on page 1083	Constant for XMLNS URI: http://schemas.microsoft.com/ado/2007/05/edm.
public static final String	*XMLNS_EDMX_URI* on page 1084	Constant for XMLNS URI: http://schemas.microsoft.com/ado/2007/06/edmx.

Modifier and Type	Member	Description
public static final String	*XMLNS_GENERICPLAY-ER_URI* on page 1084	Constant for XMLNS URI: http://www.sap.com/Protocols/SAPData/GenericPlayer.
public static final String	*XMLNS_METADATA_URI* on page 1084	Constant for XMLNS URI: http://schemas.microsoft.com/ado/2007/08/dataservices/metadata.
public static final String	*XMLNS_SAP_URI* on page 1084	Constant for XMLNS URI: http://www.sap.com/Protocols/SAPData.

Inherited members from ISDMPersistable

Modifier and Type	Member	Description
public void	*read(BufferedReader)* on page 1085	
public void	*write(BufferedWriter)* on page 1085	

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.

Package

```
com.sap.mobile.lib.sdmparser
```

Syntax

```
public abstract interface ISDMODataEntityType extends
ISDMParserDocument
```

Implemented interfaces

- *ISDMParserDocument* on page 1063

Derived classes

- *SDMODataEntityType* on page 1293

Members

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

Modifier and Type	Variable	Description
public static final String	ELEMENT_ENTITYTYPE	Name of the appropriate SDMOData element.
public static final String	ATTRIBUTE_NAME	Name of the appropriate SDMOData attribute.
public static final String	ATTRIBUTE_HASSTREAM	Name of the appropriate SDMOData attribute.
public static final String	ELEMENT_KEY	Name of the appropriate SDMOData element.
public static final String	ELEMENT_PROPERTYREF	Name of the appropriate SDMOData element.
public static final String	ELEMENT_PROPERTY	Name of the appropriate SDMOData element.

Methods

Modifier and Type	Method	Description
public abstract List< ISDMODataProperty >	*getGPUseInSearchPropertiesData()* on page 890	Returns The list of appropriate SDMOData elements with 'true' use-in-search (Generic Player names-pace) attribute value.
public abstract List< ISDMODataProperty >	*getGPVisibleInDetailPropertiesData()* on page 891	Returns The list of appropriate SDMOData elements with 'true' visible-in-detail (Generic Player names-pace) attribute value.
public abstract List< ISDMODataProperty >	*getGPVisibleInListPropertiesData()* on page 891	Returns The list of appropriate SDMOData elements with 'true' visible-in-list (Generic Player names-pace) attribute value.
public abstract List< String >	*getKeyPropertyNames()* on page 891	Returns the list of the values of the 'PropertyRef' SDMOData element contained by the 'Key' SDMOData element.

Modifier and Type	Method	Description
public abstract String	*getName()* on page 891	Returns The value of the appropriate SDMOData attribute.
public abstract List< ISDMODataNavigationProperty >	*getNavigationProperties()* on page 892	Returns The list of appropriate SDMOData elements.
public abstract ISDMODataNavigationProperty	*getNavigationProperty(String)* on page 892	Returns The appropriate SDMOData element with the given name.
public abstract List< ISDMODataProperty >	*getProperties()* on page 892	Returns The list of appropriate SDMOData elements.
public abstract List< ISDMODataProperty >	*getPropertiesWithAttribute(String, String)* on page 892	Returns The list of appropriate SDMOData elements with given attribute value.
public abstract List< ISDMODataProperty >	*getPropertiesWithAttribute(String, String, boolean)* on page 893	Returns The list of appropriate SDMOData elements with given attribute value.
public abstract ISDMODataProperty	*getProperty(String)* on page 893	Returns The appropriate SDMOData element with the given name.
public abstract List< ISDMODataProperty >	*getSAPSearchablePropertiesData()* on page 893	Returns The list of appropriate SDMOData elements with 'true' searchable (SAP names-pace) attribute value.
public abstract List< ISDMODataProperty >	*getSearchablePropertiesData(String)* on page 893	Returns The list of appropriate SDMOData elements with 'true' attribute value of the given attribute.
public abstract boolean	*hasStream()* on page 894	Returns The value of the appropriate SDMOData attribute.

Inherited members from ISDMParserDocument

Modifier and Type	Member	Description
public static final String	*ATTRIBUTE_ETAG* on page 1082	Name of the appropriate SDMOData element.

Modifier and Type	Member	Description
public static final String	*ATTRIBUTE_VALUEPREFIX_EDMTYPE* on page 1082	Value prefix for EDM Type type values.
public abstract ISDMParserDocument	*clone()* on page 1069	Creates a copy of this object.
public static Map< String, String >	*DEFAULT_PREFIXMAPPING* on page 1082	The default XML Namespace-to-Prefix mapping used for building XMLS.
public static final String[]	*EDMDATETIME_PATTERNS* on page 1082	Possible EDM DateTime patterns Note: Some pattern are not supported by OData specification but still widely used.
public static final String[]	*EDMDATETIMEOFFSET_PATTERNS* on page 1082	Possible EDM TimeOffset patterns Note: Some pattern are not supported by OData specification but still widely used.
public static final String	*EDMTIME_PATTERN* on page 1082	EDM Time pattern.
public static String	*ELEMENT_FEED* on page 1083	Name of the appropriate SDMOData element.
public static final String	*ELEMENT_ID* on page 1083	Name of the appropriate SDMOData element.
public abstract String	*getAttribute(String...)* on page 1069	Returns the value of the first attribute with the given route.
public abstract List< String >	*getAttributes(String...)* on page 1070	Returns all the values of attributes with the given route.
public abstract Map< String, String >	*getChildAttributeMap(String...)* on page 1070	Returns all the name-value pairs of attributes contained by the element with the given route.
public abstract List< String >	*getChildAttributes(String...)* on page 1070	Returns all the values of attributes contained by the element with the given route.
public abstract List< ISDMParserDocument >	*getChildDocuments(String...)* on page 1071	Returns the elements contained by the element with the given route.

Modifier and Type	Member	Description
public abstract List< ISDMParserDocument >	*getChildDocumentsWithAttribute(String, String, String...)* on page 1071	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public abstract List< ISDMParserDocument >	*getChildDocumentsWithAttribute(String, String, boolean, String...)* on page 1072	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public abstract ISDMParserDocument	*getDocument(String...)* on page 1072	Returns the first element with the given route.
public abstract List< ISDMParserDocument >	*getDocuments(String...)* on page 1073	Returns all the elements with the given route.
public abstract List< ISDMParserDocument >	*getDocumentsWithAttribute(String, String, String...)* on page 1073	Returns the elements with the given route that contains the given attribute with the given value.
public abstract List< ISDMParserDocument >	*getDocumentsWithAttribute(String, String, boolean, String...)* on page 1074	Returns the elements with the given route that contains the given attribute with the given value.
public abstract ISDMParserDocument	*getDocumentWithAttribute(String, String, String...)* on page 1074	Returns the first element with the given route that contains the given attribute with the given value.
public abstract ISDMParserDocument	*getDocumentWithAttribute(String, String, boolean, String...)* on page 1075	Returns the first element with the given route that contains the given attribute with the given value.
public abstract String	*getElementName()* on page 1075	Returns The name of the root element of this document.
public abstract String	*getFunctionImportComplexPropertyValue(String...)* on page 1076	
public abstract String	*getPrefixForUri(String)* on page 1076	Returns the appropriate name-space prefix for the given XML name-space URI.

Modifier and Type	Member	Description
public abstract String[]	*getStrings()* on page 1076	Returns all the string values contained by this document.
public abstract String	*getValue(String...)* on page 1076	Returns the value of the first element with the given route.
public abstract List< String >	*getValues(String...)* on page 1077	Returns all the values of elements with the given route.
public abstract void	*putAttribute(String, String...)* on page 1077	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	*putDocument(ISDMParserDocument, String...)* on page 1078	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	*putValue(String, String...)* on page 1078	Sets the value of the first element with the given route.
public abstract boolean	*removeAttribute(String...)* on page 1079	Removes first element with the given route.
public abstract boolean	*removeAttributes(String...)* on page 1079	Removes all the attribute with the given route.
public abstract boolean	*removeDocument(String...)* on page 1079	Removes first element with the given route For removing multiple element use setDocuemtns with null arguments.
public static final String	*ROOT_DOCUMENT_NAME* on page 1083	The default root element name for a new document.

Modifier and Type	Member	Description
public abstract void	*setAttributes(List< String >, String...)* on page 1080	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	*setDocuments(List< ISDMParserDocument >, String...)* on page 1080	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	*setElementName(String, String...)* on page 1081	Sets the name of the root element with the given route Use empty route for setting root name of this document.
public abstract void	*setValues(List< String >, String...)* on page 1081	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	*toXMLString()* on page 1081	Returns the XML string representation of this object.
public static final String	*XMLNS_APPLICATION_URI* on page 1083	Constant for XMLNS URI: http://schemas.microsoft.com/ado/2007/08/dataservices.
public static final String	*XMLNS_ATOM_URI* on page 1083	Constant for XMLNS URI: http://www.w3.org/2005/Atom.

Modifier and Type	Member	Description
public static final String	*XMLNS_DATASERVICES_URI* on page 1083	Constant for XMLNS URI: http://schemas.microsoft.com/ado/2007/08/dataservices.
public static final String	*XMLNS_EDM_URI* on page 1083	Constant for XMLNS URI: http://schemas.microsoft.com/ado/2007/05/edm.
public static final String	*XMLNS_EDMX_URI* on page 1084	Constant for XMLNS URI: http://schemas.microsoft.com/ado/2007/06/edmx.
public static final String	*XMLNS_GENERICPLAYER_URI* on page 1084	Constant for XMLNS URI: http://www.sap.com/Protocols/SAPData/GenericPlayer.
public static final String	*XMLNS_METADATA_URI* on page 1084	Constant for XMLNS URI: http://schemas.microsoft.com/ado/2007/08/dataservices/metadata.
public static final String	*XMLNS_SAP_URI* on page 1084	Constant for XMLNS URI: http://www.sap.com/Protocols/SAPData.

Inherited members from ISDMPersistable

Modifier and Type	Member	Description
public void	*read(BufferedReader)* on page 1085	
public void	*write(BufferedWriter)* on page 1085	

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 SDMOData elements with 'true' visible-in-detail (Generic Player names-pace) attribute value.

Syntax

```
public abstract List< ISDMODataProperty >
getGPVisibleInDetailPropertiesData ()
```

Returns
The list of appropriate SDMOData elements with 'true' visible-in-detail (Generic Player names-pace) attribute value

getGPVisibleInListPropertiesData() method
Returns The list of appropriate SDMOData elements with 'true' visible-in-list (Generic Player names-pace) attribute value.

Syntax

```
public abstract List< ISDMODataProperty >
getGPVisibleInListPropertiesData ()
```

Returns
The list of appropriate SDMOData elements with 'true' visible-in-list (Generic Player names-pace) attribute value

getKeyPropertyNames() method
Returns the list of the values of the 'PropertyRef' SDMOData element contained by the 'Key' SDMOData element.

Syntax

```
public abstract List< String > getKeyPropertyNames ()
```

Returns
The list of the values of the 'PropertyRef' SDMOData element

getName() method
Returns The value of the appropriate SDMOData attribute.

Syntax

```
public abstract String getName ()
```

Returns
The value of the appropriate SDMOData attribute

getNavigationProperties() method
Returns The list of appropriate SDMOData elements.

Syntax

```
public abstract List< ISDMODataNavigationProperty >
getNavigationProperties ()
```

Returns
The list of appropriate SDMOData elements

getNavigationProperty(String) method
Returns The appropriate SDMOData element with the given name.

Syntax

```
public abstract ISDMODataNavigationProperty
getNavigationProperty (String name)
```

Returns
The appropriate SDMOData element with the given name

getProperties() method
Returns The list of appropriate SDMOData elements.

Syntax

```
public abstract List< ISDMODataProperty > getProperties ()
```

Returns
The list of appropriate SDMOData elements

getPropertiesWithAttribute(String, String) method
Returns The list of appropriate SDMOData elements with given attribute value.

Syntax

```
public abstract List< ISDMODataProperty >
getPropertiesWithAttribute (
    String attributeName,
    String attributeValue
)
```

Returns
The list of appropriate SDMOData elements with given attribute value

getPropertiesWithAttribute(String, String, boolean) method
Returns The list of appropriate SDMOData elements with given attribute value.

Syntax

```
public abstract List< ISDMODataProperty >
getPropertiesWithAttribute (
    String attributeName,
    String attributeValue,
    boolean addByDefault
)
```

Returns
The list of appropriate SDMOData elements with given attribute value

getProperty(String) method
Returns The appropriate SDMOData element with the given name.

Syntax

```
public abstract ISDMODataProperty getProperty (String
propertyName)
```

Returns
The appropriate SDMOData element with the given name

getSAPSearchablePropertiesData() method
Returns The list of appropriate SDMOData elements with 'true' searchable (SAP names-pace) attribute value.

Syntax

```
public abstract List< ISDMODataProperty >
getSAPSearchablePropertiesData ()
```

Returns
The list of appropriate SDMOData elements with 'true' searchable (SAP names-pace) attribute value

getSearchablePropertiesData(String) method
Returns The list of appropriate SDMOData elements with 'true' attribute value of the given attribute.

Syntax

```
public abstract List< ISDMODataProperty >
getSearchablePropertiesData (String searchAttributeName)
```

Returns
The list of appropriate SDMOData elements with 'true' attribute value of the given attribute

hasStream() method
Returns The value of the appropriate SDMOData attribute.

Syntax

```
public abstract boolean hasStream ()
```

Returns
The value of the appropriate SDMOData attribute

ATTRIBUTE_HASSTREAM variable
Name of the appropriate SDMOData attribute.

Syntax

```
public static final String ATTRIBUTE_HASSTREAM
```

ATTRIBUTE_NAME variable
Name of the appropriate SDMOData attribute.

Syntax

```
public static final String ATTRIBUTE_NAME
```

ELEMENT_ENTITYTYPE variable
Name of the appropriate SDMOData element.

Syntax

```
public static final String ELEMENT_ENTITYTYPE
```

ELEMENT_KEY variable
Name of the appropriate SDMOData element.

Syntax

```
public static final String ELEMENT_KEY
```

ELEMENT_PROPERTY variable
Name of the appropriate SDMOData element.

Syntax

```
public static final String ELEMENT_PROPERTY
```

ELEMENT_PROPERTYREF variable
Name of the appropriate SDMOData element.

Syntax

```
public static final String ELEMENT_PROPERTYREF
```

ISDMODataEntry interface
Deprecated. since 3.0, Use IODataEntry Represents the 'entry' SDMOData element with maintained reference to the appropriate SDMOData Schema document.

Package

```
com.sap.mobile.lib.sdmparser
```

Syntax

```
public abstract interface ISDMODataEntry extends
ISDMParserDocument,
```

Implemented interfaces

- *ISDMParserDocument* on page 1063

Derived classes

- *SDMODataEntry* on page 1313
- *SDMODataReturnTypeEntry* on page 1490

Derived interfaces

- *ISDMODataSubscriptionEntry* on page 1021

Members
All members of ISDMODataEntry, including inherited members. **Variables**

Modifier and Type	Variable	Description
public static final String	PROPERTY_LEVEL_SEPA-RATOR	
public static final String	ELEMENT_ENTRY	Name of the appropriate SDMOData element.
public static final String	ELEMENT_TITLE	Name of the appropriate SDMOData element.
public static final String	ELEMENT_SUMMARY	Name of the appropriate SDMOData element.

Modifier and Type	Variable	Description
public static final String	ELEMENT_CATEGORY	Name of the appropriate SDMOData element.
public static final String	ATTRIBUTE_TERM	Name of the appropriate SDMOData attribute.
public static final String	ELEMENT_CONTENT	Name of the appropriate SDMOData element.
public static final String	ELEMENT_PROPERTIES	Name of the appropriate SDMOData element.
public static final String	ELEMENT_LINK	Name of the appropriate SDMOData element.
public static final String	ELEMENT_UPDATED	Name of the appropriate SDMOData element.
public static final String	ELEMENT_AUTHOR	Name of the appropriate SDMOData element.
public static final String	ELEMENT_NAME	Name of the appropriate SDMOData element.
public static final String	ATTRIBUTE_SEMANTICS	Name of the appropriate SDMOData attribute.
public static final String	ATTRIBUTE_VALUE_SEMANTICS_ACTION	Value option for appropriate SDMOData attribute.

Methods

Modifier and Type	Method	Description
public abstract List< ISDMODataLink >	*getActionLinks()* on page 905	Returns SDMOData Link objects that are set as action links (Has semantics (SAP namespace) attribute with value 'action')
public abstract String	*getAuthorName()* on page 906	Returns The value of the 'name' SDMOData element of the 'author' SDMOData element.
public cacheState	*getCachestate()* on page 906	
public Long	*getCacheTimestamp()* on page 906	

Modifier and Type	Method	Description
public abstract String	*getCollectionId()* on page 906	Returns the Id of the SDMOCata Collection that this Entry belongs to.
public abstract String	*getEtag()* on page 906	Returns the Id of the SDMOData Collection that this Entry belongs to.
public abstract String	*getFilterUrl()* on page 907	Returns the full execution URL hat can be used for filtering collection search for this single entry.
public abstract List< ISDMODataProperty >	*getGPUseInSearchPropertiesData()* on page 907	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 >	*getGPVisibleInDetailPropertiesData()* on page 907	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 >	*getGPVisibleInListPropertiesData()* on page 907	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 >	*getIcons()* on page 908	Returns the list of the appropriate SDMOData elements.
public abstract String	*getId()* on page 908	Returns The Id of this SDMOData Entry (value of appropriate SDMOData Id element)
public boolean	*getIsLocal()* on page 908	

Modifier and Type	Method	Description
public abstract Map< String, String >	*getKeyPropertyValues()* on page 908	Returns the values of the properties that are marked as key properties in the SDMOData Schema document.
public abstract Date	*getLastUpdated()* on page 908	Returns The parsed value of the 'updated' SDMOData Element.
public abstract List< ISDMODataLink >	*getLinks()* on page 909	Returns the list of the appropriate SDMOData elements.
public abstract List< ISDMODataProperty >	*getPropertiesData()* on page 909	Returns the value and meta information (retrieved from SDMOData Schema document) of the properties of this SDMOdata Entry document.
public abstract List< ISDMODataProperty >	*getPropertiesDataWithAttribute(String, String)* on page 909	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 abstract List< ISDMODataProperty >	*getPropertiesDataWithAttribute(String, String, boolean)* on page 910	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 abstract ISDMParserDocument	*getPropertiesDocument()* on page 910	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	*getPropertyValue(String...)* on page 910	Returns the value of the appropriate property.
public abstract< T > T	*getPropertyValueParsed(String...)* on page 911	Returns the value of the appropriate property parsed to it's real type.

Modifier and Type	Method	Description
public abstract Map< String, String >	*getPropertyValues()* on page 912	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 >	*getPropertyValues(List< String[]>)* on page 912	Return list of property values for the given property paths.
public abstract List< ISDMODataLink >	*getRelatedDataLinks()* on page 912	Returns SDMOData Link objects that represents links to Related Data.
public abstract List< ISDMODataProperty >	*getSAPSearchablePropertiesData()* on page 913	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 ISDMODataSchema	*getSchema()* on page 913	Returns the appropriate SDMOData Schema object.
public abstract ISDMODataLink	*getSelfLink()* on page 913	Returns SDMSDMOData Link object that should be used for self related operations (with 'rel' attribute value 'self' or 'edit')
public abstract ISDMODataLink	*getSubscriptionLink()* on page 913	Returns SDMOData Link object that should be used for subscription or null if there is no subscription link defined.
public abstract String	*getSummary()* on page 914	Returns The value of the appropriate SDMOData element.
public abstract String	*getTitle()* on page 914	Returns The value of the appropriate SDMOData element.
public abstract void	*putComplexPropertyValue(String, String...)* on page 914	Puts the new property element as a sub-element of the 'complex properties' SDMOData element.

Modifier and Type	Method	Description
public abstract void	*putId(String)* on page 915	Sets id of this SDMOData Entry document (value of appropriate SDMOData Id element)
public abstract void	*putPropertyValue(String, String)* on page 915	Puts the new property element as a sub-element of the 'properties' SDMOData element.
public abstract void	*putPropertyValue(String, String, boolean)* on page 915	Puts the new property element as a sub-element of the 'properties' SDMOData element.
public abstract void	*setAuthorName(String)* on page 916	Sets the value of the 'name' SDMOData element of the 'author' SDMOData element.
public void	*setCachestate(cacheState)* on page 916	
public void	*setCacheTimestamp(Long)* on page 916	
public abstract void	*setCollectionId(String)* on page 916	Maintains the Id of the SDMOCata Collection that this Entry belongs to.
public void	*setIsLocal(boolean)* on page 916	
public abstract void	*setSchema(ISDMODataSchema)* on page 917	Maintains the reference to the appropriate SDMOData Schema object.
public abstract void	*setSummary(String)* on page 917	Sets the value of the appropriate SDMOData element.
public abstract void	*setTitle(String)* on page 917	Sets the value of the appropriate SDMOData element.

Inherited members from ISDMParserDocument

Modifier and Type	Member	Description
public static final String	*ATTRIBUTE_ETAG* on page 1082	Name of the appropriate SDMOData element.

Modifier and Type	Member	Description
public static final String	*ATTRIBUTE_VALUEPREFIX_EDMTYPE* on page 1082	Value prefix for EDM Type type values.
public abstract ISDMParserDocument	*clone()* on page 1069	Creates a copy of this object.
public static Map< String, String >	*DEFAULT_PREFIXMAPPING* on page 1082	The default XML Namespace-to-Prefix mapping used for building XMLS.
public static final String[]	*EDMDATETIME_PATTERNS* on page 1082	Possible EDM DateTime patterns Note: Some pattern are not supported by OData specification but still widely used.
public static final String[]	*EDMDATETIMEOFFSET_PATTERNS* on page 1082	Possible EDM TimeOffset patterns Note: Some pattern are not supported by OData specification but still widely used.
public static final String	*EDMTIME_PATTERN* on page 1082	EDM Time pattern.
public static String	*ELEMENT_FEED* on page 1083	Name of the appropriate SDMOData element.
public static final String	*ELEMENT_ID* on page 1083	Name of the appropriate SDMOData element.
public abstract String	*getAttribute(String...)* on page 1069	Returns the value of the first attribute with the given route.
public abstract List< String >	*getAttributes(String...)* on page 1070	Returns all the values of attributes with the given route.
public abstract Map< String, String >	*getChildAttributeMap(String...)* on page 1070	Returns all the name-value pairs of attributes contained by the element with the given route.
public abstract List< String >	*getChildAttributes(String...)* on page 1070	Returns all the values of attributes contained by the element with the given route.
public abstract List< ISDMParserDocument >	*getChildDocuments(String...)* on page 1071	Returns the elements contained by the element with the given route.

Modifier and Type	Member	Description
public abstract List< ISDMParserDocument >	*getChildDocumentsWithAttribute(String, String, String...)* on page 1071	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public abstract List< ISDMParserDocument >	*getChildDocumentsWithAttribute(String, String, boolean, String...)* on page 1072	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public abstract ISDMParserDocument	*getDocument(String...)* on page 1072	Returns the first element with the given route.
public abstract List< ISDMParserDocument >	*getDocuments(String...)* on page 1073	Returns all the elements with the given route.
public abstract List< ISDMParserDocument >	*getDocumentsWithAttribute(String, String, String...)* on page 1073	Returns the elements with the given route that contains the given attribute with the given value.
public abstract List< ISDMParserDocument >	*getDocumentsWithAttribute(String, String, boolean, String...)* on page 1074	Returns the elements with the given route that contains the given attribute with the given value.
public abstract ISDMParserDocument	*getDocumentWithAttribute(String, String, String...)* on page 1074	Returns the first element with the given route that contains the given attribute with the given value.
public abstract ISDMParserDocument	*getDocumentWithAttribute(String, String, boolean, String...)* on page 1075	Returns the first element with the given route that contains the given attribute with the given value.
public abstract String	*getElementName()* on page 1075	Returns The name of the root element of this document.
public abstract String	*getFunctionImportComplexPropertyValue(String...)* on page 1076	
public abstract String	*getPrefixForUri(String)* on page 1076	Returns the appropriate name-space prefix for the given XML name-space URI.

Modifier and Type	Member	Description
public abstract String[]	*getStrings()* on page 1076	Returns all the string values contained by this document.
public abstract String	*getValue(String...)* on page 1076	Returns the value of the first element with the given route.
public abstract List< String >	*getValues(String...)* on page 1077	Returns all the values of elements with the given route.
public abstract void	*putAttribute(String, String...)* on page 1077	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	*putDocument(ISDMParserDocument, String...)* on page 1078	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	*putValue(String, String...)* on page 1078	Sets the value of the first element with the given route.
public abstract boolean	*removeAttribute(String...)* on page 1079	Removes first element with the given route.
public abstract boolean	*removeAttributes(String...)* on page 1079	Removes all the attribute with the given route.
public abstract boolean	*removeDocument(String...)* on page 1079	Removes first element with the given route For removing multiple element use setDocuemtns with null arguments.
public static final String	*ROOT_DOCUMENT_NAME* on page 1083	The default root element name for a new document.

Modifier and Type	Member	Description
public abstract void	*setAttributes(List< String >, String...)* on page 1080	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	*setDocuments(List< ISDMParserDocument >, String...)* on page 1080	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	*setElementName(String, String...)* on page 1081	Sets the name of the root element with the given route Use empty route for setting root name of this document.
public abstract void	*setValues(List< String >, String...)* on page 1081	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	*toXMLString()* on page 1081	Returns the XML string representation of this object.
public static final String	*XMLNS_APPLICATION_URI* on page 1083	Constant for XMLNS URI: http://schemas.microsoft.com/ado/2007/08/dataservices.
public static final String	*XMLNS_ATOM_URI* on page 1083	Constant for XMLNS URI: http://www.w3.org/2005/Atom.

Modifier and Type	Member	Description
public static final String	*XMLNS_DATASERVICES_URI* on page 1083	Constant for XMLNS URI: http://schemas.microsoft.com/ado/2007/08/dataservices.
public static final String	*XMLNS_EDM_URI* on page 1083	Constant for XMLNS URI: http://schemas.microsoft.com/ado/2007/05/edm.
public static final String	*XMLNS_EDMX_URI* on page 1084	Constant for XMLNS URI: http://schemas.microsoft.com/ado/2007/06/edmx.
public static final String	*XMLNS_GENERICPLAYER_URI* on page 1084	Constant for XMLNS URI: http://www.sap.com/Protocols/SAPData/GenericPlayer.
public static final String	*XMLNS_METADATA_URI* on page 1084	Constant for XMLNS URI: http://schemas.microsoft.com/ado/2007/08/dataservices/metadata.
public static final String	*XMLNS_SAP_URI* on page 1084	Constant for XMLNS URI: http://www.sap.com/Protocols/SAPData.

Inherited members from ISDMPersistable

Modifier and Type	Member	Description
public void	*read(BufferedReader)* on page 1085	
public void	*write(BufferedWriter)* on page 1085	

getActionLinks() method

Returns SDMOData Link objects that are set as action links (Has semantics (SAP namespace) attribute with value 'action')

Syntax

```
public abstract List< ISDMODataLink > getActionLinks ()
```

Returns

List of SDMOData Action Link documents

getAuthorName() method
Returns The value of the 'name' SDMOData element of the 'author' SDMOData element.

Syntax

```
public abstract String getAuthorName ()
```

Returns
The value of the 'name' SDMOData element of the 'author' SDMOData 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 ISDMParserDocument 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.

Remarks
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

Remarks
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

Remarks
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
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 abstract ISDMODataLink getSubscriptionLink ()
```

Returns
SDMOData Link for subscribe

getSummary() method
Returns The value of the appropriate SDMOData element.

Syntax

```
public abstract String getSummary ()
```

Returns
The value of the appropriate SDMOData element

getTitle() method
Returns The value of the appropriate SDMOData element.

Syntax

```
public abstract String getTitle ()
```

Returns
The value of the appropriate SDMOData element

putComplexPropertyValue(String, String...) method
Puts the new property element as a sub-element of the 'complex properties' SDMOData 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

Remarks
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 SDMOData Entry document (value of appropriate SDMOData 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' SDMOData 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

Remarks
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 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

Remarks
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' SDMOData element of the 'author' SDMOData 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 SDMOData Schema object.

Syntax

```
public abstract void setSchema (ISDMODataSchema schema)
```

Parameters

- **schema –** The appropriate SDMOData Schema object.

setSummary(String) method
Sets the value of the appropriate SDMOData 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 SDMOData element.

Syntax

```
public abstract void setTitle (String title)
```

Parameters

- **title –** The new value of the element

ATTRIBUTE_SEMANTICS variable
Name of the appropriate SDMOData 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 SDMOData element.

Syntax

```
public static final String ELEMENT_NAME
```

ELEMENT_PROPERTIES variable
Name of the appropriate SDMOData element.

Syntax

```
public static final String ELEMENT_PROPERTIES
```

ELEMENT_SUMMARY variable
Name of the appropriate SDMOData element.

Syntax

```
public static final String ELEMENT_SUMMARY
```

ELEMENT_TITLE variable
Name of the appropriate SDMOData element.

Syntax

```
public static final String ELEMENT_TITLE
```

ELEMENT_UPDATED variable
Name of the appropriate SDMOData 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 SDMOData element.

Package

```
com.sap.mobile.lib.sdmparser
```

Syntax

```
public abstract interface ISDMODataError extends
ISDMParserDocument
```

Implemented interfaces

- *ISDMParserDocument* on page 1063

Derived classes

- *SDMODataError* on page 1349

Members

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

Modifier and Type	Variable	Description
public static final String	ELEMENT_ERROR	Name of the appropriate SDMOData element.
public static final String	ATTRIBUTE_LANGUAGE	Name of the appropriate SDMOData attribute.
public static final String	ELEMENT_ERRORCODE	Name of the appropriate SDMOData element.
public static final String	ELEMENT_MESSAGE	Name of the appropriate SDMOData element.

Methods

Modifier and Type	Method	Description
public abstract String	*getErrorCode()* on page 925	Returns The value of the 'code' SDMOData element.
public abstract String	*getLang()* on page 925	Returns The value of the appropriate SDMOData attribute of the 'message' element.
public abstract String	*getMessage()* on page 926	Return the localized error message.

Inherited members from ISDMParserDocument

Modifier and Type	Member	Description
public static final String	*ATTRIBUTE_ETAG* on page 1082	Name of the appropriate SDMOData element.
public static final String	*ATTRIBUTE_VALUEPREFIX_EDMTYPE* on page 1082	Value prefix for EDM Type type values.
public abstract ISDMParserDocument	*clone()* on page 1069	Creates a copy of this object.

Modifier and Type	Member	Description
public static Map< String, String >	*DEFAULT_PREFIXMAPPING* on page 1082	The default XML Namespace-to-Prefix mapping used for building XMLS.
public static final String[]	*EDMDATETIME_PATTERNS* on page 1082	Possible EDM DateTime patterns Note: Some pattern are not supported by OData specification but still widely used.
public static final String[]	*EDMDATETIMEOFFSET_PATTERNS* on page 1082	Possible EDM TimeOffset patterns Note: Some pattern are not supported by OData specification but still widely used.
public static final String	*EDMTIME_PATTERN* on page 1082	EDM Time pattern.
public static String	*ELEMENT_FEED* on page 1083	Name of the appropriate SDMOData element.
public static final String	*ELEMENT_ID* on page 1083	Name of the appropriate SDMOData element.
public abstract String	*getAttribute(String...)* on page 1069	Returns the value of the first attribute with the given route.
public abstract List< String >	*getAttributes(String...)* on page 1070	Returns all the values of attributes with the given route.
public abstract Map< String, String >	*getChildAttributeMap(String...)* on page 1070	Returns all the name-value pairs of attributes contained by the element with the given route.
public abstract List< String >	*getChildAttributes(String...)* on page 1070	Returns all the values of attributes contained by the element with the given route.
public abstract List< ISDMParserDocument >	*getChildDocuments(String...)* on page 1071	Returns the elements contained by the element with the given route.
public abstract List< ISDMParserDocument >	*getChildDocumentsWithAttribute(String, String, String...)* on page 1071	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 >	*getChildDocumentsWithAttribute(String, String, boolean, String...)* on page 1072	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public abstract ISDMParserDocument	*getDocument(String...)* on page 1072	Returns the first element with the given route.
public abstract List< ISDMParserDocument >	*getDocuments(String...)* on page 1073	Returns all the elements with the given route.
public abstract List< ISDMParserDocument >	*getDocumentsWithAttribute(String, String, String...)* on page 1073	Returns the elements with the given route that contains the given attribute with the given value.
public abstract List< ISDMParserDocument >	*getDocumentsWithAttribute(String, String, boolean, String...)* on page 1074	Returns the elements with the given route that contains the given attribute with the given value.
public abstract ISDMParserDocument	*getDocumentWithAttribute(String, String, String...)* on page 1074	Returns the first element with the given route that contains the given attribute with the given value.
public abstract ISDMParserDocument	*getDocumentWithAttribute(String, String, boolean, String...)* on page 1075	Returns the first element with the given route that contains the given attribute with the given value.
public abstract String	*getElementName()* on page 1075	Returns The name of the root element of this document.
public abstract String	*getFunctionImportComplexPropertyValue(String...)* on page 1076	
public abstract String	*getPrefixForUri(String)* on page 1076	Returns the appropriate name-space prefix for the given XML name-space URI.
public abstract String[]	*getStrings()* on page 1076	Returns all the string values contained by this document.

Modifier and Type	Member	Description
public abstract String	*getValue(String...)* on page 1076	Returns the value of the first element with the given route.
public abstract List< String >	*getValues(String...)* on page 1077	Returns all the values of elements with the given route.
public abstract void	*putAttribute(String, String...)* on page 1077	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	*putDocument(ISDMParserDocument, String...)* on page 1078	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	*putValue(String, String...)* on page 1078	Sets the value of the first element with the given route.
public abstract boolean	*removeAttribute(String...)* on page 1079	Removes first element with the given route.
public abstract boolean	*removeAttributes(String...)* on page 1079	Removes all the attribute with the given route.
public abstract boolean	*removeDocument(String...)* on page 1079	Removes first element with the given route For removing multiple element use setDocuemtns with null arguments.
public static final String	*ROOT_DOCUMENT_NAME* on page 1083	The default root element name for a new document.
public abstract void	*setAttributes(List< String >, String...)* on page 1080	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	*setDocuments(List< ISDMParserDocument >, String...)* on page 1080	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	*setElementName(String, String...)* on page 1081	Sets the name of the root element with the given route Use empty route for setting root name of this document.
public abstract void	*setValues(List< String >, String...)* on page 1081	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	*toXMLString()* on page 1081	Returns the XML string representation of this object.
public static final String	*XMLNS_APPLICATION_URI* on page 1083	Constant for XMLNS URI: http://schemas.microsoft.com/ado/2007/08/dataservices.
public static final String	*XMLNS_ATOM_URI* on page 1083	Constant for XMLNS URI: http://www.w3.org/2005/Atom.
public static final String	*XMLNS_DATASERVICES_URI* on page 1083	Constant for XMLNS URI: http://schemas.microsoft.com/ado/2007/08/dataservices.
public static final String	*XMLNS_EDM_URI* on page 1083	Constant for XMLNS URI: http://schemas.microsoft.com/ado/2007/05/edm.
public static final String	*XMLNS_EDMX_URI* on page 1084	Constant for XMLNS URI: http://schemas.microsoft.com/ado/2007/06/edmx.

Modifier and Type	Member	Description
public static final String	*XMLNS_GENERICPLAY-ER_URI* on page 1084	Constant for XMLNS URI: http://www.sap.com/Protocols/SAPData/GenericPlayer.
public static final String	*XMLNS_METADATA_URI* on page 1084	Constant for XMLNS URI: http://schemas.microsoft.com/ado/2007/08/dataservices/metadata.
public static final String	*XMLNS_SAP_URI* on page 1084	Constant for XMLNS URI: http://www.sap.com/Protocols/SAPData.

Inherited members from ISDMPersistable

Modifier and Type	Member	Description
public void	*read(BufferedReader)* on page 1085	
public void	*write(BufferedWriter)* on page 1085	

getErrorCode() method

Returns The value of the 'code' SDMOData element.

Syntax

```
public abstract 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 abstract String getLang ()
```

Returns

The value of the appropriate SDMOData attribute of the 'message' element

getMessage() method
Return the localized error message.

Syntax
```
public abstract String getMessage ()
```

Returns
The value of the 'message' SDMOData element

ATTRIBUTE_LANGUAGE variable
Name of the appropriate SDMOData attribute.

Syntax
```
public static final String ATTRIBUTE_LANGUAGE
```

ELEMENT_ERROR variable
Name of the appropriate SDMOData element.

Syntax
```
public static final String ELEMENT_ERROR
```

ELEMENT_ERRORCODE variable
Name of the appropriate SDMOData element.

Syntax
```
public static final String ELEMENT_ERRORCODE
```

ELEMENT_MESSAGE variable
Name of the appropriate SDMOData element.

Syntax
```
public static final String ELEMENT_MESSAGE
```

ISDMODataFunctionImport interface
Deprecated. since 3.0, Use IODataFunctionImport Represents the 'FunctionImport' SDMOData element.

Package
```
com.sap.mobile.lib.sdmparser
```

Syntax

```
public abstract interface ISDMODataFunctionImport extends
ISDMParserDocument
```

Implemented interfaces

- *ISDMParserDocument* on page 1063

Derived classes

- *SDMODataFunctionImport* on page 1364

Members

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

Modifier and Type	Variable	Description
public static final String	ELEMENT_FUNCTIONA-LIMPORT	Name of the appropriate SDMOData element.
public static final String	ELEMENT_PARAMETER	Name of the appropriate SDMOData element.
public static final String	ATTRIBUTE_NAME	Name of the appropriate SDMOData attribute.
public static final String	ATTRIBUTE_ACTION_FOR	Name of the appropriate SDMSDMOData attribute.
public static final String	ATTRIBUTE_RETURNTYPE	Name of the appropriate SDMOData attribute.
public static final String	ATTRIBUTE_HTTPME-THOD	Name of the appropriate SDMOData attribute.
public static final String	ATTRIBUTE_ENTITYSET	Name of the appropriate SDMOData attribute.

Methods

Modifier and Type	Method	Description
public abstract String	*getActionFor()* on page 933	Returns The value of the appropriate SDMOData attribute.
public abstract String	*getCollectionId()* on page 933	Returns The value of the 'EntitySet' SDMOData attribute.

Modifier and Type	Method	Description
public abstract String	*getEntitySet()* on page 934	Returns The value of the 'EntitySet' SDMOData attribute.
public abstract String	*getExecutionUrl(Map< String, String >)* on page 934	Calculate the full execution URL for executing this Function Import according to the passed paramteres.
public abstract String	*getHTTPMethod()* on page 934	Returns The value of the appropriate SDMOData attribute.
public abstract List< String >	*getInputParameterNames()* on page 934	Returns The list of the appropriate SDMOData element with 'In' or 'InOut' attribute value.
public abstract String	*getName()* on page 935	Returns The value of the appropriate SDMOData attribute.
public abstract List< String >	*getOutputParameterNames()* on page 935	Returns The list of the appropriate SDMOData element with 'Out' or 'InOut' attribute value.
public abstract List< ISDMODataParameter >	*getParameters()* on page 935	Returns The list of the appropriate SDMOData element.
public abstract String	*getReturnType()* on page 935	Returns The value of the appropriate SDMOData attribute.
public RETURNTYPE_ENUM	*getReturnTypeEnum()* on page 935	Returns The return type of this Function Import SDMOData document.

Inherited members from ISDMParserDocument

Modifier and Type	Member	Description
public static final String	*ATTRIBUTE_ETAG* on page 1082	Name of the appropriate SDMOData element.
public static final String	*ATTRIBUTE_VALUEPREFIX_EDMTYPE* on page 1082	Value prefix for EDM Type type values.
public abstract ISDMParserDocument	*clone()* on page 1069	Creates a copy of this object.

Modifier and Type	Member	Description
public static Map< String, String >	*DEFAULT_PREFIXMAPPING* on page 1082	The default XML Namespace-to-Prefix mapping used for building XMLS.
public static final String[]	*EDMDATETIME_PATTERNS* on page 1082	Possible EDM DateTime patterns Note: Some pattern are not supported by OData specification but still widely used.
public static final String[]	*EDMDATETIMEOFFSET_PATTERNS* on page 1082	Possible EDM TimeOffset patterns Note: Some pattern are not supported by OData specification but still widely used.
public static final String	*EDMTIME_PATTERN* on page 1082	EDM Time pattern.
public static String	*ELEMENT_FEED* on page 1083	Name of the appropriate SDMOData element.
public static final String	*ELEMENT_ID* on page 1083	Name of the appropriate SDMOData element.
public abstract String	*getAttribute(String...)* on page 1069	Returns the value of the first attribute with the given route.
public abstract List< String >	*getAttributes(String...)* on page 1070	Returns all the values of attributes with the given route.
public abstract Map< String, String >	*getChildAttributeMap(String...)* on page 1070	Returns all the name-value pairs of attributes contained by the element with the given route.
public abstract List< String >	*getChildAttributes(String...)* on page 1070	Returns all the values of attributes contained by the element with the given route.
public abstract List< ISDMParserDocument >	*getChildDocuments(String...)* on page 1071	Returns the elements contained by the element with the given route.
public abstract List< ISDMParserDocument >	*getChildDocumentsWithAttribute(String, String, String...)* on page 1071	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 >	*getChildDocumentsWithAttribute(String, String, boolean, String...)* on page 1072	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public abstract ISDMParserDocument	*getDocument(String...)* on page 1072	Returns the first element with the given route.
public abstract List< ISDMParserDocument >	*getDocuments(String...)* on page 1073	Returns all the elements with the given route.
public abstract List< ISDMParserDocument >	*getDocumentsWithAttribute(String, String, String...)* on page 1073	Returns the elements with the given route that contains the given attribute with the given value.
public abstract List< ISDMParserDocument >	*getDocumentsWithAttribute(String, String, boolean, String...)* on page 1074	Returns the elements with the given route that contains the given attribute with the given value.
public abstract ISDMParserDocument	*getDocumentWithAttribute(String, String, String...)* on page 1074	Returns the first element with the given route that contains the given attribute with the given value.
public abstract ISDMParserDocument	*getDocumentWithAttribute(String, String, boolean, String...)* on page 1075	Returns the first element with the given route that contains the given attribute with the given value.
public abstract String	*getElementName()* on page 1075	Returns The name of the root element of this document.
public abstract String	*getFunctionImportComplexPropertyValue(String...)* on page 1076	
public abstract String	*getPrefixForUri(String)* on page 1076	Returns the appropriate name-space prefix for the given XML name-space URI.
public abstract String[]	*getStrings()* on page 1076	Returns all the string values contained by this document.

Modifier and Type	Member	Description
public abstract String	*getValue(String...)* on page 1076	Returns the value of the first element with the given route.
public abstract List< String >	*getValues(String...)* on page 1077	Returns all the values of elements with the given route.
public abstract void	*putAttribute(String, String...)* on page 1077	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	*putDocument(ISDMParserDocument, String...)* on page 1078	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	*putValue(String, String...)* on page 1078	Sets the value of the first element with the given route.
public abstract boolean	*removeAttribute(String...)* on page 1079	Removes first element with the given route.
public abstract boolean	*removeAttributes(String...)* on page 1079	Removes all the attribute with the given route.
public abstract boolean	*removeDocument(String...)* on page 1079	Removes first element with the given route For removing multiple element use setDocuemtns with null arguments.
public static final String	*ROOT_DOCUMENT_NAME* on page 1083	The default root element name for a new document.
public abstract void	*setAttributes(List< String >, String...)* on page 1080	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	*setDocuments(List< ISDMParserDocument >, String...)* on page 1080	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	*setElementName(String, String...)* on page 1081	Sets the name of the root element with the given route Use empty route for setting root name of this document.
public abstract void	*setValues(List< String >, String...)* on page 1081	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	*toXMLString()* on page 1081	Returns the XML string representation of this object.
public static final String	*XMLNS_APPLICATION_URI* on page 1083	Constant for XMLNS URI: http://schemas.microsoft.com/ado/2007/08/dataservices.
public static final String	*XMLNS_ATOM_URI* on page 1083	Constant for XMLNS URI: http://www.w3.org/2005/Atom.
public static final String	*XMLNS_DATASERVICES_URI* on page 1083	Constant for XMLNS URI: http://schemas.microsoft.com/ado/2007/08/dataservices.
public static final String	*XMLNS_EDM_URI* on page 1083	Constant for XMLNS URI: http://schemas.microsoft.com/ado/2007/05/edm.
public static final String	*XMLNS_EDMX_URI* on page 1084	Constant for XMLNS URI: http://schemas.microsoft.com/ado/2007/06/edmx.

Modifier and Type	Member	Description
public static final String	*XMLNS_GENERICPLAY-ER_URI* on page 1084	Constant for XMLNS URI: http://www.sap.com/Protocols/SAPData/GenericPlayer.
public static final String	*XMLNS_METADATA_URI* on page 1084	Constant for XMLNS URI: http://schemas.microsoft.com/ado/2007/08/dataservices/metadata.
public static final String	*XMLNS_SAP_URI* on page 1084	Constant for XMLNS URI: http://www.sap.com/Protocols/SAPData.

Inherited members from ISDMPersistable

Modifier and Type	Member	Description
public void	*read(BufferedReader)* on page 1085	
public void	*write(BufferedWriter)* on page 1085	

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 paramteres.

Syntax

```
public abstract String getExecutionUrl (Map< String, String >
parameters)
```

Returns
The full execution URL

getHTTPMethod() method
Returns The value of the appropriate SDMOData attribute.

Syntax

```
public abstract String getHTTPMethod ()
```

Returns
The value of the appropriate SDMOData attribute

getInputParameterNames() method
Returns The list of the appropriate SDMOData element with 'In' or 'InOut' attribute value.

Syntax

```
public abstract List< String > getInputParameterNames ()
```

Returns
The list of the appropriate SDMOData element with 'In' or 'InOut' attribute value

getName() method
Returns The value of the appropriate SDMOData attribute.

Syntax
```
public abstract String getName ()
```

Returns
The value of the appropriate SDMOData attribute

getOutputParameterNames() method
Returns The list of the appropriate SDMOData element with 'Out' or 'InOut' attribute value.

Syntax
```
public abstract 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 abstract List< ISDMODataParameter > getParameters ()
```

Returns
The list of the appropriate SDMOData element

getReturnType() method
Returns The value of the appropriate SDMOData attribute.

Syntax
```
public abstract String getReturnType ()
```

Returns
The value of the appropriate SDMOData attribute

getReturnTypeEnum() method
Returns The return type of this Function Import SDMOData document.

Syntax
```
public RETURNTYPE_ENUM getReturnTypeEnum ()
```

Returns
The return type of this Function Import SDMOData document

ATTRIBUTE_ACTION_FOR variable
Name of the appropriate SDMSDMOData attribute.

Syntax

```
public static final String ATTRIBUTE_ACTION_FOR
```

ATTRIBUTE_ENTITYSET variable
Name of the appropriate SDMOData 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.

Package

```
com.sap.mobile.lib.sdmparser
```

Syntax

```
public interface ISDMODataIcon extends ISDMParserDocument
```

Implemented interfaces

- *ISDMParserDocument* on page 1063

Derived classes

- *SDMODataIcon* on page 1383

Members
All members of ISDMODataIcon, including inherited members. **Variables**

Modifier and Type	Variable	Description
public static final String	ELEMENT_ICON	Name of the appropriate SDMSDMODData element.
public static final String	ATTRIBUTE_WIDTH	Name of the appropriate SDMSDMODData attribute.
public static final String	ATTRIBUTE_HEIGHT	Name of the appropriate SDMSDMODData attribute.

Methods

Modifier and Type	Method	Description
public int	*getHeight()* on page 943	Returns The value of the appropriate SDMOData attribute.
public String	*getUrl()* on page 943	Returns The value of the appropriate SDMOData attribute.

Modifier and Type	Method	Description
public int	*getWidth()* on page 943	Returns The value of the appropriate SDMOData attribute.

Inherited members from ISDMParserDocument

Modifier and Type	Member	Description
public static final String	*ATTRIBUTE_ETAG* on page 1082	Name of the appropriate SDMOData element.
public static final String	*ATTRIBUTE_ VALUEPREFIX_EDMTYPE* on page 1082	Value prefix for EDM Type type values.
public abstract ISDMParserDocument	*clone()* on page 1069	Creates a copy of this object.
public static Map< String, String >	*DEFAULT_PREFIXMAPPING* on page 1082	The default XML Namespace-to-Prefix mapping used for building XMLS.
public static final String[]	*EDMDATETIME_PATTERNS* on page 1082	Possible EDM DateTime patterns Note: Some pattern are not supported by OData specification but still widely used.
public static final String[]	*EDMDATETIMEOFFSET_PATTERNS* on page 1082	Possible EDM TimeOffset patterns Note: Some pattern are not supported by OData specification but still widely used.
public static final String	*EDMTIME_PATTERN* on page 1082	EDM Time pattern.
public static String	*ELEMENT_FEED* on page 1083	Name of the appropriate SDMOData element.
public static final String	*ELEMENT_ID* on page 1083	Name of the appropriate SDMOData element.
public abstract String	*getAttribute(String...)* on page 1069	Returns the value of the first attribute with the given route.
public abstract List< String >	*getAttributes(String...)* on page 1070	Returns all the values of attributes with the given route.

Modifier and Type	Member	Description
public abstract Map< String, String >	*getChildAttributeMap(String...)* on page 1070	Returns all the name-value pairs of attributes contained by the element with the given route.
public abstract List< String >	*getChildAttributes(String...)* on page 1070	Returns all the values of attributes contained by the element with the given route.
public abstract List< ISDMParserDocument >	*getChildDocuments(String...)* on page 1071	Returns the elements contained by the element with the given route.
public abstract List< ISDMParserDocument >	*getChildDocumentsWithAttribute(String, String, String...)* on page 1071	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public abstract List< ISDMParserDocument >	*getChildDocumentsWithAttribute(String, String, boolean, String...)* on page 1072	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public abstract ISDMParserDocument	*getDocument(String...)* on page 1072	Returns the first element with the given route.
public abstract List< ISDMParserDocument >	*getDocuments(String...)* on page 1073	Returns all the elements with the given route.
public abstract List< ISDMParserDocument >	*getDocumentsWithAttribute(String, String, String...)* on page 1073	Returns the elements with the given route that contains the given attribute with the given value.
public abstract List< ISDMParserDocument >	*getDocumentsWithAttribute(String, String, boolean, String...)* on page 1074	Returns the elements with the given route that contains the given attribute with the given value.
public abstract ISDMParserDocument	*getDocumentWithAttribute(String, String, String...)* on page 1074	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	*getDocumentWithAttribute(String, String, boolean, String...)* on page 1075	Returns the first element with the given route that contains the given attribute with the given value.
public abstract String	*getElementName()* on page 1075	Returns The name of the root element of this document.
public abstract String	*getFunctionImportComplexPropertyValue(String...)* on page 1076	
public abstract String	*getPrefixForUri(String)* on page 1076	Returns the appropriate name-space prefix for the given XML name-space URI.
public abstract String[]	*getStrings()* on page 1076	Returns all the string values contained by this document.
public abstract String	*getValue(String...)* on page 1076	Returns the value of the first element with the given route.
public abstract List< String >	*getValues(String...)* on page 1077	Returns all the values of elements with the given route.
public abstract void	*putAttribute(String, String...)* on page 1077	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	*putDocument(ISDMParserDocument, String...)* on page 1078	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	*putValue(String, String...)* on page 1078	Sets the value of the first element with the given route.
public abstract boolean	*removeAttribute(String...)* on page 1079	Removes first element with the given route.

Modifier and Type	Member	Description
public abstract boolean	*removeAttributes(String...)* on page 1079	Removes all the attribute with the given route.
public abstract boolean	*removeDocument(String...)* on page 1079	Removes first element with the given route For removing multiple element use setDocuemtns with null arguments.
public static final String	*ROOT_DOCUMENT_NAME* on page 1083	The default root element name for a new document.
public abstract void	*setAttributes(List< String >, String...)* on page 1080	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	*setDocuments(List< ISDMParserDocument >, String...)* on page 1080	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	*setElementName(String, String...)* on page 1081	Sets the name of the root element with the given route Use empty route for setting root name of this document.
public abstract void	*setValues(List< String >, String...)* on page 1081	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	*toXMLString()* on page 1081	Returns the XML string representation of this object.

Modifier and Type	Member	Description
public static final String	*XMLNS_APPLICATION_URI* on page 1083	Constant for XMLNS URI: http://schemas.microsoft.com/ado/2007/08/dataservices.
public static final String	*XMLNS_ATOM_URI* on page 1083	Constant for XMLNS URI: http://www.w3.org/2005/Atom.
public static final String	*XMLNS_DATASERVICES_URI* on page 1083	Constant for XMLNS URI: http://schemas.microsoft.com/ado/2007/08/dataservices.
public static final String	*XMLNS_EDM_URI* on page 1083	Constant for XMLNS URI: http://schemas.microsoft.com/ado/2007/05/edm.
public static final String	*XMLNS_EDMX_URI* on page 1084	Constant for XMLNS URI: http://schemas.microsoft.com/ado/2007/06/edmx.
public static final String	*XMLNS_GENERICPLAYER_URI* on page 1084	Constant for XMLNS URI: http://www.sap.com/Protocols/SAPData/GenericPlayer.
public static final String	*XMLNS_METADATA_URI* on page 1084	Constant for XMLNS URI: http://schemas.microsoft.com/ado/2007/08/dataservices/metadata.
public static final String	*XMLNS_SAP_URI* on page 1084	Constant for XMLNS URI: http://www.sap.com/Protocols/SAPData.

Inherited members from ISDMPersistable

Modifier and Type	Member	Description
public void	*read(BufferedReader)* on page 1085	
public void	*write(BufferedWriter)* on page 1085	

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.

Package

```
com.sap.mobile.lib.sdmparser
```

Syntax

```
public abstract interface ISDMODataLink extends
ISDMParserDocument
```

Implemented interfaces

- *ISDMParserDocument* on page 1063

Derived classes

- *SDMODataLink* on page 1399

Members
All members of ISDMODataLink, including inherited members. **Variables**

Modifier and Type	Variable	Description
public static final String	ELEMENT_LINK	Name of the appropriate SDMOData element.
public static final String	ELEMENT_INLINE	Name of the appropriate SDMOData element.
public static final String	ELEMENT_PARAMETER	Name of the appropriate SDMOData element.
public static final String	ELEMENT_PARAMETER-SET	Name of the appropriate SDMOData element.
public static final String	ATTRIBUTE_REL_VAL-UE_EDIT	Value option for the appropriate SDMOData parameter.
public static final String	ATTRIBUTE_REL_VAL-UE_SELF	Value option for the appropriate SDMOData parameter.

Modifier and Type	Variable	Description
public static final String	ATTRIBUTE_HREF	Name of the appropriate SDMOData attribute.
public static final String	ATTRIBUTE_REL	Name of the appropriate SDMOData attribute.
public static final String	ATTRIBUTE_TITLE	Name of the appropriate SDMOData attribute.
public static final String	ATTRIBUTE_SEMANTICS	Name of the appropriate SDMOData attribute.
public static final String	ATTRIBUTE_VALUE-PART_RELATED	String that should be part of every rel attribute of a Related Data Link.
public static final String	ATTRIBUTE_VALUESUF-FIX_SUBSCRIPTION	String that should be end of every rel attribute of a Subscription Link.

Methods

Modifier and Type	Method	Description
public abstract String	*getHref()* on page 951	Returns the value of the appropriate SDMOData attribute.
public abstract List< ISDMO-DataEntry >	*getInlineEntries()* on page 951	Returns the list of SDMOData Entries contained by the appropriate SDMOData 'inline' element.
public abstract List< String >	*getInputParameterNames()* on page 952	Returns the list of the appropriate SDMOData Parameter elements that should be used as input parameter.
public abstract List< String >	*getOutputParameterNames()* on page 952	Returns the list of the appropriate SDMOData Parameter elements that should be used as output parameter.
public abstract List< ISDMO-DataParameter >	*getParameters()* on page 952	Returns the list of the appropriate SDMOData Parameter elements.

Modifier and Type	Method	Description
public abstract String	*getRel()* on page 952	Returns the value of the appropriate SDMOData attribute.
public abstract ISDMOData-Schema	*getSchema()* on page 953	Returns the Schema that is to be used for 'Inline entries'.
public abstract String	*getSemantics()* on page 953	Returns The value of the appropriate SDMOData extension (vCard) attribute.
public abstract String	*getTargetCollectionId()* on page 953	Returns the Id of the collection that this link points to (if any)
public abstract String	*getTitle()* on page 953	Returns the value of the appropriate SDMOData attribute.
public abstract String	*getUrl()* on page 953	Returns the full URL for this SDMOData Link object without parameters.
public abstract String	*getUrlWithParameters(Map< String, String >)* on page 954	Returns the full URL for this SDMOData Link object extended with the given parameter names and values.
public abstract void	*setSchema(ISDMODataSchema)* on page 954	Sets the Schema that is to be used for 'Inline entries'.
public abstract void	*setTargetCollectionId(String)* on page 954	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	*ATTRIBUTE_ETAG* on page 1082	Name of the appropriate SDMOData element.
public static final String	*ATTRIBUTE_VALUEPREFIX_EDMTYPE* on page 1082	Value prefix for EDM Type type values.
public abstract ISDMParserDocument	*clone()* on page 1069	Creates a copy of this object.

Modifier and Type	Member	Description
public static Map< String, String >	*DEFAULT_PREFIXMAPPING* on page 1082	The default XML Namespace-to-Prefix mapping used for building XMLS.
public static final String[]	*EDMDATETIME_PATTERNS* on page 1082	Possible EDM DateTime patterns Note: Some pattern are not supported by OData specification but still widely used.
public static final String[]	*EDMDATETIMEOFFSET_PATTERNS* on page 1082	Possible EDM TimeOffset patterns Note: Some pattern are not supported by OData specification but still widely used.
public static final String	*EDMTIME_PATTERN* on page 1082	EDM Time pattern.
public static String	*ELEMENT_FEED* on page 1083	Name of the appropriate SDMOData element.
public static final String	*ELEMENT_ID* on page 1083	Name of the appropriate SDMOData element.
public abstract String	*getAttribute(String...)* on page 1069	Returns the value of the first attribute with the given route.
public abstract List< String >	*getAttributes(String...)* on page 1070	Returns all the values of attributes with the given route.
public abstract Map< String, String >	*getChildAttributeMap(String...)* on page 1070	Returns all the name-value pairs of attributes contained by the element with the given route.
public abstract List< String >	*getChildAttributes(String...)* on page 1070	Returns all the values of attributes contained by the element with the given route.
public abstract List< ISDMParserDocument >	*getChildDocuments(String...)* on page 1071	Returns the elements contained by the element with the given route.
public abstract List< ISDMParserDocument >	*getChildDocumentsWithAttribute(String, String, String...)* on page 1071	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 >	*getChildDocumentsWithAttribute(String, String, boolean, String...)* on page 1072	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public abstract ISDMParserDocument	*getDocument(String...)* on page 1072	Returns the first element with the given route.
public abstract List< ISDMParserDocument >	*getDocuments(String...)* on page 1073	Returns all the elements with the given route.
public abstract List< ISDMParserDocument >	*getDocumentsWithAttribute(String, String, String...)* on page 1073	Returns the elements with the given route that contains the given attribute with the given value.
public abstract List< ISDMParserDocument >	*getDocumentsWithAttribute(String, String, boolean, String...)* on page 1074	Returns the elements with the given route that contains the given attribute with the given value.
public abstract ISDMParserDocument	*getDocumentWithAttribute(String, String, String...)* on page 1074	Returns the first element with the given route that contains the given attribute with the given value.
public abstract ISDMParserDocument	*getDocumentWithAttribute(String, String, boolean, String...)* on page 1075	Returns the first element with the given route that contains the given attribute with the given value.
public abstract String	*getElementName()* on page 1075	Returns The name of the root element of this document.
public abstract String	*getFunctionImportComplexPropertyValue(String...)* on page 1076	
public abstract String	*getPrefixForUri(String)* on page 1076	Returns the appropriate name-space prefix for the given XML name-space URI.
public abstract String[]	*getStrings()* on page 1076	Returns all the string values contained by this document.

Modifier and Type	Member	Description
public abstract String	*getValue(String...)* on page 1076	Returns the value of the first element with the given route.
public abstract List< String >	*getValues(String...)* on page 1077	Returns all the values of elements with the given route.
public abstract void	*putAttribute(String, String...)* on page 1077	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	*putDocument(ISDMParserDocument, String...)* on page 1078	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	*putValue(String, String...)* on page 1078	Sets the value of the first element with the given route.
public abstract boolean	*removeAttribute(String...)* on page 1079	Removes first element with the given route.
public abstract boolean	*removeAttributes(String...)* on page 1079	Removes all the attribute with the given route.
public abstract boolean	*removeDocument(String...)* on page 1079	Removes first element with the given route For removing multiple element use setDocuemtns with null arguments.
public static final String	*ROOT_DOCUMENT_NAME* on page 1083	The default root element name for a new document.
public abstract void	*setAttributes(List< String >, String...)* on page 1080	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	*setDocuments(List< ISDMParserDocument >, String...)* on page 1080	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	*setElementName(String, String...)* on page 1081	Sets the name of the root element with the given route Use empty route for setting root name of this document.
public abstract void	*setValues(List< String >, String...)* on page 1081	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	*toXMLString()* on page 1081	Returns the XML string representation of this object.
public static final String	*XMLNS_APPLICATION_URI* on page 1083	Constant for XMLNS URI: http://schemas.microsoft.com/ado/2007/08/dataservices.
public static final String	*XMLNS_ATOM_URI* on page 1083	Constant for XMLNS URI: http://www.w3.org/2005/Atom.
public static final String	*XMLNS_DATASERVICES_URI* on page 1083	Constant for XMLNS URI: http://schemas.microsoft.com/ado/2007/08/dataservices.
public static final String	*XMLNS_EDM_URI* on page 1083	Constant for XMLNS URI: http://schemas.microsoft.com/ado/2007/05/edm.
public static final String	*XMLNS_EDMX_URI* on page 1084	Constant for XMLNS URI: http://schemas.microsoft.com/ado/2007/06/edmx.

Modifier and Type	Member	Description
public static final String	*XMLNS_GENERICPLAY-ER_URI* on page 1084	Constant for XMLNS URI: http://www.sap.com/Protocols/SAPData/GenericPlayer.
public static final String	*XMLNS_METADATA_URI* on page 1084	Constant for XMLNS URI: http://schemas.microsoft.com/ado/2007/08/dataservices/metadata.
public static final String	*XMLNS_SAP_URI* on page 1084	Constant for XMLNS URI: http://www.sap.com/Protocols/SAPData.

Inherited members from ISDMPersistable

Modifier and Type	Member	Description
public void	*read(BufferedReader)* on page 1085	
public void	*write(BufferedWriter)* on page 1085	

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.

Package

```
com.sap.mobile.lib.sdmparser
```

Syntax

```
public abstract interface ISDMODataNavigationProperty extends
ISDMParserDocument
```

Implemented interfaces

- *ISDMParserDocument* on page 1063

Derived classes

- *SDMODataNavigationProperty* on page 1419

Members

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

Modifier and Type	Variable	Description
public static final String	ELEMENT_NAVIGATION-PROPERTY	Name of the appropriate SDMOData element.
public static final String	ATTRIBUTE_NAME	Name of the appropriate SDMOData attribute.
public static final String	ATTRIBUTE_RELATION-SHIP	Name of the appropriate SDMOData attribute.
public static final String	ATTRIBUTE_FROMROLE	Name of the appropriate SDMOData attribute.
public static final String	ATTRIBUTE_TOROLE	Name of the appropriate SDMOData attribute.

Methods

Modifier and Type	Method	Description
public abstract String	*getFromRole()* on page 962	Returns The value of the appropriate SDMOData attribute.
public abstract String	*getName()* on page 962	Returns The value of the appropriate SDMOData attribute.
public abstract String	*getRelationship()* on page 963	Returns The value of the appropriate SDMOData attribute.
public abstract String	*getToRole()* on page 963	Returns The value of the appropriate SDMOData attribute.

Inherited members from ISDMParserDocument

Modifier and Type	Member	Description
public static final String	*ATTRIBUTE_ETAG* on page 1082	Name of the appropriate SDMOData element.
public static final String	*ATTRIBUTE_ VALUEPRE-FIX_EDMTYPE* on page 1082	Value prefix for EDM Type type values.
public abstract ISDMParserDocument	*clone()* on page 1069	Creates a copy of this object.

Modifier and Type	Member	Description
public static Map< String, String >	*DEFAULT_PREFIXMAPPING* on page 1082	The default XML Namespace-to-Prefix mapping used for building XMLS.
public static final String[]	*EDMDATETIME_PATTERNS* on page 1082	Possible EDM DateTime patterns Note: Some pattern are not supported by OData specification but still widely used.
public static final String[]	*EDMDATETIMEOFFSET_PATTERNS* on page 1082	Possible EDM TimeOffset patterns Note: Some pattern are not supported by OData specification but still widely used.
public static final String	*EDMTIME_PATTERN* on page 1082	EDM Time pattern.
public static String	*ELEMENT_FEED* on page 1083	Name of the appropriate SDMOData element.
public static final String	*ELEMENT_ID* on page 1083	Name of the appropriate SDMOData element.
public abstract String	*getAttribute(String...)* on page 1069	Returns the value of the first attribute with the given route.
public abstract List< String >	*getAttributes(String...)* on page 1070	Returns all the values of attributes with the given route.
public abstract Map< String, String >	*getChildAttributeMap(String...)* on page 1070	Returns all the name-value pairs of attributes contained by the element with the given route.
public abstract List< String >	*getChildAttributes(String...)* on page 1070	Returns all the values of attributes contained by the element with the given route.
public abstract List< ISDMParserDocument >	*getChildDocuments(String...)* on page 1071	Returns the elements contained by the element with the given route.
public abstract List< ISDMParserDocument >	*getChildDocumentsWithAttribute(String, String, String...)* on page 1071	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 >	*getChildDocumentsWithAttribute(String, String, boolean, String...)* on page 1072	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public abstract ISDMParserDocument	*getDocument(String...)* on page 1072	Returns the first element with the given route.
public abstract List< ISDMParserDocument >	*getDocuments(String...)* on page 1073	Returns all the elements with the given route.
public abstract List< ISDMParserDocument >	*getDocumentsWithAttribute(String, String, String...)* on page 1073	Returns the elements with the given route that contains the given attribute with the given value.
public abstract List< ISDMParserDocument >	*getDocumentsWithAttribute(String, String, boolean, String...)* on page 1074	Returns the elements with the given route that contains the given attribute with the given value.
public abstract ISDMParserDocument	*getDocumentWithAttribute(String, String, String...)* on page 1074	Returns the first element with the given route that contains the given attribute with the given value.
public abstract ISDMParserDocument	*getDocumentWithAttribute(String, String, boolean, String...)* on page 1075	Returns the first element with the given route that contains the given attribute with the given value.
public abstract String	*getElementName()* on page 1075	Returns The name of the root element of this document.
public abstract String	*getFunctionImportComplexPropertyValue(String...)* on page 1076	
public abstract String	*getPrefixForUri(String)* on page 1076	Returns the appropriate name-space prefix for the given XML name-space URI.
public abstract String[]	*getStrings()* on page 1076	Returns all the string values contained by this document.

Modifier and Type	Member	Description
public abstract String	*getValue(String...)* on page 1076	Returns the value of the first element with the given route.
public abstract List< String >	*getValues(String...)* on page 1077	Returns all the values of elements with the given route.
public abstract void	*putAttribute(String, String...)* on page 1077	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	*putDocument(ISDMParserDocument, String...)* on page 1078	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	*putValue(String, String...)* on page 1078	Sets the value of the first element with the given route.
public abstract boolean	*removeAttribute(String...)* on page 1079	Removes first element with the given route.
public abstract boolean	*removeAttributes(String...)* on page 1079	Removes all the attribute with the given route.
public abstract boolean	*removeDocument(String...)* on page 1079	Removes first element with the given route For removing multiple element use setDocuemtns with null arguments.
public static final String	*ROOT_DOCUMENT_NAME* on page 1083	The default root element name for a new document.
public abstract void	*setAttributes(List< String >, String...)* on page 1080	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	*setDocuments(List< ISDMParserDocument >, String...)* on page 1080	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	*setElementName(String, String...)* on page 1081	Sets the name of the root element with the given route Use empty route for setting root name of this document.
public abstract void	*setValues(List< String >, String...)* on page 1081	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	*toXMLString()* on page 1081	Returns the XML string representation of this object.
public static final String	*XMLNS_APPLICATION_URI* on page 1083	Constant for XMLNS URI: http://schemas.microsoft.com/ado/2007/08/dataservices.
public static final String	*XMLNS_ATOM_URI* on page 1083	Constant for XMLNS URI: http://www.w3.org/2005/Atom.
public static final String	*XMLNS_DATASERVICES_URI* on page 1083	Constant for XMLNS URI: http://schemas.microsoft.com/ado/2007/08/dataservices.
public static final String	*XMLNS_EDM_URI* on page 1083	Constant for XMLNS URI: http://schemas.microsoft.com/ado/2007/05/edm.
public static final String	*XMLNS_EDMX_URI* on page 1084	Constant for XMLNS URI: http://schemas.microsoft.com/ado/2007/06/edmx.

Modifier and Type	Member	Description
public static final String	*XMLNS_GENERICPLAY-ER_URI* on page 1084	Constant for XMLNS URI: http://www.sap.com/Protocols/SAPData/GenericPlayer.
public static final String	*XMLNS_METADATA_URI* on page 1084	Constant for XMLNS URI: http://schemas.microsoft.com/ado/2007/08/dataservices/metadata.
public static final String	*XMLNS_SAP_URI* on page 1084	Constant for XMLNS URI: http://www.sap.com/Protocols/SAPData.

Inherited members from ISDMPersistable

Modifier and Type	Member	Description
public void	*read(BufferedReader)* on page 1085	
public void	*write(BufferedWriter)* on page 1085	

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 SDMOData attribute.

Syntax
```
public abstract String getRelationship ()
```

Returns
The value of the appropriate SDMOData attribute

getToRole() method
Returns The value of the appropriate SDMOData attribute.

Syntax
```
public abstract String getToRole ()
```

Returns
The value of the appropriate SDMOData attribute

ATTRIBUTE_FROMROLE variable
Name of the appropriate SDMOData attribute.

Syntax
```
public static final String ATTRIBUTE_FROMROLE
```

ATTRIBUTE_NAME variable
Name of the appropriate SDMOData attribute.

Syntax
```
public static final String ATTRIBUTE_NAME
```

ATTRIBUTE_RELATIONSHIP variable
Name of the appropriate SDMOData attribute.

Syntax
```
public static final String ATTRIBUTE_RELATIONSHIP
```

ATTRIBUTE_TOROLE variable
Name of the appropriate SDMOData attribute.

Syntax
```
public static final String ATTRIBUTE_TOROLE
```

ELEMENT_NAVIGATIONPROPERTY variable
Name of the appropriate SDMOData element.

Syntax

```
public static final String ELEMENT_NAVIGATIONPROPERTY
```

ISDMODataOpenSearchDescription interface
Deprecated. since 3.0, Use IODataOpenSearchDescription Represents the appropriate SDMOData element.

Package

```
com.sap.mobile.lib.sdmparser
```

Syntax

```
public abstract interface ISDMODataOpenSearchDescription
extends ISDMParserDocument,
```

Implemented interfaces

- *ISDMParserDocument* on page 1063

Derived classes

- *SDMODataOpenSearchDescription* on page 1435

Members
All members of ISDMODataOpenSearchDescription, including inherited members.
Variables

Modifier and Type	Variable	Description
public static final String	ELEMENT_OPENSEARCH-DESCRIPTION	Name of the appropriate SDMOData element.
public static final String	ELEMENT_SHORTNAME	Name of the appropriate SDMOData element.
public static final String	ELEMENT_DESCRIPTION	Name of the appropriate SDMOData element.
public static final String	ELEMENT_URL	Name of the appropriate SDMOData element.

Methods

Modifier and Type	Method	Description
public abstract String	*getDescription()* on page 970	Returns The value of the appropriate SDMOData element.
public abstract String	*getShortName()* on page 970	Returns The value of the appropriate SDMOData element.
public abstract List< ISDMODataURL >	*getUrls()* on page 970	Returns The list of the appropriate SDMOData element.

Inherited members from ISDMParserDocument

Modifier and Type	Member	Description
public static final String	*ATTRIBUTE_ETAG* on page 1082	Name of the appropriate SDMOData element.
public static final String	*ATTRIBUTE_VALUEPREFIX_EDMTYPE* on page 1082	Value prefix for EDM Type type values.
public abstract ISDMParserDocument	*clone()* on page 1069	Creates a copy of this object.
public static Map< String, String >	*DEFAULT_PREFIXMAPPING* on page 1082	The default XML Namespace-to-Prefix mapping used for building XMLS.
public static final String[]	*EDMDATETIME_PATTERNS* on page 1082	Possible EDM DateTime patterns Note: Some pattern are not supported by OData specification but still widely used.
public static final String[]	*EDMDATETIMEOFFSET_PATTERNS* on page 1082	Possible EDM TimeOffset patterns Note: Some pattern are not supported by OData specification but still widely used.
public static final String	*EDMTIME_PATTERN* on page 1082	EDM Time pattern.
public static String	*ELEMENT_FEED* on page 1083	Name of the appropriate SDMOData element.
public static final String	*ELEMENT_ID* on page 1083	Name of the appropriate SDMOData element.

Modifier and Type	Member	Description
public abstract String	*getAttribute(String...)* on page 1069	Returns the value of the first attribute with the given route.
public abstract List< String >	*getAttributes(String...)* on page 1070	Returns all the values of attributes with the given route.
public abstract Map< String, String >	*getChildAttributeMap(String...)* on page 1070	Returns all the name-value pairs of attributes contained by the element with the given route.
public abstract List< String >	*getChildAttributes(String...)* on page 1070	Returns all the values of attributes contained by the element with the given route.
public abstract List< ISDMParserDocument >	*getChildDocuments(String...)* on page 1071	Returns the elements contained by the element with the given route.
public abstract List< ISDMParserDocument >	*getChildDocumentsWithAttribute(String, String, String...)* on page 1071	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public abstract List< ISDMParserDocument >	*getChildDocumentsWithAttribute(String, String, boolean, String...)* on page 1072	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public abstract ISDMParserDocument	*getDocument(String...)* on page 1072	Returns the first element with the given route.
public abstract List< ISDMParserDocument >	*getDocuments(String...)* on page 1073	Returns all the elements with the given route.
public abstract List< ISDMParserDocument >	*getDocumentsWithAttribute(String, String, String...)* on page 1073	Returns the elements with the given route that contains the given attribute with the given value.
public abstract List< ISDMParserDocument >	*getDocumentsWithAttribute(String, String, boolean, String...)* on page 1074	Returns the elements with the given route that contains the given attribute with the given value.

Modifier and Type	Member	Description
public abstract ISDMParserDocument	*getDocumentWithAttribute(String, String, String...)* on page 1074	Returns the first element with the given route that contains the given attribute with the given value.
public abstract ISDMParserDocument	*getDocumentWithAttribute(String, String, boolean, String...)* on page 1075	Returns the first element with the given route that contains the given attribute with the given value.
public abstract String	*getElementName()* on page 1075	Returns The name of the root element of this document.
public abstract String	*getFunctionImportComplexPropertyValue(String...)* on page 1076	
public abstract String	*getPrefixForUri(String)* on page 1076	Returns the appropriate name-space prefix for the given XML name-space URI.
public abstract String[]	*getStrings()* on page 1076	Returns all the string values contained by this document.
public abstract String	*getValue(String...)* on page 1076	Returns the value of the first element with the given route.
public abstract List< String >	*getValues(String...)* on page 1077	Returns all the values of elements with the given route.
public abstract void	*putAttribute(String, String...)* on page 1077	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	*putDocument(ISDMParserDocument, String...)* on page 1078	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	*putValue(String, String...)* on page 1078	Sets the value of the first element with the given route.

Modifier and Type	Member	Description
public abstract boolean	*removeAttribute(String...)* on page 1079	Removes first element with the given route.
public abstract boolean	*removeAttributes(String...)* on page 1079	Removes all the attribute with the given route.
public abstract boolean	*removeDocument(String...)* on page 1079	Removes first element with the given route For removing multiple element use setDocuemtns with null arguments.
public static final String	*ROOT_DOCUMENT_NAME* on page 1083	The default root element name for a new document.
public abstract void	*setAttributes(List< String >, String...)* on page 1080	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	*setDocuments(List< ISDMParserDocument >, String...)* on page 1080	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	*setElementName(String, String...)* on page 1081	Sets the name of the root element with the given route Use empty route for setting root name of this document.
public abstract void	*setValues(List< String >, String...)* on page 1081	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	*toXMLString()* on page 1081	Returns the XML string representation of this object.
public static final String	*XMLNS_APPLICATION_URI* on page 1083	Constant for XMLNS URI: http://schemas.microsoft.com/ado/2007/08/dataservices.
public static final String	*XMLNS_ATOM_URI* on page 1083	Constant for XMLNS URI: http://www.w3.org/2005/Atom.
public static final String	*XMLNS_DATASERVICES_URI* on page 1083	Constant for XMLNS URI: http://schemas.microsoft.com/ado/2007/08/dataservices.
public static final String	*XMLNS_EDM_URI* on page 1083	Constant for XMLNS URI: http://schemas.microsoft.com/ado/2007/05/edm.
public static final String	*XMLNS_EDMX_URI* on page 1084	Constant for XMLNS URI: http://schemas.microsoft.com/ado/2007/06/edmx.
public static final String	*XMLNS_GENERICPLAYER_URI* on page 1084	Constant for XMLNS URI: http://www.sap.com/Protocols/SAPData/GenericPlayer.
public static final String	*XMLNS_METADATA_URI* on page 1084	Constant for XMLNS URI: http://schemas.microsoft.com/ado/2007/08/dataservices/metadata.
public static final String	*XMLNS_SAP_URI* on page 1084	Constant for XMLNS URI: http://www.sap.com/Protocols/SAPData.

Inherited members from ISDMPersistable

Modifier and Type	Member	Description
public void	*read(BufferedReader)* on page 1085	
public void	*write(BufferedWriter)* on page 1085	

getDescription() method
Returns The value of the appropriate SDMOData element.

Syntax

```
public abstract String getDescription ()
```

Returns
The value of the appropriate SDMOData element

getShortName() method
Returns The value of the appropriate SDMOData element.

Syntax

```
public abstract String getShortName ()
```

Returns
The value of the appropriate SDMOData element

getUrls() method
Returns The list of the appropriate SDMOData element.

Syntax

```
public abstract List< ISDMODataURL > getUrls ()
```

Returns
The list of the appropriate SDMOData element

ELEMENT_DESCRIPTION variable
Name of the appropriate SDMOData element.

Syntax

```
public static final String ELEMENT_DESCRIPTION
```

ELEMENT_OPENSEARCHDESCRIPTION variable
Name of the appropriate SDMOData 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.

Package

```
com.sap.mobile.lib.sdmparser
```

Syntax

```
public abstract interface ISDMODataParameter extends
ISDMParserDocument
```

Implemented interfaces

- *ISDMParserDocument* on page 1063

Derived classes

- *SDMODataParameter* on page 1451

Members
All members of ISDMODataParameter, including inherited members. **Variables**

Modifier and Type	Variable	Description
public static final String	ELEMENT_PARAMETER	Name of the appropriate SDMOData element.
public static final String	VALUE_MODE_IN	Value option for the 'Mode' SDMOData attribute.
public static final String	VALUE_MODE_OUT	Value option for the 'Mode' SDMOData attribute.

Modifier and Type	Variable	Description
public static final String	ATTRIBUTE_NAME	Name of the appropriate SDMOData attribute.
public static final String	ATTRIBUTE_TYPE	Name of the appropriate SDMOData attribute.
public static final String	ATTRIBUTE_MODE	Name of the appropriate SDMOData attribute.

Methods

Modifier and Type	Method	Description
public abstract String	*getMode()* on page 977	Returns The value of the appropriate SDMOData attribute.
public abstract String	*getName()* on page 977	Returns The value of the appropriate SDMOData attribute.
public abstract String	*getType()* on page 977	Returns The value of the appropriate SDMOData attribute.

Inherited members from ISDMParserDocument

Modifier and Type	Member	Description
public static final String	*ATTRIBUTE_ETAG* on page 1082	Name of the appropriate SDMOData element.
public static final String	*ATTRIBUTE_ VALUEPREFIX_EDMTYPE* on page 1082	Value prefix for EDM Type type values.
public abstract ISDMParserDocument	*clone()* on page 1069	Creates a copy of this object.
public static Map< String, String >	*DEFAULT_PREFIXMAPPING* on page 1082	The default XML Namespace-to-Prefix mapping used for building XMLS.
public static final String[]	*EDMDATETIME_PATTERNS* on page 1082	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[]	*EDMDATETIMEOFFSET_PATTERNS* on page 1082	Possible EDM TimeOffset patterns Note: Some pattern are not supported by OData specification but still widely used.
public static final String	*EDMTIME_PATTERN* on page 1082	EDM Time pattern.
public static String	*ELEMENT_FEED* on page 1083	Name of the appropriate SDMOData element.
public static final String	*ELEMENT_ID* on page 1083	Name of the appropriate SDMOData element.
public abstract String	*getAttribute(String...)* on page 1069	Returns the value of the first attribute with the given route.
public abstract List< String >	*getAttributes(String...)* on page 1070	Returns all the values of attributes with the given route.
public abstract Map< String, String >	*getChildAttributeMap(String...)* on page 1070	Returns all the name-value pairs of attributes contained by the element with the given route.
public abstract List< String >	*getChildAttributes(String...)* on page 1070	Returns all the values of attributes contained by the element with the given route.
public abstract List< ISDMParserDocument >	*getChildDocuments(String...)* on page 1071	Returns the elements contained by the element with the given route.
public abstract List< ISDMParserDocument >	*getChildDocumentsWithAttribute(String, String, String...)* on page 1071	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public abstract List< ISDMParserDocument >	*getChildDocumentsWithAttribute(String, String, boolean, String...)* on page 1072	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public abstract ISDMParserDocument	*getDocument(String...)* on page 1072	Returns the first element with the given route.
public abstract List< ISDMParserDocument >	*getDocuments(String...)* on page 1073	Returns all the elements with the given route.

Modifier and Type	Member	Description
public abstract List< ISDMParserDocument >	*getDocumentsWithAttribute(String, String, String...)* on page 1073	Returns the elements with the given route that contains the given attribute with the given value.
public abstract List< ISDMParserDocument >	*getDocumentsWithAttribute(String, String, boolean, String...)* on page 1074	Returns the elements with the given route that contains the given attribute with the given value.
public abstract ISDMParserDocument	*getDocumentWithAttribute(String, String, String...)* on page 1074	Returns the first element with the given route that contains the given attribute with the given value.
public abstract ISDMParserDocument	*getDocumentWithAttribute(String, String, boolean, String...)* on page 1075	Returns the first element with the given route that contains the given attribute with the given value.
public abstract String	*getElementName()* on page 1075	Returns The name of the root element of this document.
public abstract String	*getFunctionImportComplexPropertyValue(String...)* on page 1076	
public abstract String	*getPrefixForUri(String)* on page 1076	Returns the appropriate name-space prefix for the given XML name-space URI.
public abstract String[]	*getStrings()* on page 1076	Returns all the string values contained by this document.
public abstract String	*getValue(String...)* on page 1076	Returns the value of the first element with the given route.
public abstract List< String >	*getValues(String...)* on page 1077	Returns all the values of elements with the given route.
public abstract void	*putAttribute(String, String...)* on page 1077	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	*putDocument(ISDMParserDocument, String...)* on page 1078	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	*putValue(String, String...)* on page 1078	Sets the value of the first element with the given route.
public abstract boolean	*removeAttribute(String...)* on page 1079	Removes first element with the given route.
public abstract boolean	*removeAttributes(String...)* on page 1079	Removes all the attribute with the given route.
public abstract boolean	*removeDocument(String...)* on page 1079	Removes first element with the given route For removing multiple element use setDocuemtns with null arguments.
public static final String	*ROOT_DOCUMENT_NAME* on page 1083	The default root element name for a new document.
public abstract void	*setAttributes(List< String >, String...)* on page 1080	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	*setDocuments(List< ISDMParserDocument >, String...)* on page 1080	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	*setElementName(String, String...)* on page 1081	Sets the name of the root element with the given route Use empty route for setting root name of this document.
public abstract void	*setValues(List< String >, String...)* on page 1081	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	*toXMLString()* on page 1081	Returns the XML string representation of this object.
public static final String	*XMLNS_APPLICATION_URI* on page 1083	Constant for XMLNS URI: http://schemas.microsoft.com/ado/2007/08/dataservices.
public static final String	*XMLNS_ATOM_URI* on page 1083	Constant for XMLNS URI: http://www.w3.org/2005/Atom.
public static final String	*XMLNS_DATASERVICES_URI* on page 1083	Constant for XMLNS URI: http://schemas.microsoft.com/ado/2007/08/dataservices.
public static final String	*XMLNS_EDM_URI* on page 1083	Constant for XMLNS URI: http://schemas.microsoft.com/ado/2007/05/edm.
public static final String	*XMLNS_EDMX_URI* on page 1084	Constant for XMLNS URI: http://schemas.microsoft.com/ado/2007/06/edmx.
public static final String	*XMLNS_GENERICPLAYER_URI* on page 1084	Constant for XMLNS URI: http://www.sap.com/Protocols/SAPData/GenericPlayer.
public static final String	*XMLNS_METADATA_URI* on page 1084	Constant for XMLNS URI: http://schemas.microsoft.com/ado/2007/08/dataservices/metadata.

Modifier and Type	Member	Description
public static final String	*XMLNS_SAP_URI* on page 1084	Constant for XMLNS URI: http://www.sap.com/Protocols/SAPData.

Inherited members from ISDMPersistable

Modifier and Type	Member	Description
public void	*read(BufferedReader)* on page 1085	
public void	*write(BufferedWriter)* on page 1085	

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 SDMOData attribute.

Syntax

```
public static final String ATTRIBUTE_TYPE
```

ELEMENT_PARAMETER variable
Name of the appropriate SDMOData element.

Syntax

```
public static final String ELEMENT_PARAMETER
```

VALUE_MODE_IN variable
Value option for the 'Mode' SDMOData attribute.

Syntax

```
public static final String VALUE_MODE_IN
```

VALUE_MODE_OUT variable
Value option for the 'Mode' SDMOData attribute.

Syntax

```
public static final String VALUE_MODE_OUT
```

ISDMODataProperty interface
Deprecated. since 3.0, Use IODataProperty Represents the appropriate SDMOData element.

Package

```
com.sap.mobile.lib.sdmparser
```

Syntax

```
public abstract interface ISDMODataProperty extends
ISDMParserDocument
```

Implemented interfaces

- *ISDMParserDocument* on page 1063

Derived classes

- *SDMODataProperty* on page 1466

Members

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

Modifier and Type	Variable	Description
public static final String	ELEMENT_PROPERTY	Name of the appropriate SDMOData element.
public static final String	ATTRIBUTE_NAME	Name of the appropriate SDMOData attribute.
public static final String	ATTRIBUTE_TYPE	Name of the appropriate SDMOData attribute.
public static final String	ATTRIBUTE_NULLABLE	Name of the appropriate SDMOData attribute.
public static final String	ATTRIBUTE_FIXED-LENGTH	Name of the appropriate SDMOData attribute.
public static final String	ATTRIBUTE_LABEL	Name of the appropriate SDMOData attribute.
public static final String	ATTRIBUTE_CREATABLE	Name of the appropriate SDMOData attribute.
public static final String	ATTRIBUTE_UPDATABLE	Name of the appropriate SDMOData attribute.
public static final String	ATTRIBUTE_DELETABLE	Name of the appropriate SDMOData attribute.
public static final String	ATTRIBUTE_SEARCHABLE	Name of the appropriate SDMOData attribute.
public static final String	ATTRIBUTE_FILTERABLE	Name of the appropriate SDMOData attribute.

Modifier and Type	Variable	Description
public static final String	ATTRIBUTE_UNICODE	Name of the appropriate SDMOData attribute.
public static final String	ATTRIBUTE_DEFAULTVAL-UE	Name of the appropriate SDMOData attribute.
public static final String	ATTRIBUTE_PRECISION	Name of the appropriate SDMOData attribute.
public static final String	ATTRIBUTE_SCALE	Name of the appropriate SDMOData attribute.
public static final String	ATTRIBUTE_COLLATION	Name of the appropriate SDMOData attribute.
public static final String	ATTRIBUTE_MAXLENGTH	Name of the appropriate SDMOData attribute.
public static final String	ATTRIBUTE_USEIN-SEARCH	Name of the appropriate SDMOData attribute.
public static final String	ATTRIBUTE_VISIBLEIN-LIST	Name of the appropriate SDMOData attribute.
public static final String	ATTRIBUTE_VISIBLEINDE-TAIL	Name of the appropriate SDMOData attribute.
public static final String	ATTRIBUTE_SEMANTICS	Name of the appropriate SDMOData attribute.
public static final String	ATTRIBUTE_LIST_DIS-PLAYORDER	Name of the display-order SDMOData attribute.
public static final String	ATTRIBUTE_DETAIL_DIS-PLAYORDER	Name of the display-order SDMOData attribute.

Methods

Modifier and Type	Method	Description
public abstract List< ISDMO-DataProperty >	*getChildPropertiesData()* on page 987	Returns all the child properties added to this document with putChildProperty method.
public abstract List< ISDMO-DataProperty >	*getChildPropertiesDataWi-thAttribute(String, String)* on page 988	Returns list of appropriate contained Property SDMOData elements with the given attribute value.

Modifier and Type	Method	Description
public abstract List< ISDMODataProperty >	*getChildPropertiesDataWithAttribute(String, String, boolean)* on page 988	Returns list of appropriate contained Property SDMOData elements with the given attribute value.
public abstract ISDMODataProperty	*getChildPropertyData(String)* on page 989	Return a single child property added with putChildProperty method.
public abstract String	*getCollation()* on page 989	Returns the value of the appropriate SDMOData attribute.
public abstract String	*getDefaultValue()* on page 989	Returns the value of the appropriate SDMOData attribute.
public abstract int	*getDetailDisplayOrder()* on page 989	In current version it return the same value as getListDisplayOrder.
public abstract String	*getLabel()* on page 990	Returns The value of the appropriate SDMOData attribute.
public abstract int	*getListDisplayOrder()* on page 990	In current version it returns the same value as getDetailDisplayOrder.
public abstract int	*getMaxLength()* on page 990	Returns the value of the appropriate SDMOData attribute with defaultValue = 0;.
public abstract String	*getName()* on page 990	Returns The value of the appropriate SDMOData attribute.
public abstract String	*getPrecision()* on page 990	Returns the value of the appropriate SDMOData attribute.
public abstract String	*getScale()* on page 991	Returns the value of the appropriate SDMOData attribute.
public abstract String	*getSemantics()* on page 991	Returns the value of the appropriate SDMOData attribute with defaultValue = 0;.
public abstract String	*getType()* on page 991	Returns The value of the appropriate SDMOData attribute.

Modifier and Type	Method	Description
public abstract String	*getValue()* on page 991	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	*hasFixedLength()* on page 992	Returns The value of the appropriate SDMOData attribute.
public abstract boolean	*isComplex()* on page 992	Returns if the property has complex type and has child properties.
public abstract boolean	*isCreatable()* on page 992	Returns The value of the appropriate SDMOData attribute.
public abstract boolean	*isDeletable()* on page 992	Returns The value of the appropriate SDMOData attribute.
public abstract boolean	*isFilterable()* on page 992	Returns The value of the appropriate SDMOData attribute.
public abstract boolean	*isNullable()* on page 993	Returns The value of the appropriate SDMOData attribute.
public abstract boolean	*isSearchable()* on page 993	Returns The value of the appropriate SDMOData attribute.
public abstract boolean	*isUnicode()* on page 993	Returns the value of the appropriate SDMOData attribute.
public abstract boolean	*isUpdatable()* on page 993	Returns The value of the appropriate SDMOData attribute.
public abstract void	*putChildPropertyData(ISDMODataProperty)* on page 994	Put new child property to this property document.
public abstract void	*setValue(String)* on page 994	Sets the value of the property, represented by this object.

Inherited members from ISDMParserDocument

Modifier and Type	Member	Description
public static final String	*ATTRIBUTE_ETAG* on page 1082	Name of the appropriate SDMOData element.

Modifier and Type	Member	Description
public static final String	*ATTRIBUTE_VALUEPREFIX_EDMTYPE* on page 1082	Value prefix for EDM Type type values.
public abstract ISDMParserDocument	*clone()* on page 1069	Creates a copy of this object.
public static Map< String, String >	*DEFAULT_PREFIXMAPPING* on page 1082	The default XML Namespace-to-Prefix mapping used for building XMLS.
public static final String[]	*EDMDATETIME_PATTERNS* on page 1082	Possible EDM DateTime patterns Note: Some pattern are not supported by OData specification but still widely used.
public static final String[]	*EDMDATETIMEOFFSET_PATTERNS* on page 1082	Possible EDM TimeOffset patterns Note: Some pattern are not supported by OData specification but still widely used.
public static final String	*EDMTIME_PATTERN* on page 1082	EDM Time pattern.
public static String	*ELEMENT_FEED* on page 1083	Name of the appropriate SDMOData element.
public static final String	*ELEMENT_ID* on page 1083	Name of the appropriate SDMOData element.
public abstract String	*getAttribute(String...)* on page 1069	Returns the value of the first attribute with the given route.
public abstract List< String >	*getAttributes(String...)* on page 1070	Returns all the values of attributes with the given route.
public abstract Map< String, String >	*getChildAttributeMap(String...)* on page 1070	Returns all the name-value pairs of attributes contained by the element with the given route.
public abstract List< String >	*getChildAttributes(String...)* on page 1070	Returns all the values of attributes contained by the element with the given route.
public abstract List< ISDMParserDocument >	*getChildDocuments(String...)* on page 1071	Returns the elements contained by the element with the given route.

Modifier and Type	Member	Description
public abstract List< ISDMParserDocument >	*getChildDocumentsWithAttribute(String, String, String...)* on page 1071	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public abstract List< ISDMParserDocument >	*getChildDocumentsWithAttribute(String, String, boolean, String...)* on page 1072	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public abstract ISDMParserDocument	*getDocument(String...)* on page 1072	Returns the first element with the given route.
public abstract List< ISDMParserDocument >	*getDocuments(String...)* on page 1073	Returns all the elements with the given route.
public abstract List< ISDMParserDocument >	*getDocumentsWithAttribute(String, String, String...)* on page 1073	Returns the elements with the given route that contains the given attribute with the given value.
public abstract List< ISDMParserDocument >	*getDocumentsWithAttribute(String, String, boolean, String...)* on page 1074	Returns the elements with the given route that contains the given attribute with the given value.
public abstract ISDMParserDocument	*getDocumentWithAttribute(String, String, String...)* on page 1074	Returns the first element with the given route that contains the given attribute with the given value.
public abstract ISDMParserDocument	*getDocumentWithAttribute(String, String, boolean, String...)* on page 1075	Returns the first element with the given route that contains the given attribute with the given value.
public abstract String	*getElementName()* on page 1075	Returns The name of the root element of this document.
public abstract String	*getFunctionImportComplexPropertyValue(String...)* on page 1076	
public abstract String	*getPrefixForUri(String)* on page 1076	Returns the appropriate name-space prefix for the given XML name-space URI.

Modifier and Type	Member	Description
public abstract String[]	*getStrings()* on page 1076	Returns all the string values contained by this document.
public abstract String	*getValue(String...)* on page 1076	Returns the value of the first element with the given route.
public abstract List< String >	*getValues(String...)* on page 1077	Returns all the values of elements with the given route.
public abstract void	*putAttribute(String, String...)* on page 1077	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	*putDocument(ISDMParserDocument, String...)* on page 1078	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	*putValue(String, String...)* on page 1078	Sets the value of the first element with the given route.
public abstract boolean	*removeAttribute(String...)* on page 1079	Removes first element with the given route.
public abstract boolean	*removeAttributes(String...)* on page 1079	Removes all the attribute with the given route.
public abstract boolean	*removeDocument(String...)* on page 1079	Removes first element with the given route For removing multiple element use setDocuemtns with null arguments.
public static final String	*ROOT_DOCUMENT_NAME* on page 1083	The default root element name for a new document.

Modifier and Type	Member	Description
public abstract void	*setAttributes(List< String >, String...)* on page 1080	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	*setDocuments(List< ISDMParserDocument >, String...)* on page 1080	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	*setElementName(String, String...)* on page 1081	Sets the name of the root element with the given route Use empty route for setting root name of this document.
public abstract void	*setValues(List< String >, String...)* on page 1081	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	*toXMLString()* on page 1081	Returns the XML string representation of this object.
public static final String	*XMLNS_APPLICATION_URI* on page 1083	Constant for XMLNS URI: http://schemas.microsoft.com/ado/2007/08/dataservices.
public static final String	*XMLNS_ATOM_URI* on page 1083	Constant for XMLNS URI: http://www.w3.org/2005/Atom.

Modifier and Type	Member	Description
public static final String	*XMLNS_DATASERVICES_URI* on page 1083	Constant for XMLNS URI: http://schemas.microsoft.com/ado/2007/08/dataservices.
public static final String	*XMLNS_EDM_URI* on page 1083	Constant for XMLNS URI: http://schemas.microsoft.com/ado/2007/05/edm.
public static final String	*XMLNS_EDMX_URI* on page 1084	Constant for XMLNS URI: http://schemas.microsoft.com/ado/2007/06/edmx.
public static final String	*XMLNS_GENERICPLAYER_URI* on page 1084	Constant for XMLNS URI: http://www.sap.com/Protocols/SAPData/GenericPlayer.
public static final String	*XMLNS_METADATA_URI* on page 1084	Constant for XMLNS URI: http://schemas.microsoft.com/ado/2007/08/dataservices/metadata.
public static final String	*XMLNS_SAP_URI* on page 1084	Constant for XMLNS URI: http://www.sap.com/Protocols/SAPData.

Inherited members from ISDMPersistable

Modifier and Type	Member	Description
public void	*read(BufferedReader)* on page 1085	
public void	*write(BufferedWriter)* on page 1085	

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 SDMOData 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 SDMOData elements with the given attribute value

getChildPropertiesDataWithAttribute(String, String, boolean) method
Returns list of appropriate contained Property SDMOData elements with the given attribute value.

Syntax

```
public abstract List< ISDMODataProperty >
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 SDMOData elements with the given attribute value

getChildPropertyData(String) method
Return a single child property added with putChildProperty method.

Syntax

```
public abstract ISDMODataProperty 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 SDMOData attribute.

Syntax

```
public abstract String getCollation ()
```

Returns
The value of the appropriate SDMOData 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 defaultValue = 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 defaultValue = 0;

getMaxLength() method
Returns the value of the appropriate SDMOData attribute with defaultValue = 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 SDMOData attribute.

Syntax
```
public abstract String getType ()
```

Returns
The value of the appropriate SDMOData 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.

Remarks
Otherwise it returns null.

Typically this object contains value only if this object was returned by an SDMOData Entry.

hasFixedLength() method
Returns The value of the appropriate SDMOData attribute.

Syntax

```
public abstract boolean hasFixedLength ()
```

Returns
The value of the appropriate SDMOData 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 SDMOData attribute.

Syntax

```
public abstract boolean isCreatable ()
```

Returns
The value of the appropriate SDMOData attribute

isDeletable() method
Returns The value of the appropriate SDMOData attribute.

Syntax

```
public abstract boolean isDeletable ()
```

Returns
The value of the appropriate SDMOData attribute

isFilterable() method
Returns The value of the appropriate SDMOData attribute.

Syntax

```
public abstract boolean isFilterable ()
```

Returns
The value of the appropriate SDMOData attribute

isNullable() method
Returns The value of the appropriate SDMOData attribute.

Syntax

```
public abstract boolean isNullable ()
```

Returns
The value of the appropriate SDMOData attribute

isSearchable() method
Returns The value of the appropriate SDMOData 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.

Remarks
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 SDMOData Entry object.

ATTRIBUTE_COLLATION variable
Name of the appropriate SDMOData attribute.

Syntax

```
public static final String ATTRIBUTE_COLLATION
```

ATTRIBUTE_CREATABLE variable
Name of the appropriate SDMOData attribute.

Syntax

```
public static final String ATTRIBUTE_CREATABLE
```

ATTRIBUTE_DEFAULTVALUE variable
Name of the appropriate SDMOData attribute.

Syntax

```
public static final String ATTRIBUTE_DEFAULTVALUE
```

ATTRIBUTE_DELETABLE variable
Name of the appropriate SDMOData attribute.

Syntax

```
public static final String ATTRIBUTE_DELETABLE
```

ATTRIBUTE_DETAIL_DISPLAYORDER variable
Name of the display-order SDMOData attribute.

Syntax

```
public static final String ATTRIBUTE_DETAIL_DISPLAYORDER
```

ATTRIBUTE_FILTERABLE variable
Name of the appropriate SDMOData attribute.

Syntax

```
public static final String ATTRIBUTE_FILTERABLE
```

ATTRIBUTE_FIXEDLENGTH variable
Name of the appropriate SDMOData 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 SDMOData attribute.

Syntax

```
public static final String ATTRIBUTE_VISIBLEINLIST
```

ELEMENT_PROPERTY variable
Name of the appropriate SDMOData element.

Syntax

```
public static final String ELEMENT_PROPERTY
```

ISDMODataSchema interface
Deprecated. since 3.0, Use IODataSchema Represents the SDMOData Service Document.

Package

```
com.sap.mobile.lib.sdmparser
```

Syntax

```
public abstract interface ISDMODataSchema extends
ISDMParserDocument
```

Implemented interfaces

- *ISDMParserDocument* on page 1063

Derived classes

- *SDMODataSchema* on page 1552

Members

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

Modifier and Type	Variable	Description
public static final String	ATTRIBUTE_NAME	Name of the appropriate SDMOData attribute.
public static final String	ATTRIBUTE_ENTITYTYPE	Name of the appropriate SDMOData attribute.
public static final String	ATTRIBUTE_ENTITYSET	Name of the appropriate SDMOData attribute.
public static final String	ATTRIBUTE_NAMESPACE	Name of the appropriate SDMOData attribute.
public static final String	ELEMENT_EDMX	Name of the appropriate SDMOData element.
public static final String	ELEMENT_DATASERVICES	Name of the appropriate SDMOData element.
public static final String	ELEMENT_SCHEMA	Name of the appropriate SDMOData element.
public static final String	ELEMENT_ENTITYCON-TAINER	Name of the appropriate SDMOData element.
public static final String	ELEMENT_ENTITYSET	Name of the appropriate SDMOData element.
public static final String	ACTION_FOR	name of the appropriate SDMO-data attribute
public static final String	ELEMENT_FUNCTIONA-LIMPORT	Name of the appropriate SDMOData element.

Modifier and Type	Variable	Description
public static final String	ELEMENT_COMPLEXTYPE	Name of the appropriate SDMOData element.
public static final String	ELEMENT_ENTITYTYPE	Name of the appropriate SDMOData element.

Methods

Modifier and Type	Method	Description
public abstract ISDMODataAssociation	*getAssociation(String)* on page 1005	Returns the appropriate SDMOData Association element with the given relationship attribute.
public abstract List< ISDMODataAssociation >	*getAssociations()* on page 1005	Returns the list of the appropriate SDMOData elements.
public abstract ISDMODataAssociationSet	*getAssociationSet(String)* on page 1005	Returns the appropriate AssociationSet with for given association.
public abstract List< ISDMODataAssociationSet >	*getAssociationSets()* on page 1006	Returns the list of the appropriate SDMOData elements.
public abstract ISDMODataComplexType	*getComplexType(String)* on page 1006	Returns The 'ComplexType' SDMOData element associated with the reference.
public abstract List< ISDMODataComplexType >	*getComplexTypes()* on page 1006	Returns The list of the appropriate SDMOData element.
public abstract ISDMODataEntitySet	*getEntitySet(String)* on page 1006	Returns The appropriate SDMOData EntitySet.
public abstract ISDMODataEntityType	*getEntityType(String)* on page 1007	Returns The 'EntityType' SDMOData element associated with the reference argument.
public abstract ISDMODataEntityType	*getEntityTypeForCollection(String)* on page 1007	Returns the 'EntityType' SDMOData element contained by the 'EntitySet' element that is associated with the collectionId matching.
public abstract List< ISDMODataFunctionImport >	*getFunctionImports()* on page 1007	Returns The list of the 'FunctionImport' SDMOData element.

Modifier and Type	Method	Description
public abstract List< ISDMODataFunctionImport >	*getFunctionImportsForCollection(String)* on page 1008	Returns List of FunctionImports valid for the appropriate collection.
public abstract ISDMODataServiceDocument	*getServiceDocument()* on page 1008	Returns the appropriate SDMOData Service Document.
public abstract String	*getTargetCollectionIdForNavigationProperty(String, String)* on page 1008	Resolves the target collection Id of the given SDMOData Navigation Property element.
public abstract void	*setServiceDocument(ISDMODataServiceDocument)* on page 1009	Maintains reference to the appropriate SDMOData Service Document.

Inherited members from ISDMParserDocument

Modifier and Type	Member	Description
public static final String	*ATTRIBUTE_ETAG* on page 1082	Name of the appropriate SDMOData element.
public static final String	*ATTRIBUTE_VALUEPREFIX_EDMTYPE* on page 1082	Value prefix for EDM Type type values.
public abstract ISDMParserDocument	*clone()* on page 1069	Creates a copy of this object.
public static Map< String, String >	*DEFAULT_PREFIXMAPPING* on page 1082	The default XML Namespace-to-Prefix mapping used for building XMLS.
public static final String[]	*EDMDATETIME_PATTERNS* on page 1082	Possible EDM DateTime patterns Note: Some pattern are not supported by OData specification but still widely used.
public static final String[]	*EDMDATETIMEOFFSET_PATTERNS* on page 1082	Possible EDM TimeOffset patterns Note: Some pattern are not supported by OData specification but still widely used.
public static final String	*EDMTIME_PATTERN* on page 1082	EDM Time pattern.

Modifier and Type	Member	Description
public static String	*ELEMENT_FEED* on page 1083	Name of the appropriate SDMOData element.
public static final String	*ELEMENT_ID* on page 1083	Name of the appropriate SDMOData element.
public abstract String	*getAttribute(String...)* on page 1069	Returns the value of the first attribute with the given route.
public abstract List< String >	*getAttributes(String...)* on page 1070	Returns all the values of attributes with the given route.
public abstract Map< String, String >	*getChildAttributeMap(String...)* on page 1070	Returns all the name-value pairs of attributes contained by the element with the given route.
public abstract List< String >	*getChildAttributes(String...)* on page 1070	Returns all the values of attributes contained by the element with the given route.
public abstract List< ISDMParserDocument >	*getChildDocuments(String...)* on page 1071	Returns the elements contained by the element with the given route.
public abstract List< ISDMParserDocument >	*getChildDocumentsWithAttribute(String, String, String...)* on page 1071	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public abstract List< ISDMParserDocument >	*getChildDocumentsWithAttribute(String, String, boolean, String...)* on page 1072	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public abstract ISDMParserDocument	*getDocument(String...)* on page 1072	Returns the first element with the given route.
public abstract List< ISDMParserDocument >	*getDocuments(String...)* on page 1073	Returns all the elements with the given route.
public abstract List< ISDMParserDocument >	*getDocumentsWithAttribute(String, String, String...)* on page 1073	Returns the elements with the given route that contains the given attribute with the given value.

Modifier and Type	Member	Description
public abstract List< ISDMParserDocument >	*getDocumentsWithAttribute(String, String, boolean, String...)* on page 1074	Returns the elements with the given route that contains the given attribute with the given value.
public abstract ISDMParserDocument	*getDocumentWithAttribute(String, String, String...)* on page 1074	Returns the first element with the given route that contains the given attribute with the given value.
public abstract ISDMParserDocument	*getDocumentWithAttribute(String, String, boolean, String...)* on page 1075	Returns the first element with the given route that contains the given attribute with the given value.
public abstract String	*getElementName()* on page 1075	Returns The name of the root element of this document.
public abstract String	*getFunctionImportComplexPropertyValue(String...)* on page 1076	
public abstract String	*getPrefixForUri(String)* on page 1076	Returns the appropriate name-space prefix for the given XML name-space URI.
public abstract String[]	*getStrings()* on page 1076	Returns all the string values contained by this document.
public abstract String	*getValue(String...)* on page 1076	Returns the value of the first element with the given route.
public abstract List< String >	*getValues(String...)* on page 1077	Returns all the values of elements with the given route.
public abstract void	*putAttribute(String, String...)* on page 1077	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	*putDocument(ISDMParserDocument, String...)* on page 1078	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	*putValue(String, String...)* on page 1078	Sets the value of the first element with the given route.
public abstract boolean	*removeAttribute(String...)* on page 1079	Removes first element with the given route.
public abstract boolean	*removeAttributes(String...)* on page 1079	Removes all the attribute with the given route.
public abstract boolean	*removeDocument(String...)* on page 1079	Removes first element with the given route For removing multiple element use setDocuemtns with null arguments.
public static final String	*ROOT_DOCUMENT_NAME* on page 1083	The default root element name for a new document.
public abstract void	*setAttributes(List< String >, String...)* on page 1080	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	*setDocuments(List< ISDMParserDocument >, String...)* on page 1080	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	*setElementName(String, String...)* on page 1081	Sets the name of the root element with the given route Use empty route for setting root name of this document.
public abstract void	*setValues(List< String >, String...)* on page 1081	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	*toXMLString()* on page 1081	Returns the XML string representation of this object.
public static final String	*XMLNS_APPLICATION_URI* on page 1083	Constant for XMLNS URI: http://schemas.microsoft.com/ado/2007/08/dataservices.
public static final String	*XMLNS_ATOM_URI* on page 1083	Constant for XMLNS URI: http://www.w3.org/2005/Atom.
public static final String	*XMLNS_DATASERVICES_URI* on page 1083	Constant for XMLNS URI: http://schemas.microsoft.com/ado/2007/08/dataservices.
public static final String	*XMLNS_EDM_URI* on page 1083	Constant for XMLNS URI: http://schemas.microsoft.com/ado/2007/05/edm.
public static final String	*XMLNS_EDMX_URI* on page 1084	Constant for XMLNS URI: http://schemas.microsoft.com/ado/2007/06/edmx.
public static final String	*XMLNS_GENERICPLAYER_URI* on page 1084	Constant for XMLNS URI: http://www.sap.com/Protocols/SAPData/GenericPlayer.
public static final String	*XMLNS_METADATA_URI* on page 1084	Constant for XMLNS URI: http://schemas.microsoft.com/ado/2007/08/dataservices/metadata.

Modifier and Type	Member	Description
public static final String	*XMLNS_SAP_URI* on page 1084	Constant for XMLNS URI: http://www.sap.com/Protocols/SAPData.

Inherited members from ISDMPersistable

Modifier and Type	Member	Description
public void	*read(BufferedReader)* on page 1085	
public void	*write(BufferedWriter)* on page 1085	

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: 'namsepace.complextypename')

Returns
The 'ComplexType' SDMOData element associated with the reference

getComplexTypes() method
Returns The list of the appropriate SDMOData element.

Syntax

```
public abstract List< ISDMODataComplexType > getComplexTypes
()
```

Returns
The list of the appropriate SDMOData element

getEntitySet(String) method
Returns The appropriate SDMOData EntitySet.

Syntax

```
public abstract ISDMODataEntitySet getEntitySet (String
collectionId)
```

Parameters

- **collectionId –** The href of the collection to find the SDMOData EntitySet for

Returns
The appropriate SDMOData EntitySet

getEntityType(String) method
Returns The 'EntityType' SDMOData element associated with the reference argument.

Syntax

```
public abstract ISDMODataEntityType getEntityType (String
entityTypeReference)
```

Parameters

- **entityTypeReference –** Reference to the appropriate Entity Type (example: 'namsepace.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 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.

Package

```
com.sap.mobile.lib.sdmparser
```

Syntax

```
public abstract interface ISDMODataServiceDocument extends
ISDMParserDocument
```

Implemented interfaces

- *ISDMParserDocument* on page 1063

Derived classes

- *SDMODataServiceDocument* on page 1572

Members
All members of ISDMODataServiceDocument, including inherited members. **Variables**

Modifier and Type	Variable	Description
public static final String	ELEMENT_SERVICE	Name of the appropriate SDMOData element.
public static final String	ELEMENT_WORKSPACE	Name of the appropriate SDMOData element.
public static final String	ELEMENT_COLLECTION	Name of the appropriate SDMOData element.
public static final String	ATTRIBUTE_LANG	Name of the appropriate SDMOData attribute.
public static final String	ATTRIBUTE_BASE	Name of the appropriate SDMOData attribute.

Modifier and Type	Variable	Description
public static final String	URL_SUFFIX_METADATA	URL value suffix for retrieving SDMOData Schema document.

Methods

Modifier and Type	Method	Description
public abstract List< ISDMODataCollection >	*getAllCollections()* on page 1017	Returns the list of all 'collection' SDMOData element contained by the 'workspace' elements.
public abstract String	*getBaseUrl()* on page 1018	Returns The value of the 'base' SDMOData attribute.
public abstract String	*getEtag()* on page 1018	Returns The value of the 'etag' SDMOData attribute.
public abstract String	*getLanguage()* on page 1018	Returns the value of the 'lang' SDMOData attribute.
public abstract ISDMODataOpenSearchDescription	*getOpenSearchDescription(String)* on page 1018	Returns the appropriate OpenSearch Description Document for the given collection.
public abstract ISDMODataSchema	*getSchema()* on page 1019	Returns the appropriate SDMOData Schema document.
public abstract String	*getSchemaUrl()* on page 1019	Returns The full URL that can be used for retrieving the SDMOData Schema document.
public abstract List< ISDMODataWorkspace >	*getWorkspaces()* on page 1019	Returns the list of appropriate SDMOData elements.
public abstract void	*setOpenSearchDescription(String, ISDMODataOpenSearchDescription)* on page 1019	Maintains the appropriate OpenSearch Description Document for the given collection.
public abstract void	*setSchema(ISDMODataSchema)* on page 1020	Maintains the appropriate SDMOData Schema document.

Inherited members from ISDMParserDocument

Modifier and Type	Member	Description
public static final String	*ATTRIBUTE_ETAG* on page 1082	Name of the appropriate SDMOData element.
public static final String	*ATTRIBUTE_VALUEPREFIX_EDMTYPE* on page 1082	Value prefix for EDM Type type values.
public abstract ISDMParserDocument	*clone()* on page 1069	Creates a copy of this object.
public static Map< String, String >	*DEFAULT_PREFIXMAPPING* on page 1082	The default XML Namespace-to-Prefix mapping used for building XMLS.
public static final String[]	*EDMDATETIME_PATTERNS* on page 1082	Possible EDM DateTime patterns Note: Some pattern are not supported by OData specification but still widely used.
public static final String[]	*EDMDATETIMEOFFSET_PATTERNS* on page 1082	Possible EDM TimeOffset patterns Note: Some pattern are not supported by OData specification but still widely used.
public static final String	*EDMTIME_PATTERN* on page 1082	EDM Time pattern.
public static String	*ELEMENT_FEED* on page 1083	Name of the appropriate SDMOData element.
public static final String	*ELEMENT_ID* on page 1083	Name of the appropriate SDMOData element.
public abstract String	*getAttribute(String...)* on page 1069	Returns the value of the first attribute with the given route.
public abstract List< String >	*getAttributes(String...)* on page 1070	Returns all the values of attributes with the given route.
public abstract Map< String, String >	*getChildAttributeMap(String...)* on page 1070	Returns all the name-value pairs of attributes contained by the element with the given route.
public abstract List< String >	*getChildAttributes(String...)* on page 1070	Returns all the values of attributes contained by the element with the given route.

Modifier and Type	Member	Description
public abstract List< ISDMParserDocument >	*getChildDocuments(String...)* on page 1071	Returns the elements contained by the element with the given route.
public abstract List< ISDMParserDocument >	*getChildDocumentsWithAttribute(String, String, String...)* on page 1071	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public abstract List< ISDMParserDocument >	*getChildDocumentsWithAttribute(String, String, boolean, String...)* on page 1072	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public abstract ISDMParserDocument	*getDocument(String...)* on page 1072	Returns the first element with the given route.
public abstract List< ISDMParserDocument >	*getDocuments(String...)* on page 1073	Returns all the elements with the given route.
public abstract List< ISDMParserDocument >	*getDocumentsWithAttribute(String, String, String...)* on page 1073	Returns the elements with the given route that contains the given attribute with the given value.
public abstract List< ISDMParserDocument >	*getDocumentsWithAttribute(String, String, boolean, String...)* on page 1074	Returns the elements with the given route that contains the given attribute with the given value.
public abstract ISDMParserDocument	*getDocumentWithAttribute(String, String, String...)* on page 1074	Returns the first element with the given route that contains the given attribute with the given value.
public abstract ISDMParserDocument	*getDocumentWithAttribute(String, String, boolean, String...)* on page 1075	Returns the first element with the given route that contains the given attribute with the given value.
public abstract String	*getElementName()* on page 1075	Returns The name of the root element of this document.
public abstract String	*getFunctionImportComplexPropertyValue(String...)* on page 1076	

Modifier and Type	Member	Description
public abstract String	*getPrefixForUri(String)* on page 1076	Returns the appropriate name-space prefix for the given XML name-space URI.
public abstract String[]	*getStrings()* on page 1076	Returns all the string values contained by this document.
public abstract String	*getValue(String...)* on page 1076	Returns the value of the first element with the given route.
public abstract List< String >	*getValues(String...)* on page 1077	Returns all the values of elements with the given route.
public abstract void	*putAttribute(String, String...)* on page 1077	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	*putDocument(ISDMParserDocument, String...)* on page 1078	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	*putValue(String, String...)* on page 1078	Sets the value of the first element with the given route.
public abstract boolean	*removeAttribute(String...)* on page 1079	Removes first element with the given route.
public abstract boolean	*removeAttributes(String...)* on page 1079	Removes all the attribute with the given route.
public abstract boolean	*removeDocument(String...)* on page 1079	Removes first element with the given route For removing multiple element use setDocuemtns with null arguments.
public static final String	*ROOT_DOCUMENT_NAME* on page 1083	The default root element name for a new document.

Modifier and Type	Member	Description
public abstract void	*setAttributes(List< String >, String...)* on page 1080	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	*setDocuments(List< ISDMParserDocument >, String...)* on page 1080	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	*setElementName(String, String...)* on page 1081	Sets the name of the root element with the given route Use empty route for setting root name of this document.
public abstract void	*setValues(List< String >, String...)* on page 1081	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	*toXMLString()* on page 1081	Returns the XML string representation of this object.
public static final String	*XMLNS_APPLICATION_URI* on page 1083	Constant for XMLNS URI: http://schemas.microsoft.com/ado/2007/08/dataservices.
public static final String	*XMLNS_ATOM_URI* on page 1083	Constant for XMLNS URI: http://www.w3.org/2005/Atom.

Modifier and Type	Member	Description
public static final String	*XMLNS_DATASERVICES_URI* on page 1083	Constant for XMLNS URI: http://schemas.microsoft.com/ado/2007/08/dataservices.
public static final String	*XMLNS_EDM_URI* on page 1083	Constant for XMLNS URI: http://schemas.microsoft.com/ado/2007/05/edm.
public static final String	*XMLNS_EDMX_URI* on page 1084	Constant for XMLNS URI: http://schemas.microsoft.com/ado/2007/06/edmx.
public static final String	*XMLNS_GENERICPLAYER_URI* on page 1084	Constant for XMLNS URI: http://www.sap.com/Protocols/SAPData/GenericPlayer.
public static final String	*XMLNS_METADATA_URI* on page 1084	Constant for XMLNS URI: http://schemas.microsoft.com/ado/2007/08/dataservices/metadata.
public static final String	*XMLNS_SAP_URI* on page 1084	Constant for XMLNS URI: http://www.sap.com/Protocols/SAPData.

Inherited members from ISDMPersistable

Modifier and Type	Member	Description
public void	*read(BufferedReader)* on page 1085	
public void	*write(BufferedWriter)* on page 1085	

getAllCollections() method

Returns the list of all 'collection' SDMOData element contained by the 'workspace' elements.

Syntax

```
public abstract 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 abstract String getBaseUrl ()
```

Returns
The value of the 'base' SDMOData attribute

getEtag() method
Returns The value of the 'etag' SDMOData attribute.

Syntax

```
public abstract String getEtag ()
```

Returns
The value of the 'etag' SDMOData attribute

getLanguage() method
Returns the value of the 'lang' SDMOData attribute.

Syntax

```
public abstract 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 abstract 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 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 SDMOData Schema document.

Syntax

```
public static final String URL_SUFFIX_METADATA
```

ISDMODataSubscriptionEntry interface
Deprecated. since 3.0, Use IODataSubscriptionEntry Subclass of SDMODataEntry to be used for subscription s.

Package

```
com.sap.mobile.lib.sdmparser
```

Syntax

```
public abstract interface ISDMODataSubscriptionEntry extends
ISDMODataEntry
```

Implemented interfaces

- *ISDMODataEntry* on page 895

Derived classes

- *SDMODataSubscriptionEntry* on page 1591

Members
All members of ISDMODataSubscriptionEntry, including inherited members. **Variables**

Modifier and Type	Variable	Description
public static final String	ELEMENT_DELIVERYAD-DRESS	Name of the appropriate SDMOData element.
public static final String	ELEMENT_COLLECTION	Name of the appropriate SDMOData element.
public static final String	ELEMENT_FILTER	Name of the appropriate SDMOData element.
public static final String	ELEMENT_SELECT	Name of the appropriate SDMOData element.

Methods

Modifier and Type	Method	Description
public abstract String	*getCollection()* on page 1032	Returns The value of the appropriate entry property.
public abstract String	*getDeliveryAddress()* on page 1033	Returns The value of the appropriate entry property.
public abstract String	*getFilter()* on page 1033	Returns The value of the appropriate entry property.
public abstract String	*getSelect()* on page 1033	Returns The value of the appropriate entry property.
public abstract void	*setCollection(String)* on page 1033	Sets the value of the appropriate entry property.
public abstract void	*setDeliveryAddress(String)* on page 1033	Sets the value of the appropriate entry property.
public abstract void	*setFilter(String)* on page 1034	Sets the value of the appropriate entry property.
public abstract void	*setSelect(String)* on page 1034	Sets the value of the appropriate entry property.

Inherited members from ISDMODataEntry

Modifier and Type	Member	Description
public static final String	*ATTRIBUTE_SEMANTICS* on page 917	Name of the appropriate SDMOData attribute.
public static final String	*ATTRIBUTE_TERM* on page 917	Name of the appropriate SDMOData attribute.
public static final String	*ATTRIBUTE_VALUE_SEMANTICS_ACTION* on page 918	Value option for appropriate SDMOData attribute.
public static final String	*ELEMENT_AUTHOR* on page 918	Name of the appropriate SDMOData element.
public static final String	*ELEMENT_CATEGORY* on page 918	Name of the appropriate SDMOData element.
public static final String	*ELEMENT_CONTENT* on page 918	Name of the appropriate SDMOData element.

Modifier and Type	Member	Description
public static final String	*ELEMENT_ENTRY* on page 918	Name of the appropriate SDMOData element.
public static final String	*ELEMENT_LINK* on page 918	Name of the appropriate SDMOData element.
public static final String	*ELEMENT_NAME* on page 918	Name of the appropriate SDMOData element.
public static final String	*ELEMENT_PROPERTIES* on page 919	Name of the appropriate SDMOData element.
public static final String	*ELEMENT_SUMMARY* on page 919	Name of the appropriate SDMOData element.
public static final String	*ELEMENT_TITLE* on page 919	Name of the appropriate SDMOData element.
public static final String	*ELEMENT_UPDATED* on page 919	Name of the appropriate SDMOData element.
public abstract List< ISDMO-DataLink >	*getActionLinks()* on page 905	Returns SDMOData Link objects that are set as action links (Has semantics (SAP namespace) attribute with value 'action')
public abstract String	*getAuthorName()* on page 906	Returns The value of the 'name' SDMOData element of the 'author' SDMOData element.
public cacheState	*getCachestate()* on page 906	
public Long	*getCacheTimestamp()* on page 906	
public abstract String	*getCollectionId()* on page 906	Returns the Id of the SDMOCata Collection that this Entry belongs to.
public abstract String	*getEtag()* on page 906	Returns the Id of the SDMOData Collection that this Entry belongs to.

Modifier and Type	Member	Description
public abstract String	*getFilterUrl()* on page 907	Returns the full execution URL hat can be used for filtering collection search for this single entry.
public abstract List< ISDMODataProperty >	*getGPUseInSearchPropertiesData()* on page 907	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 >	*getGPVisibleInDetailPropertiesData()* on page 907	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 >	*getGPVisibleInListPropertiesData()* on page 907	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 >	*getIcons()* on page 908	Returns the list of the appropriate SDMOData elements.
public abstract String	*getId()* on page 908	Returns The Id of this SDMOData Entry (value of appropriate SDMOData Id element)
public boolean	*getIsLocal()* on page 908	
public abstract Map< String, String >	*getKeyPropertyValues()* on page 908	Returns the values of the properties that are marked as key properties in the SDMOData Schema document.
public abstract Date	*getLastUpdated()* on page 908	Returns The parsed value of the 'updated' SDMOData Element.

Modifier and Type	Member	Description
public abstract List< ISDMOData Link >	*getLinks()* on page 909	Returns the list of the appropriate SDMOData elements.
public abstract List< ISDMOData Property >	*getPropertiesData()* on page 909	Returns the value and meta information (retrieved from SDMOData Schema document) of the properties of this SDMOdata Entry document.
public abstract List< ISDMOData Property >	*getPropertiesDataWithAttribute(String, String)* on page 909	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 abstract List< ISDMOData Property >	*getPropertiesDataWithAttribute(String, String, boolean)* on page 910	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 abstract ISDMParserDocument	*getPropertiesDocument()* on page 910	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	*getPropertyValue(String...)* on page 910	Returns the value of the appropriate property.
public abstract< T > T	*getPropertyValueParsed(String...)* on page 911	Returns the value of the appropriate property parsed to it's real type.
public abstract Map< String, String >	*getPropertyValues()* on page 912	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	Member	Description
public abstract List< String >	*getPropertyValues(List< String[]>)* on page 912	Return list of property values for the given property paths.
public abstract List< ISDMOData-Link >	*getRelatedDataLinks()* on page 912	Returns SDMOData Link objects that represents links to Related Data.
public abstract List< ISDMOData-Property >	*getSAPSearchableProperties-Data()* on page 913	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	*getSchema()* on page 913	Returns the appropriate SDMOData Schema object.
public abstract ISDMOData-Link	*getSelfLink()* on page 913	Returns SDMSDMOData Link object that should be used for self related operations (with 'rel' attribute value 'self' or 'edit')
public abstract ISDMOData-Link	*getSubscriptionLink()* on page 913	Returns SDMOData Link object that should be used for subscription or null if there is no subscription link defined.
public abstract String	*getSummary()* on page 914	Returns The value of the appropriate SDMOData element.
public abstract String	*getTitle()* on page 914	Returns The value of the appropriate SDMOData element.
public static final String	*PROPERTY_LEVEL_SEPA-RATOR* on page 919	
public abstract void	*putComplexPropertyVal-ue(String, String...)* on page 914	Puts the new property element as a sub-element of the 'complex properties' SDMOData element.
public abstract void	*putId(String)* on page 915	Sets id of this SDMOData Entry document (value of appropriate SDMOData Id element)

Modifier and Type	Member	Description
public abstract void	*putPropertyValue(String, String)* on page 915	Puts the new property element as a sub-element of the 'properties' SDMOData element.
public abstract void	*putPropertyValue(String, String, boolean)* on page 915	Puts the new property element as a sub-element of the 'properties' SDMOData element.
public abstract void	*setAuthorName(String)* on page 916	Sets the value of the 'name' SDMOData element of the 'author' SDMOData element.
public void	*setCachestate(cacheState)* on page 916	
public void	*setCacheTimestamp(Long)* on page 916	
public abstract void	*setCollectionId(String)* on page 916	Maintains the Id of the SDMOCata Collection that this Entry belongs to.
public void	*setIsLocal(boolean)* on page 916	
public abstract void	*setSchema(ISDMODataSchema)* on page 917	Maintains the reference to the appropriate SDMOData Schema object.
public abstract void	*setSummary(String)* on page 917	Sets the value of the appropriate SDMOData element.
public abstract void	*setTitle(String)* on page 917	Sets the value of the appropriate SDMOData element.

Inherited members from ISDMParserDocument

Modifier and Type	Member	Description
public static final String	*ATTRIBUTE_ETAG* on page 1082	Name of the appropriate SDMOData element.
public static final String	*ATTRIBUTE_VALUEPREFIX_EDMTYPE* on page 1082	Value prefix for EDM Type type values.

Modifier and Type	Member	Description
public abstract ISDMParserDocument	*clone()* on page 1069	Creates a copy of this object.
public static Map< String, String >	*DEFAULT_PREFIXMAPPING* on page 1082	The default XML Namespace-to-Prefix mapping used for building XMLS.
public static final String[]	*EDMDATETIME_PATTERNS* on page 1082	Possible EDM DateTime patterns Note: Some pattern are not supported by OData specification but still widely used.
public static final String[]	*EDMDATETIMEOFFSET_PATTERNS* on page 1082	Possible EDM TimeOffset patterns Note: Some pattern are not supported by OData specification but still widely used.
public static final String	*EDMTIME_PATTERN* on page 1082	EDM Time pattern.
public static String	*ELEMENT_FEED* on page 1083	Name of the appropriate SDMOData element.
public static final String	*ELEMENT_ID* on page 1083	Name of the appropriate SDMOData element.
public abstract String	*getAttribute(String...)* on page 1069	Returns the value of the first attribute with the given route.
public abstract List< String >	*getAttributes(String...)* on page 1070	Returns all the values of attributes with the given route.
public abstract Map< String, String >	*getChildAttributeMap(String...)* on page 1070	Returns all the name-value pairs of attributes contained by the element with the given route.
public abstract List< String >	*getChildAttributes(String...)* on page 1070	Returns all the values of attributes contained by the element with the given route.
public abstract List< ISDMParserDocument >	*getChildDocuments(String...)* on page 1071	Returns the elements contained by the element with the given route.

Modifier and Type	Member	Description
public abstract List< ISDMParserDocument >	*getChildDocumentsWithAttribute(String, String, String...)* on page 1071	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public abstract List< ISDMParserDocument >	*getChildDocumentsWithAttribute(String, String, boolean, String...)* on page 1072	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public abstract ISDMParserDocument	*getDocument(String...)* on page 1072	Returns the first element with the given route.
public abstract List< ISDMParserDocument >	*getDocuments(String...)* on page 1073	Returns all the elements with the given route.
public abstract List< ISDMParserDocument >	*getDocumentsWithAttribute(String, String, String...)* on page 1073	Returns the elements with the given route that contains the given attribute with the given value.
public abstract List< ISDMParserDocument >	*getDocumentsWithAttribute(String, String, boolean, String...)* on page 1074	Returns the elements with the given route that contains the given attribute with the given value.
public abstract ISDMParserDocument	*getDocumentWithAttribute(String, String, String...)* on page 1074	Returns the first element with the given route that contains the given attribute with the given value.
public abstract ISDMParserDocument	*getDocumentWithAttribute(String, String, boolean, String...)* on page 1075	Returns the first element with the given route that contains the given attribute with the given value.
public abstract String	*getElementName()* on page 1075	Returns The name of the root element of this document.
public abstract String	*getFunctionImportComplexPropertyValue(String...)* on page 1076	
public abstract String	*getPrefixForUri(String)* on page 1076	Returns the appropriate name-space prefix for the given XML name-space URI.

Modifier and Type	Member	Description
public abstract String[]	*getStrings()* on page 1076	Returns all the string values contained by this document.
public abstract String	*getValue(String...)* on page 1076	Returns the value of the first element with the given route.
public abstract List< String >	*getValues(String...)* on page 1077	Returns all the values of elements with the given route.
public abstract void	*putAttribute(String, String...)* on page 1077	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	*putDocument(ISDMParserDocument, String...)* on page 1078	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	*putValue(String, String...)* on page 1078	Sets the value of the first element with the given route.
public abstract boolean	*removeAttribute(String...)* on page 1079	Removes first element with the given route.
public abstract boolean	*removeAttributes(String...)* on page 1079	Removes all the attribute with the given route.
public abstract boolean	*removeDocument(String...)* on page 1079	Removes first element with the given route For removing multiple element use setDocuemtns with null arguments.
public static final String	*ROOT_DOCUMENT_NAME* on page 1083	The default root element name for a new document.

Modifier and Type	Member	Description
public abstract void	*setAttributes(List< String >, String...)* on page 1080	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	*setDocuments(List< ISDMParserDocument >, String...)* on page 1080	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	*setElementName(String, String...)* on page 1081	Sets the name of the root element with the given route Use empty route for setting root name of this document.
public abstract void	*setValues(List< String >, String...)* on page 1081	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	*toXMLString()* on page 1081	Returns the XML string representation of this object.
public static final String	*XMLNS_APPLICATION_URI* on page 1083	Constant for XMLNS URI: http://schemas.microsoft.com/ado/2007/08/dataservices.
public static final String	*XMLNS_ATOM_URI* on page 1083	Constant for XMLNS URI: http://www.w3.org/2005/Atom.

Modifier and Type	Member	Description
public static final String	*XMLNS_DATASERVICES_URI* on page 1083	Constant for XMLNS URI: http://schemas.microsoft.com/ado/2007/08/dataservices.
public static final String	*XMLNS_EDM_URI* on page 1083	Constant for XMLNS URI: http://schemas.microsoft.com/ado/2007/05/edm.
public static final String	*XMLNS_EDMX_URI* on page 1084	Constant for XMLNS URI: http://schemas.microsoft.com/ado/2007/06/edmx.
public static final String	*XMLNS_GENERICPLAYER_URI* on page 1084	Constant for XMLNS URI: http://www.sap.com/Protocols/SAPData/GenericPlayer.
public static final String	*XMLNS_METADATA_URI* on page 1084	Constant for XMLNS URI: http://schemas.microsoft.com/ado/2007/08/dataservices/metadata.
public static final String	*XMLNS_SAP_URI* on page 1084	Constant for XMLNS URI: http://www.sap.com/Protocols/SAPData.

Inherited members from ISDMPersistable

Modifier and Type	Member	Description
public void	*read(BufferedReader)* on page 1085	
public void	*write(BufferedWriter)* on page 1085	

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 SDMOData element.

Syntax

```
public static final String ELEMENT_COLLECTION
```

ELEMENT_DELIVERYADDRESS variable
Name of the appropriate SDMOData element.

Syntax

```
public static final String ELEMENT_DELIVERYADDRESS
```

ELEMENT_FILTER variable
Name of the appropriate SDMOData element.

Syntax

```
public static final String ELEMENT_FILTER
```

ELEMENT_SELECT variable
Name of the appropriate SDMOData element.

Syntax

```
public static final String ELEMENT_SELECT
```

ISDMODataURL interface
Deprecated. since 3.0, Use IODataURL Represents the appropriate SDMOData element.

Package

```
com.sap.mobile.lib.sdmparser
```

Syntax

```
public abstract interface ISDMODataURL extends
ISDMParserDocument
```

Implemented interfaces

- *ISDMParserDocument* on page 1063

Derived classes

- *SDMODataURL* on page 1625

Members
All members of ISDMODataURL, including inherited members. **Variables**

Modifier and Type	Variable	Description
public static final String	ELEMENT_URL	Name of the appropriate SDMOData element.
public static final String	ATTRIBUTE_TEMPLATE	Name of the appropriate SDMOData attribute.
public static final String	ATTRIBUTE_TYPE	Name of the appropriate SDMOData attribute.

Methods

Modifier and Type	Method	Description
public abstract List< String >	*getMandatoryTemplateParameters()* on page 1041	Returns the list of mandatory template parameter names.

Modifier and Type	Method	Description
public abstract List< String >	*getOptionalTemplateParameters()* on page 1041	Returns the list of optional template parameter names.
public abstract String	*getTemplate()* on page 1041	Returns the value of the appropriate SDMOData attribute.
public abstract List< String >	*getTemplateParameters()* on page 1042	Returns the list of all template parameter names.
public abstract String	*getType()* on page 1042	Returns the value of the appropriate SDMOData attribute.
public abstract String	*getUrl()* on page 1042	Returns the full URL of this SDMOData attribute without parameters.
public abstract String	*getUrlFromTemplate(Map< String, String >)* on page 1042	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	*ATTRIBUTE_ETAG* on page 1082	Name of the appropriate SDMOData element.
public static final String	*ATTRIBUTE_VALUEPREFIX_EDMTYPE* on page 1082	Value prefix for EDM Type type values.
public abstract ISDMParserDocument	*clone()* on page 1069	Creates a copy of this object.
public static Map< String, String >	*DEFAULT_PREFIXMAPPING* on page 1082	The default XML Namespace-to-Prefix mapping used for building XMLS.
public static final String[]	*EDMDATETIME_PATTERNS* on page 1082	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[]	*EDMDATETIMEOFFSET_PATTERNS* on page 1082	Possible EDM TimeOffset patterns Note: Some pattern are not supported by OData specification but still widely used.
public static final String	*EDMTIME_PATTERN* on page 1082	EDM Time pattern.
public static String	*ELEMENT_FEED* on page 1083	Name of the appropriate SDMOData element.
public static final String	*ELEMENT_ID* on page 1083	Name of the appropriate SDMOData element.
public abstract String	*getAttribute(String...)* on page 1069	Returns the value of the first attribute with the given route.
public abstract List< String >	*getAttributes(String...)* on page 1070	Returns all the values of attributes with the given route.
public abstract Map< String, String >	*getChildAttributeMap(String...)* on page 1070	Returns all the name-value pairs of attributes contained by the element with the given route.
public abstract List< String >	*getChildAttributes(String...)* on page 1070	Returns all the values of attributes contained by the element with the given route.
public abstract List< ISDMParserDocument >	*getChildDocuments(String...)* on page 1071	Returns the elements contained by the element with the given route.
public abstract List< ISDMParserDocument >	*getChildDocumentsWithAttribute(String, String, String...)* on page 1071	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public abstract List< ISDMParserDocument >	*getChildDocumentsWithAttribute(String, String, boolean, String...)* on page 1072	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public abstract ISDMParserDocument	*getDocument(String...)* on page 1072	Returns the first element with the given route.
public abstract List< ISDMParserDocument >	*getDocuments(String...)* on page 1073	Returns all the elements with the given route.

Modifier and Type	Member	Description
public abstract List< ISDMParserDocument >	*getDocumentsWithAttribute(String, String, String...)* on page 1073	Returns the elements with the given route that contains the given attribute with the given value.
public abstract List< ISDMParserDocument >	*getDocumentsWithAttribute(String, String, boolean, String...)* on page 1074	Returns the elements with the given route that contains the given attribute with the given value.
public abstract ISDMParserDocument	*getDocumentWithAttribute(String, String, String...)* on page 1074	Returns the first element with the given route that contains the given attribute with the given value.
public abstract ISDMParserDocument	*getDocumentWithAttribute(String, String, boolean, String...)* on page 1075	Returns the first element with the given route that contains the given attribute with the given value.
public abstract String	*getElementName()* on page 1075	Returns The name of the root element of this document.
public abstract String	*getFunctionImportComplexPropertyValue(String...)* on page 1076	
public abstract String	*getPrefixForUri(String)* on page 1076	Returns the appropriate name-space prefix for the given XML name-space URI.
public abstract String[]	*getStrings()* on page 1076	Returns all the string values contained by this document.
public abstract String	*getValue(String...)* on page 1076	Returns the value of the first element with the given route.
public abstract List< String >	*getValues(String...)* on page 1077	Returns all the values of elements with the given route.
public abstract void	*putAttribute(String, String...)* on page 1077	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	*putDocument(ISDMParserDocument, String...)* on page 1078	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	*putValue(String, String...)* on page 1078	Sets the value of the first element with the given route.
public abstract boolean	*removeAttribute(String...)* on page 1079	Removes first element with the given route.
public abstract boolean	*removeAttributes(String...)* on page 1079	Removes all the attribute with the given route.
public abstract boolean	*removeDocument(String...)* on page 1079	Removes first element with the given route For removing multiple element use setDocuemtns with null arguments.
public static final String	*ROOT_DOCUMENT_NAME* on page 1083	The default root element name for a new document.
public abstract void	*setAttributes(List< String >, String...)* on page 1080	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	*setDocuments(List< ISDMParserDocument >, String...)* on page 1080	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	*setElementName(String, String...)* on page 1081	Sets the name of the root element with the given route Use empty route for setting root name of this document.
public abstract void	*setValues(List< String >, String...)* on page 1081	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	*toXMLString()* on page 1081	Returns the XML string representation of this object.
public static final String	*XMLNS_APPLICATION_URI* on page 1083	Constant for XMLNS URI: http://schemas.microsoft.com/ado/2007/08/dataservices.
public static final String	*XMLNS_ATOM_URI* on page 1083	Constant for XMLNS URI: http://www.w3.org/2005/Atom.
public static final String	*XMLNS_DATASERVICES_URI* on page 1083	Constant for XMLNS URI: http://schemas.microsoft.com/ado/2007/08/dataservices.
public static final String	*XMLNS_EDM_URI* on page 1083	Constant for XMLNS URI: http://schemas.microsoft.com/ado/2007/05/edm.
public static final String	*XMLNS_EDMX_URI* on page 1084	Constant for XMLNS URI: http://schemas.microsoft.com/ado/2007/06/edmx.
public static final String	*XMLNS_GENERICPLAYER_URI* on page 1084	Constant for XMLNS URI: http://www.sap.com/Protocols/SAPData/GenericPlayer.
public static final String	*XMLNS_METADATA_URI* on page 1084	Constant for XMLNS URI: http://schemas.microsoft.com/ado/2007/08/dataservices/metadata.

Modifier and Type	Member	Description
public static final String	*XMLNS_SAP_URI* on page 1084	Constant for XMLNS URI: http://www.sap.com/Protocols/SAPData.

Inherited members from ISDMPersistable

Modifier and Type	Member	Description
public void	*read(BufferedReader)* on page 1085	
public void	*write(BufferedWriter)* on page 1085	

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

Package

```
com.sap.mobile.lib.sdmparser
```

Syntax

```
public abstract interface ISDMODataWorkspace extends
ISDMParserDocument
```

Implemented interfaces

- *ISDMParserDocument* on page 1063

Derived classes

- *SDMODataWorkspace* on page 1642

Members
All members of ISDMODataWorkspace, including inherited members. **Variables**

Modifier and Type	Variable	Description
public static final String	ELEMENT_WORKSPACE	Name of the appropriate SDMOData element.

Modifier and Type	Variable	Description
public static final String	ATTRIBUTE_SEMANTICS	Name of the appropriate SDMOData attribute.
public static final String	ELEMENT_TITLE	Name of the appropriate SDMOData element.

Methods

Modifier and Type	Method	Description
public abstract List< ISDMOData Collection >	*getCollections()* on page 1049	Returns The list of of 'collection' SDMOData element.
public abstract String	*getSemantics()* on page 1049	Returns the value of the appropriate SDMOData attribute.
public abstract String	*getTitle()* on page 1049	Returns the value of the appropriate SDMOData element.

Inherited members from ISDMParserDocument

Modifier and Type	Member	Description
public static final String	*ATTRIBUTE_ETAG* on page 1082	Name of the appropriate SDMOData element.
public static final String	*ATTRIBUTE_ VALUEPREFIX_EDMTYPE* on page 1082	Value prefix for EDM Type type values.
public abstract ISDMParserDocument	*clone()* on page 1069	Creates a copy of this object.
public static Map< String, String >	*DEFAULT_PREFIXMAPPING* on page 1082	The default XML Namespace-to-Prefix mapping used for building XMLS.
public static final String[]	*EDMDATETIME_PATTERNS* on page 1082	Possible EDM DateTime patterns Note: Some pattern are not supported by OData specification but still widely used.
public static final String[]	*EDMDATETIMEOFFSET_PATTERNS* on page 1082	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	*EDMTIME_PATTERN* on page 1082	EDM Time pattern.
public static String	*ELEMENT_FEED* on page 1083	Name of the appropriate SDMOData element.
public static final String	*ELEMENT_ID* on page 1083	Name of the appropriate SDMOData element.
public abstract String	*getAttribute(String...)* on page 1069	Returns the value of the first attribute with the given route.
public abstract List< String >	*getAttributes(String...)* on page 1070	Returns all the values of attributes with the given route.
public abstract Map< String, String >	*getChildAttributeMap(String...)* on page 1070	Returns all the name-value pairs of attributes contained by the element with the given route.
public abstract List< String >	*getChildAttributes(String...)* on page 1070	Returns all the values of attributes contained by the element with the given route.
public abstract List< ISDMParserDocument >	*getChildDocuments(String...)* on page 1071	Returns the elements contained by the element with the given route.
public abstract List< ISDMParserDocument >	*getChildDocumentsWithAttribute(String, String, String...)* on page 1071	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public abstract List< ISDMParserDocument >	*getChildDocumentsWithAttribute(String, String, boolean, String...)* on page 1072	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public abstract ISDMParserDocument	*getDocument(String...)* on page 1072	Returns the first element with the given route.
public abstract List< ISDMParserDocument >	*getDocuments(String...)* on page 1073	Returns all the elements with the given route.
public abstract List< ISDMParserDocument >	*getDocumentsWithAttribute(String, String, String...)* on page 1073	Returns the elements with the given route that contains the given attribute with the given value.

Modifier and Type	Member	Description
public abstract List< ISDMParserDocument >	*getDocumentsWithAttribute(String, String, boolean, String...)* on page 1074	Returns the elements with the given route that contains the given attribute with the given value.
public abstract ISDMParserDocument	*getDocumentWithAttribute(String, String, String...)* on page 1074	Returns the first element with the given route that contains the given attribute with the given value.
public abstract ISDMParserDocument	*getDocumentWithAttribute(String, String, boolean, String...)* on page 1075	Returns the first element with the given route that contains the given attribute with the given value.
public abstract String	*getElementName()* on page 1075	Returns The name of the root element of this document.
public abstract String	*getFunctionImportComplexPropertyValue(String...)* on page 1076	
public abstract String	*getPrefixForUri(String)* on page 1076	Returns the appropriate name-space prefix for the given XML name-space URI.
public abstract String[]	*getStrings()* on page 1076	Returns all the string values contained by this document.
public abstract String	*getValue(String...)* on page 1076	Returns the value of the first element with the given route.
public abstract List< String >	*getValues(String...)* on page 1077	Returns all the values of elements with the given route.
public abstract void	*putAttribute(String, String...)* on page 1077	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	*putDocument(ISDMParserDocument, String...)* on page 1078	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	*putValue(String, String...)* on page 1078	Sets the value of the first element with the given route.
public abstract boolean	*removeAttribute(String...)* on page 1079	Removes first element with the given route.
public abstract boolean	*removeAttributes(String...)* on page 1079	Removes all the attribute with the given route.
public abstract boolean	*removeDocument(String...)* on page 1079	Removes first element with the given route For removing multiple element use setDocuemtns with null arguments.
public static final String	*ROOT_DOCUMENT_NAME* on page 1083	The default root element name for a new document.
public abstract void	*setAttributes(List< String >, String...)* on page 1080	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	*setDocuments(List< ISDMParserDocument >, String...)* on page 1080	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	*setElementName(String, String...)* on page 1081	Sets the name of the root element with the given route Use empty route for setting root name of this document.
public abstract void	*setValues(List< String >, String...)* on page 1081	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	*toXMLString()* on page 1081	Returns the XML string representation of this object.
public static final String	*XMLNS_APPLICATION_URI* on page 1083	Constant for XMLNS URI: http://schemas.microsoft.com/ado/2007/08/dataservices.
public static final String	*XMLNS_ATOM_URI* on page 1083	Constant for XMLNS URI: http://www.w3.org/2005/Atom.
public static final String	*XMLNS_DATASERVICES_URI* on page 1083	Constant for XMLNS URI: http://schemas.microsoft.com/ado/2007/08/dataservices.
public static final String	*XMLNS_EDM_URI* on page 1083	Constant for XMLNS URI: http://schemas.microsoft.com/ado/2007/05/edm.
public static final String	*XMLNS_EDMX_URI* on page 1084	Constant for XMLNS URI: http://schemas.microsoft.com/ado/2007/06/edmx.
public static final String	*XMLNS_GENERICPLAYER_URI* on page 1084	Constant for XMLNS URI: http://www.sap.com/Protocols/SAPData/GenericPlayer.
public static final String	*XMLNS_METADATA_URI* on page 1084	Constant for XMLNS URI: http://schemas.microsoft.com/ado/2007/08/dataservices/metadata.

Modifier and Type	Member	Description
public static final String	*XMLNS_SAP_URI* on page 1084	Constant for XMLNS URI: http://www.sap.com/Protocols/SAPData.

Inherited members from ISDMPersistable

Modifier and Type	Member	Description
public void	*read(BufferedReader)* on page 1085	
public void	*write(BufferedWriter)* on page 1085	

getCollections() method
Returns The list of of 'collection' SDMOData element.

Syntax

```
public abstract List< ISDMODataCollection > getCollections ()
```

Returns
The list of of 'collection' SDMOData element.

getSemantics() method
Returns the value of the appropriate SDMOData attribute.

Syntax

```
public abstract String getSemantics ()
```

Returns
The value of the appropriate SDMOData attribute

getTitle() method
Returns the value of the appropriate SDMOData element.

Syntax

```
public abstract String getTitle ()
```

Returns
The value of the appropriate SDMOData element

ATTRIBUTE_SEMANTICS variable
Name of the appropriate SDMOData attribute.

Syntax

```
public static final String ATTRIBUTE_SEMANTICS
```

ELEMENT_TITLE variable
Name of the appropriate SDMOData element.

Syntax

```
public static final String ELEMENT_TITLE
```

ELEMENT_WORKSPACE variable
Name of the appropriate SDMOData element.

Syntax

```
public static final String ELEMENT_WORKSPACE
```

ISDMParser interface
Deprecated. since 3.0, Use IParser Main interface for SDMOData parser.

Package

```
com.sap.mobile.lib.sdmparser
```

Syntax

```
public abstract interface ISDMParser
```

Derived classes

- *SDMParser* on page 1658

Members
All members of ISDMParser, including inherited members. **Methods**

Modifier and Type	Method	Description
public abstract String	*buildSDMODataDocumentXML(ISDMParserDocument)* on page 1053	Replaced by com.sap.mobile.lib.parser.IParser#buildODataDocument(IParserDocument).

Modifier and Type	Method	Description
public String	*buildSDMODataEntryJson(ISDMODataEntry, String, ISDMODataSchema)* on page 1053	Replaced by com.sap.mobile.lib.parser.IParser#buildODataEntryRequestBody(IODataEntry ,String , IODataSchema , int).
public abstract String	*buildSDMODataEntryXML(ISDMODataEntry)* on page 1054	Replaced by com.sap.mobile.lib.parser.IParser#buildODataEntryRequestBody(IODataEntry ,String , IODataSchema , int).
public void	*enableParserPerformanceLog(boolean, Context)* on page 1054	Replaced by com.sap.mobile.lib.parser.IParser#enableParserPerformanceLog(boolean,Context).
public abstract List< ISDMODataEntry >	*parseFunctionImportResultXML(String, ISDMODataFunctionImport, ISDMODataSchema)* on page 1055	Replaced by com.sap.mobile.lib.parser.IParser#parseFunctionImportResult(String , IODataFunctionImport , IODataSchema).
public abstract List< ISDMODataEntry >	*parseFunctionImportResultXML(InputStream, ISDMODataFunctionImport, ISDMODataSchema)* on page 1055	Replaced by com.sap.mobile.lib.parser.IParser#parseFunctionImportResult(InputStream , IODataFunctionImport , IODataSchema).
public abstract List< ISDMODataEntry >	*parseSDMODataEntriesXML(String, String, ISDMODataSchema)* on page 1056	Replaced by com.sap.mobile.lib.parser.IParser#parseODataEntries(String , String , IODataSchema).
public abstract List< ISDMODataEntry >	*parseSDMODataEntriesXML(InputStream, String, ISDMODataSchema)* on page 1057	Replaced by com.sap.mobile.lib.parser.IParser#parseODataEntries(InputStream , String , IODataSchema).
public abstract ISDMODataError	*parseSDMODataErrorXML(String)* on page 1057	Replaced by com.sap.mobile.lib.parser.IParser#parseODataError(String).

Modifier and Type	Method	Description
public abstract ISDMODataError	*parseSDMODataErrorXML(InputStream)* on page 1058	Replaced by com.sap.mobile.lib.parser.IParser#parseODataError(InputStream).
public abstract ISDMODataOpenSearchDescription	*parseSDMODataOpenSearchDescriptionXML(String, String, ISDMODataServiceDocument)* on page 1058	Replaced by com.sap.mobile.lib.parser.IParser#parseODataOpenSearchDescription(String , String , IODataServiceDocument).
public abstract ISDMODataOpenSearchDescription	*parseSDMODataOpenSearchDescriptionXML(InputStream, String, ISDMODataServiceDocument)* on page 1059	Replaced by com.sap.mobile.lib.parser.IParser#parseODataOpenSearchDescription(InputStream , String , IODataServiceDocument).
public abstract ISDMODataSchema	*parseSDMODataSchemaXML(String, ISDMODataServiceDocument)* on page 1060	Replaced by com.sap.mobile.lib.parser.IParser#parseODataSchema(String,IODataServiceDocument).
public abstract ISDMODataSchema	*parseSDMODataSchemaXML(InputStream, ISDMODataServiceDocument)* on page 1060	Replaced by com.sap.mobile.lib.parser.IParser#parseODataSchema(InputStream,IODataServiceDocument).
public abstract ISDMODataServiceDocument	*parseSDMODataServiceDocumentXML(String)* on page 1061	Replaced by com.sap.mobile.lib.parser.IParser#parseODataServiceDocument(String).
public abstract ISDMODataServiceDocument	*parseSDMODataServiceDocumentXML(InputStream)* on page 1061	Replaced by com.sap.mobile.lib.parser.IParser#parseODataServiceDocument(InputStream).
public abstract ISDMParserDocument	*parseXML(String)* on page 1062	Replaced by com.sap.mobile.lib.parser.IParser#parse(String).
public abstract ISDMParserDocument	*parseXML(InputStream)* on page 1062	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

Remarks
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

Remarks
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 abstract String buildSDMODataEntryXML (ISDMODataEntry
entry) throws SDMParserException, IllegalArgumentException
```

Parameters

- **entry –** The SDMODataEntry 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

Remarks
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 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

Remarks

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 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

Remarks
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 abstract 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

Remarks
Parses SAPData XML structure that represent either a single SDMOData Entry or an SDMOData Feed with several SDMOData entries

parseSDMODataEntriesXML(InputStream, String, ISDMODataSchema) method
Replaced by com.sap.mobile.lib.parser.IParser#parseODataEntries(InputStream , String , IODataSchema).

Syntax

```
public abstract List< ISDMODataEntry > parseSDMODataEntriesXML
(
    InputStream stream,
    String collectionId,
    ISDMODataSchema schema
) throws SDMParserException, IllegalArgumentException
```

Parameters

- **stream –** The stream that holds 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

Remarks
Parses SAPData XML structure from stream that represent either a single SDMOData Entry or an SDMOData Feed of several SDMOData entries

parseSDMODataErrorXML(String) method
Replaced by com.sap.mobile.lib.parser.IParser#parseODataError(String).

Syntax

```
public abstract ISDMODataError parseSDMODataErrorXML (String
errorXML) throws SDMParserException, IllegalArgumentException
```

Parameters

- **errorXML –** The SDMOData Error XML

Returns
The SDMOData Error document

Exceptions

- **SDMParserException class –** If the XML source is invalid
- **IllegalArgumentException –** If the argument is null

Remarks
Parses the SDMOData 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

Remarks
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

Remarks
Parses the SDMOData Open Search Description XML

parseSDMODataOpenSearchDescriptionXML(InputStream, String, ISDMODataServiceDocument) method
Replaced by com.sap.mobile.lib.parser.IParser#parseODataOpenSearchDescription(InputStream , String , IODataServiceDocument).

Syntax

```
public abstract ISDMODataOpenSearchDescription
parseSDMODataOpenSearchDescriptionXML (
    InputStream stream,
    String collectionId,
    ISDMODataServiceDocument serviceDocument
) throws SDMParserException, IllegalArgumentException
```

Parameters

- **stream –** The stream that holds the SDMOData Open Search Description XML.

Returns
SDMOData Open Search Description document

Exceptions

- **SDMParserException class –** If the stream source is invalid.
- **IllegalArgumentException –** If the argument is null.

Remarks
Parses the SDMOData Open Search Description XML from stream

parseSDMODataSchemaXML(String, ISDMODataServiceDocument) method
Replaced by
com.sap.mobile.lib.parser.IParser#parseODataSchema(String,IODataServiceDocument).

Syntax

```
public abstract 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

Remarks
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

Remarks
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

Remarks
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

Remarks
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

Remarks
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

Remarks
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.

Package

```
com.sap.mobile.lib.sdmparser
```

Syntax

```
public abstract interface ISDMParserDocument extends
ISDMPersistable,
```

Implemented interfaces

- *ISDMPersistable* on page 1084

Derived classes

- *SDMParserDocument* on page 1672

Derived interfaces

- *ISDMODataAssociation* on page 838
- *ISDMODataCollection* on page 855
- *ISDMODataComplexType* on page 868
- *ISDMODataEntitySet* on page 875
- *ISDMODataEntityType* on page 883
- *ISDMODataEntry* on page 895
- *ISDMODataError* on page 919

- *ISDMODataFunctionImport* on page 926
- *ISDMODataIcon* on page 937
- *ISDMODataLink* on page 944
- *ISDMODataNavigationProperty* on page 956
- *ISDMODataOpenSearchDescription* on page 964
- *ISDMODataParameter* on page 971
- *ISDMODataProperty* on page 978
- *ISDMODataSchema* on page 997
- *ISDMODataServiceDocument* on page 1011
- *ISDMODataURL* on page 1035
- *ISDMODataWorkspace* on page 1043

Members

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

Modifier and Type	Variable	Description
public static final String	ROOT_DOCUMENT_NAME	The default root element name for a new document.
public static Map< String, String >	DEFAULT_PREFIXMAP-PING	The default XML Namespace-to-Prefix mapping used for building XMLS.
public static String	ELEMENT_FEED	Name of the appropriate SDMOData element.
public static final String	ELEMENT_ID	Name of the appropriate SDMOData element.
public static final String	ATTRIBUTE_ETAG	Name of the appropriate SDMOData element.
public static final String	XMLNS_ATOM_URI	Constant for XMLNS URI: http://www.w3.org/2005/Atom.
public static final String	XMLNS_GENERICPLAY-ER_URI	Constant for XMLNS URI: http://www.sap.com/Protocols/SAPData/GenericPlayer.
public static final String	XMLNS_SAP_URI	Constant for XMLNS URI: http://www.sap.com/Protocols/SAPData.

Modifier and Type	Variable	Description
public static final String	XMLNS_EDM_URI	Constant for XMLNS URI: http://schemas.microsoft.com/ado/2007/05/edm.
public static final String	XMLNS_EDMX_URI	Constant for XMLNS URI: http://schemas.microsoft.com/ado/2007/06/edmx.
public static final String	XMLNS_METADATA_URI	Constant for XMLNS URI: http://schemas.microsoft.com/ado/2007/08/dataservices/metadata.
public static final String	XMLNS_DATASERVICES_URI	Constant for XMLNS URI: http://schemas.microsoft.com/ado/2007/08/dataservices.
public static final String	XMLNS_APPLICATION_URI	Constant for XMLNS URI: http://schemas.microsoft.com/ado/2007/08/dataservices.
public static final String	ATTRIBUTE_VALUEPREFIX_EDMTYPE	Value prefix for EDM Type type values.
public static final String	EDMTIME_PATTERN	EDM Time pattern.
public static final String[]	EDMDATETIME_PATTERNS	Possible EDM DateTime patterns Note: Some pattern are not supported by OData specification but still widely used.
public static final String[]	EDMDATETIMEOFFSET_PATTERNS	Possible EDM TimeOffset patterns Note: Some pattern are not supported by OData specification but still widely used.

Methods

Modifier and Type	Method	Description
public abstract ISDMParserDocument	*clone()* on page 1069	Creates a copy of this object.
public abstract String	*getAttribute(String...)* on page 1069	Returns the value of the first attribute with the given route.

Modifier and Type	Method	Description
public abstract List< String >	*getAttributes(String...)* on page 1070	Returns all the values of attributes with the given route.
public abstract Map< String, String >	*getChildAttributeMap(String...)* on page 1070	Returns all the name-value pairs of attributes contained by the element with the given route.
public abstract List< String >	*getChildAttributes(String...)* on page 1070	Returns all the values of attributes contained by the element with the given route.
public abstract List< ISDMParserDocument >	*getChildDocuments(String...)* on page 1071	Returns the elements contained by the element with the given route.
public abstract List< ISDMParserDocument >	*getChildDocumentsWithAttribute(String, String, String...)* on page 1071	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public abstract List< ISDMParserDocument >	*getChildDocumentsWithAttribute(String, String, boolean, String...)* on page 1072	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public abstract ISDMParserDocument	*getDocument(String...)* on page 1072	Returns the first element with the given route.
public abstract List< ISDMParserDocument >	*getDocuments(String...)* on page 1073	Returns all the elements with the given route.
public abstract List< ISDMParserDocument >	*getDocumentsWithAttribute(String, String, String...)* on page 1073	Returns the elements with the given route that contains the given attribute with the given value.
public abstract List< ISDMParserDocument >	*getDocumentsWithAttribute(String, String, boolean, String...)* on page 1074	Returns the elements with the given route that contains the given attribute with the given value.
public abstract ISDMParserDocument	*getDocumentWithAttribute(String, String, String...)* on page 1074	Returns the first element with the given route that contains the given attribute with the given value.

Modifier and Type	Method	Description
public abstract ISDMParserDocument	*getDocumentWithAttribute(String, String, boolean, String...)* on page 1075	Returns the first element with the given route that contains the given attribute with the given value.
public abstract String	*getElementName()* on page 1075	Returns The name of the root element of this document.
public abstract String	*getFunctionImportComplexPropertyValue(String...)* on page 1076	
public abstract String	*getPrefixForUri(String)* on page 1076	Returns the appropriate name-space prefix for the given XML name-space URI.
public abstract String[]	*getStrings()* on page 1076	Returns all the string values contained by this document.
public abstract String	*getValue(String...)* on page 1076	Returns the value of the first element with the given route.
public abstract List< String >	*getValues(String...)* on page 1077	Returns all the values of elements with the given route.
public abstract void	*putAttribute(String, String...)* on page 1077	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	*putDocument(ISDMParserDocument, String...)* on page 1078	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	*putValue(String, String...)* on page 1078	Sets the value of the first element with the given route.
public abstract boolean	*removeAttribute(String...)* on page 1079	Removes first element with the given route.

Modifier and Type	Method	Description
public abstract boolean	*removeAttributes(String...)* on page 1079	Removes all the attribute with the given route.
public abstract boolean	*removeDocument(String...)* on page 1079	Removes first element with the given route For removing multiple element use setDocuemtns with null arguments.
public abstract void	*setAttributes(List< String >, String...)* on page 1080	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	*setDocuments(List< ISDMParserDocument >, String...)* on page 1080	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	*setElementName(String, String...)* on page 1081	Sets the name of the root element with the given route Use empty route for setting root name of this document.
public abstract void	*setValues(List< String >, String...)* on page 1081	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	*toXMLString()* on page 1081	Returns the XML string representation of this object.

Inherited members from ISDMPersistable

Modifier and Type	Member	Description
public void	*read(BufferedReader)* on page 1085	
public void	*write(BufferedWriter)* on page 1085	

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(ISDMParserDocument, 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 (
    ISDMParserDocument 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 TimeOffset 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.

Package

```
com.sap.mobile.lib.sdmpersistence
```

Syntax

```
public interface ISDMPersistable
```

Derived classes

- *SDMLogger* on page 1171

Derived interfaces

- *ISDMCache* on page 683
- *ISDMParserDocument* on page 1063

Members

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

Modifier and Type	Method	Description
public void	*read(BufferedReader)* on page 1085	
public void	*write(BufferedWriter)* on page 1085	

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.

Package

```
com.sap.mobile.lib.sdmpersistence
```

Syntax

```
public abstract interface ISDMPersistence
```

Derived classes

- *SDMPersistence* on page 696

Members

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

Modifier and Type	Method	Description
public abstract void	*clear()* on page 1087	Deletes all data persisted by SDMPersistency.
public abstract boolean	*isDataPersisted(String)* on page 1087	Returns if the data with the given key is persisted.
public abstract InputStream	*loadDataStream(String)* on page 1087	Loads data stream stored in the file system.
public abstract< Textend-sISDMPersistable > boolean	*loadObject(String, T)* on page 1088	Loads an object stored in the file system.
public abstract byte[]	*loadRawData(String)* on page 1088	Loads raw data stored in the file system.
public abstract boolean	*loadSDMCache(ISDMCache)* on page 1089	Loads SDMCache from the file system.
public abstract boolean	*loadSDMCache(String, ISDMCache)* on page 1089	Loads SDMCache with the specified key extension from the file system.
public abstract boolean	*removeData(String)* on page 1090	
public abstract boolean	*removeSDMCache()* on page 1090	Removes the SDMCache from the file system.
public abstract boolean	*removeSDMCache(String)* on page 1091	Removes the SDMCache with the specified key extension from the file system.
public void	*setEncryptionKey(byte[], String)* on page 1091	Set the encryption key in a byte[] format.

Modifier and Type	Method	Description
public abstract void	*storeDataStream(String, InputStream)* on page 1091	Stores a data stream, in the file system.
public abstract void	*storeObject(String, ISDMPersistable)* on page 1092	Stores an ISDMPersistable object in the file system.
public abstract void	*storeRawData(String, byte[])* on page 1092	Stores a raw data in the file system.
public abstract void	*storeSDMCache(ISDMCache)* on page 1093	Stores SDMCache in the file system.
public abstract void	*storeSDMCache(String, ISDMCache)* on page 1093	Stores the SDMCache with the specified key extension in the file system.

clear() method

Deletes all data persisted by SDMPersistency.

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.

Package

```
com.sap.mobile.lib.sdmconfiguration
```

Syntax

```
public interface ISDMPreferenceChangeListener
```

Derived classes

- *SDMCache* on page 1141
- *ConnectionFactory* on page 794
- *SDMRequestManager* on page 1733
- *SDMPersistence* on page 696

Members

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

Modifier and Type	Method	Description
public void	*onPreferenceChanged(String, Object)* on page 1094	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.

Package

```
com.sap.mobile.lib.sdmconfiguration
```

Syntax

```
public interface ISDMPreferences
```

Derived classes

- *SDMPreferences* on page 1708

Members

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

Modifier and Type	Variable	Description
public static final String	SDM_CONNECTIVITY_CONNTIMEOUT	Preference for connection time out.
public static final String	SDM_CONNECTIVITY_SCONNTIMEOUT	Preference for socket connection time out.
public static final String	SDM_CONNECTIVITY_HTTP_PORT	Preference for default HTTP port.
public static final String	SDM_CONNECTIVITY_HTTPS_PORT	Preference for default HTTPS port.
public static final String	SAP_APPLICATIONID_HEADER_VALUE	Preference for application ID (used in request headers)
public static final String	SDM_CONNECTIVITY_PROXY_HOST	Preference for proxy host if there is a proxy should be used.
public static final String	SDM_CONNECTIVITY_PROXY_PORT	Preference for proxy post if there is a proxy should be used.
public static final String	SDM_CONNECTIVITY_HANDLER_CLASS_NAME	Preference for full name (including package) of the class that should be initialized as connectivity handler.
public static final String	SDM_PARSER_FOLDER_PATH	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	SDM_PERSISTENCE_FOLDER_PATH	Preference for the default folder where data should be persisted.

Modifier and Type	Variable	Description
public static final String	SDM_PERSISTENCE_SECUREMODE	Preference for indicator if persisted data should be encrypted.
public static final String	SDM_PERSISTENCE_BYTE_BUFFER_SIZE	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	SDM_PERSISTENCE_CIPHER_TRANSFORMATION	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	SDM_CACHE_CAPACITY	Preference for the maximum number of documents can be stored in cache.
public static final String	SDM_CACHE_MAX_SEARCH_RESULTS	Preference for the maximum entries that can be returned as a result of a search.
public static final String	SDM_CACHE_SEARCH_ATTRIBUTE_XMLNS	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	SDM_CACHE_PARSER_SEARCH_ATTRIBUTE	Preference for the name of the XML attribute that should be used to decide if a property is searchable.
public static final String	SDM_LOG_LEVEL	Preference for the current log severity.
public static final String	SAPPASSPORT_ENABLED	Preference for the indicator to decide if SAP passport should be enabled or not.
public static final String	BUSINESSTRANSACTION_ENABLED	Preference for the indicator to decide if SAP passport should be enabled or not.

Modifier and Type	Variable	Description
public static final String	BYPASS_PROXY	Preference for the indicator to decide which URLs need the proxy bypassed.

Methods

Modifier and Type	Method	Description
public boolean	*containsPreference(String)* on page 1098	Checks the existence of the given preference.
public Boolean	*getBooleanPreference(String)* on page 1098	Returns the value of the given preference or null if there is no preference with the given key.
public Float	*getFloatPreference(String)* on page 1099	Returns the value of the given preference or null if there is no preference with the given key.
public Integer	*getIntPreference(String)* on page 1099	Returns the value of the given preference or null if there is no preference with the given key.
public Long	*getLongPreference(String)* on page 1100	Returns the value of the given preference or null if there is no preference with the given key.
public String	*getStringPreference(String)* on page 1100	Returns the value of the given preference or null if there is no preference with the given key.
public void	*registerPreferenceChangeListener(String, ISDMPreferenceChangeListener)* on page 1101	You can register a class implementing the ISDMPreferenceChangeListener interface for the change of a preference with the given key.
public void	*removePreference(String)* on page 1101	Removes the preferences with the given key.
public void	*resetPreference(String)* on page 1101	Resets the preference's value to it's default value or to null if there is no default value for the given preference.

Modifier and Type	Method	Description
public void	*setBooleanPreference(String, boolean)* on page 1102	Sets and validates and persists the value of the preferences with the given type.
public void	*setFloatPreference(String, float)* on page 1102	Sets and validates and persists the value of the preferences with the given type.
public void	*setIntPreference(String, int)* on page 1103	Sets and validates and persists the value of the preferences with the given type.
public void	*setLongPreference(String, long)* on page 1103	Sets and validates and persists the value of the preferences with the given type.
public void	*setStringPreference(String, String)* on page 1103	Sets and validates and persists the value of the preferences with the given type.
public void	*unRegisterPreferenceChangeListener(String, ISDMPreferenceChangeListener)* on page 1104	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.

Remarks

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 exists or it can not be removed(e.g. an SDM preference)

resetPreference(String) method

Resets the preference's value to it's 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 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.

Remarks
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 BUSINESSTRANSACTION_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 post 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.

Package

```
com.sap.mobile.lib.sdmconnectivity
```

Syntax

```
public interface ISDMRequest
```

Derived classes

- *SDMBaseRequest* on page 1129
- *SDMPushRequest* on page 1725

Members

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

Modifier and Type	Variable	Description
public static final int	PRIORITY_NORMAL	Normal priority. This is the default priority.
public static final int	PRIORITY_HIGH	High priority. 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.
public static final int	REQUEST_METHOD_GET	HTTP GET method.
public static final int	REQUEST_METHOD_POST	HTTP POST method.
public static final int	REQUEST_METHOD_PUT	HTTP PUT method.
public static final int	REQUEST_METHOD_DELETE	HTTP DELETE method.
public static final int	ETAG_IF_MATCH	etag "if-match"
public static final int	ETAG_IF_NONE_MATCH	etag "if-none-match"
public static final int	ETAG_IF_RANGE	etag "if-range"

Methods

Modifier and Type	Method	Description
public byte[]	*getData()* on page 1110	If the request method is POST, this method is called from the network library.
public InputStream	*getDataStream()* on page 1111	If the request method is POST, this method is called from the network library.
public Object	*getE2eRequest()* on page 1111	Get the iRequest object from the ISDMRequest.
public Map< String, String >	*getHeaders()* on page 1111	Returns the request headers set.
public ISDMNetListener	*getListener()* on page 1111	Returns the listener to be used by the connectivity library to notify the registered listener about a successful or failed request operation.
public String	*getPassport()* on page 1112	
public int	*getPriority()* on page 1112	Returns the priority of the request.
public int	*getRequestMethod()* on page 1112	Returns the request method.
public String	*getRequestUrl()* on page 1112	Returns the URL where the request must be done.
public String	*getTransId()* on page 1112	
public boolean	*isStreamEnabled()* on page 1112	
public void	*setData(byte[])* on page 1113	Set the request data in case of POST request.
public void	*setDataStream(InputStream)* on page 1113	Set the request data stream in case of POST request.
public void	*setE2eRequest(Object)* on page 1113	Set the iRequest object into the ISDMRequest.
public void	*setHeaders(Map< String, String >)* on page 1113	Set the request headers.

Modifier and Type	Method	Description
public void	*setListener(final ISDMNetListener)* on page 1114	Client can register listeners to be used by the connectivity layer to notify the implementation about the result of the request.
public void	*setPassport(String)* on page 1114	
public void	*setPriority(final int)* on page 1114	Sets the priority of the request.
public void	*setRequestMethod(final int)* on page 1115	Sets the request method.
public void	*setRequestUrl(final String)* on page 1115	Sets the URL for the request.
public void	*setStreamEnabled(boolean)* on page 1115	Used to enable streaming of data when the size of the data to be fetched is greater than 200KB.
public void	*setTransId(String)* on page 1115	
public boolean	*useCookies()* on page 1115	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.

Remarks
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.

Remarks
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 ()
```

Remarks
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.

Remarks
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.

Remarks
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.

Remarks
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.

Remarks
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
```

Remarks
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
```

Remarks
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

Package

```
com.sap.mobile.lib.sdmconnectivity
```

Syntax

```
public interface ISDMRequestManager
```

Derived classes

- *SDMRequestManager* on page 1733

Members
All members of ISDMRequestManager, including inherited members. **Methods**

Modifier and Type	Method	Description
public Vector< ISDMRequest >	*getAllRequests()* on page 1118	Returns all requests from the connectivity component which are in the queue.
public ISDMConnectivitiy-Parameters	*getConnectivityParameters()* on page 1119	Returns the ConnectivityParameters object containing the settings used by the library.
public int	*getQueueSize()* on page 1119	Returns the number of requests from the connectivity component which are in the queue.
public Object	*getRequest()* on page 1119	Returns an ISDMRequest from the queue(s)
public boolean	*hasRequests()* on page 1119	Returns a boolean indicating the queue has requests or doesn't.
public void	*makeRequest(final ISDMRequest)* on page 1119	Put a request object into the SDMRequestManager.
public void	*makeRequest(final ISDMBundleRequest)* on page 1120	
public void	*sendOnSuccess(final ISDMNetListener, final ISDMRequest, final ISDMResponse)* on page 1120	Used to notify the ISDMNetListener implementation about successful request, without blocking ISDMConnectivity threads and reducing the concurrency on the application.
public void	*setMainHandlerClassName(final String)* on page 1120	Sets the class name of the ISDMConnectionHandler implementation.
public void	*terminate()* on page 1120	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 ISDMConnectivitiyParameters 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 dowsn'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

Remarks
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

Package

```
com.sap.mobile.lib.sdmconnectivity
```

Syntax

```
public abstract interface ISDMRequestStateElement
```

Derived classes

- *SDMRequestStateElement* on page 1744

Members

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

Modifier and Type	Variable	Description
public static final int	NO_ERROR	
public static final int	HTTP_ERROR	Server response status > 302.
public static final int	PARSE_ERROR	Problem with parsing the response xml.
public static final int	NETWORK_ERROR	There was a network error during a read/write to/from stream.
public static final int	AUTHENTICATION_ERROR	Authentication error.
public static final int	CLIENT_ERROR	Client error.
public static final int	REQUEST_ERROR	Problem with parsing the request.

Methods

Modifier and Type	Method	Description
public abstract int	*getErrorCode()* on page 1122	Returns the error code.
public abstract Exception	*getException()* on page 1122	Returns the Exception if it was set.
public abstract HttpResponse	*getHttpResponse()* on page 1123	Returns the HttpResponse.

Modifier and Type	Method	Description
public abstract int	*getHttpStatusCode()* on page 1123	Returns the HTTP status if it was set.
public abstract void	*setErrorCode(final int)* on page 1123	Sets the error code.
public abstract void	*setException(final Exception)* on page 1123	Sets the Exception.
public abstract void	*setHttpResponse(HttpResponse)* on page 1124	Sets the HttpResponse.
public abstract void	*setHttpStatusCode(final int)* on page 1124	Sets the HTTP status.

getErrorCode() method
Returns the error code.

Syntax
```
public abstract int getErrorCode ()
```

Remarks
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.

Remarks
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.

Remarks
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

Package

```
com.sap.mobile.lib.sdmconnectivity
```

Syntax

```
public interface ISDMResponse extends
```

Derived classes

- *SDMResponseImpl* on page 1750

Members
All members of ISDMResponse, including inherited members. **Methods**

Modifier and Type	Method	Description
public String	*getCookie()* on page 1126	
public String	*getCorelationId()* on page 1126	
public int	*getCurrentOffset()* on page 1126	

Modifier and Type	Method	Description
public int	*getDataStream(byte[], int)* on page 1126	Used to obtain the data in stream.
public int	*getDataStream(byte[], int, int, String)* on page 1127	
public Map< String, String >	*getHeadersMap()* on page 1127	
public boolean	*isDataAvailable()* on page 1127	To check whether the response object is available or it needs to be streamed in chunks.
public void	*setCorelationId(String)* on page 1127	

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 –**

Remarks
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)
```

RouteManager class
Deprecated. since 3.0, Use com.sap.mobile.lib.request.RouteManager

Package

```
com.sap.mobile.lib.sdmconnectivity
```

Syntax

```
public class RouteManager
```

Members
All members of RouteManager, including inherited members. **Methods**

Modifier and Type	Method	Description
public static void	*addHeaders(HttpUriRequest, DefaultHttpClient)* on page 1128	
public static SUPRoute	*getRoute(String)* on page 1128	

addHeaders(HttpUriRequest, DefaultHttpClient) method

Syntax

```
public static void addHeaders (
    HttpUriRequest request,
    DefaultHttpClient httpClient
)
```

getRoute(String) method

Syntax

```
public static SUPRoute getRoute (String URL)
```

SAPSSLSocketFactory class

Deprecated. since 3.0, Use com.sap.mobile.lib.request.SAPSSLSocketFactory

Package

```
com.sap.mobile.lib.sdmconnectivity
```

Syntax

```
public class SAPSSLSocketFactory
```

Members

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

Modifier and Type	Constructor	Description
public	*SAPSSLSocketFactory(KeyStore, TrustManager[])* on page 1129	

Methods

Modifier and Type	Method	Description
public Socket	*createSocket(Socket, String, int, boolean)* on page 1129	
public Socket	*createSocket()* on page 1129	

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
```

SDMBaseRequest class

Deprecated. since 3.0, Use com.sap.mobile.lib.request.BaseRequest

Package

```
com.sap.mobile.lib.sdmconnectivity
```

Syntax

```
public class SDMBaseRequest implements ISDMRequest
```

Implemented interfaces

- *ISDMRequest* on page 1108

Members

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

Modifier and Type	Variable	Description
protected String	mUrl	
protected int	mRequestMethod	
protected byte[]	mData	
protected Map< String, String >	mHeaders	
protected int	mPriority	
protected ISDMNetListener	mListener	
protected HashMap< String, String >	eTagMap	
protected static String	HostURL	
protected static String	xsrfToken	
protected static ArrayList< String >	setCookie	
protected static boolean	isStreamEnabled	

Methods

Modifier and Type	Method	Description
public byte[]	*getData()* on page 1133	If the request method is POST, this method is called from the network library.
public InputStream	*getDataStream()* on page 1133	If the request method is POST, this method is called from the network library.
public Request	*getE2eRequest()* on page 1133	Get the iRequest object from the ISDMRequest.
public Map< String, String >	*getHeaders()* on page 1134	Returns the request headers set.

Modifier and Type	Method	Description
public ISDMNetListener	*getListener()* on page 1134	Returns the listener to be used by the connectivity library to notify the registered listener about a successful or failed request operation.
public String	*getPassport()* on page 1134	
public int	*getPriority()* on page 1134	Returns the priority of the request.
public int	*getRequestMethod()* on page 1135	Returns the request method.
public String	*getRequestUrl()* on page 1135	Returns the URL where the request must be done.
public String	*getTransId()* on page 1135	
public boolean	*isStreamEnabled()* on page 1135	
public void	*setData(byte[])* on page 1135	Set the request data in case of POST request.
public void	*setDataStream(InputStream)* on page 1135	Set the request data stream in case of POST request.
public void	*setE2eRequest(Object)* on page 1136	Set the iRequest object into the ISDMRequest.
public void	*setETag(String, int)* on page 1136	
public void	*setHeaders(Map< String, String >)* on page 1136	Set the request headers.
public void	*setListener(ISDMNetListener)* on page 1136	
public void	*setPassport(String)* on page 1136	
public void	*setPriority(int)* on page 1137	
public void	*setRequestMethod(int)* on page 1137	

Modifier and Type	Method	Description
public void	*setRequestUrl(String)* on page 1137	
public void	*setStreamEnabled(boolean)* on page 1137	Used to enable streaming of data when the size of the data to be fetched is greater than 200KB.
public void	*setTransId(String)* on page 1137	
public boolean	*useCookies()* on page 1137	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	*ETAG_IF_MATCH* on page 1116	etag "if-match"
public static final int	*ETAG_IF_NONE_MATCH* on page 1116	etag "if-none-match"
public static final int	*ETAG_IF_RANGE* on page 1116	etag "if-range"
public static final int	*PRIORITY_HIGH* on page 1116	High priority.
public static final int	*PRIORITY_NORMAL* on page 1116	Normal priority.
public static final int	*REQUEST_METHOD_DELETE* on page 1117	HTTP DELETE method.
public static final int	*REQUEST_METHOD_GET* on page 1117	HTTP GET method.
public static final int	*REQUEST_METHOD_POST* on page 1117	HTTP POST method.
public static final int	*REQUEST_METHOD_PUT* on page 1117	HTTP PUT method.

Modifier and Type	Member	Description
public void	*setListener(final ISDMNetListener)* on page 1114	Client can register listeners to be used by the connectivity layer to notify the implementation about the result of the request.
public void	*setPriority(final int)* on page 1114	Sets the priority of the request.
public void	*setRequestMethod(final int)* on page 1115	Sets the request method.
public void	*setRequestUrl(final String)* on page 1115	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.

Remarks

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.

Remarks

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 ()
```

Remarks
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.

Remarks
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.

Remarks
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

Package

```
com.sap.mobile.lib.sdmconnectivity
```

Syntax

```
public class SDMBundleRequest implements ISDMBundleRequest
```

Implemented interfaces

- *ISDMBundleRequest* on page 805

Members

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

Modifier and Type	Constructor	Description
public	*SDMBundleRequest()* on page 1140	

Methods

Modifier and Type	Method	Description
public void	*addRequest(final ISDMRequest)* on page 1140	
public void	*clearRequests()* on page 1140	Cleans out the request storage.
public ISDMRequest[]	*getRequests()* on page 1140	Returns all requests from the storage.
public void	*removeRequest(final ISDMRequest)* on page 1141	

Inherited members from ISDMBundleRequest

Modifier and Type	Member	Description
public void	*addRequest(ISDMRequest)* on page 806	Adds a request to the storage.
public void	*removeRequest(ISDMRequest)* on page 806	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.

Package

```
com.sap.mobile.lib.sdmcache
```

Syntax

```
public class SDMCache implements ISDMCache,
ISDMPreferenceChangeListener, ISDMEntrySearch
```

Implemented interfaces

- *ISDMCache* on page 683
- *ISDMPreferenceChangeListener* on page 1094
- *ISDMEntrySearch* on page 694

Members

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

Modifier and Type	Variable	Description
public static final String	ALL_ENTRY_SEARCH_TERM	
protected static final String	ENTRY_TYPE_ODATASBASEDOCUMENT	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. If configured to be an empty string, all fields are included.
protected static final String	ENTRY_TYPE_ODATAENTRY	
protected static final String	ENTRY_KEY_ODATASERVICEDOCUMENT	

Modifier and Type	Variable	Description
protected static final String	ENTRY_KEY_ODATASCHE-MA	
protected static final String	NON_SAPDATA_DOCU-MENTS_HASHMAP_KEY	
protected ISDMLogger	logger	Logger object.
protected String	mLogTag	
protected ISDMEntrySearch	entrySearch	
protected ISDMPreferences	preferences	
protected int	cacheCapacity	
protected int	maxSearchResult	
protected String	searchField	
protected int	searchAlgorythm	
protected long	mPerformanceTime	
protected long	mTimerStart	
protected HashMap< String, Map< String, ISDMParserDo-cument > >	collectionStore	
protected ISDMODataService-Document	serviceDocument	
protected ISDMODataSchema	schema	

Constructors

Modifier and Type	Constructor	Description
public	*SDMCache(ISDMPreferences, ISDMLogger)* on page 1145	
public	*SDMCache(ISDMPreferences, ISDMLogger, ISDMODataSer-viceDocument, ISDMOData-Schema)* on page 1146	

Methods

Modifier and Type	Method	Description
protected void	*addSearchableProperty-Path(ISDMODataProperty, String, List< String[]>, String...)* on page 1146	
public void	*clear()* on page 1146	
protected Map< String, ISDM-ParserDocument >	*createStore()* on page 1146	
protected boolean	*fullTermContainSearch(String, ISDMODataEntry, List< String[]>)* on page 1146	
protected boolean	*fullTermPrefixSearch(String, ISDMODataEntry, List< String[]>)* on page 1147	
public ISDMEntrySearch	*getEntrySearch()* on page 1147	
public ISDMParserDocument	*getSDMODataDocu-ment(String)* on page 1147	
public List< ISDMODataEntry >	*getSDMODataEntries(String)* on page 1147	
public ISDMODataEntry	*getSDMODataEntry(String)* on page 1147	
public ISDMODataSchema	*getSDMODataSchema()* on page 1147	
public ISDMODataServiceDo-cument	*getSDMODataServiceDocu-ment()* on page 1147	
public int	*getSearchAlgorithm()* on page 1148	
public List< ISDMParserDocu-ment >	*getStoredDocuments()* on page 1148	
public void	*onPreferenceChanged(String, Object)* on page 1148	
public void	*read(BufferedReader)* on page 1148	

Modifier and Type	Method	Description
protected boolean	*regexSearch(String, ISDMODataEntry)* on page 1148	
public boolean	*removeSDMODataDocument(String)* on page 1148	
public boolean	*removeSDMODataEntries(String)* on page 1148	
public void	*removeStoredDocuments()* on page 1149	
public boolean	*searchInEntry(String, String, List< String >, ISDMODataEntry, List< String[]>, int)* on page 1149	Verifies whether the entry should be found during searching for the incoming search term.
public List< ISDMODataEntry >	*searchSDMODataEntries(String, String)* on page 1149	
public List< ISDMODataEntry >	*searchSDMODataEntries(String, String, int)* on page 1149	
public void	*setEntrySearch(ISDMEntrySearch)* on page 1150	
public void	*setSDMODataDocument(String, ISDMParserDocument)* on page 1150	
public void	*setSDMODataEntries(List< ISDMODataEntry >)* on page 1150	
public void	*setSDMODataEntry(ISDMODataEntry)* on page 1150	
public void	*setSDMODataSchema(ISDMODataSchema)* on page 1150	
public void	*setSDMODataServiceDocument(ISDMODataServiceDocument)* on page 1150	

Modifier and Type	Method	Description
public void	*setSearchAlgorithm(int)* on page 1151	
protected boolean	*tokenizedContainAll-Search(List< String >, ISDMO-DataEntry, List< String[]>)* on page 1151	
protected boolean	*tokenizedContainSearch(List< String >, ISDMODataEntry, List< String[]>)* on page 1151	
protected boolean	*tokenizedPrefixSearch(List< String >, ISDMODataEntry, List< String[]>)* on page 1151	
public void	*write(BufferedWriter)* on page 1151	

Inherited members from ISDMPersistable

Modifier and Type	Member	Description
public void	*read(BufferedReader)* on page 1085	
public void	*write(BufferedWriter)* on page 1085	

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 searchAlgorythm
)
```

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.
- **searchAlgorythm –** 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 searchAlgorythm
)
```

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 searchAlgorythm)
```

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_ODATASCHEMA variable

Syntax

```
protected static final String ENTRY_KEY_ODATASCHEMA
```

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
```

Remarks
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
```

searchAlgorythm variable

Syntax

```
protected int searchAlgorythm
```

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.

Package

```
com.sap.mobile.lib.sdmconnectivity
```

Syntax

```
public class SDMConnectivityException
```

Members

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

Modifier and Type	Constructor	Description
public	*SDMConnectivityException()* on page 1155	Constructs a new SDMconnectivityException.
public	*SDMConnectivityException(String)* on page 1155	Constructs a new SDMconnectivityException.
public	*SDMConnectivityException(String, Throwable)* on page 1155	Constructs a new SDMconnectivityException.
public	*SDMConnectivityException(Throwable)* on page 1155	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(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.

SDMConnectivityException(Throwable) constructor
Constructs a new SDMconnectivityException.

Syntax

```
public SDMConnectivityException (Throwable throwable)
```

Parameters

- **throwable –** the Throwable to set.

SDMConnectivityParameters class
Deprecated. since 3.0, Use com.sap.mobile.lib.request.ConnectivityParameters

Package

```
com.sap.mobile.lib.sdmconnectivity
```

Syntax

```
public class SDMConnectivityParameters implements
ISDMConnectivitiyParameters
```

Implemented interfaces

- *ISDMConnectivitiyParameters* on page 812

Members

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

Modifier and Type	Variable	Description
public static Boolean	isXcsrfEnabled	
public static Boolean	autoredirectenabled	

Methods

Modifier and Type	Method	Description
public void	*enableXsrf(Boolean)* on page 1157	Sets the XSRFEnabled flag.
public String	*getBaseUrl()* on page 1157	
public String	*getLanguage()* on page 1158	Returns the language setting.
public final TrustManager[]	*getTrustManagers()* on page 1158	Returns an array filled with TrustManager instances.
public String	*getUserName()* on page 1158	Returns the username.
public String	*getUserPassword()* on page 1158	Returns the password.
public boolean	*isAutoRedirectEnabled()* on page 1158	Returns whether auto redirect is enabled.
public void	*setAutoRedirectEnabled(boolean)* on page 1159	Enables or disables auto redirect.
public void	*setBaseUrl(String)* on page 1159	Sets the base URL for requests.
public void	*setLanguage(final String)* on page 1159	

Modifier and Type	Method	Description
public void	*setServerCertificate(Certificate[])* on page 1159	
public void	*setServerCertificate(Certificate)* on page 1159	
public void	*setUserName(String)* on page 1159	Sets the username which must be used during authentication.
public void	*setUserPassword(String)* on page 1160	Sets the password.

Inherited members from ISDMConnectivitiyParameters

Modifier and Type	Member	Description
public void	*setLanguage(String)* on page 815	Sets the language used in connection.
public void	*setServerCertificate(final Certificate[])* on page 816	Sets the server certificate.
public void	*setServerCertificate(final Certificate)* on page 816	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

Package

```
com.sap.mobile.lib.sdmconfiguration
```

Syntax

```
public interface SDMConstants
```

Derived classes

- *SDMPreferences* on page 1708

Members
All members of SDMConstants, including inherited members. **Variables**

Modifier and Type	Variable	Description
public static final String	SDM_SHARED_PREFEREN-CES	Shared preferences.

Modifier and Type	Variable	Description
public static final int	DEFAULT_CONNECTION_TIMEOUT	Default connection timeout.
public static final int	DEFAULT_SOCKET_CONNECTION_TIMEOUT	Default socket connection timeout.
public static final int	DEFAULT_HTTP_PORT	Default HTTP port.
public static final int	DEFAULT_HTTPS_PORT	Default HTTPS port.
public static final String	DEFAULT_SAP_APPLICATIONID_HEADER_VALUE	Default application ID.
public static final String	DEFAULT_PROXY_HOST	Default proxy host.
public static final int	DEFAULT_PROXY_PORT	Default proxy port.
public static final String	SDM_HTTP_HANDLER_CLASS	Socket Connection handler class.
public static final String	SDM_IMO_HANDLER_CLASS	IMO Connection handler class.
public static final String	DEFAULT_HANDLER_CLASS_NAME	Default handler class.
public static final boolean	DEFAULT_PERSISTENCE_BOOLEAN_SECUREMODE	Default security mode.
public static final int	DEFAULT_PERSISTENCE_BYTE_BUFFER_SIZE	Default buffer size.
public static final int	MIN_PERSISTENCE_BYTE_BUFFER_SIZE	Minimum buffer size.
public static final int	MAX_PERSISTENCE_BYTE_BUFFER_SIZE	Maximum buffer size.
public static final String	DEFAULT_CIPHER_TRANSFORMATION	Default cipher transformation.
public static final int	DEFAULT_STORE_CAPACITY	Default cache capacity.

Modifier and Type	Variable	Description
public static final int	MAXIMUM_STORE_CAPACITY	Maximum cache capacity.
public static final int	DEFAULT_SEARCH_LIMIT	Default for maximum search results retrieved from cache.
public static final int	DEFAULT_LOG_LEVEL	Default log level.
public static final boolean	DEFAULT_SAPPASSPORT_ENABLED	SAP Passport enablement default setting.
public static final boolean	DEFAULT_BUSINESSTRANSACTION_ENABLED	SAP Business Transaction XML enablement default setting.

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
```

SDMHttpChannelListeners class
Deprecated. since 3.0, Use com.sap.mobile.lib.request.HttpChannelListeners

Package

```
com.sap.mobile.lib.sdmconnectivity
```

Syntax

```
public class SDMHttpChannelListeners
```

SDMHttpChannelListeners.Authenticationschema class
Deprecated. since 3.0, Use
com.sap.mobile.lib.request.HttpChannelListeners.Authenticationschema

Package

```
com.sap.mobile.lib.sdmconnectivity.SDMHttpChannelListeners
```

Syntax

```
public class Authenticationschema
```

Members

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

Modifier and Type	Variable	Description
public String	realm	
public String	schemaName	

Methods

Modifier and Type	Method	Description
public String	*getRealm()* on page 1166	
public String	*getSchemeName()* on page 1166	
public void	*processChallenge(ICredential, ISDMRequest)* on page 1166	

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

Package

```
com.sap.mobile.lib.sdmconnectivity.SDMHttpChannelListeners
```

Syntax

```
public class BasicCredetials implements ICredential
```

Implemented interfaces

- *ICredential* on page 1170

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

Modifier and Type	Variable	Description
public static String	uName	
public static String	passwd	

Constructors

Modifier and Type	Constructor	Description
public	*BasicCredetials(String, String)* on page 1167	

Methods

Modifier and Type	Method	Description
public Map< String, Object >	*getAuthHeader()* on page 1168	

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

Package

```
com.sap.mobile.lib.sdmconnectivity.SDMHttpChannelListeners
```

Syntax

```
public class CookieCredetials implements ICredential
```

Implemented interfaces

- *ICredential* on page 1170

Members

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

Modifier and Type	Variable	Description
protected static Cookie	cookieValue	

Constructors

Modifier and Type	Constructor	Description
public	*CookieCredetials(Cookie)* on page 1169	

Methods

Modifier and Type	Method	Description
public Map< String, Object >	*getAuthHeader()* on page 1169	

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

Package

```
com.sap.mobile.lib.sdmconnectivity.SDMHttpChannelListeners
```

Syntax

```
public interface IAuthenticationChallengeListner
```

Derived classes

- *AuthenticationChallengeListener* on page 1741

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

Modifier and Type	Method	Description
public ICredential	*OnAuthenticationFailed(Authenticationschema, HttpResponse)* on page 1170	

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

Package

```
com.sap.mobile.lib.sdmconnectivity.SDMHttpChannelListeners
```

Syntax

```
public interface ICredential
```

Derived classes

- *BasicCredetials* on page 1167
- *CookieCredetials* on page 1168

Members

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

Modifier and Type	Method	Description
public Map< String, Object >	*getAuthHeader()* on page 1170	

getAuthHeader() method

Syntax

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

SDMHttpChannelListeners.IMutualSSLChallengeListener interface

Deprecated. since 3.0, Use com.sap.mobile.lib.request.HttpChannelListeners.IMutualSSLChallengeListener

Package

```
com.sap.mobile.lib.sdmconnectivity.SDMHttpChannelListeners
```

Syntax

```
public interface IMutualSSLChallengeListener
```

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

Modifier and Type	Method	Description
public HttpsClientCertInfo	*getClientCertificate()* on page 1171	

getClientCertificate() method

Syntax
```
public HttpsClientCertInfo getClientCertificate ()
```

SDMHttpChannelListeners.ISSLChallengeListener interface
Deprecated. since 3.0, Use com.sap.mobile.lib.request.HttpChannelListeners.ISSLChallengeListener

Package
```
com.sap.mobile.lib.sdmconnectivity.SDMHttpChannelListeners
```

Syntax
```
public interface ISSLChallengeListener
```

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

Modifier and Type	Method	Description
public boolean	*isServerTrusted(X509Certificate[])* on page 1171	

isServerTrusted(X509Certificate[]) method

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

SDMLogger class
Deprecated. since 3.0, Use com.sap.mobile.lib.supportability.Logger ISDMLogger implementation.

Package
```
com.sap.mobile.lib.supportability
```

Syntax

```
public class SDMLogger implements ISDMLogger, ISDMPersistable
```

Implemented interfaces

- *ISDMLogger* on page 817
- *ISDMPersistable* on page 1084

Members

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

Modifier and Type	Variable	Description
public static int	passportTraceLevel	
public static int	e2eStep	

Constructors

Modifier and Type	Constructor	Description
public	*SDMLogger()* on page 1176	Constructs a new SDMLogger, an ISDMLogger implementation.

Methods

Modifier and Type	Method	Description
public boolean	*canLog()* on page 1177	Implementer should override this method!
public void	*cleanUp(final int)* on page 1177	Deletes all entries weaker than the threshold priority.
public void	*d(final String, final String)* on page 1177	Sends a DEBUG log message.
public void	*d(final String, final String, final Throwable)* on page 1177	Sends a DEBUG log message and logs the exception.
public void	*d(final String, final String, final String)* on page 1178	Sends a DEBUG log message.
public void	*d(final String, final String, final Throwable, final String)* on page 1178	Sends a DEBUG log message and logs the exception.

Modifier and Type	Method	Description
public void	*e(final String, final String)* on page 1179	Sends an ERROR log message.
public void	*e(final String, final String, final Throwable)* on page 1179	Sends an ERROR log message and logs the exception.
public void	*e(final String, final String, final String)* on page 1180	Sends an ERROR log message.
public void	*e(final String, final String, final Throwable, final String)* on page 1180	Sends an ERROR log message and logs the exception.
public Enumeration< LogEntry >	*getLogElements()* on page 1180	
public Vector< LogEntry >	*getLogElements(final int)* on page 1181	Get the log elements above (and including) the threshold.
public Vector< LogEntry >	*getLogElementsByCorrelationId(final String)* on page 1181	
public Vector< LogEntry >	*getLogElementsByPID(final long)* on page 1181	
public Vector< LogEntry >	*getLogElementsByTag(final String)* on page 1181	
public Vector< LogEntry >	*getLogElementsByTimeStamp(final long, final long)* on page 1181	
public final int	*getLogLevel()* on page 1181	Returns the log level.
public void	*i(final String, final String)* on page 1182	Sends an INFO log message.
public void	*i(final String, final String, final Throwable)* on page 1182	Sends a INFO log message and logs the exception.
public void	*i(final String, final String, final String)* on page 1183	Sends an INFO log message.
public void	*i(final String, final String, final Throwable, final String)* on page 1183	Sends a INFO log message and logs the exception.

Modifier and Type	Method	Description
public void	*log(final int, final String, final String, final Throwable, String)* on page 1183	Logs a log message.
public void	*logFullLocation(boolean)* on page 1184	Setting to control log full location (class-path and method name).
public boolean	*logsFullLocation()* on page 1184	To get the setting which controls log output should contain full location (class and method name) or not.
public boolean	*logsToAndroid()* on page 1184	To get the setting which controls log output to Android log.
public void	*logToAndroid(final boolean)* on page 1185	Setting to control log output to Android log.
public void	*p(final String, final String)* on page 1185	Sends a PERFORMANCE log message.
public void	*p(final String, final String, final String)* on page 1185	Sends a PERFORMANCE log message.
public void	*read(BufferedReader)* on page 1186	
public void	*setHeaderData(final String, final String, final String, final String, final String, final String, final String, final String, final String)* on page 1186	Sets the log header fields.
public void	*setLogLevel(final int)* on page 1187	Set the log level.
public void	*terminate()* on page 1187	Clears collected log data.
public synchronized String	*toString()* on page 1187	Get log data.
public void	*v(final String, final String)* on page 1187	Sends a VERBOSE log message.
public void	*v(final String, final String, final Throwable)* on page 1188	Sends a VERBOSE log message and logs the exception.

Modifier and Type	Method	Description
public void	*v(final String, final String, final String)* on page 1188	Sends a VERBOSE log message.
public void	*v(final String, final String, final Throwable, final String)* on page 1189	Sends a VERBOSE log message and logs the exception.
public void	*w(final String, final Throwable)* on page 1189	Sends a WARN log message and logs the exception.
public void	*w(final String, final String, final Throwable)* on page 1189	Sends a WARN log message and logs the exception.
public void	*w(final String, final String)* on page 1190	Sends a WARN log message.
public void	*w(final String, final Throwable, final String)* on page 1190	Sends a WARN log message and logs the exception.
public void	*w(final String, final String, final String)* on page 1191	Sends a WARN log message.
public void	*w(final String, final String, final Throwable, final String)* on page 1191	Sends a WARN log message and logs the exception.
public void	*write(BufferedWriter)* on page 1192	
public void	*wtf(final String, final Throwable)* on page 1192	Use com.sap.mobile.lib.supportability.ILogger#w(String, Throwable) What a Terrible Failure: Reports an exception that should never happen.
public void	*wtf(final String, final String)* on page 1192	Use com.sap.mobile.lib.supportability.ILogger#w(String, String) What a Terrible Failure: Reports a condition that should never happen.
public void	*wtf(final String, final String, final Throwable)* on page 1193	Use com.sap.mobile.lib.supportability.ILogger#w(String, String, Throwable) What a Terrible Failure: Reports an exception that should never happen.

Modifier and Type	Method	Description
public void	*wtf(final String, final Throwable, final String)* on page 1193	Use com.sap.mobile.lib.supportability.ILogger#w(String, Throwable, String) What a Terrible Failure: Reports an exception that should never happen.
public void	*wtf(final String, final String, final String)* on page 1194	Use com.sap.mobile.lib.supportability.ILogger#w(String, String, String) What a Terrible Failure: Reports a condition that should never happen.
public void	*wtf(final String, final String, final Throwable, final String)* on page 1194	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 ISDMLogger

Modifier and Type	Member	Description
public static final int	*ASSERT* on page 836	Log level ASSERT.
public static final int	*DEBUG* on page 836	Log level DEBUG.
public static final int	*ERROR* on page 836	Log level ERROR.
public static final int	*FATAL* on page 836	Log level FATAL.
public static final int	*INFO* on page 836	Log level INFO.
public static final int	*PERFORMANCE* on page 836	Log level PERFORMANCE.
public static final int	*VERBOSE* on page 836	Log level VERBOSE.
public static final int	*WARN* on page 837	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.

Remarks
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

Remarks
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.

Remarks
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

Remarks
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.

Remarks
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

Remarks
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.

Remarks
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)

Remarks
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.

Remarks
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

Remarks
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

Remarks
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

Remarks
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.

Remarks
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

Remarks

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.

Remarks

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

Remarks

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).

Remarks
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).

Remarks
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

Package

```
com.sap.mobile.lib.sdmparser
```

Syntax

```
public class SDMODataAssociation extends SDMParserDocument
implements ISDMODataAssociation
```

Base class

- *SDMParserDocument* on page 1672

Implemented interfaces

- *ISDMODataAssociation* on page 838

Derived classes

- *SDMODataAssociationSet* on page 1221

Members
All members of SDMODataAssociation, including inherited members. **Constructors**

Modifier and Type	Constructor	Description
public	*SDMODataAssociation()* on page 1209	
protected	*SDMODataAssociation(int[], String[])* on page 1209	
public	*SDMODataAssociation(SDMParserDocument)* on page 1209	
protected	*SDMODataAssociation(String)* on page 1210	

Methods

Modifier and Type	Method	Description
public ISDMODataAssociationEnd	*getAssociationEnd(String)* on page 1210	Returns the value of the appropriate Association End SDMOData element with the given role.
public List< ISDMODataAssociationEnd >	*getAssociationEnds()* on page 1210	Returns list of the appropriate SDMOData elements.
public String	*getName()* on page 1210	Returns the value of the appropriate SDMOData attribute.

Inherited members from SDMParserDocument

Modifier and Type	Member	Description
public SDMParserDocument	*clone()* on page 1681	Creates a copy of this object.
protected Map< String, String >	*extensions* on page 1701	
public String	*getAttribute(String...)* on page 1682	Returns the value of the first attribute with the given route.
public List< String >	*getAttributes(String...)* on page 1682	Returns all the values of attributes with the given route.
protected int	*getAttributesEndPosition(int[], int, int)* on page 1682	

Modifier and Type	Member	Description
public Map< String, String >	*getChildAttributeMap(String...)* on page 1683	Returns all the name-value pairs of attributes contained by the element with the given route.
public List< String >	*getChildAttributes(String...)* on page 1683	Returns all the values of attributes contained by the element with the given route.
public List< ISDMParserDocument >	*getChildDocuments(String...)* on page 1683	Returns the elements contained by the element with the given route.
public List< ISDMParserDocument >	*getChildDocumentsWithAttribute(String, String, String...)* on page 1684	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public List< ISDMParserDocument >	*getChildDocumentsWithAttribute(String, String, boolean, String...)* on page 1684	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public SDMParserDocument	*getDocument(String...)* on page 1685	Returns the first element with the given route.
protected List< int[]>	*getDocumentPositions(String[], int, boolean, boolean)* on page 1685	
public List< ISDMParserDocument >	*getDocuments(String...)* on page 1686	Returns all the elements with the given route.
public List< ISDMParserDocument >	*getDocumentsWithAttribute(String, String, String...)* on page 1686	Returns the elements with the given route that contains the given attribute with the given value.
public List< ISDMParserDocument >	*getDocumentsWithAttribute(String, String, boolean, String...)* on page 1687	Returns the elements with the given route that contains the given attribute with the given value.
public ISDMParserDocument	*getDocumentWithAttribute(String, String, String...)* on page 1687	Returns the first element with the given route that contains the given attribute with the given value.

Modifier and Type	Member	Description
public ISDMParserDocument	*getDocumentWithAttribute(String, String, boolean, String...)* on page 1688	Returns the first element with the given route that contains the given attribute with the given value.
public String	*getElementName()* on page 1688	Returns The name of the root element of this document.
public String	*getExtension(String)* on page 1689	
public String	*getFunctionImportComplexPropertyValue(String...)* on page 1689	
public static List< String >	*getNameMap()* on page 1689	
public static String	*getPrefix(String)* on page 1689	
public String	*getPrefixForUri(String)* on page 1689	Returns the appropriate name-space prefix for the given XML name-space URI.
public static Map< String, String >	*getPrefixMapping()* on page 1689	
protected List< Integer >	*getStringPositions(String[], int, boolean, boolean)* on page 1690	
public String[]	*getStrings()* on page 1690	Returns all the string values contained by this document.
public String	*getValue(String...)* on page 1690	Returns the value of the first element with the given route.
public List< String >	*getValues(String...)* on page 1690	Returns all the values of elements with the given route.
protected int[]	*insertRoutePositions(int[], int, int[])* on page 1691	
protected void	*insertRoutesPositions(int, int[])* on page 1691	
protected void	*insertStringsPositions(int, String[])* on page 1691	

Modifier and Type	Member	Description
protected String[]	*insertStringsPositions(String[], int, String[])* on page 1691	
protected boolean	*isMatched(String, String)* on page 1692	
public void	*putAttribute(String, String...)* on page 1692	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	*putDocument(ISDMParserDocument, String...)* on page 1692	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	*putExtension(String, String)* on page 1693	
protected void	*putString(int, String, int, String...)* on page 1693	
public void	*putValue(String, String...)* on page 1693	Sets the value of the first element with the given route.
public void	*read(BufferedReader)* on page 1693	
public static void	*readNameMap(BufferedReader)* on page 1694	
public boolean	*removeAttribute(String...)* on page 1694	Removes first element with the given route.
public boolean	*removeAttributes(String...)* on page 1694	Removes all the attribute with the given route.
public boolean	*removeDocument(String...)* on page 1695	Removes first element with the given route For removing multiple element use setDocuemtns with null arguments.

Modifier and Type	Member	Description
public void	*removeExtension(String)* on page 1695	
protected void	*removeRoutesPositions(int, int)* on page 1695	
protected int[]	*removeRoutesPositions(int[], int, int)* on page 1695	
protected boolean	*removeString(String...)* on page 1695	
protected boolean	*removeStrings(String...)* on page 1696	
protected void	*removeStringsPositions(int, int)* on page 1696	
protected String[]	*removeStringsPositions(String[], int, int)* on page 1696	
protected int	*replaceRoutesPositions(int, int, int[])* on page 1696	
protected int[]	*replaceRoutesPositions(int[], int, int, int[])* on page 1696	
protected int	*replaceStringsPositions(int, int, String[])* on page 1697	
protected String[]	*replaceStringsPositions(String[], int, int, String[])* on page 1697	
public static String	*resolveUrl(String, String)* on page 1697	
protected int[]	*routes* on page 1701	
public	*SDMParserDocument(String)* on page 1681	
public	*SDMParserDocument(SDMParserDocument)* on page 1681	

Modifier and Type	Member	Description
protected	*SDMParserDocument(int[], String[])* on page 1681	
protected	*SDMParserDocument(String, boolean)* on page 1681	
public void	*setAttribute(String, String...)* on page 1697	
public void	*setAttributes(List< String >, String...)* on page 1697	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	*setDocument(ISDMParserDocument, String...)* on page 1698	
public void	*setDocuments(List< ISDMParserDocument >, String...)* on page 1698	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	*setElementName(String, String...)* on page 1698	Sets the name of the root element with the given route Use empty route for setting root name of this document.
public static void	*setNameMap(List< String >)* on page 1699	
public static void	*setPrefixMapping(Map< String, String >)* on page 1699	
protected void	*setString(String, String...)* on page 1699	

Modifier and Type	Member	Description
protected void	*setStrings(List< String >, String...)* on page 1699	
public void	*setValue(String, String...)* on page 1699	
public void	*setValues(List< String >, String...)* on page 1700	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[]	*strings* on page 1701	
public String	*toXMLString()* on page 1700	Returns the XML string representation of this object.
protected static final String	*URL_PROTOCOL_PREFIX* on page 1701	
public void	*write(BufferedWriter)* on page 1700	
public static void	*writeNameMap(BufferedWriter)* on page 1701	

Inherited members from ISDMParserDocument

Modifier and Type	Member	Description
public static final String	*ATTRIBUTE_ETAG* on page 1082	Name of the appropriate SDMOData element.
public static final String	*ATTRIBUTE_VALUEPREFIX_EDMTYPE* on page 1082	Value prefix for EDM Type type values.
public static Map< String, String >	*DEFAULT_PREFIXMAPPING* on page 1082	The default XML Namespace-to-Prefix mapping used for building XMLS.
public static final String[]	*EDMDATETIME_PATTERNS* on page 1082	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[]	*EDMDATETIMEOFFSET_PATTERNS* on page 1082	Possible EDM TimeOffset patterns Note: Some pattern are not supported by OData specification but still widely used.
public static final String	*EDMTIME_PATTERN* on page 1082	EDM Time pattern.
public static String	*ELEMENT_FEED* on page 1083	Name of the appropriate SDMOData element.
public static final String	*ELEMENT_ID* on page 1083	Name of the appropriate SDMOData element.
public static final String	*ROOT_DOCUMENT_NAME* on page 1083	The default root element name for a new document.
public static final String	*XMLNS_APPLICATION_URI* on page 1083	Constant for XMLNS URI: http://schemas.microsoft.com/ado/2007/08/dataservices.
public static final String	*XMLNS_ATOM_URI* on page 1083	Constant for XMLNS URI: http://www.w3.org/2005/Atom.
public static final String	*XMLNS_DATASERVICES_URI* on page 1083	Constant for XMLNS URI: http://schemas.microsoft.com/ado/2007/08/dataservices.
public static final String	*XMLNS_EDM_URI* on page 1083	Constant for XMLNS URI: http://schemas.microsoft.com/ado/2007/05/edm.
public static final String	*XMLNS_EDMX_URI* on page 1084	Constant for XMLNS URI: http://schemas.microsoft.com/ado/2007/06/edmx.
public static final String	*XMLNS_GENERICPLAYER_URI* on page 1084	Constant for XMLNS URI: http://www.sap.com/Protocols/SAPData/GenericPlayer.
public static final String	*XMLNS_METADATA_URI* on page 1084	Constant for XMLNS URI: http://schemas.microsoft.com/ado/2007/08/dataservices/metadata.

Modifier and Type	Member	Description
public static final String	*XMLNS_SAP_URI* on page 1084	Constant for XMLNS URI: http://www.sap.com/Protocols/SAPData.

Inherited members from ISDMPersistable

Modifier and Type	Member	Description
public void	*read(BufferedReader)* on page 1085	
public void	*write(BufferedWriter)* on page 1085	

Inherited members from ISDMODataAssociation

Modifier and Type	Member	Description
public static final String	*ATTRIBUTE_ASSOCIATION* on page 845	Name of the appropriate SDMOData attribute.
public static final String	*ATTRIBUTE_NAME* on page 845	Name of the appropriate SDMOData attribute.
public static final String	*ELEMENT_ASSOCIATION* on page 845	Name of the appropriate SDMOData element.
public static final String	*ELEMENT_ASSOCIATIO-NEND* on page 846	Name of the appropriate SDMOData element.

Inherited members from ISDMParserDocument

Modifier and Type	Member	Description
public static final String	*ATTRIBUTE_ETAG* on page 1082	Name of the appropriate SDMOData element.
public static final String	*ATTRIBUTE_VALUEPRE-FIX_EDMTYPE* on page 1082	Value prefix for EDM Type type values.
public abstract ISDMParserDo-cument	*clone()* on page 1069	Creates a copy of this object.
public static Map< String, String >	*DEFAULT_PREFIXMAP-PING* on page 1082	The default XML Namespace-to-Prefix mapping used for building XMLS.

Modifier and Type	Member	Description
public static final String[]	*EDMDATETIME_PATTERNS* on page 1082	Possible EDM DateTime patterns Note: Some pattern are not supported by OData specification but still widely used.
public static final String[]	*EDMDATETIMEOFFSET_PATTERNS* on page 1082	Possible EDM TimeOffset patterns Note: Some pattern are not supported by OData specification but still widely used.
public static final String	*EDMTIME_PATTERN* on page 1082	EDM Time pattern.
public static String	*ELEMENT_FEED* on page 1083	Name of the appropriate SDMOData element.
public static final String	*ELEMENT_ID* on page 1083	Name of the appropriate SDMOData element.
public abstract String	*getAttribute(String...)* on page 1069	Returns the value of the first attribute with the given route.
public abstract List< String >	*getAttributes(String...)* on page 1070	Returns all the values of attributes with the given route.
public abstract Map< String, String >	*getChildAttributeMap(String...)* on page 1070	Returns all the name-value pairs of attributes contained by the element with the given route.
public abstract List< String >	*getChildAttributes(String...)* on page 1070	Returns all the values of attributes contained by the element with the given route.
public abstract List< ISDMParserDocument >	*getChildDocuments(String...)* on page 1071	Returns the elements contained by the element with the given route.
public abstract List< ISDMParserDocument >	*getChildDocumentsWithAttribute(String, String, String...)* on page 1071	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public abstract List< ISDMParserDocument >	*getChildDocumentsWithAttribute(String, String, boolean, String...)* on page 1072	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	*getDocument(String...)* on page 1072	Returns the first element with the given route.
public abstract List< ISDMParserDocument >	*getDocuments(String...)* on page 1073	Returns all the elements with the given route.
public abstract List< ISDMParserDocument >	*getDocumentsWithAttribute(String, String, String...)* on page 1073	Returns the elements with the given route that contains the given attribute with the given value.
public abstract List< ISDMParserDocument >	*getDocumentsWithAttribute(String, String, boolean, String...)* on page 1074	Returns the elements with the given route that contains the given attribute with the given value.
public abstract ISDMParserDocument	*getDocumentWithAttribute(String, String, String...)* on page 1074	Returns the first element with the given route that contains the given attribute with the given value.
public abstract ISDMParserDocument	*getDocumentWithAttribute(String, String, boolean, String...)* on page 1075	Returns the first element with the given route that contains the given attribute with the given value.
public abstract String	*getElementName()* on page 1075	Returns The name of the root element of this document.
public abstract String	*getFunctionImportComplexPropertyValue(String...)* on page 1076	
public abstract String	*getPrefixForUri(String)* on page 1076	Returns the appropriate name-space prefix for the given XML name-space URI.
public abstract String[]	*getStrings()* on page 1076	Returns all the string values contained by this document.
public abstract String	*getValue(String...)* on page 1076	Returns the value of the first element with the given route.
public abstract List< String >	*getValues(String...)* on page 1077	Returns all the values of elements with the given route.

Modifier and Type	Member	Description
public abstract void	*putAttribute(String, String...)* on page 1077	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	*putDocument(ISDMParserDocument, String...)* on page 1078	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	*putValue(String, String...)* on page 1078	Sets the value of the first element with the given route.
public abstract boolean	*removeAttribute(String...)* on page 1079	Removes first element with the given route.
public abstract boolean	*removeAttributes(String...)* on page 1079	Removes all the attribute with the given route.
public abstract boolean	*removeDocument(String...)* on page 1079	Removes first element with the given route For removing multiple element use setDocuemtns with null arguments.
public static final String	*ROOT_DOCUMENT_NAME* on page 1083	The default root element name for a new document.
public abstract void	*setAttributes(List< String >, String...)* on page 1080	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	*setDocuments(List< ISDMParserDocument >, String...)* on page 1080	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	*setElementName(String, String...)* on page 1081	Sets the name of the root element with the given route Use empty route for setting root name of this document.
public abstract void	*setValues(List< String >, String...)* on page 1081	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	*toXMLString()* on page 1081	Returns the XML string representation of this object.
public static final String	*XMLNS_APPLICATION_URI* on page 1083	Constant for XMLNS URI: http://schemas.microsoft.com/ado/2007/08/dataservices.
public static final String	*XMLNS_ATOM_URI* on page 1083	Constant for XMLNS URI: http://www.w3.org/2005/Atom.
public static final String	*XMLNS_DATASERVICES_URI* on page 1083	Constant for XMLNS URI: http://schemas.microsoft.com/ado/2007/08/dataservices.
public static final String	*XMLNS_EDM_URI* on page 1083	Constant for XMLNS URI: http://schemas.microsoft.com/ado/2007/05/edm.
public static final String	*XMLNS_EDMX_URI* on page 1084	Constant for XMLNS URI: http://schemas.microsoft.com/ado/2007/06/edmx.

Modifier and Type	Member	Description
public static final String	*XMLNS_GENERICPLAY-ER_URI* on page 1084	Constant for XMLNS URI: http://www.sap.com/Protocols/SAPData/GenericPlayer.
public static final String	*XMLNS_METADATA_URI* on page 1084	Constant for XMLNS URI: http://schemas.microsoft.com/ado/2007/08/dataservices/metadata.
public static final String	*XMLNS_SAP_URI* on page 1084	Constant for XMLNS URI: http://www.sap.com/Protocols/SAPData.

Inherited members from ISDMPersistable

Modifier and Type	Member	Description
public void	*read(BufferedReader)* on page 1085	
public void	*write(BufferedWriter)* on page 1085	

SDMODataAssociation() constructor

Syntax

```
public SDMODataAssociation ()
```

SDMODataAssociation(int[], String[]) constructor

Syntax

```
protected SDMODataAssociation (
    int[] routes,
    String[] values
)
```

SDMODataAssociation(SDMParserDocument) constructor

Syntax

```
public SDMODataAssociation (SDMParserDocument document)
```

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

Package

```
com.sap.mobile.lib.sdmparser.SDMODataAssociation
```

Syntax

```
public class SDMODataAssociationEnd extends SDMParserDocument
implements ISDMODataAssociationEnd
```

Base class

- *SDMParserDocument* on page 1672

Implemented interfaces

- *ISDMODataAssociationEnd* on page 846

Members

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

Modifier and Type	Constructor	Description
public	*SDMODataAssociationEnd()* on page 1219	
protected	*SDMODataAssociationEnd(int[], String[])* on page 1220	
public	*SDMODataAssociationEnd(SDMParserDocument)* on page 1220	

Methods

Modifier and Type	Method	Description
public String	*getCollectionId()* on page 1220	
public String	*getEntitySet()* on page 1220	
public String	*getMultiplicity()* on page 1220	
public String	*getRole()* on page 1220	
public String	*getType()* on page 1220	

Inherited members from SDMParserDocument

Modifier and Type	Member	Description
public SDMParserDocument	*clone()* on page 1681	Creates a copy of this object.

Modifier and Type	Member	Description
protected Map< String, String >	*extensions* on page 1701	
public String	*getAttribute(String...)* on page 1682	Returns the value of the first attribute with the given route.
public List< String >	*getAttributes(String...)* on page 1682	Returns all the values of attributes with the given route.
protected int	*getAttributesEndPosition(int[], int, int)* on page 1682	
public Map< String, String >	*getChildAttributeMap(String...)* on page 1683	Returns all the name-value pairs of attributes contained by the element with the given route.
public List< String >	*getChildAttributes(String...)* on page 1683	Returns all the values of attributes contained by the element with the given route.
public List< ISDMParserDocument >	*getChildDocuments(String...)* on page 1683	Returns the elements contained by the element with the given route.
public List< ISDMParserDocument >	*getChildDocumentsWithAttribute(String, String, String...)* on page 1684	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public List< ISDMParserDocument >	*getChildDocumentsWithAttribute(String, String, boolean, String...)* on page 1684	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public SDMParserDocument	*getDocument(String...)* on page 1685	Returns the first element with the given route.
protected List< int[]>	*getDocumentPositions(String[], int, boolean, boolean)* on page 1685	
public List< ISDMParserDocument >	*getDocuments(String...)* on page 1686	Returns all the elements with the given route.
public List< ISDMParserDocument >	*getDocumentsWithAttribute(String, String, String...)* on page 1686	Returns the elements with the given route that contains the given attribute with the given value.

Modifier and Type	Member	Description
public List< ISDMParserDocument >	*getDocumentsWithAttribute(String, String, boolean, String...)* on page 1687	Returns the elements with the given route that contains the given attribute with the given value.
public ISDMParserDocument	*getDocumentWithAttribute(String, String, String...)* on page 1687	Returns the first element with the given route that contains the given attribute with the given value.
public ISDMParserDocument	*getDocumentWithAttribute(String, String, boolean, String...)* on page 1688	Returns the first element with the given route that contains the given attribute with the given value.
public String	*getElementName()* on page 1688	Returns The name of the root element of this document.
public String	*getExtension(String)* on page 1689	
public String	*getFunctionImportComplexPropertyValue(String...)* on page 1689	
public static List< String >	*getNameMap()* on page 1689	
public static String	*getPrefix(String)* on page 1689	
public String	*getPrefixForUri(String)* on page 1689	Returns the appropriate name-space prefix for the given XML name-space URI.
public static Map< String, String >	*getPrefixMapping()* on page 1689	
protected List< Integer >	*getStringPositions(String[], int, boolean, boolean)* on page 1690	
public String[]	*getStrings()* on page 1690	Returns all the string values contained by this document.
public String	*getValue(String...)* on page 1690	Returns the value of the first element with the given route.

Modifier and Type	Member	Description
public List< String >	*getValues(String...)* on page 1690	Returns all the values of elements with the given route.
protected int[]	*insertRoutePositions(int[], int, int[])* on page 1691	
protected void	*insertRoutesPositions(int, int[])* on page 1691	
protected void	*insertStringsPositions(int, String[])* on page 1691	
protected String[]	*insertStringsPositions(String[], int, String[])* on page 1691	
protected boolean	*isMatched(String, String)* on page 1692	
public void	*putAttribute(String, String...)* on page 1692	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	*putDocument(ISDMParserDocument, String...)* on page 1692	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	*putExtension(String, String)* on page 1693	
protected void	*putString(int, String, int, String...)* on page 1693	
public void	*putValue(String, String...)* on page 1693	Sets the value of the first element with the given route.
public void	*read(BufferedReader)* on page 1693	
public static void	*readNameMap(BufferedReader)* on page 1694	

Modifier and Type	Member	Description
public boolean	*removeAttribute(String...)* on page 1694	Removes first element with the given route.
public boolean	*removeAttributes(String...)* on page 1694	Removes all the attribute with the given route.
public boolean	*removeDocument(String...)* on page 1695	Removes first element with the given route For removing multiple element use setDocuemtns with null arguments.
public void	*removeExtension(String)* on page 1695	
protected void	*removeRoutesPositions(int, int)* on page 1695	
protected int[]	*removeRoutesPositions(int[], int, int)* on page 1695	
protected boolean	*removeString(String...)* on page 1695	
protected boolean	*removeStrings(String...)* on page 1696	
protected void	*removeStringsPositions(int, int)* on page 1696	
protected String[]	*removeStringsPositions(String[], int, int)* on page 1696	
protected int	*replaceRoutesPositions(int, int, int[])* on page 1696	
protected int[]	*replaceRoutesPositions(int[], int, int, int[])* on page 1696	
protected int	*replaceStringsPositions(int, int, String[])* on page 1697	
protected String[]	*replaceStringsPositions(String[], int, int, String[])* on page 1697	
public static String	*resolveUrl(String, String)* on page 1697	

Modifier and Type	Member	Description
protected int[]	*routes* on page 1701	
public	*SDMParserDocument(String)* on page 1681	
public	*SDMParserDocument(SDMParserDocument)* on page 1681	
protected	*SDMParserDocument(int[], String[])* on page 1681	
protected	*SDMParserDocument(String, boolean)* on page 1681	
public void	*setAttribute(String, String...)* on page 1697	
public void	*setAttributes(List< String >, String...)* on page 1697	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	*setDocument(ISDMParserDocument, String...)* on page 1698	
public void	*setDocuments(List< ISDMParserDocument >, String...)* on page 1698	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	*setElementName(String, String...)* on page 1698	Sets the name of the root element with the given route Use empty route for setting root name of this document.

Modifier and Type	Member	Description
public static void	*setNameMap(List< String >)* on page 1699	
public static void	*setPrefixMapping(Map< String, String >)* on page 1699	
protected void	*setString(String, String...)* on page 1699	
protected void	*setStrings(List< String >, String...)* on page 1699	
public void	*setValue(String, String...)* on page 1699	
public void	*setValues(List< String >, String...)* on page 1700	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[]	*strings* on page 1701	
public String	*toXMLString()* on page 1700	Returns the XML string representation of this object.
protected static final String	*URL_PROTOCOL_PREFIX* on page 1701	
public void	*write(BufferedWriter)* on page 1700	
public static void	*writeNameMap(BufferedWriter)* on page 1701	

Inherited members from ISDMParserDocument

Modifier and Type	Member	Description
public static final String	*ATTRIBUTE_ETAG* on page 1082	Name of the appropriate SDMOData element.
public static final String	*ATTRIBUTE_VALUEPREFIX_EDMTYPE* on page 1082	Value prefix for EDM Type type values.

Modifier and Type	Member	Description
public static Map< String, String >	*DEFAULT_PREFIXMAPPING* on page 1082	The default XML Namespace-to-Prefix mapping used for building XMLS.
public static final String[]	*EDMDATETIME_PATTERNS* on page 1082	Possible EDM DateTime patterns Note: Some pattern are not supported by OData specification but still widely used.
public static final String[]	*EDMDATETIMEOFFSET_PATTERNS* on page 1082	Possible EDM TimeOffset patterns Note: Some pattern are not supported by OData specification but still widely used.
public static final String	*EDMTIME_PATTERN* on page 1082	EDM Time pattern.
public static String	*ELEMENT_FEED* on page 1083	Name of the appropriate SDMOData element.
public static final String	*ELEMENT_ID* on page 1083	Name of the appropriate SDMOData element.
public static final String	*ROOT_DOCUMENT_NAME* on page 1083	The default root element name for a new document.
public static final String	*XMLNS_APPLICATION_URI* on page 1083	Constant for XMLNS URI: http://schemas.microsoft.com/ado/2007/08/dataservices.
public static final String	*XMLNS_ATOM_URI* on page 1083	Constant for XMLNS URI: http://www.w3.org/2005/Atom.
public static final String	*XMLNS_DATASERVICES_URI* on page 1083	Constant for XMLNS URI: http://schemas.microsoft.com/ado/2007/08/dataservices.
public static final String	*XMLNS_EDM_URI* on page 1083	Constant for XMLNS URI: http://schemas.microsoft.com/ado/2007/05/edm.
public static final String	*XMLNS_EDMX_URI* on page 1084	Constant for XMLNS URI: http://schemas.microsoft.com/ado/2007/06/edmx.

Modifier and Type	Member	Description
public static final String	*XMLNS_GENERICPLAY-ER_URI* on page 1084	Constant for XMLNS URI: http://www.sap.com/Protocols/SAPData/GenericPlayer.
public static final String	*XMLNS_METADATA_URI* on page 1084	Constant for XMLNS URI: http://schemas.microsoft.com/ado/2007/08/dataservices/met-adata.
public static final String	*XMLNS_SAP_URI* on page 1084	Constant for XMLNS URI: http://www.sap.com/Protocols/SAPData.

Inherited members from ISDMPersistable

Modifier and Type	Member	Description
public void	*read(BufferedReader)* on page 1085	
public void	*write(BufferedWriter)* on page 1085	

Inherited members from ISDMODataAssociationEnd

Modifier and Type	Member	Description
public static final String	*ATTRIBUTE_ENTITYSET* on page 848	Name of the appropriate SDMOData attribute.
public static final String	*ATTRIBUTE_MULTIPLICI-TY* on page 848	Name of the appropriate SDMOData attribute.
public static final String	*ATTRIBUTE_ROLE* on page 848	Name of the appropriate SDMOData attribute.
public static final String	*ATTRIBUTE_TYPE* on page 848	Name of the appropriate SDMOData attribute.

SDMODataAssociationEnd() constructor

Syntax

```
public SDMODataAssociationEnd ()
```

SDMODataAssociationEnd(int[], String[]) constructor

Syntax

```
protected SDMODataAssociationEnd (
    int[] routes,
    String[] values
)
```

SDMODataAssociationEnd(SDMParserDocument) constructor

Syntax

```
public SDMODataAssociationEnd (SDMParserDocument document)
```

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

Package

```
com.sap.mobile.lib.sdmparser
```

Syntax

```
public class SDMODataAssociationSet extends SDMODataAssociation
implements ISDMODataAssociationSet
```

Base class

- *SDMODataAssociation* on page 1195

Implemented interfaces

- *ISDMODataAssociationSet* on page 849

Members

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

Modifier and Type	Constructor	Description
public	*SDMODataAssociationSet()* on page 1240	
protected	*SDMODataAssociation-Set(int[], String[])* on page 1240	
public	*SDMODataAssociation-Set(SDMParserDocument)* on page 1241	

Methods

Modifier and Type	Method	Description
public String	*getAssociation()* on page 1241	Returns the value of appropriate SDMOData element.

Inherited members from SDMODataAssociation

Modifier and Type	Member	Description
public ISDMODataAssociationEnd	*getAssociationEnd(String)* on page 1210	Returns the value of the appropriate Association End SDMOData element with the given role.
public List< ISDMODataAssociationEnd >	*getAssociationEnds()* on page 1210	Returns list of the appropriate SDMOData elements.
public String	*getName()* on page 1210	Returns the value of the appropriate SDMOData attribute.
public	*SDMODataAssociation()* on page 1209	
protected	*SDMODataAssociation(int[], String[])* on page 1209	
public	*SDMODataAssociation(SDMParserDocument)* on page 1209	
protected	*SDMODataAssociation(String)* on page 1210	

Inherited members from SDMParserDocument

Modifier and Type	Member	Description
public SDMParserDocument	*clone()* on page 1681	Creates a copy of this object.
protected Map< String, String >	*extensions* on page 1701	
public String	*getAttribute(String...)* on page 1682	Returns the value of the first attribute with the given route.
public List< String >	*getAttributes(String...)* on page 1682	Returns all the values of attributes with the given route.
protected int	*getAttributesEndPosition(int[], int, int)* on page 1682	
public Map< String, String >	*getChildAttributeMap(String...)* on page 1683	Returns all the name-value pairs of attributes contained by the element with the given route.
public List< String >	*getChildAttributes(String...)* on page 1683	Returns all the values of attributes contained by the element with the given route.

Modifier and Type	Member	Description
public List< ISDMParserDocument >	*getChildDocuments(String...)* on page 1683	Returns the elements contained by the element with the given route.
public List< ISDMParserDocument >	*getChildDocumentsWithAttribute(String, String, String...)* on page 1684	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public List< ISDMParserDocument >	*getChildDocumentsWithAttribute(String, String, boolean, String...)* on page 1684	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public SDMParserDocument	*getDocument(String...)* on page 1685	Returns the first element with the given route.
protected List< int[]>	*getDocumentPositions(String[], int, boolean, boolean)* on page 1685	
public List< ISDMParserDocument >	*getDocuments(String...)* on page 1686	Returns all the elements with the given route.
public List< ISDMParserDocument >	*getDocumentsWithAttribute(String, String, String...)* on page 1686	Returns the elements with the given route that contains the given attribute with the given value.
public List< ISDMParserDocument >	*getDocumentsWithAttribute(String, String, boolean, String...)* on page 1687	Returns the elements with the given route that contains the given attribute with the given value.
public ISDMParserDocument	*getDocumentWithAttribute(String, String, String...)* on page 1687	Returns the first element with the given route that contains the given attribute with the given value.
public ISDMParserDocument	*getDocumentWithAttribute(String, String, boolean, String...)* on page 1688	Returns the first element with the given route that contains the given attribute with the given value.
public String	*getElementName()* on page 1688	Returns The name of the root element of this document.

Modifier and Type	Member	Description
public String	*getExtension(String)* on page 1689	
public String	*getFunctionImportComplex-PropertyValue(String...)* on page 1689	
public static List< String >	*getNameMap()* on page 1689	
public static String	*getPrefix(String)* on page 1689	
public String	*getPrefixForUri(String)* on page 1689	Returns the appropriate name-space prefix for the given XML name-space URI.
public static Map< String, String >	*getPrefixMapping()* on page 1689	
protected List< Integer >	*getStringPositions(String[], int, boolean, boolean)* on page 1690	
public String[]	*getStrings()* on page 1690	Returns all the string values contained by this document.
public String	*getValue(String...)* on page 1690	Returns the value of the first element with the given route.
public List< String >	*getValues(String...)* on page 1690	Returns all the values of elements with the given route.
protected int[]	*insertRoutePositions(int[], int, int[])* on page 1691	
protected void	*insertRoutesPositions(int, int[])* on page 1691	
protected void	*insertStringsPositions(int, String[])* on page 1691	
protected String[]	*insertStringsPositions(String[], int, String[])* on page 1691	
protected boolean	*isMatched(String, String)* on page 1692	

Modifier and Type	Member	Description
public void	*putAttribute(String, String...)* on page 1692	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	*putDocument(ISDMParserDocument, String...)* on page 1692	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	*putExtension(String, String)* on page 1693	
protected void	*putString(int, String, int, String...)* on page 1693	
public void	*putValue(String, String...)* on page 1693	Sets the value of the first element with the given route.
public void	*read(BufferedReader)* on page 1693	
public static void	*readNameMap(BufferedReader)* on page 1694	
public boolean	*removeAttribute(String...)* on page 1694	Removes first element with the given route.
public boolean	*removeAttributes(String...)* on page 1694	Removes all the attribute with the given route.
public boolean	*removeDocument(String...)* on page 1695	Removes first element with the given route For removing multiple element use setDocuemtns with null arguments.
public void	*removeExtension(String)* on page 1695	
protected void	*removeRoutesPositions(int, int)* on page 1695	

Modifier and Type	Member	Description
protected int[]	*removeRoutesPositions(int[], int, int)* on page 1695	
protected boolean	*removeString(String...)* on page 1695	
protected boolean	*removeStrings(String...)* on page 1696	
protected void	*removeStringsPositions(int, int)* on page 1696	
protected String[]	*removeStringsPositions(String[], int, int)* on page 1696	
protected int	*replaceRoutesPositions(int, int, int[])* on page 1696	
protected int[]	*replaceRoutesPositions(int[], int, int, int[])* on page 1696	
protected int	*replaceStringsPositions(int, int, String[])* on page 1697	
protected String[]	*replaceStringsPositions(String[], int, int, String[])* on page 1697	
public static String	*resolveUrl(String, String)* on page 1697	
protected int[]	*routes* on page 1701	
public	*SDMParserDocument(String)* on page 1681	
public	*SDMParserDocument(SDMParserDocument)* on page 1681	
protected	*SDMParserDocument(int[], String[])* on page 1681	
protected	*SDMParserDocument(String, boolean)* on page 1681	

Modifier and Type	Member	Description
public void	*setAttribute(String, String...)* on page 1697	
public void	*setAttributes(List< String >, String...)* on page 1697	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	*setDocument(ISDMParserDocument, String...)* on page 1698	
public void	*setDocuments(List< ISDMParserDocument >, String...)* on page 1698	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	*setElementName(String, String...)* on page 1698	Sets the name of the root element with the given route Use empty route for setting root name of this document.
public static void	*setNameMap(List< String >)* on page 1699	
public static void	*setPrefixMapping(Map< String, String >)* on page 1699	
protected void	*setString(String, String...)* on page 1699	
protected void	*setStrings(List< String >, String...)* on page 1699	
public void	*setValue(String, String...)* on page 1699	

Modifier and Type	Member	Description
public void	*setValues(List< String >, String...)* on page 1700	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[]	*strings* on page 1701	
public String	*toXMLString()* on page 1700	Returns the XML string representation of this object.
protected static final String	*URL_PROTOCOL_PREFIX* on page 1701	
public void	*write(BufferedWriter)* on page 1700	
public static void	*writeNameMap(BufferedWriter)* on page 1701	

Inherited members from ISDMParserDocument

Modifier and Type	Member	Description
public static final String	*ATTRIBUTE_ETAG* on page 1082	Name of the appropriate SDMOData element.
public static final String	*ATTRIBUTE_VALUEPREFIX_EDMTYPE* on page 1082	Value prefix for EDM Type type values.
public static Map< String, String >	*DEFAULT_PREFIXMAPPING* on page 1082	The default XML Namespace-to-Prefix mapping used for building XMLS.
public static final String[]	*EDMDATETIME_PATTERNS* on page 1082	Possible EDM DateTime patterns Note: Some pattern are not supported by OData specification but still widely used.
public static final String[]	*EDMDATETIMEOFFSET_PATTERNS* on page 1082	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	*EDMTIME_PATTERN* on page 1082	EDM Time pattern.
public static String	*ELEMENT_FEED* on page 1083	Name of the appropriate SDMOData element.
public static final String	*ELEMENT_ID* on page 1083	Name of the appropriate SDMOData element.
public static final String	*ROOT_DOCUMENT_NAME* on page 1083	The default root element name for a new document.
public static final String	*XMLNS_APPLICATION_URI* on page 1083	Constant for XMLNS URI: http://schemas.microsoft.com/ado/2007/08/dataservices.
public static final String	*XMLNS_ATOM_URI* on page 1083	Constant for XMLNS URI: http://www.w3.org/2005/Atom.
public static final String	*XMLNS_DATASERVICES_URI* on page 1083	Constant for XMLNS URI: http://schemas.microsoft.com/ado/2007/08/dataservices.
public static final String	*XMLNS_EDM_URI* on page 1083	Constant for XMLNS URI: http://schemas.microsoft.com/ado/2007/05/edm.
public static final String	*XMLNS_EDMX_URI* on page 1084	Constant for XMLNS URI: http://schemas.microsoft.com/ado/2007/06/edmx.
public static final String	*XMLNS_GENERICPLAYER_URI* on page 1084	Constant for XMLNS URI: http://www.sap.com/Protocols/SAPData/GenericPlayer.
public static final String	*XMLNS_METADATA_URI* on page 1084	Constant for XMLNS URI: http://schemas.microsoft.com/ado/2007/08/dataservices/metadata.
public static final String	*XMLNS_SAP_URI* on page 1084	Constant for XMLNS URI: http://www.sap.com/Protocols/SAPData.

Inherited members from ISDMPersistable

Modifier and Type	Member	Description
public void	*read(BufferedReader)* on page 1085	
public void	*write(BufferedWriter)* on page 1085	

Inherited members from ISDMODataAssociation

Modifier and Type	Member	Description
public static final String	*ATTRIBUTE_ASSOCIATION* on page 845	Name of the appropriate SDMOData attribute.
public static final String	*ATTRIBUTE_NAME* on page 845	Name of the appropriate SDMOData attribute.
public static final String	*ELEMENT_ASSOCIATION* on page 845	Name of the appropriate SDMOData element.
public static final String	*ELEMENT_ASSOCIATIO-NEND* on page 846	Name of the appropriate SDMOData element.

Inherited members from ISDMParserDocument

Modifier and Type	Member	Description
public static final String	*ATTRIBUTE_ETAG* on page 1082	Name of the appropriate SDMOData element.
public static final String	*ATTRIBUTE_ VALUEPRE-FIX_EDMTYPE* on page 1082	Value prefix for EDM Type type values.
public abstract ISDMParserDo-cument	*clone()* on page 1069	Creates a copy of this object.
public static Map< String, String >	*DEFAULT_PREFIXMAP-PING* on page 1082	The default XML Namespace-to-Prefix mapping used for building XMLS.
public static final String[]	*EDMDATETIME_PATTERNS* on page 1082	Possible EDM DateTime 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[]	*EDMDATETIMEOFFSET_PATTERNS* on page 1082	Possible EDM TimeOffset patterns Note: Some pattern are not supported by OData specification but still widely used.
public static final String	*EDMTIME_PATTERN* on page 1082	EDM Time pattern.
public static String	*ELEMENT_FEED* on page 1083	Name of the appropriate SDMOData element.
public static final String	*ELEMENT_ID* on page 1083	Name of the appropriate SDMOData element.
public abstract String	*getAttribute(String...)* on page 1069	Returns the value of the first attribute with the given route.
public abstract List< String >	*getAttributes(String...)* on page 1070	Returns all the values of attributes with the given route.
public abstract Map< String, String >	*getChildAttributeMap(String...)* on page 1070	Returns all the name-value pairs of attributes contained by the element with the given route.
public abstract List< String >	*getChildAttributes(String...)* on page 1070	Returns all the values of attributes contained by the element with the given route.
public abstract List< ISDMParserDocument >	*getChildDocuments(String...)* on page 1071	Returns the elements contained by the element with the given route.
public abstract List< ISDMParserDocument >	*getChildDocumentsWithAttribute(String, String, String...)* on page 1071	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public abstract List< ISDMParserDocument >	*getChildDocumentsWithAttribute(String, String, boolean, String...)* on page 1072	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public abstract ISDMParserDocument	*getDocument(String...)* on page 1072	Returns the first element with the given route.
public abstract List< ISDMParserDocument >	*getDocuments(String...)* on page 1073	Returns all the elements with the given route.

Modifier and Type	Member	Description
public abstract List< ISDMParserDocument >	*getDocumentsWithAttribute(String, String, String...)* on page 1073	Returns the elements with the given route that contains the given attribute with the given value.
public abstract List< ISDMParserDocument >	*getDocumentsWithAttribute(String, String, boolean, String...)* on page 1074	Returns the elements with the given route that contains the given attribute with the given value.
public abstract ISDMParserDocument	*getDocumentWithAttribute(String, String, String...)* on page 1074	Returns the first element with the given route that contains the given attribute with the given value.
public abstract ISDMParserDocument	*getDocumentWithAttribute(String, String, boolean, String...)* on page 1075	Returns the first element with the given route that contains the given attribute with the given value.
public abstract String	*getElementName()* on page 1075	Returns The name of the root element of this document.
public abstract String	*getFunctionImportComplexPropertyValue(String...)* on page 1076	
public abstract String	*getPrefixForUri(String)* on page 1076	Returns the appropriate name-space prefix for the given XML name-space URI.
public abstract String[]	*getStrings()* on page 1076	Returns all the string values contained by this document.
public abstract String	*getValue(String...)* on page 1076	Returns the value of the first element with the given route.
public abstract List< String >	*getValues(String...)* on page 1077	Returns all the values of elements with the given route.
public abstract void	*putAttribute(String, String...)* on page 1077	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	*putDocument(ISDMParserDocument, String...)* on page 1078	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	*putValue(String, String...)* on page 1078	Sets the value of the first element with the given route.
public abstract boolean	*removeAttribute(String...)* on page 1079	Removes first element with the given route.
public abstract boolean	*removeAttributes(String...)* on page 1079	Removes all the attribute with the given route.
public abstract boolean	*removeDocument(String...)* on page 1079	Removes first element with the given route For removing multiple element use setDocuemtns with null arguments.
public static final String	*ROOT_DOCUMENT_NAME* on page 1083	The default root element name for a new document.
public abstract void	*setAttributes(List< String >, String...)* on page 1080	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	*setDocuments(List< ISDMParserDocument >, String...)* on page 1080	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	*setElementName(String, String...)* on page 1081	Sets the name of the root element with the given route Use empty route for setting root name of this document.
public abstract void	*setValues(List< String >, String...)* on page 1081	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	*toXMLString()* on page 1081	Returns the XML string representation of this object.
public static final String	*XMLNS_APPLICATION_URI* on page 1083	Constant for XMLNS URI: http://schemas.microsoft.com/ado/2007/08/dataservices.
public static final String	*XMLNS_ATOM_URI* on page 1083	Constant for XMLNS URI: http://www.w3.org/2005/Atom.
public static final String	*XMLNS_DATASERVICES_URI* on page 1083	Constant for XMLNS URI: http://schemas.microsoft.com/ado/2007/08/dataservices.
public static final String	*XMLNS_EDM_URI* on page 1083	Constant for XMLNS URI: http://schemas.microsoft.com/ado/2007/05/edm.
public static final String	*XMLNS_EDMX_URI* on page 1084	Constant for XMLNS URI: http://schemas.microsoft.com/ado/2007/06/edmx.
public static final String	*XMLNS_GENERICPLAYER_URI* on page 1084	Constant for XMLNS URI: http://www.sap.com/Protocols/SAPData/GenericPlayer.
public static final String	*XMLNS_METADATA_URI* on page 1084	Constant for XMLNS URI: http://schemas.microsoft.com/ado/2007/08/dataservices/metadata.

Modifier and Type	Member	Description
public static final String	*XMLNS_SAP_URI* on page 1084	Constant for XMLNS URI: http://www.sap.com/Protocols/SAPData.

Inherited members from ISDMPersistable

Modifier and Type	Member	Description
public void	*read(BufferedReader)* on page 1085	
public void	*write(BufferedWriter)* on page 1085	

Inherited members from ISDMODataAssociationSet

Modifier and Type	Member	Description
public static final String	*ELEMENT_ASSOCIATION-SET* on page 855	Name of the appropriate SDMOData element.

Inherited members from ISDMODataAssociation

Modifier and Type	Member	Description
public static final String	*ATTRIBUTE_ASSOCIATION* on page 845	Name of the appropriate SDMOData attribute.
public static final String	*ATTRIBUTE_NAME* on page 845	Name of the appropriate SDMOData attribute.
public static final String	*ELEMENT_ASSOCIATION* on page 845	Name of the appropriate SDMOData element.
public static final String	*ELEMENT_ASSOCIATIO-NEND* on page 846	Name of the appropriate SDMOData element.
public abstract ISDMODataAs-sociationEnd	*getAssociationEnd(String)* on page 844	Returns the value of the appro-priate Association End SDMO-Data element with the given role.
public abstract List< ISDMO-DataAssociationEnd >	*getAssociationEnds()* on page 845	Returns list of the appropriate SDMOData elements.
public abstract String	*getName()* on page 845	Returns the value of the appro-priate SDMOData attribute.

Inherited members from ISDMParserDocument

Modifier and Type	Member	Description
public static final String	*ATTRIBUTE_ETAG* on page 1082	Name of the appropriate SDMOData element.
public static final String	*ATTRIBUTE_VALUEPREFIX_EDMTYPE* on page 1082	Value prefix for EDM Type type values.
public abstract ISDMParserDocument	*clone()* on page 1069	Creates a copy of this object.
public static Map< String, String >	*DEFAULT_PREFIXMAPPING* on page 1082	The default XML Namespace-to-Prefix mapping used for building XMLS.
public static final String[]	*EDMDATETIME_PATTERNS* on page 1082	Possible EDM DateTime patterns Note: Some pattern are not supported by OData specification but still widely used.
public static final String[]	*EDMDATETIMEOFFSET_PATTERNS* on page 1082	Possible EDM TimeOffset patterns Note: Some pattern are not supported by OData specification but still widely used.
public static final String	*EDMTIME_PATTERN* on page 1082	EDM Time pattern.
public static String	*ELEMENT_FEED* on page 1083	Name of the appropriate SDMOData element.
public static final String	*ELEMENT_ID* on page 1083	Name of the appropriate SDMOData element.
public abstract String	*getAttribute(String...)* on page 1069	Returns the value of the first attribute with the given route.
public abstract List< String >	*getAttributes(String...)* on page 1070	Returns all the values of attributes with the given route.
public abstract Map< String, String >	*getChildAttributeMap(String...)* on page 1070	Returns all the name-value pairs of attributes contained by the element with the given route.
public abstract List< String >	*getChildAttributes(String...)* on page 1070	Returns all the values of attributes contained by the element with the given route.

Modifier and Type	Member	Description
public abstract List< ISDMParserDocument >	*getChildDocuments(String...)* on page 1071	Returns the elements contained by the element with the given route.
public abstract List< ISDMParserDocument >	*getChildDocumentsWithAttribute(String, String, String...)* on page 1071	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public abstract List< ISDMParserDocument >	*getChildDocumentsWithAttribute(String, String, boolean, String...)* on page 1072	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public abstract ISDMParserDocument	*getDocument(String...)* on page 1072	Returns the first element with the given route.
public abstract List< ISDMParserDocument >	*getDocuments(String...)* on page 1073	Returns all the elements with the given route.
public abstract List< ISDMParserDocument >	*getDocumentsWithAttribute(String, String, String...)* on page 1073	Returns the elements with the given route that contains the given attribute with the given value.
public abstract List< ISDMParserDocument >	*getDocumentsWithAttribute(String, String, boolean, String...)* on page 1074	Returns the elements with the given route that contains the given attribute with the given value.
public abstract ISDMParserDocument	*getDocumentWithAttribute(String, String, String...)* on page 1074	Returns the first element with the given route that contains the given attribute with the given value.
public abstract ISDMParserDocument	*getDocumentWithAttribute(String, String, boolean, String...)* on page 1075	Returns the first element with the given route that contains the given attribute with the given value.
public abstract String	*getElementName()* on page 1075	Returns The name of the root element of this document.
public abstract String	*getFunctionImportComplexPropertyValue(String...)* on page 1076	

Modifier and Type	Member	Description
public abstract String	*getPrefixForUri(String)* on page 1076	Returns the appropriate name-space prefix for the given XML name-space URI.
public abstract String[]	*getStrings()* on page 1076	Returns all the string values contained by this document.
public abstract String	*getValue(String...)* on page 1076	Returns the value of the first element with the given route.
public abstract List< String >	*getValues(String...)* on page 1077	Returns all the values of elements with the given route.
public abstract void	*putAttribute(String, String...)* on page 1077	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	*putDocument(ISDMParserDocument, String...)* on page 1078	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	*putValue(String, String...)* on page 1078	Sets the value of the first element with the given route.
public abstract boolean	*removeAttribute(String...)* on page 1079	Removes first element with the given route.
public abstract boolean	*removeAttributes(String...)* on page 1079	Removes all the attribute with the given route.
public abstract boolean	*removeDocument(String...)* on page 1079	Removes first element with the given route For removing multiple element use setDocuemtns with null arguments.
public static final String	*ROOT_DOCUMENT_NAME* on page 1083	The default root element name for a new document.

Modifier and Type	Member	Description
public abstract void	*setAttributes(List< String >, String...)* on page 1080	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	*setDocuments(List< ISDMParserDocument >, String...)* on page 1080	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	*setElementName(String, String...)* on page 1081	Sets the name of the root element with the given route Use empty route for setting root name of this document.
public abstract void	*setValues(List< String >, String...)* on page 1081	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	*toXMLString()* on page 1081	Returns the XML string representation of this object.
public static final String	*XMLNS_APPLICATION_URI* on page 1083	Constant for XMLNS URI: http://schemas.microsoft.com/ado/2007/08/dataservices.
public static final String	*XMLNS_ATOM_URI* on page 1083	Constant for XMLNS URI: http://www.w3.org/2005/Atom.

Modifier and Type	Member	Description
public static final String	*XMLNS_DATASERVICES_URI* on page 1083	Constant for XMLNS URI: http://schemas.microsoft.com/ado/2007/08/dataservices.
public static final String	*XMLNS_EDM_URI* on page 1083	Constant for XMLNS URI: http://schemas.microsoft.com/ado/2007/05/edm.
public static final String	*XMLNS_EDMX_URI* on page 1084	Constant for XMLNS URI: http://schemas.microsoft.com/ado/2007/06/edmx.
public static final String	*XMLNS_GENERICPLAYER_URI* on page 1084	Constant for XMLNS URI: http://www.sap.com/Protocols/SAPData/GenericPlayer.
public static final String	*XMLNS_METADATA_URI* on page 1084	Constant for XMLNS URI: http://schemas.microsoft.com/ado/2007/08/dataservices/metadata.
public static final String	*XMLNS_SAP_URI* on page 1084	Constant for XMLNS URI: http://www.sap.com/Protocols/SAPData.

Inherited members from ISDMPersistable

Modifier and Type	Member	Description
public void	*read(BufferedReader)* on page 1085	
public void	*write(BufferedWriter)* on page 1085	

SDMODataAssociationSet() constructor

Syntax

```
public SDMODataAssociationSet ()
```

SDMODataAssociationSet(int[], String[]) constructor

Syntax

```
protected SDMODataAssociationSet (
    int[] routes,
```

```
    String[] values
)
```

SDMODataAssociationSet(SDMParserDocument) constructor

Syntax

```
public SDMODataAssociationSet (SDMParserDocument document)
```

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

Package

```
com.sap.mobile.lib.sdmparser
```

Syntax

```
public class SDMODataCollection extends SDMParserDocument
implements ISDMODataCollection
```

Base class

- *SDMParserDocument* on page 1672

Implemented interfaces

- *ISDMODataCollection* on page 855

Members
All members of SDMODataCollection, including inherited members. **Variables**

Modifier and Type	Variable	Description
protected String	baseUrl	
protected String	collectionName	
protected boolean	isJson	

Constructors

Modifier and Type	Constructor	Description
public	*SDMODataCollection()* on page 1257	
protected	*SDMODataCollection(int[], String[])* on page 1257	
public	*SDMODataCollection(SDMParserDocument)* on page 1257	
public	*SDMODataCollection(String)* on page 1257	

Methods

Modifier and Type	Method	Description
public int	*getDisplayOrder()* on page 1257	Returns the value of the appropriate SDMOData extension attribute.
public String	*getHref()* on page 1258	Returns the value of the 'href' SDMOData attribute.
public List< ISDMODataIcon >	*getIcons()* on page 1258	Returns list of the appropriate SDMOData elements.
public String	*getId()* on page 1258	Returns the value of the 'href' SDMOData attribute as a relative href (matchable with appropriate entitiySet)
public List< ISDMODataLink >	*getLinks()* on page 1258	Returns the value of the appropriate SDMOData elements.
public String	*getMemberTitle()* on page 1259	Returns the value of the appropriate SDMSDMOData element.
public ISDMODataLink	*getSearchLink()* on page 1259	Returns SDMSDMOData Link object that should be used for retrieving Open Search Description XML.
public String	*getSemantics()* on page 1259	Returns the value of the appropriate SDMOData attribute.

Modifier and Type	Method	Description
public ISDMODataLink	*getSubscriptionLink()* on page 1259	Returns SDMSDMOData Link object that should be used for subscription or null if there is no subscription link defined.
public String	*getTitle()* on page 1260	Returns the value of the appropriate SDMOData element.
public String	*getUrl()* on page 1260	Returns SDMSDMOData Link object that should be used for self related operations.
public boolean	*isCreatable()* on page 1260	Returns the value of the appropriate SDMOData attribute.
public boolean	*isDeletable()* on page 1260	Returns the value of the appropriate SDMOData attribute.
public boolean	*isFilterable()* on page 1260	Returns the value of the appropriate SDMOData attribute.
public boolean	*isSearchable()* on page 1261	Returns the value of the appropriate SDMOData attribute.
public boolean	*isUpdatable()* on page 1261	Returns the value of the appropriate SDMOData attribute.
public void	*read(BufferedReader)* on page 1261	
protected void	*setBaseUrl(String)* on page 1261	
public void	*setEntitySet(ISDMODataEntitySet)* on page 1262	Sets the data held by the appropriate element of the SDMOData Schema.
public void	*write(BufferedWriter)* on page 1262	

Inherited members from SDMParserDocument

Modifier and Type	Member	Description
public SDMParserDocument	*clone()* on page 1681	Creates a copy of this object.
protected Map< String, String >	*extensions* on page 1701	

Modifier and Type	Member	Description
public String	*getAttribute(String...)* on page 1682	Returns the value of the first attribute with the given route.
public List< String >	*getAttributes(String...)* on page 1682	Returns all the values of attributes with the given route.
protected int	*getAttributesEndPosition(int[], int, int)* on page 1682	
public Map< String, String >	*getChildAttributeMap(String...)* on page 1683	Returns all the name-value pairs of attributes contained by the element with the given route.
public List< String >	*getChildAttributes(String...)* on page 1683	Returns all the values of attributes contained by the element with the given route.
public List< ISDMParserDocument >	*getChildDocuments(String...)* on page 1683	Returns the elements contained by the element with the given route.
public List< ISDMParserDocument >	*getChildDocumentsWithAttribute(String, String, String...)* on page 1684	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public List< ISDMParserDocument >	*getChildDocumentsWithAttribute(String, String, boolean, String...)* on page 1684	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public SDMParserDocument	*getDocument(String...)* on page 1685	Returns the first element with the given route.
protected List< int[]>	*getDocumentPositions(String[], int, boolean, boolean)* on page 1685	
public List< ISDMParserDocument >	*getDocuments(String...)* on page 1686	Returns all the elements with the given route.
public List< ISDMParserDocument >	*getDocumentsWithAttribute(String, String, String...)* on page 1686	Returns the elements with the given route that contains the given attribute with the given value.

Modifier and Type	Member	Description
public List< ISDMParserDocument >	*getDocumentsWithAttribute(String, String, boolean, String...)* on page 1687	Returns the elements with the given route that contains the given attribute with the given value.
public ISDMParserDocument	*getDocumentWithAttribute(String, String, String...)* on page 1687	Returns the first element with the given route that contains the given attribute with the given value.
public ISDMParserDocument	*getDocumentWithAttribute(String, String, boolean, String...)* on page 1688	Returns the first element with the given route that contains the given attribute with the given value.
public String	*getElementName()* on page 1688	Returns The name of the root element of this document.
public String	*getExtension(String)* on page 1689	
public String	*getFunctionImportComplexPropertyValue(String...)* on page 1689	
public static List< String >	*getNameMap()* on page 1689	
public static String	*getPrefix(String)* on page 1689	
public String	*getPrefixForUri(String)* on page 1689	Returns the appropriate name-space prefix for the given XML name-space URI.
public static Map< String, String >	*getPrefixMapping()* on page 1689	
protected List< Integer >	*getStringPositions(String[], int, boolean, boolean)* on page 1690	
public String[]	*getStrings()* on page 1690	Returns all the string values contained by this document.
public String	*getValue(String...)* on page 1690	Returns the value of the first element with the given route.

Modifier and Type	Member	Description
public List< String >	*getValues(String...)* on page 1690	Returns all the values of elements with the given route.
protected int[]	*insertRoutePositions(int[], int, int[])* on page 1691	
protected void	*insertRoutesPositions(int, int[])* on page 1691	
protected void	*insertStringsPositions(int, String[])* on page 1691	
protected String[]	*insertStringsPositions(String[], int, String[])* on page 1691	
protected boolean	*isMatched(String, String)* on page 1692	
public void	*putAttribute(String, String...)* on page 1692	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	*putDocument(ISDMParserDocument, String...)* on page 1692	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	*putExtension(String, String)* on page 1693	
protected void	*putString(int, String, int, String...)* on page 1693	
public void	*putValue(String, String...)* on page 1693	Sets the value of the first element with the given route.
public static void	*readNameMap(BufferedReader)* on page 1694	
public boolean	*removeAttribute(String...)* on page 1694	Removes first element with the given route.

Modifier and Type	Member	Description
public boolean	*removeAttributes(String...)* on page 1694	Removes all the attribute with the given route.
public boolean	*removeDocument(String...)* on page 1695	Removes first element with the given route For removing multiple element use setDocuemtns with null arguments.
public void	*removeExtension(String)* on page 1695	
protected void	*removeRoutesPositions(int, int)* on page 1695	
protected int[]	*removeRoutesPositions(int[], int, int)* on page 1695	
protected boolean	*removeString(String...)* on page 1695	
protected boolean	*removeStrings(String...)* on page 1696	
protected void	*removeStringsPositions(int, int)* on page 1696	
protected String[]	*removeStringsPositions(String[], int, int)* on page 1696	
protected int	*replaceRoutesPositions(int, int, int[])* on page 1696	
protected int[]	*replaceRoutesPositions(int[], int, int, int[])* on page 1696	
protected int	*replaceStringsPositions(int, int, String[])* on page 1697	
protected String[]	*replaceStringsPositions(String[], int, int, String[])* on page 1697	
public static String	*resolveUrl(String, String)* on page 1697	
protected int[]	*routes* on page 1701	

Modifier and Type	Member	Description
public	*SDMParserDocument(String)* on page 1681	
public	*SDMParserDocument(SDMParserDocument)* on page 1681	
protected	*SDMParserDocument(int[], String[])* on page 1681	
protected	*SDMParserDocument(String, boolean)* on page 1681	
public void	*setAttribute(String, String...)* on page 1697	
public void	*setAttributes(List< String >, String...)* on page 1697	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	*setDocument(ISDMParserDocument, String...)* on page 1698	
public void	*setDocuments(List< ISDMParserDocument >, String...)* on page 1698	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	*setElementName(String, String...)* on page 1698	Sets the name of the root element with the given route Use empty route for setting root name of this document.
public static void	*setNameMap(List< String >)* on page 1699	

Modifier and Type	Member	Description
public static void	*setPrefixMapping(Map< String, String >)* on page 1699	
protected void	*setString(String, String...)* on page 1699	
protected void	*setStrings(List< String >, String...)* on page 1699	
public void	*setValue(String, String...)* on page 1699	
public void	*setValues(List< String >, String...)* on page 1700	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[]	*strings* on page 1701	
public String	*toXMLString()* on page 1700	Returns the XML string representation of this object.
protected static final String	*URL_PROTOCOL_PREFIX* on page 1701	
public static void	*writeNameMap(BufferedWriter)* on page 1701	

Inherited members from ISDMParserDocument

Modifier and Type	Member	Description
public static final String	*ATTRIBUTE_ETAG* on page 1082	Name of the appropriate SDMOData element.
public static final String	*ATTRIBUTE_VALUEPREFIX_EDMTYPE* on page 1082	Value prefix for EDM Type type values.
public static Map< String, String >	*DEFAULT_PREFIXMAPPING* on page 1082	The default XML Namespace-to-Prefix mapping used for building XMLS.

Modifier and Type	Member	Description
public static final String[]	*EDMDATETIME_PATTERNS* on page 1082	Possible EDM DateTime patterns Note: Some pattern are not supported by OData specification but still widely used.
public static final String[]	*EDMDATETIMEOFFSET_PATTERNS* on page 1082	Possible EDM TimeOffset patterns Note: Some pattern are not supported by OData specification but still widely used.
public static final String	*EDMTIME_PATTERN* on page 1082	EDM Time pattern.
public static String	*ELEMENT_FEED* on page 1083	Name of the appropriate SDMOData element.
public static final String	*ELEMENT_ID* on page 1083	Name of the appropriate SDMOData element.
public static final String	*ROOT_DOCUMENT_NAME* on page 1083	The default root element name for a new document.
public static final String	*XMLNS_APPLICATION_URI* on page 1083	Constant for XMLNS URI: http://schemas.microsoft.com/ado/2007/08/dataservices.
public static final String	*XMLNS_ATOM_URI* on page 1083	Constant for XMLNS URI: http://www.w3.org/2005/Atom.
public static final String	*XMLNS_DATASERVICES_URI* on page 1083	Constant for XMLNS URI: http://schemas.microsoft.com/ado/2007/08/dataservices.
public static final String	*XMLNS_EDM_URI* on page 1083	Constant for XMLNS URI: http://schemas.microsoft.com/ado/2007/05/edm.
public static final String	*XMLNS_EDMX_URI* on page 1084	Constant for XMLNS URI: http://schemas.microsoft.com/ado/2007/06/edmx.
public static final String	*XMLNS_GENERICPLAYER_URI* on page 1084	Constant for XMLNS URI: http://www.sap.com/Protocols/SAPData/GenericPlayer.

Modifier and Type	Member	Description
public static final String	*XMLNS_METADATA_URI* on page 1084	Constant for XMLNS URI: http://schemas.microsoft.com/ado/2007/08/dataservices/metadata.
public static final String	*XMLNS_SAP_URI* on page 1084	Constant for XMLNS URI: http://www.sap.com/Protocols/SAPData.

Inherited members from ISDMPersistable

Modifier and Type	Member	Description
public void	*read(BufferedReader)* on page 1085	
public void	*write(BufferedWriter)* on page 1085	

Inherited members from ISDMODataCollection

Modifier and Type	Member	Description
public static final String	*ATTRIBUTE_CREATABLE* on page 866	Name of the appropriate SDMOData attribute.
public static final String	*ATTRIBUTE_DELETABLE* on page 867	Name of the appropriate SDMOData attribute.
public static final String	*ATTRIBUTE_DISPLAYORDER* on page 867	Name of the appropriate SDMOData extension attribute.
public static final String	*ATTRIBUTE_FILTERABLE* on page 867	Name of the appropriate SDMOData attribute.
public static final String	*ATTRIBUTE_HREF* on page 867	Name of the appropriate SDMOData attribute.
public static final String	*ATTRIBUTE_SEARCHABLE* on page 867	Name of the appropriate SDMOData attribute.
public static final String	*ATTRIBUTE_SEMANTICS* on page 867	Name of the appropriate SDMSDMOData attribute.
public static final String	*ATTRIBUTE_UPDATABLE* on page 867	Name of the appropriate SDMOData attribute.

Modifier and Type	Member	Description
public static final String	*ATTRIBUTE_VALUE_REL_SEARCH* on page 868	Possible value of the appropriate SDMOData attribute.
public static final String	*ELEMENT_COLLECTION* on page 868	Name of the appropriate SDMOData element.
public static final String	*ELEMENT_LINK* on page 868	Name of the appropriate SDMOData element.
public static final String	*ELEMENT_MEMBERTITLE* on page 868	Name of the appropriate SDMOData element.
public static final String	*ELEMENT_TITLE* on page 868	Name of the appropriate SDMOData element.

Inherited members from ISDMParserDocument

Modifier and Type	Member	Description
public static final String	*ATTRIBUTE_ETAG* on page 1082	Name of the appropriate SDMOData element.
public static final String	*ATTRIBUTE_VALUEPREFIX_EDMTYPE* on page 1082	Value prefix for EDM Type type values.
public abstract ISDMParserDocument	*clone()* on page 1069	Creates a copy of this object.
public static Map< String, String >	*DEFAULT_PREFIXMAPPING* on page 1082	The default XML Namespace-to-Prefix mapping used for building XMLS.
public static final String[]	*EDMDATETIME_PATTERNS* on page 1082	Possible EDM DateTime patterns Note: Some pattern are not supported by OData specification but still widely used.
public static final String[]	*EDMDATETIMEOFFSET_PATTERNS* on page 1082	Possible EDM TimeOffset patterns Note: Some pattern are not supported by OData specification but still widely used.
public static final String	*EDMTIME_PATTERN* on page 1082	EDM Time pattern.

Modifier and Type	Member	Description
public static String	*ELEMENT_FEED* on page 1083	Name of the appropriate SDMOData element.
public static final String	*ELEMENT_ID* on page 1083	Name of the appropriate SDMOData element.
public abstract String	*getAttribute(String...)* on page 1069	Returns the value of the first attribute with the given route.
public abstract List< String >	*getAttributes(String...)* on page 1070	Returns all the values of attributes with the given route.
public abstract Map< String, String >	*getChildAttributeMap(String...)* on page 1070	Returns all the name-value pairs of attributes contained by the element with the given route.
public abstract List< String >	*getChildAttributes(String...)* on page 1070	Returns all the values of attributes contained by the element with the given route.
public abstract List< ISDMParserDocument >	*getChildDocuments(String...)* on page 1071	Returns the elements contained by the element with the given route.
public abstract List< ISDMParserDocument >	*getChildDocumentsWithAttribute(String, String, String...)* on page 1071	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public abstract List< ISDMParserDocument >	*getChildDocumentsWithAttribute(String, String, boolean, String...)* on page 1072	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public abstract ISDMParserDocument	*getDocument(String...)* on page 1072	Returns the first element with the given route.
public abstract List< ISDMParserDocument >	*getDocuments(String...)* on page 1073	Returns all the elements with the given route.
public abstract List< ISDMParserDocument >	*getDocumentsWithAttribute(String, String, String...)* on page 1073	Returns the elements with the given route that contains the given attribute with the given value.

Modifier and Type	Member	Description
public abstract List< ISDMParserDocument >	*getDocumentsWithAttribute(String, String, boolean, String...)* on page 1074	Returns the elements with the given route that contains the given attribute with the given value.
public abstract ISDMParserDocument	*getDocumentWithAttribute(String, String, String...)* on page 1074	Returns the first element with the given route that contains the given attribute with the given value.
public abstract ISDMParserDocument	*getDocumentWithAttribute(String, String, boolean, String...)* on page 1075	Returns the first element with the given route that contains the given attribute with the given value.
public abstract String	*getElementName()* on page 1075	Returns The name of the root element of this document.
public abstract String	*getFunctionImportComplexPropertyValue(String...)* on page 1076	
public abstract String	*getPrefixForUri(String)* on page 1076	Returns the appropriate name-space prefix for the given XML name-space URI.
public abstract String[]	*getStrings()* on page 1076	Returns all the string values contained by this document.
public abstract String	*getValue(String...)* on page 1076	Returns the value of the first element with the given route.
public abstract List< String >	*getValues(String...)* on page 1077	Returns all the values of elements with the given route.
public abstract void	*putAttribute(String, String...)* on page 1077	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	*putDocument(ISDMParserDocument, String...)* on page 1078	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	*putValue(String, String...)* on page 1078	Sets the value of the first element with the given route.
public abstract boolean	*removeAttribute(String...)* on page 1079	Removes first element with the given route.
public abstract boolean	*removeAttributes(String...)* on page 1079	Removes all the attribute with the given route.
public abstract boolean	*removeDocument(String...)* on page 1079	Removes first element with the given route For removing multiple element use setDocuemtns with null arguments.
public static final String	*ROOT_DOCUMENT_NAME* on page 1083	The default root element name for a new document.
public abstract void	*setAttributes(List< String >, String...)* on page 1080	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	*setDocuments(List< ISDMParserDocument >, String...)* on page 1080	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	*setElementName(String, String...)* on page 1081	Sets the name of the root element with the given route Use empty route for setting root name of this document.
public abstract void	*setValues(List< String >, String...)* on page 1081	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	*toXMLString()* on page 1081	Returns the XML string representation of this object.
public static final String	*XMLNS_APPLICATION_URI* on page 1083	Constant for XMLNS URI: http://schemas.microsoft.com/ado/2007/08/dataservices.
public static final String	*XMLNS_ATOM_URI* on page 1083	Constant for XMLNS URI: http://www.w3.org/2005/Atom.
public static final String	*XMLNS_DATASERVICES_URI* on page 1083	Constant for XMLNS URI: http://schemas.microsoft.com/ado/2007/08/dataservices.
public static final String	*XMLNS_EDM_URI* on page 1083	Constant for XMLNS URI: http://schemas.microsoft.com/ado/2007/05/edm.
public static final String	*XMLNS_EDMX_URI* on page 1084	Constant for XMLNS URI: http://schemas.microsoft.com/ado/2007/06/edmx.
public static final String	*XMLNS_GENERICPLAYER_URI* on page 1084	Constant for XMLNS URI: http://www.sap.com/Protocols/SAPData/GenericPlayer.
public static final String	*XMLNS_METADATA_URI* on page 1084	Constant for XMLNS URI: http://schemas.microsoft.com/ado/2007/08/dataservices/metadata.

Modifier and Type	Member	Description
public static final String	*XMLNS_SAP_URI* on page 1084	Constant for XMLNS URI: http://www.sap.com/Protocols/SAPData.

Inherited members from ISDMPersistable

Modifier and Type	Member	Description
public void	*read(BufferedReader)* on page 1085	
public void	*write(BufferedWriter)* on page 1085	

SDMODataCollection() constructor

Syntax

```
public SDMODataCollection ()
```

SDMODataCollection(int[], String[]) constructor

Syntax

```
protected SDMODataCollection (
    int[] routes,
    String[] values
)
```

SDMODataCollection(SDMParserDocument) constructor

Syntax

```
public SDMODataCollection (SDMParserDocument document)
```

SDMODataCollection(String) constructor

Syntax

```
public SDMODataCollection (String string)
```

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 entitiySet)

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.

Remarks
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

Package

```
com.sap.mobile.lib.sdmparser
```

Syntax

```
public class SDMODataComplexType extends SDMParserDocument
implements ISDMODataComplexType
```

Base class

- *SDMParserDocument* on page 1672

Implemented interfaces

- *ISDMODataComplexType* on page 868

Members

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

Modifier and Type	Constructor	Description
public	*SDMODataComplexType()* on page 1276	
protected	*SDMODataComplex-Type(int[], String[])* on page 1276	
public	*SDMODataComplex-Type(SDMParserDocument)* on page 1277	

Methods

Modifier and Type	Method	Description
public String	*getName()* on page 1277	Returns the value of the appropriate SDMOData element.
public List< ISDMODataProperty >	*getProperties()* on page 1277	Returns the list of the appropriate SDMOData elements.

Inherited members from SDMParserDocument

Modifier and Type	Member	Description
public SDMParserDocument	*clone()* on page 1681	Creates a copy of this object.
protected Map< String, String >	*extensions* on page 1701	
public String	*getAttribute(String...)* on page 1682	Returns the value of the first attribute with the given route.
public List< String >	*getAttributes(String...)* on page 1682	Returns all the values of attributes with the given route.
protected int	*getAttributesEndPosition(int[], int, int)* on page 1682	
public Map< String, String >	*getChildAttributeMap(String...)* on page 1683	Returns all the name-value pairs of attributes contained by the element with the given route.
public List< String >	*getChildAttributes(String...)* on page 1683	Returns all the values of attributes contained by the element with the given route.
public List< ISDMParserDocument >	*getChildDocuments(String...)* on page 1683	Returns the elements contained by the element with the given route.
public List< ISDMParserDocument >	*getChildDocumentsWithAttribute(String, String, String...)* on page 1684	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public List< ISDMParserDocument >	*getChildDocumentsWithAttribute(String, String, boolean, String...)* on page 1684	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public SDMParserDocument	*getDocument(String...)* on page 1685	Returns the first element with the given route.
protected List< int[]>	*getDocumentPositions(String[], int, boolean, boolean)* on page 1685	
public List< ISDMParserDocument >	*getDocuments(String...)* on page 1686	Returns all the elements with the given route.

Modifier and Type	Member	Description
public List< ISDMParserDocument >	*getDocumentsWithAttribute(String, String, String...)* on page 1686	Returns the elements with the given route that contains the given attribute with the given value.
public List< ISDMParserDocument >	*getDocumentsWithAttribute(String, String, boolean, String...)* on page 1687	Returns the elements with the given route that contains the given attribute with the given value.
public ISDMParserDocument	*getDocumentWithAttribute(String, String, String...)* on page 1687	Returns the first element with the given route that contains the given attribute with the given value.
public ISDMParserDocument	*getDocumentWithAttribute(String, String, boolean, String...)* on page 1688	Returns the first element with the given route that contains the given attribute with the given value.
public String	*getElementName()* on page 1688	Returns The name of the root element of this document.
public String	*getExtension(String)* on page 1689	
public String	*getFunctionImportComplexPropertyValue(String...)* on page 1689	
public static List< String >	*getNameMap()* on page 1689	
public static String	*getPrefix(String)* on page 1689	
public String	*getPrefixForUri(String)* on page 1689	Returns the appropriate name-space prefix for the given XML name-space URI.
public static Map< String, String >	*getPrefixMapping()* on page 1689	
protected List< Integer >	*getStringPositions(String[], int, boolean, boolean)* on page 1690	

Modifier and Type	Member	Description
public String[]	*getStrings()* on page 1690	Returns all the string values contained by this document.
public String	*getValue(String...)* on page 1690	Returns the value of the first element with the given route.
public List< String >	*getValues(String...)* on page 1690	Returns all the values of elements with the given route.
protected int[]	*insertRoutePositions(int[], int, int[])* on page 1691	
protected void	*insertRoutesPositions(int, int[])* on page 1691	
protected void	*insertStringsPositions(int, String[])* on page 1691	
protected String[]	*insertStringsPositions(String[], int, String[])* on page 1691	
protected boolean	*isMatched(String, String)* on page 1692	
public void	*putAttribute(String, String...)* on page 1692	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	*putDocument(ISDMParserDocument, String...)* on page 1692	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	*putExtension(String, String)* on page 1693	
protected void	*putString(int, String, int, String...)* on page 1693	
public void	*putValue(String, String...)* on page 1693	Sets the value of the first element with the given route.

Modifier and Type	Member	Description
public void	*read(BufferedReader)* on page 1693	
public static void	*readNameMap(BufferedReader)* on page 1694	
public boolean	*removeAttribute(String...)* on page 1694	Removes first element with the given route.
public boolean	*removeAttributes(String...)* on page 1694	Removes all the attribute with the given route.
public boolean	*removeDocument(String...)* on page 1695	Removes first element with the given route For removing multiple element use setDocuemtns with null arguments.
public void	*removeExtension(String)* on page 1695	
protected void	*removeRoutesPositions(int, int)* on page 1695	
protected int[]	*removeRoutesPositions(int[], int, int)* on page 1695	
protected boolean	*removeString(String...)* on page 1695	
protected boolean	*removeStrings(String...)* on page 1696	
protected void	*removeStringsPositions(int, int)* on page 1696	
protected String[]	*removeStringsPositions(String[], int, int)* on page 1696	
protected int	*replaceRoutesPositions(int, int, int[])* on page 1696	
protected int[]	*replaceRoutesPositions(int[], int, int, int[])* on page 1696	
protected int	*replaceStringsPositions(int, int, String[])* on page 1697	

Modifier and Type	Member	Description
protected String[]	*replaceStringsPositions(String[], int, int, String[])* on page 1697	
public static String	*resolveUrl(String, String)* on page 1697	
protected int[]	*routes* on page 1701	
public	*SDMParserDocument(String)* on page 1681	
public	*SDMParserDocument(SDMParserDocument)* on page 1681	
protected	*SDMParserDocument(int[], String[])* on page 1681	
protected	*SDMParserDocument(String, boolean)* on page 1681	
public void	*setAttribute(String, String...)* on page 1697	
public void	*setAttributes(List< String >, String...)* on page 1697	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	*setDocument(ISDMParserDocument, String...)* on page 1698	
public void	*setDocuments(List< ISDMParserDocument >, String...)* on page 1698	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	*setElementName(String, String...)* on page 1698	Sets the name of the root element with the given route Use empty route for setting root name of this document.
public static void	*setNameMap(List< String >)* on page 1699	
public static void	*setPrefixMapping(Map< String, String >)* on page 1699	
protected void	*setString(String, String...)* on page 1699	
protected void	*setStrings(List< String >, String...)* on page 1699	
public void	*setValue(String, String...)* on page 1699	
public void	*setValues(List< String >, String...)* on page 1700	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[]	*strings* on page 1701	
public String	*toXMLString()* on page 1700	Returns the XML string representation of this object.
protected static final String	*URL_PROTOCOL_PREFIX* on page 1701	
public void	*write(BufferedWriter)* on page 1700	
public static void	*writeNameMap(BufferedWriter)* on page 1701	

Inherited members from ISDMParserDocument

Modifier and Type	Member	Description
public static final String	*ATTRIBUTE_ETAG* on page 1082	Name of the appropriate SDMOData element.
public static final String	*ATTRIBUTE_VALUEPREFIX_EDMTYPE* on page 1082	Value prefix for EDM Type type values.
public static Map< String, String >	*DEFAULT_PREFIXMAPPING* on page 1082	The default XML Namespace-to-Prefix mapping used for building XMLS.
public static final String[]	*EDMDATETIME_PATTERNS* on page 1082	Possible EDM DateTime patterns Note: Some pattern are not supported by OData specification but still widely used.
public static final String[]	*EDMDATETIMEOFFSET_PATTERNS* on page 1082	Possible EDM TimeOffset patterns Note: Some pattern are not supported by OData specification but still widely used.
public static final String	*EDMTIME_PATTERN* on page 1082	EDM Time pattern.
public static String	*ELEMENT_FEED* on page 1083	Name of the appropriate SDMOData element.
public static final String	*ELEMENT_ID* on page 1083	Name of the appropriate SDMOData element.
public static final String	*ROOT_DOCUMENT_NAME* on page 1083	The default root element name for a new document.
public static final String	*XMLNS_APPLICATION_URI* on page 1083	Constant for XMLNS URI: http://schemas.microsoft.com/ado/2007/08/dataservices.
public static final String	*XMLNS_ATOM_URI* on page 1083	Constant for XMLNS URI: http://www.w3.org/2005/Atom.
public static final String	*XMLNS_DATASERVICES_URI* on page 1083	Constant for XMLNS URI: http://schemas.microsoft.com/ado/2007/08/dataservices.
public static final String	*XMLNS_EDM_URI* on page 1083	Constant for XMLNS URI: http://schemas.microsoft.com/ado/2007/05/edm.

Modifier and Type	Member	Description
public static final String	*XMLNS_EDMX_URI* on page 1084	Constant for XMLNS URI: http://schemas.microsoft.com/ado/2007/06/edmx.
public static final String	*XMLNS_GENERICPLAYER_URI* on page 1084	Constant for XMLNS URI: http://www.sap.com/Protocols/SAPData/GenericPlayer.
public static final String	*XMLNS_METADATA_URI* on page 1084	Constant for XMLNS URI: http://schemas.microsoft.com/ado/2007/08/dataservices/metadata.
public static final String	*XMLNS_SAP_URI* on page 1084	Constant for XMLNS URI: http://www.sap.com/Protocols/SAPData.

Inherited members from ISDMPersistable

Modifier and Type	Member	Description
public void	*read(BufferedReader)* on page 1085	
public void	*write(BufferedWriter)* on page 1085	

Inherited members from ISDMODataComplexType

Modifier and Type	Member	Description
public static final String	*ATTRIBUTE_NAME* on page 875	Name of the appropriate SDMOData attribute.
public static final String	*ELEMENT_COMPLEXTYPE* on page 875	Name of the appropriate SDMOData element.
public static final String	*ELEMENT_PROPERTY* on page 875	Name of the appropriate SDMOData element.

Inherited members from ISDMParserDocument

Modifier and Type	Member	Description
public static final String	*ATTRIBUTE_ETAG* on page 1082	Name of the appropriate SDMOData element.

Modifier and Type	Member	Description
public static final String	*ATTRIBUTE_VALUEPREFIX_EDMTYPE* on page 1082	Value prefix for EDM Type type values.
public abstract ISDMParserDocument	*clone()* on page 1069	Creates a copy of this object.
public static Map< String, String >	*DEFAULT_PREFIXMAPPING* on page 1082	The default XML Namespace-to-Prefix mapping used for building XMLS.
public static final String[]	*EDMDATETIME_PATTERNS* on page 1082	Possible EDM DateTime patterns Note: Some pattern are not supported by OData specification but still widely used.
public static final String[]	*EDMDATETIMEOFFSET_PATTERNS* on page 1082	Possible EDM TimeOffset patterns Note: Some pattern are not supported by OData specification but still widely used.
public static final String	*EDMTIME_PATTERN* on page 1082	EDM Time pattern.
public static String	*ELEMENT_FEED* on page 1083	Name of the appropriate SDMOData element.
public static final String	*ELEMENT_ID* on page 1083	Name of the appropriate SDMOData element.
public abstract String	*getAttribute(String...)* on page 1069	Returns the value of the first attribute with the given route.
public abstract List< String >	*getAttributes(String...)* on page 1070	Returns all the values of attributes with the given route.
public abstract Map< String, String >	*getChildAttributeMap(String...)* on page 1070	Returns all the name-value pairs of attributes contained by the element with the given route.
public abstract List< String >	*getChildAttributes(String...)* on page 1070	Returns all the values of attributes contained by the element with the given route.
public abstract List< ISDMParserDocument >	*getChildDocuments(String...)* on page 1071	Returns the elements contained by the element with the given route.

Modifier and Type	Member	Description
public abstract List< ISDMParserDocument >	*getChildDocumentsWithAttribute(String, String, String...)* on page 1071	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public abstract List< ISDMParserDocument >	*getChildDocumentsWithAttribute(String, String, boolean, String...)* on page 1072	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public abstract ISDMParserDocument	*getDocument(String...)* on page 1072	Returns the first element with the given route.
public abstract List< ISDMParserDocument >	*getDocuments(String...)* on page 1073	Returns all the elements with the given route.
public abstract List< ISDMParserDocument >	*getDocumentsWithAttribute(String, String, String...)* on page 1073	Returns the elements with the given route that contains the given attribute with the given value.
public abstract List< ISDMParserDocument >	*getDocumentsWithAttribute(String, String, boolean, String...)* on page 1074	Returns the elements with the given route that contains the given attribute with the given value.
public abstract ISDMParserDocument	*getDocumentWithAttribute(String, String, String...)* on page 1074	Returns the first element with the given route that contains the given attribute with the given value.
public abstract ISDMParserDocument	*getDocumentWithAttribute(String, String, boolean, String...)* on page 1075	Returns the first element with the given route that contains the given attribute with the given value.
public abstract String	*getElementName()* on page 1075	Returns The name of the root element of this document.
public abstract String	*getFunctionImportComplexPropertyValue(String...)* on page 1076	
public abstract String	*getPrefixForUri(String)* on page 1076	Returns the appropriate name-space prefix for the given XML name-space URI.

Modifier and Type	Member	Description
public abstract String[]	*getStrings()* on page 1076	Returns all the string values contained by this document.
public abstract String	*getValue(String...)* on page 1076	Returns the value of the first element with the given route.
public abstract List< String >	*getValues(String...)* on page 1077	Returns all the values of elements with the given route.
public abstract void	*putAttribute(String, String...)* on page 1077	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	*putDocument(ISDMParserDocument, String...)* on page 1078	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	*putValue(String, String...)* on page 1078	Sets the value of the first element with the given route.
public abstract boolean	*removeAttribute(String...)* on page 1079	Removes first element with the given route.
public abstract boolean	*removeAttributes(String...)* on page 1079	Removes all the attribute with the given route.
public abstract boolean	*removeDocument(String...)* on page 1079	Removes first element with the given route For removing multiple element use setDocuemtns with null arguments.
public static final String	*ROOT_DOCUMENT_NAME* on page 1083	The default root element name for a new document.

Modifier and Type	Member	Description
public abstract void	*setAttributes(List< String >, String...)* on page 1080	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	*setDocuments(List< ISDMParserDocument >, String...)* on page 1080	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	*setElementName(String, String...)* on page 1081	Sets the name of the root element with the given route Use empty route for setting root name of this document.
public abstract void	*setValues(List< String >, String...)* on page 1081	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	*toXMLString()* on page 1081	Returns the XML string representation of this object.
public static final String	*XMLNS_APPLICATION_URI* on page 1083	Constant for XMLNS URI: http://schemas.microsoft.com/ado/2007/08/dataservices.
public static final String	*XMLNS_ATOM_URI* on page 1083	Constant for XMLNS URI: http://www.w3.org/2005/Atom.

Modifier and Type	Member	Description
public static final String	*XMLNS_DATASERVICES_URI* on page 1083	Constant for XMLNS URI: http://schemas.microsoft.com/ado/2007/08/dataservices.
public static final String	*XMLNS_EDM_URI* on page 1083	Constant for XMLNS URI: http://schemas.microsoft.com/ado/2007/05/edm.
public static final String	*XMLNS_EDMX_URI* on page 1084	Constant for XMLNS URI: http://schemas.microsoft.com/ado/2007/06/edmx.
public static final String	*XMLNS_GENERICPLAYER_URI* on page 1084	Constant for XMLNS URI: http://www.sap.com/Protocols/SAPData/GenericPlayer.
public static final String	*XMLNS_METADATA_URI* on page 1084	Constant for XMLNS URI: http://schemas.microsoft.com/ado/2007/08/dataservices/metadata.
public static final String	*XMLNS_SAP_URI* on page 1084	Constant for XMLNS URI: http://www.sap.com/Protocols/SAPData.

Inherited members from ISDMPersistable

Modifier and Type	Member	Description
public void	*read(BufferedReader)* on page 1085	
public void	*write(BufferedWriter)* on page 1085	

SDMODataComplexType() constructor

Syntax

```
public SDMODataComplexType ()
```

SDMODataComplexType(int[], String[]) constructor

Syntax

```
protected SDMODataComplexType (
    int[] routes,
```

```
    String[] values
)
```

SDMODataComplexType(SDMParserDocument) constructor

Syntax

```
public SDMODataComplexType (SDMParserDocument document)
```

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

Package

```
com.sap.mobile.lib.sdmparser
```

Syntax

```
public class SDMODataEntitySet extends SDMParserDocument
implements ISDMODataEntitySet
```

Base class

- *SDMParserDocument* on page 1672

Implemented interfaces

- *ISDMODataEntitySet* on page 875

Members
All members of SDMODataEntitySet, including inherited members. **Constructors**

Modifier and Type	Constructor	Description
public	*SDMODataEntitySet()* on page 1291	
protected	*SDMODataEntitySet(int[], String[])* on page 1291	
public	*SDMODataEntity-Set(SDMParserDocument)* on page 1292	

Methods

Modifier and Type	Method	Description
public String	*getName()* on page 1292	
public boolean	*isCreatable()* on page 1292	
public boolean	*isDeletable()* on page 1292	
public boolean	*isSearchable()* on page 1292	
public boolean	*isSearchable(String)* on page 1293	Returns the value of the given SDMOData attribute.
public boolean	*isUpdatable()* on page 1293	

Inherited members from SDMParserDocument

Modifier and Type	Member	Description
public SDMParserDocument	*clone()* on page 1681	Creates a copy of this object.
protected Map< String, String >	*extensions* on page 1701	
public String	*getAttribute(String...)* on page 1682	Returns the value of the first attribute with the given route.
public List< String >	*getAttributes(String...)* on page 1682	Returns all the values of attributes with the given route.
protected int	*getAttributesEndPosition(int[], int, int)* on page 1682	
public Map< String, String >	*getChildAttribute-Map(String...)* on page 1683	Returns all the name-value pairs of attributes contained by the element with the given route.

Modifier and Type	Member	Description
public List< String >	*getChildAttributes(String...)* on page 1683	Returns all the values of attributes contained by the element with the given route.
public List< ISDMParserDocument >	*getChildDocuments(String...)* on page 1683	Returns the elements contained by the element with the given route.
public List< ISDMParserDocument >	*getChildDocumentsWithAttribute(String, String, String...)* on page 1684	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public List< ISDMParserDocument >	*getChildDocumentsWithAttribute(String, String, boolean, String...)* on page 1684	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public SDMParserDocument	*getDocument(String...)* on page 1685	Returns the first element with the given route.
protected List< int[]>	*getDocumentPositions(String[], int, boolean, boolean)* on page 1685	
public List< ISDMParserDocument >	*getDocuments(String...)* on page 1686	Returns all the elements with the given route.
public List< ISDMParserDocument >	*getDocumentsWithAttribute(String, String, String...)* on page 1686	Returns the elements with the given route that contains the given attribute with the given value.
public List< ISDMParserDocument >	*getDocumentsWithAttribute(String, String, boolean, String...)* on page 1687	Returns the elements with the given route that contains the given attribute with the given value.
public ISDMParserDocument	*getDocumentWithAttribute(String, String, String...)* on page 1687	Returns the first element with the given route that contains the given attribute with the given value.

Modifier and Type	Member	Description
public ISDMParserDocument	*getDocumentWithAttribute(String, String, boolean, String...)* on page 1688	Returns the first element with the given route that contains the given attribute with the given value.
public String	*getElementName()* on page 1688	Returns The name of the root element of this document.
public String	*getExtension(String)* on page 1689	
public String	*getFunctionImportComplexPropertyValue(String...)* on page 1689	
public static List< String >	*getNameMap()* on page 1689	
public static String	*getPrefix(String)* on page 1689	
public String	*getPrefixForUri(String)* on page 1689	Returns the appropriate name-space prefix for the given XML name-space URI.
public static Map< String, String >	*getPrefixMapping()* on page 1689	
protected List< Integer >	*getStringPositions(String[], int, boolean, boolean)* on page 1690	
public String[]	*getStrings()* on page 1690	Returns all the string values contained by this document.
public String	*getValue(String...)* on page 1690	Returns the value of the first element with the given route.
public List< String >	*getValues(String...)* on page 1690	Returns all the values of elements with the given route.
protected int[]	*insertRoutePositions(int[], int, int[])* on page 1691	
protected void	*insertRoutesPositions(int, int[])* on page 1691	
protected void	*insertStringsPositions(int, String[])* on page 1691	

Modifier and Type	Member	Description
protected String[]	*insertStringsPositions(String[], int, String[])* on page 1691	
protected boolean	*isMatched(String, String)* on page 1692	
public void	*putAttribute(String, String...)* on page 1692	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	*putDocument(ISDMParserDocument, String...)* on page 1692	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	*putExtension(String, String)* on page 1693	
protected void	*putString(int, String, int, String...)* on page 1693	
public void	*putValue(String, String...)* on page 1693	Sets the value of the first element with the given route.
public void	*read(BufferedReader)* on page 1693	
public static void	*readNameMap(BufferedReader)* on page 1694	
public boolean	*removeAttribute(String...)* on page 1694	Removes first element with the given route.
public boolean	*removeAttributes(String...)* on page 1694	Removes all the attribute with the given route.
public boolean	*removeDocument(String...)* on page 1695	Removes first element with the given route For removing multiple element use setDocuemtns with null arguments.

Modifier and Type	Member	Description
public void	*removeExtension(String)* on page 1695	
protected void	*removeRoutesPositions(int, int)* on page 1695	
protected int[]	*removeRoutesPositions(int[], int, int)* on page 1695	
protected boolean	*removeString(String...)* on page 1695	
protected boolean	*removeStrings(String...)* on page 1696	
protected void	*removeStringsPositions(int, int)* on page 1696	
protected String[]	*removeStringsPositions(String[], int, int)* on page 1696	
protected int	*replaceRoutesPositions(int, int, int[])* on page 1696	
protected int[]	*replaceRoutesPositions(int[], int, int, int[])* on page 1696	
protected int	*replaceStringsPositions(int, int, String[])* on page 1697	
protected String[]	*replaceStringsPositions(String[], int, int, String[])* on page 1697	
public static String	*resolveUrl(String, String)* on page 1697	
protected int[]	*routes* on page 1701	
public	*SDMParserDocument(String)* on page 1681	
public	*SDMParserDocument(SDMParserDocument)* on page 1681	

Modifier and Type	Member	Description
protected	*SDMParserDocument(int[], String[])* on page 1681	
protected	*SDMParserDocument(String, boolean)* on page 1681	
public void	*setAttribute(String, String...)* on page 1697	
public void	*setAttributes(List< String >, String...)* on page 1697	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	*setDocument(ISDMParserDocument, String...)* on page 1698	
public void	*setDocuments(List< ISDMParserDocument >, String...)* on page 1698	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	*setElementName(String, String...)* on page 1698	Sets the name of the root element with the given route Use empty route for setting root name of this document.
public static void	*setNameMap(List< String >)* on page 1699	
public static void	*setPrefixMapping(Map< String, String >)* on page 1699	
protected void	*setString(String, String...)* on page 1699	

Modifier and Type	Member	Description
protected void	*setStrings(List< String >, String...)* on page 1699	
public void	*setValue(String, String...)* on page 1699	
public void	*setValues(List< String >, String...)* on page 1700	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[]	*strings* on page 1701	
public String	*toXMLString()* on page 1700	Returns the XML string representation of this object.
protected static final String	*URL_PROTOCOL_PREFIX* on page 1701	
public void	*write(BufferedWriter)* on page 1700	
public static void	*writeNameMap(BufferedWriter)* on page 1701	

Inherited members from ISDMParserDocument

Modifier and Type	Member	Description
public static final String	*ATTRIBUTE_ETAG* on page 1082	Name of the appropriate SDMOData element.
public static final String	*ATTRIBUTE_VALUEPREFIX_EDMTYPE* on page 1082	Value prefix for EDM Type type values.
public static Map< String, String >	*DEFAULT_PREFIXMAPPING* on page 1082	The default XML Namespace-to-Prefix mapping used for building XMLS.
public static final String[]	*EDMDATETIME_PATTERNS* on page 1082	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[]	*EDMDATETIMEOFFSET_PATTERNS* on page 1082	Possible EDM TimeOffset patterns Note: Some pattern are not supported by OData specification but still widely used.
public static final String	*EDMTIME_PATTERN* on page 1082	EDM Time pattern.
public static String	*ELEMENT_FEED* on page 1083	Name of the appropriate SDMOData element.
public static final String	*ELEMENT_ID* on page 1083	Name of the appropriate SDMOData element.
public static final String	*ROOT_DOCUMENT_NAME* on page 1083	The default root element name for a new document.
public static final String	*XMLNS_APPLICATION_URI* on page 1083	Constant for XMLNS URI: http://schemas.microsoft.com/ado/2007/08/dataservices.
public static final String	*XMLNS_ATOM_URI* on page 1083	Constant for XMLNS URI: http://www.w3.org/2005/Atom.
public static final String	*XMLNS_DATASERVICES_URI* on page 1083	Constant for XMLNS URI: http://schemas.microsoft.com/ado/2007/08/dataservices.
public static final String	*XMLNS_EDM_URI* on page 1083	Constant for XMLNS URI: http://schemas.microsoft.com/ado/2007/05/edm.
public static final String	*XMLNS_EDMX_URI* on page 1084	Constant for XMLNS URI: http://schemas.microsoft.com/ado/2007/06/edmx.
public static final String	*XMLNS_GENERICPLAYER_URI* on page 1084	Constant for XMLNS URI: http://www.sap.com/Protocols/SAPData/GenericPlayer.
public static final String	*XMLNS_METADATA_URI* on page 1084	Constant for XMLNS URI: http://schemas.microsoft.com/ado/2007/08/dataservices/metadata.

Modifier and Type	Member	Description
public static final String	*XMLNS_SAP_URI* on page 1084	Constant for XMLNS URI: http://www.sap.com/Protocols/SAPData.

Inherited members from ISDMPersistable

Modifier and Type	Member	Description
public void	*read(BufferedReader)* on page 1085	
public void	*write(BufferedWriter)* on page 1085	

Inherited members from ISDMODataEntitySet

Modifier and Type	Member	Description
public static final String	*ATTRIBUTE_CREATABLE* on page 882	Name of the appropriate SDMOData attribute.
public static final String	*ATTRIBUTE_DELETABLE* on page 882	Name of the appropriate SDMOData attribute.
public static final String	*ATTRIBUTE_NAME* on page 883	Name of the appropriate SDMOData attribute.
public static final String	*ATTRIBUTE_SEARCHABLE* on page 883	Name of the appropriate SDMOData attribute.
public static final String	*ATTRIBUTE_UPDATABLE* on page 883	Name of the appropriate SDMOData attribute.
public static final String	*ELEMENT_ENTITYSET* on page 883	Name of the appropriate SDMOData element.

Inherited members from ISDMParserDocument

Modifier and Type	Member	Description
public static final String	*ATTRIBUTE_ETAG* on page 1082	Name of the appropriate SDMOData element.
public static final String	*ATTRIBUTE_VALUEPREFIX_EDMTYPE* on page 1082	Value prefix for EDM Type type values.

Modifier and Type	Member	Description
public abstract ISDMParserDocument	*clone()* on page 1069	Creates a copy of this object.
public static Map< String, String >	*DEFAULT_PREFIXMAPPING* on page 1082	The default XML Namespace-to-Prefix mapping used for building XMLS.
public static final String[]	*EDMDATETIME_PATTERNS* on page 1082	Possible EDM DateTime patterns Note: Some pattern are not supported by OData specification but still widely used.
public static final String[]	*EDMDATETIMEOFFSET_PATTERNS* on page 1082	Possible EDM TimeOffset patterns Note: Some pattern are not supported by OData specification but still widely used.
public static final String	*EDMTIME_PATTERN* on page 1082	EDM Time pattern.
public static String	*ELEMENT_FEED* on page 1083	Name of the appropriate SDMOData element.
public static final String	*ELEMENT_ID* on page 1083	Name of the appropriate SDMOData element.
public abstract String	*getAttribute(String...)* on page 1069	Returns the value of the first attribute with the given route.
public abstract List< String >	*getAttributes(String...)* on page 1070	Returns all the values of attributes with the given route.
public abstract Map< String, String >	*getChildAttributeMap(String...)* on page 1070	Returns all the name-value pairs of attributes contained by the element with the given route.
public abstract List< String >	*getChildAttributes(String...)* on page 1070	Returns all the values of attributes contained by the element with the given route.
public abstract List< ISDMParserDocument >	*getChildDocuments(String...)* on page 1071	Returns the elements contained by the element with the given route.

Modifier and Type	Member	Description
public abstract List< ISDMParserDocument >	*getChildDocumentsWithAttribute(String, String, String...)* on page 1071	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public abstract List< ISDMParserDocument >	*getChildDocumentsWithAttribute(String, String, boolean, String...)* on page 1072	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public abstract ISDMParserDocument	*getDocument(String...)* on page 1072	Returns the first element with the given route.
public abstract List< ISDMParserDocument >	*getDocuments(String...)* on page 1073	Returns all the elements with the given route.
public abstract List< ISDMParserDocument >	*getDocumentsWithAttribute(String, String, String...)* on page 1073	Returns the elements with the given route that contains the given attribute with the given value.
public abstract List< ISDMParserDocument >	*getDocumentsWithAttribute(String, String, boolean, String...)* on page 1074	Returns the elements with the given route that contains the given attribute with the given value.
public abstract ISDMParserDocument	*getDocumentWithAttribute(String, String, String...)* on page 1074	Returns the first element with the given route that contains the given attribute with the given value.
public abstract ISDMParserDocument	*getDocumentWithAttribute(String, String, boolean, String...)* on page 1075	Returns the first element with the given route that contains the given attribute with the given value.
public abstract String	*getElementName()* on page 1075	Returns The name of the root element of this document.
public abstract String	*getFunctionImportComplexPropertyValue(String...)* on page 1076	
public abstract String	*getPrefixForUri(String)* on page 1076	Returns the appropriate name-space prefix for the given XML name-space URI.

Modifier and Type	Member	Description
public abstract String[]	*getStrings()* on page 1076	Returns all the string values contained by this document.
public abstract String	*getValue(String...)* on page 1076	Returns the value of the first element with the given route.
public abstract List< String >	*getValues(String...)* on page 1077	Returns all the values of elements with the given route.
public abstract void	*putAttribute(String, String...)* on page 1077	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	*putDocument(ISDMParserDocument, String...)* on page 1078	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	*putValue(String, String...)* on page 1078	Sets the value of the first element with the given route.
public abstract boolean	*removeAttribute(String...)* on page 1079	Removes first element with the given route.
public abstract boolean	*removeAttributes(String...)* on page 1079	Removes all the attribute with the given route.
public abstract boolean	*removeDocument(String...)* on page 1079	Removes first element with the given route For removing multiple element use setDocuemtns with null arguments.
public static final String	*ROOT_DOCUMENT_NAME* on page 1083	The default root element name for a new document.

Modifier and Type	Member	Description
public abstract void	*setAttributes(List< String >, String...)* on page 1080	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	*setDocuments(List< ISDMParserDocument >, String...)* on page 1080	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	*setElementName(String, String...)* on page 1081	Sets the name of the root element with the given route Use empty route for setting root name of this document.
public abstract void	*setValues(List< String >, String...)* on page 1081	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	*toXMLString()* on page 1081	Returns the XML string representation of this object.
public static final String	*XMLNS_APPLICATION_URI* on page 1083	Constant for XMLNS URI: http://schemas.microsoft.com/ado/2007/08/dataservices.
public static final String	*XMLNS_ATOM_URI* on page 1083	Constant for XMLNS URI: http://www.w3.org/2005/Atom.

Modifier and Type	Member	Description
public static final String	*XMLNS_DATASERVICES_URI* on page 1083	Constant for XMLNS URI: http://schemas.microsoft.com/ado/2007/08/dataservices.
public static final String	*XMLNS_EDM_URI* on page 1083	Constant for XMLNS URI: http://schemas.microsoft.com/ado/2007/05/edm.
public static final String	*XMLNS_EDMX_URI* on page 1084	Constant for XMLNS URI: http://schemas.microsoft.com/ado/2007/06/edmx.
public static final String	*XMLNS_GENERICPLAYER_URI* on page 1084	Constant for XMLNS URI: http://www.sap.com/Protocols/SAPData/GenericPlayer.
public static final String	*XMLNS_METADATA_URI* on page 1084	Constant for XMLNS URI: http://schemas.microsoft.com/ado/2007/08/dataservices/metadata.
public static final String	*XMLNS_SAP_URI* on page 1084	Constant for XMLNS URI: http://www.sap.com/Protocols/SAPData.

Inherited members from ISDMPersistable

Modifier and Type	Member	Description
public void	*read(BufferedReader)* on page 1085	
public void	*write(BufferedWriter)* on page 1085	

SDMODataEntitySet() constructor

Syntax

```
public SDMODataEntitySet ()
```

SDMODataEntitySet(int[], String[]) constructor

Syntax

```
protected SDMODataEntitySet (
    int[] routes,
```

```
    String[] values
)
```

SDMODataEntitySet(SDMParserDocument) constructor

Syntax

```
public SDMODataEntitySet (SDMParserDocument document)
```

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 SDMOData attribute.

Syntax

```
public boolean isSearchable (String searchAttributeName)
```

Parameters

- **searchAttributeName –** The name of the SDMOData attribute

Returns
The value of the given SDMOData attribute

isUpdatable() method

Syntax

```
public boolean isUpdatable ()
```

Returns
The value of the appropriate SDMOData attribute

SDMODataEntityType class
Deprecated. since 3.0, Use ODataEntityType

Package

```
com.sap.mobile.lib.sdmparser
```

Syntax

```
public class SDMODataEntityType extends SDMParserDocument
implements ISDMODataEntityType
```

Base class

- *SDMParserDocument* on page 1672

Implemented interfaces

- *ISDMODataEntityType* on page 883

Derived classes

- *SDMODataReturnEntityType* on page 1536

Members
All members of SDMODataEntityType, including inherited members. **Constructors**

Modifier and Type	Constructor	Description
public	*SDMODataEntityType()* on page 1308	
protected	*SDMODataEntityType(int[], String[])* on page 1308	
public	*SDMODataEntity-Type(SDMParserDocument)* on page 1309	

Methods

Modifier and Type	Method	Description
public List< ISDMODataProp-erty >	*getGPUseInSearchProperties-Data()* on page 1309	Returns The list of appropriate SDMOData elements with 'true' use-in-search (Generic Player names-pace) attribute value.
public List< ISDMODataProp-erty >	*getGPVisibleInDetailProper-tiesData()* on page 1309	Returns The list of appropriate SDMOData elements with 'true' visible-in-detail (Generic Play-er names-pace) attribute value.
public List< ISDMODataProp-erty >	*getGPVisibleInListProperties-Data()* on page 1309	Returns The list of appropriate SDMOData elements with 'true' visible-in-list (Generic Player names-pace) attribute value.
public List< String >	*getKeyPropertyNames()* on page 1310	Returns the list of the values of the 'PropertyRef' SDMOData element contained by the 'Key' SDMOData element.
public String	*getName()* on page 1310	Returns The value of the appro-priate SDMOData attribute.
public List< ISDMODataNavi-gationProperty >	*getNavigationProperties()* on page 1310	Returns The list of appropriate SDMOData elements.
public ISDMODataNavigation-Property	*getNavigationProperty(String)* on page 1310	Returns The appropriate SDMOData element with the given name.
public List< ISDMODataProp-erty >	*getProperties()* on page 1311	Returns The list of appropriate SDMOData elements.

Modifier and Type	Method	Description
public List< ISDMODataProperty >	*getPropertiesWithAttribute(String, String)* on page 1311	Returns The list of appropriate SDMOData elements with given attribute value.
public List< ISDMODataProperty >	*getPropertiesWithAttribute(String, String, boolean)* on page 1311	Returns The list of appropriate SDMOData elements with given attribute value.
public ISDMODataProperty	*getProperty(String)* on page 1311	Returns The appropriate SDMOData element with the given name.
public List< ISDMODataProperty >	*getSAPSearchablePropertiesData()* on page 1312	Returns The list of appropriate SDMOData elements with 'true' searchable (SAP names-pace) attribute value.
protected ISDMODataSchema	*getSchema()* on page 1312	
public List< ISDMODataProperty >	*getSearchablePropertiesData(String)* on page 1312	Returns The list of appropriate SDMOData elements with 'true' attribute value of the given attribute.
public boolean	*hasStream()* on page 1312	Returns The value of the appropriate SDMOData attribute.
protected void	*setSchema(ISDMODataSchema)* on page 1313	

Inherited members from SDMParserDocument

Modifier and Type	Member	Description
public SDMParserDocument	*clone()* on page 1681	Creates a copy of this object.
protected Map< String, String >	*extensions* on page 1701	
public String	*getAttribute(String...)* on page 1682	Returns the value of the first attribute with the given route.
public List< String >	*getAttributes(String...)* on page 1682	Returns all the values of attributes with the given route.
protected int	*getAttributesEndPosition(int[], int, int)* on page 1682	

Modifier and Type	Member	Description
public Map< String, String >	*getChildAttributeMap(String...)* on page 1683	Returns all the name-value pairs of attributes contained by the element with the given route.
public List< String >	*getChildAttributes(String...)* on page 1683	Returns all the values of attributes contained by the element with the given route.
public List< ISDMParserDocument >	*getChildDocuments(String...)* on page 1683	Returns the elements contained by the element with the given route.
public List< ISDMParserDocument >	*getChildDocumentsWithAttribute(String, String, String...)* on page 1684	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public List< ISDMParserDocument >	*getChildDocumentsWithAttribute(String, String, boolean, String...)* on page 1684	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public SDMParserDocument	*getDocument(String...)* on page 1685	Returns the first element with the given route.
protected List< int[]>	*getDocumentPositions(String[], int, boolean, boolean)* on page 1685	
public List< ISDMParserDocument >	*getDocuments(String...)* on page 1686	Returns all the elements with the given route.
public List< ISDMParserDocument >	*getDocumentsWithAttribute(String, String, String...)* on page 1686	Returns the elements with the given route that contains the given attribute with the given value.
public List< ISDMParserDocument >	*getDocumentsWithAttribute(String, String, boolean, String...)* on page 1687	Returns the elements with the given route that contains the given attribute with the given value.
public ISDMParserDocument	*getDocumentWithAttribute(String, String, String...)* on page 1687	Returns the first element with the given route that contains the given attribute with the given value.

Modifier and Type	Member	Description
public ISDMParserDocument	*getDocumentWithAttribute(String, String, boolean, String...)* on page 1688	Returns the first element with the given route that contains the given attribute with the given value.
public String	*getElementName()* on page 1688	Returns The name of the root element of this document.
public String	*getExtension(String)* on page 1689	
public String	*getFunctionImportComplexPropertyValue(String...)* on page 1689	
public static List< String >	*getNameMap()* on page 1689	
public static String	*getPrefix(String)* on page 1689	
public String	*getPrefixForUri(String)* on page 1689	Returns the appropriate name-space prefix for the given XML name-space URI.
public static Map< String, String >	*getPrefixMapping()* on page 1689	
protected List< Integer >	*getStringPositions(String[], int, boolean, boolean)* on page 1690	
public String[]	*getStrings()* on page 1690	Returns all the string values contained by this document.
public String	*getValue(String...)* on page 1690	Returns the value of the first element with the given route.
public List< String >	*getValues(String...)* on page 1690	Returns all the values of elements with the given route.
protected int[]	*insertRoutePositions(int[], int, int[])* on page 1691	
protected void	*insertRoutesPositions(int, int[])* on page 1691	
protected void	*insertStringsPositions(int, String[])* on page 1691	

Modifier and Type	Member	Description
protected String[]	*insertStringsPositions(String[], int, String[])* on page 1691	
protected boolean	*isMatched(String, String)* on page 1692	
public void	*putAttribute(String, String...)* on page 1692	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	*putDocument(ISDMParserDocument, String...)* on page 1692	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	*putExtension(String, String)* on page 1693	
protected void	*putString(int, String, int, String...)* on page 1693	
public void	*putValue(String, String...)* on page 1693	Sets the value of the first element with the given route.
public void	*read(BufferedReader)* on page 1693	
public static void	*readNameMap(BufferedReader)* on page 1694	
public boolean	*removeAttribute(String...)* on page 1694	Removes first element with the given route.
public boolean	*removeAttributes(String...)* on page 1694	Removes all the attribute with the given route.
public boolean	*removeDocument(String...)* on page 1695	Removes first element with the given route For removing multiple element use setDocuemtns with null arguments.

Modifier and Type	Member	Description
public void	*removeExtension(String)* on page 1695	
protected void	*removeRoutesPositions(int, int)* on page 1695	
protected int[]	*removeRoutesPositions(int[], int, int)* on page 1695	
protected boolean	*removeString(String...)* on page 1695	
protected boolean	*removeStrings(String...)* on page 1696	
protected void	*removeStringsPositions(int, int)* on page 1696	
protected String[]	*removeStringsPositions(String[], int, int)* on page 1696	
protected int	*replaceRoutesPositions(int, int, int[])* on page 1696	
protected int[]	*replaceRoutesPositions(int[], int, int, int[])* on page 1696	
protected int	*replaceStringsPositions(int, int, String[])* on page 1697	
protected String[]	*replaceStringsPositions(String[], int, int, String[])* on page 1697	
public static String	*resolveUrl(String, String)* on page 1697	
protected int[]	*routes* on page 1701	
public	*SDMParserDocument(String)* on page 1681	
public	*SDMParserDocument(SDMParserDocument)* on page 1681	

Modifier and Type	Member	Description
protected	*SDMParserDocument(int[], String[])* on page 1681	
protected	*SDMParserDocument(String, boolean)* on page 1681	
public void	*setAttribute(String, String...)* on page 1697	
public void	*setAttributes(List< String >, String...)* on page 1697	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	*setDocument(ISDMParserDocument, String...)* on page 1698	
public void	*setDocuments(List< ISDMParserDocument >, String...)* on page 1698	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	*setElementName(String, String...)* on page 1698	Sets the name of the root element with the given route Use empty route for setting root name of this document.
public static void	*setNameMap(List< String >)* on page 1699	
public static void	*setPrefixMapping(Map< String, String >)* on page 1699	
protected void	*setString(String, String...)* on page 1699	

Modifier and Type	Member	Description
protected void	*setStrings(List< String >, String...)* on page 1699	
public void	*setValue(String, String...)* on page 1699	
public void	*setValues(List< String >, String...)* on page 1700	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[]	*strings* on page 1701	
public String	*toXMLString()* on page 1700	Returns the XML string representation of this object.
protected static final String	*URL_PROTOCOL_PREFIX* on page 1701	
public void	*write(BufferedWriter)* on page 1700	
public static void	*writeNameMap(BufferedWriter)* on page 1701	

Inherited members from ISDMParserDocument

Modifier and Type	Member	Description
public static final String	*ATTRIBUTE_ETAG* on page 1082	Name of the appropriate SDMOData element.
public static final String	*ATTRIBUTE_VALUEPREFIX_EDMTYPE* on page 1082	Value prefix for EDM Type type values.
public static Map< String, String >	*DEFAULT_PREFIXMAPPING* on page 1082	The default XML Namespace-to-Prefix mapping used for building XMLS.
public static final String[]	*EDMDATETIME_PATTERNS* on page 1082	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[]	*EDMDATETIMEOFFSET_PATTERNS* on page 1082	Possible EDM TimeOffset patterns Note: Some pattern are not supported by OData specification but still widely used.
public static final String	*EDMTIME_PATTERN* on page 1082	EDM Time pattern.
public static String	*ELEMENT_FEED* on page 1083	Name of the appropriate SDMOData element.
public static final String	*ELEMENT_ID* on page 1083	Name of the appropriate SDMOData element.
public static final String	*ROOT_DOCUMENT_NAME* on page 1083	The default root element name for a new document.
public static final String	*XMLNS_APPLICATION_URI* on page 1083	Constant for XMLNS URI: http://schemas.microsoft.com/ado/2007/08/dataservices.
public static final String	*XMLNS_ATOM_URI* on page 1083	Constant for XMLNS URI: http://www.w3.org/2005/Atom.
public static final String	*XMLNS_DATASERVICES_URI* on page 1083	Constant for XMLNS URI: http://schemas.microsoft.com/ado/2007/08/dataservices.
public static final String	*XMLNS_EDM_URI* on page 1083	Constant for XMLNS URI: http://schemas.microsoft.com/ado/2007/05/edm.
public static final String	*XMLNS_EDMX_URI* on page 1084	Constant for XMLNS URI: http://schemas.microsoft.com/ado/2007/06/edmx.
public static final String	*XMLNS_GENERICPLAYER_URI* on page 1084	Constant for XMLNS URI: http://www.sap.com/Protocols/SAPData/GenericPlayer.
public static final String	*XMLNS_METADATA_URI* on page 1084	Constant for XMLNS URI: http://schemas.microsoft.com/ado/2007/08/dataservices/metadata.

Modifier and Type	Member	Description
public static final String	*XMLNS_SAP_URI* on page 1084	Constant for XMLNS URI: http://www.sap.com/Protocols/SAPData.

Inherited members from ISDMPersistable

Modifier and Type	Member	Description
public void	*read(BufferedReader)* on page 1085	
public void	*write(BufferedWriter)* on page 1085	

Inherited members from ISDMODataEntityType

Modifier and Type	Member	Description
public static final String	*ATTRIBUTE_HASSTREAM* on page 894	Name of the appropriate SDMOData attribute.
public static final String	*ATTRIBUTE_NAME* on page 894	Name of the appropriate SDMOData attribute.
public static final String	*ELEMENT_ENTITYTYPE* on page 894	Name of the appropriate SDMOData element.
public static final String	*ELEMENT_KEY* on page 894	Name of the appropriate SDMOData element.
public static final String	*ELEMENT_PROPERTY* on page 894	Name of the appropriate SDMOData element.
public static final String	*ELEMENT_PROPERTYREF* on page 895	Name of the appropriate SDMOData element.

Inherited members from ISDMParserDocument

Modifier and Type	Member	Description
public static final String	*ATTRIBUTE_ETAG* on page 1082	Name of the appropriate SDMOData element.
public static final String	*ATTRIBUTE_VALUEPREFIX_EDMTYPE* on page 1082	Value prefix for EDM Type type values.

Modifier and Type	Member	Description
public abstract ISDMParserDocument	*clone()* on page 1069	Creates a copy of this object.
public static Map< String, String >	*DEFAULT_PREFIXMAPPING* on page 1082	The default XML Namespace-to-Prefix mapping used for building XMLS.
public static final String[]	*EDMDATETIME_PATTERNS* on page 1082	Possible EDM DateTime patterns Note: Some pattern are not supported by OData specification but still widely used.
public static final String[]	*EDMDATETIMEOFFSET_PATTERNS* on page 1082	Possible EDM TimeOffset patterns Note: Some pattern are not supported by OData specification but still widely used.
public static final String	*EDMTIME_PATTERN* on page 1082	EDM Time pattern.
public static String	*ELEMENT_FEED* on page 1083	Name of the appropriate SDMOData element.
public static final String	*ELEMENT_ID* on page 1083	Name of the appropriate SDMOData element.
public abstract String	*getAttribute(String...)* on page 1069	Returns the value of the first attribute with the given route.
public abstract List< String >	*getAttributes(String...)* on page 1070	Returns all the values of attributes with the given route.
public abstract Map< String, String >	*getChildAttributeMap(String...)* on page 1070	Returns all the name-value pairs of attributes contained by the element with the given route.
public abstract List< String >	*getChildAttributes(String...)* on page 1070	Returns all the values of attributes contained by the element with the given route.
public abstract List< ISDMParserDocument >	*getChildDocuments(String...)* on page 1071	Returns the elements contained by the element with the given route.

Modifier and Type	Member	Description
public abstract List< ISDMParserDocument >	*getChildDocumentsWithAttribute(String, String, String...)* on page 1071	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public abstract List< ISDMParserDocument >	*getChildDocumentsWithAttribute(String, String, boolean, String...)* on page 1072	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public abstract ISDMParserDocument	*getDocument(String...)* on page 1072	Returns the first element with the given route.
public abstract List< ISDMParserDocument >	*getDocuments(String...)* on page 1073	Returns all the elements with the given route.
public abstract List< ISDMParserDocument >	*getDocumentsWithAttribute(String, String, String...)* on page 1073	Returns the elements with the given route that contains the given attribute with the given value.
public abstract List< ISDMParserDocument >	*getDocumentsWithAttribute(String, String, boolean, String...)* on page 1074	Returns the elements with the given route that contains the given attribute with the given value.
public abstract ISDMParserDocument	*getDocumentWithAttribute(String, String, String...)* on page 1074	Returns the first element with the given route that contains the given attribute with the given value.
public abstract ISDMParserDocument	*getDocumentWithAttribute(String, String, boolean, String...)* on page 1075	Returns the first element with the given route that contains the given attribute with the given value.
public abstract String	*getElementName()* on page 1075	Returns The name of the root element of this document.
public abstract String	*getFunctionImportComplexPropertyValue(String...)* on page 1076	
public abstract String	*getPrefixForUri(String)* on page 1076	Returns the appropriate name-space prefix for the given XML name-space URI.

Modifier and Type	Member	Description
public abstract String[]	*getStrings()* on page 1076	Returns all the string values contained by this document.
public abstract String	*getValue(String...)* on page 1076	Returns the value of the first element with the given route.
public abstract List< String >	*getValues(String...)* on page 1077	Returns all the values of elements with the given route.
public abstract void	*putAttribute(String, String...)* on page 1077	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	*putDocument(ISDMParserDocument, String...)* on page 1078	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	*putValue(String, String...)* on page 1078	Sets the value of the first element with the given route.
public abstract boolean	*removeAttribute(String...)* on page 1079	Removes first element with the given route.
public abstract boolean	*removeAttributes(String...)* on page 1079	Removes all the attribute with the given route.
public abstract boolean	*removeDocument(String...)* on page 1079	Removes first element with the given route For removing multiple element use setDocuemtns with null arguments.
public static final String	*ROOT_DOCUMENT_NAME* on page 1083	The default root element name for a new document.

Modifier and Type	Member	Description
public abstract void	*setAttributes(List< String >, String...)* on page 1080	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	*setDocuments(List< ISDMParserDocument >, String...)* on page 1080	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	*setElementName(String, String...)* on page 1081	Sets the name of the root element with the given route Use empty route for setting root name of this document.
public abstract void	*setValues(List< String >, String...)* on page 1081	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	*toXMLString()* on page 1081	Returns the XML string representation of this object.
public static final String	*XMLNS_APPLICATION_URI* on page 1083	Constant for XMLNS URI: http://schemas.microsoft.com/ado/2007/08/dataservices.
public static final String	*XMLNS_ATOM_URI* on page 1083	Constant for XMLNS URI: http://www.w3.org/2005/Atom.

Modifier and Type	Member	Description
public static final String	*XMLNS_DATASERVICES_URI* on page 1083	Constant for XMLNS URI: http://schemas.microsoft.com/ado/2007/08/dataservices.
public static final String	*XMLNS_EDM_URI* on page 1083	Constant for XMLNS URI: http://schemas.microsoft.com/ado/2007/05/edm.
public static final String	*XMLNS_EDMX_URI* on page 1084	Constant for XMLNS URI: http://schemas.microsoft.com/ado/2007/06/edmx.
public static final String	*XMLNS_GENERICPLAYER_URI* on page 1084	Constant for XMLNS URI: http://www.sap.com/Protocols/SAPData/GenericPlayer.
public static final String	*XMLNS_METADATA_URI* on page 1084	Constant for XMLNS URI: http://schemas.microsoft.com/ado/2007/08/dataservices/metadata.
public static final String	*XMLNS_SAP_URI* on page 1084	Constant for XMLNS URI: http://www.sap.com/Protocols/SAPData.

Inherited members from ISDMPersistable

Modifier and Type	Member	Description
public void	*read(BufferedReader)* on page 1085	
public void	*write(BufferedWriter)* on page 1085	

SDMODataEntityType() constructor

Syntax

```
public SDMODataEntityType ()
```

SDMODataEntityType(int[], String[]) constructor

Syntax

```
protected SDMODataEntityType (
    int[] routes,
```

```
    String[] values
)
```

SDMODataEntityType(SDMParserDocument) constructor

Syntax

```
public SDMODataEntityType (SDMParserDocument document)
```

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 SDMOData elements with 'true' visible-in-detail (Generic Player names-pace) attribute value.

Syntax

```
public List< ISDMODataProperty >
getGPVisibleInDetailPropertiesData ()
```

Returns

The list of appropriate SDMOData elements with 'true' visible-in-detail (Generic Player names-pace) attribute value

getGPVisibleInListPropertiesData() method

Returns The list of appropriate SDMOData elements with 'true' visible-in-list (Generic Player names-pace) attribute value.

Syntax

```
public List< ISDMODataProperty >
getGPVisibleInListPropertiesData ()
```

Returns

The list of appropriate SDMOData elements with 'true' visible-in-list (Generic Player names-pace) attribute value

getKeyPropertyNames() method
Returns the list of the values of the 'PropertyRef' SDMOData element contained by the 'Key' SDMOData element.

Syntax

```
public List< String > getKeyPropertyNames ()
```

Returns
The list of the values of the 'PropertyRef' SDMOData element

getName() method
Returns The value of the appropriate SDMOData attribute.

Syntax

```
public String getName ()
```

Returns
The value of the appropriate SDMOData attribute

getNavigationProperties() method
Returns The list of appropriate SDMOData elements.

Syntax

```
public List< ISDMODataNavigationProperty >
getNavigationProperties ()
```

Returns
The list of appropriate SDMOData elements

getNavigationProperty(String) method
Returns The appropriate SDMOData element with the given name.

Syntax

```
public ISDMODataNavigationProperty getNavigationProperty
(String name)
```

Returns
The appropriate SDMOData element with the given name

getProperties() method
Returns The list of appropriate SDMOData elements.

Syntax

```
public List< ISDMODataProperty > getProperties ()
```

Returns
The list of appropriate SDMOData elements

getPropertiesWithAttribute(String, String) method
Returns The list of appropriate SDMOData elements with given attribute value.

Syntax

```
public List< ISDMODataProperty > getPropertiesWithAttribute (
    String attributeName,
    String attributeValue
)
```

Returns
The list of appropriate SDMOData elements with given attribute value

getPropertiesWithAttribute(String, String, boolean) method
Returns The list of appropriate SDMOData elements with given attribute value.

Syntax

```
public List< ISDMODataProperty > getPropertiesWithAttribute (
    String attributeName,
    String attributeValue,
    boolean addByDefault
)
```

Returns
The list of appropriate SDMOData elements with given attribute value

getProperty(String) method
Returns The appropriate SDMOData element with the given name.

Syntax

```
public ISDMODataProperty getProperty (String propertyName)
```

Returns
The appropriate SDMOData element with the given name

getSAPSearchablePropertiesData() method
Returns The list of appropriate SDMOData elements with 'true' searchable (SAP names-pace) attribute value.

Syntax

```
public List< ISDMODataProperty >
getSAPSearchablePropertiesData ()
```

Returns
The list of appropriate SDMOData elements with 'true' searchable (SAP names-pace) attribute value

getSchema() method

Syntax

```
protected ISDMODataSchema getSchema ()
```

Returns
the schema

getSearchablePropertiesData(String) method
Returns The list of appropriate SDMOData elements with 'true' attribute value of the given attribute.

Syntax

```
public List< ISDMODataProperty > getSearchablePropertiesData
(String searchAttributeName)
```

Returns
The list of appropriate SDMOData elements with 'true' attribute value of the given attribute

hasStream() method
Returns The value of the appropriate SDMOData attribute.

Syntax

```
public boolean hasStream ()
```

Returns
The value of the appropriate SDMOData attribute

setSchema(ISDMODataSchema) method

Syntax

```
protected void setSchema (ISDMODataSchema schema)
```

Parameters

- **schema –** the schema to set

SDMODataEntry class
Deprecated. since 3.0, Use ODataEntry

Package

```
com.sap.mobile.lib.sdmparser
```

Syntax

```
public class SDMODataEntry extends SDMParserDocument implements
ISDMODataEntry
```

Base class

- *SDMParserDocument* on page 1672

Implemented interfaces

- *ISDMODataEntry* on page 895

Derived classes

- *SDMODataReturnTypeEntry* on page 1490
- *SDMODataSubscriptionEntry* on page 1591

Members
All members of SDMODataEntry, including inherited members. **Variables**

Modifier and Type	Variable	Description
protected JsonObject	jsonObject	JSON related variables
protected ISDMODataSchema	schema	
protected String	collectionId	
protected static final String	FILTER	
protected static final String	FILTER_EQ	

Modifier and Type	Variable	Description
protected static final String	FILTER_AND	
protected static final int	TRUE	
protected static final int	FALSE	
protected static final int	NOT_TESTED	
protected static cacheState	Cachestate	
protected static boolean	isLocalEntry	
protected static Long	cache_timestamp	

Constructors

Modifier and Type	Constructor	Description
public	*SDMODataEntry()* on page 1333	
public	*SDMODataEntry(boolean)* on page 1333	
protected	*SDMODataEntry(int[], String[])* on page 1333	
public	*SDMODataEntry(ISDMODataSchema)* on page 1334	
public	*SDMODataEntry(JsonObject)* on page 1334	Json Related
public	*SDMODataEntry(SDMParserDocument)* on page 1334	
public	*SDMODataEntry(SDMParserDocument, ISDMODataSchema)* on page 1334	

Methods

Modifier and Type	Method	Description
protected void	*addPropertyValues(ISDMODataProperty, Map< String, String >, String)* on page 1334	

Modifier and Type	Method	Description
protected void	*fillPropertyData(ISDMODataProperty, String...)* on page 1334	
protected void	*fillPropertyDataWithAttribute(ISDMODataProperty, String, String, boolean, String...)* on page 1335	
public List< ISDMODataLink >	*getActionLinks()* on page 1335	Returns SDMOData Link objects that are set as action links (Has semantics (SAP name-space) attribute with value 'action')
public String	*getAuthorName()* on page 1335	Returns The value of the 'name' SDMOData element of the 'author' SDMOData element.
public cacheState	*getCachestate()* on page 1335	
public Long	*getCacheTimestamp()* on page 1335	
public String	*getCollectionId()* on page 1336	Returns the Id of the SDMOCata Collection that this Entry belongs to.
public String	*getEtag()* on page 1336	Returns the Id of the SDMOData Collection that this Entry belongs to.
public String	*getFilterUrl()* on page 1336	Returns the full execution URL hat can be used for filtering collection search for this single entry.
public List< ISDMODataProperty >	*getGPUseInSearchPropertiesData()* on page 1336	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.

Modifier and Type	Method	Description
public List< ISDMODataProperty >	*getGPVisibleInDetailPropertiesData()* on page 1337	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 >	*getGPVisibleInListPropertiesData()* on page 1337	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 >	*getIcons()* on page 1337	Returns the list of the appropriate SDMOData elements.
public String	*getId()* on page 1337	Returns The Id of this SDMOData Entry (value of appropriate SDMOData Id element)
public boolean	*getIsLocal()* on page 1338	
public Map< String, String >	*getKeyPropertyValues()* on page 1338	Returns the values of the properties that are marked as key properties in the SDMOData Schema document.
public Date	*getLastUpdated()* on page 1338	Returns The parsed value of the 'updated' SDMOData Element.
public List< ISDMODataLink >	*getLinks()* on page 1338	Returns the list of the appropriate SDMOData elements.
public List< ISDMODataProperty >	*getPropertiesData()* on page 1338	Returns the value and meta information (retrieved from SDMOData Schema document) of the properties of this SDMOdata Entry document.

Modifier and Type	Method	Description
public List< ISDMODataProperty >	*getPropertiesDataWithAttribute(String, String)* on page 1339	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 >	*getPropertiesDataWithAttribute(String, String, boolean)* on page 1339	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	*getPropertiesDocument()* on page 1340	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	*getPropertyValue(String...)* on page 1340	Returns the value of the appropriate property.
public List< String >	*getPropertyValues(List< String[]>)* on page 1340	Return list of property values for the given property paths.
public Map< String, String >	*getPropertyValues()* on page 1341	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 >	*getRelatedDataLinks()* on page 1341	Returns SDMOData Link objects that represents links to Related Data.

Modifier and Type	Method	Description
public List< ISDMODataProperty >	*getSAPSearchablePropertiesData()* on page 1341	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	*getSchema()* on page 1342	Returns the appropriate SDMOData Schema object.
public ISDMODataLink	*getSelfLink()* on page 1342	Returns SDMSDMOData Link object that should be used for self related operations (with 'rel' attribute value 'self' or 'edit')
public ISDMODataLink	*getSubscriptionLink()* on page 1342	Returns SDMOData Link object that should be used for subscription or null if there is no subscription link defined.
public String	*getSummary()* on page 1342	Returns The value of the appropriate SDMOData element.
public String	*getTitle()* on page 1343	Returns The value of the appropriate SDMOData element.
protected void	*materialize()* on page 1343	
protected void	*parseCollectionId()* on page 1343	
protected long	*parseEdmTime(String)* on page 1343	
public void	*putComplexPropertyValue(String, String...)* on page 1343	Puts the new property element as a sub-element of the 'complex properties' SDMOData element.

Modifier and Type	Method	Description
public void	*putDocument(ISDMParserDocument, String...)* on page 1344	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	*putId(String)* on page 1344	Sets id of this SDMOData Entry document (value of appropriate SDMOData Id element)
public void	*putPropertyValue(String, String)* on page 1344	Puts the new property element as a sub-element of the 'properties' SDMOData element.
public void	*putPropertyValue(String, String, boolean)* on page 1345	Puts the new property element as a sub-element of the 'properties' SDMOData element.
public void	*read(BufferedReader)* on page 1345	
protected String	*resolveTargetCollection(ISDMODataLink)* on page 1345	
public void	*setAuthorName(String)* on page 1346	Sets the value of the 'name' SDMOData element of the 'author' SDMOData element.
public void	*setCachestate(cacheState)* on page 1346	
public void	*setCacheTimestamp(Long)* on page 1346	
public void	*setCollectionId(String)* on page 1346	Maintains the Id of the SDMOCata Collection that this Entry belongs to.
public void	*setIsLocal(boolean)* on page 1346	
public void	*setSchema(ISDMODataSchema)* on page 1346	Maintains the reference to the appropriate SDMOData Schema object.

Modifier and Type	Method	Description
public void	*setSummary(String)* on page 1347	Sets the value of the appropriate SDMOData element.
public void	*setTitle(String)* on page 1347	Sets the value of the appropriate SDMOData element.
public void	*write(BufferedWriter)* on page 1347	

Inherited members from SDMParserDocument

Modifier and Type	Member	Description
public SDMParserDocument	*clone()* on page 1681	Creates a copy of this object.
protected Map< String, String >	*extensions* on page 1701	
public String	*getAttribute(String...)* on page 1682	Returns the value of the first attribute with the given route.
public List< String >	*getAttributes(String...)* on page 1682	Returns all the values of attributes with the given route.
protected int	*getAttributesEndPosition(int[], int, int)* on page 1682	
public Map< String, String >	*getChildAttributeMap(String...)* on page 1683	Returns all the name-value pairs of attributes contained by the element with the given route.
public List< String >	*getChildAttributes(String...)* on page 1683	Returns all the values of attributes contained by the element with the given route.
public List< ISDMParserDocument >	*getChildDocuments(String...)* on page 1683	Returns the elements contained by the element with the given route.
public List< ISDMParserDocument >	*getChildDocumentsWithAttribute(String, String, String...)* on page 1684	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public List< ISDMParserDocument >	*getChildDocumentsWithAttribute(String, String, boolean, String...)* on page 1684	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 SDMParserDocument	*getDocument(String...)* on page 1685	Returns the first element with the given route.
protected List< int[]>	*getDocumentPositions(String[], int, boolean, boolean)* on page 1685	
public List< ISDMParserDocument >	*getDocuments(String...)* on page 1686	Returns all the elements with the given route.
public List< ISDMParserDocument >	*getDocumentsWithAttribute(String, String, String...)* on page 1686	Returns the elements with the given route that contains the given attribute with the given value.
public List< ISDMParserDocument >	*getDocumentsWithAttribute(String, String, boolean, String...)* on page 1687	Returns the elements with the given route that contains the given attribute with the given value.
public ISDMParserDocument	*getDocumentWithAttribute(String, String, String...)* on page 1687	Returns the first element with the given route that contains the given attribute with the given value.
public ISDMParserDocument	*getDocumentWithAttribute(String, String, boolean, String...)* on page 1688	Returns the first element with the given route that contains the given attribute with the given value.
public String	*getElementName()* on page 1688	Returns The name of the root element of this document.
public String	*getExtension(String)* on page 1689	
public String	*getFunctionImportComplexPropertyValue(String...)* on page 1689	
public static List< String >	*getNameMap()* on page 1689	
public static String	*getPrefix(String)* on page 1689	

Modifier and Type	Member	Description
public String	*getPrefixForUri(String)* on page 1689	Returns the appropriate name-space prefix for the given XML name-space URI.
public static Map< String, String >	*getPrefixMapping()* on page 1689	
protected List< Integer >	*getStringPositions(String[], int, boolean, boolean)* on page 1690	
public String[]	*getStrings()* on page 1690	Returns all the string values contained by this document.
public String	*getValue(String...)* on page 1690	Returns the value of the first element with the given route.
public List< String >	*getValues(String...)* on page 1690	Returns all the values of elements with the given route.
protected int[]	*insertRoutePositions(int[], int, int[])* on page 1691	
protected void	*insertRoutesPositions(int, int[])* on page 1691	
protected void	*insertStringsPositions(int, String[])* on page 1691	
protected String[]	*insertStringsPositions(String[], int, String[])* on page 1691	
protected boolean	*isMatched(String, String)* on page 1692	
public void	*putAttribute(String, String...)* on page 1692	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	*putExtension(String, String)* on page 1693	
protected void	*putString(int, String, int, String...)* on page 1693	

Modifier and Type	Member	Description
public void	*putValue(String, String...)* on page 1693	Sets the value of the first element with the given route.
public static void	*readNameMap(BufferedReader)* on page 1694	
public boolean	*removeAttribute(String...)* on page 1694	Removes first element with the given route.
public boolean	*removeAttributes(String...)* on page 1694	Removes all the attribute with the given route.
public boolean	*removeDocument(String...)* on page 1695	Removes first element with the given route For removing multiple element use setDocuemtns with null arguments.
public void	*removeExtension(String)* on page 1695	
protected void	*removeRoutesPositions(int, int)* on page 1695	
protected int[]	*removeRoutesPositions(int[], int, int)* on page 1695	
protected boolean	*removeString(String...)* on page 1695	
protected boolean	*removeStrings(String...)* on page 1696	
protected void	*removeStringsPositions(int, int)* on page 1696	
protected String[]	*removeStringsPositions(String[], int, int)* on page 1696	
protected int	*replaceRoutesPositions(int, int, int[])* on page 1696	
protected int[]	*replaceRoutesPositions(int[], int, int, int[])* on page 1696	
protected int	*replaceStringsPositions(int, int, String[])* on page 1697	

Modifier and Type	Member	Description
protected String[]	*replaceStringsPositions(String[], int, int, String[])* on page 1697	
public static String	*resolveUrl(String, String)* on page 1697	
protected int[]	*routes* on page 1701	
public	*SDMParserDocument(String)* on page 1681	
public	*SDMParserDocument(SDMParserDocument)* on page 1681	
protected	*SDMParserDocument(int[], String[])* on page 1681	
protected	*SDMParserDocument(String, boolean)* on page 1681	
public void	*setAttribute(String, String...)* on page 1697	
public void	*setAttributes(List< String >, String...)* on page 1697	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	*setDocument(ISDMParserDocument, String...)* on page 1698	
public void	*setDocuments(List< ISDMParserDocument >, String...)* on page 1698	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	*setElementName(String, String...)* on page 1698	Sets the name of the root element with the given route Use empty route for setting root name of this document.
public static void	*setNameMap(List< String >)* on page 1699	
public static void	*setPrefixMapping(Map< String, String >)* on page 1699	
protected void	*setString(String, String...)* on page 1699	
protected void	*setStrings(List< String >, String...)* on page 1699	
public void	*setValue(String, String...)* on page 1699	
public void	*setValues(List< String >, String...)* on page 1700	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[]	*strings* on page 1701	
public String	*toXMLString()* on page 1700	Returns the XML string representation of this object.
protected static final String	*URL_PROTOCOL_PREFIX* on page 1701	
public static void	*writeNameMap(BufferedWriter)* on page 1701	

Inherited members from ISDMParserDocument

Modifier and Type	Member	Description
public static final String	*ATTRIBUTE_ETAG* on page 1082	Name of the appropriate SDMOData element.

Modifier and Type	Member	Description
public static final String	*ATTRIBUTE_VALUEPREFIX_EDMTYPE* on page 1082	Value prefix for EDM Type type values.
public static Map< String, String >	*DEFAULT_PREFIXMAPPING* on page 1082	The default XML Namespace-to-Prefix mapping used for building XMLS.
public static final String[]	*EDMDATETIME_PATTERNS* on page 1082	Possible EDM DateTime patterns Note: Some pattern are not supported by OData specification but still widely used.
public static final String[]	*EDMDATETIMEOFFSET_PATTERNS* on page 1082	Possible EDM TimeOffset patterns Note: Some pattern are not supported by OData specification but still widely used.
public static final String	*EDMTIME_PATTERN* on page 1082	EDM Time pattern.
public static String	*ELEMENT_FEED* on page 1083	Name of the appropriate SDMOData element.
public static final String	*ELEMENT_ID* on page 1083	Name of the appropriate SDMOData element.
public static final String	*ROOT_DOCUMENT_NAME* on page 1083	The default root element name for a new document.
public static final String	*XMLNS_APPLICATION_URI* on page 1083	Constant for XMLNS URI: http://schemas.microsoft.com/ado/2007/08/dataservices.
public static final String	*XMLNS_ATOM_URI* on page 1083	Constant for XMLNS URI: http://www.w3.org/2005/Atom.
public static final String	*XMLNS_DATASERVICES_URI* on page 1083	Constant for XMLNS URI: http://schemas.microsoft.com/ado/2007/08/dataservices.
public static final String	*XMLNS_EDM_URI* on page 1083	Constant for XMLNS URI: http://schemas.microsoft.com/ado/2007/05/edm.

Modifier and Type	Member	Description
public static final String	*XMLNS_EDMX_URI* on page 1084	Constant for XMLNS URI: http://schemas.microsoft.com/ado/2007/06/edmx.
public static final String	*XMLNS_GENERICPLAYER_URI* on page 1084	Constant for XMLNS URI: http://www.sap.com/Protocols/SAPData/GenericPlayer.
public static final String	*XMLNS_METADATA_URI* on page 1084	Constant for XMLNS URI: http://schemas.microsoft.com/ado/2007/08/dataservices/metadata.
public static final String	*XMLNS_SAP_URI* on page 1084	Constant for XMLNS URI: http://www.sap.com/Protocols/SAPData.

Inherited members from ISDMPersistable

Modifier and Type	Member	Description
public void	*read(BufferedReader)* on page 1085	
public void	*write(BufferedWriter)* on page 1085	

Inherited members from ISDMODataEntry

Modifier and Type	Member	Description
public static final String	*ATTRIBUTE_SEMANTICS* on page 917	Name of the appropriate SDMOData attribute.
public static final String	*ATTRIBUTE_TERM* on page 917	Name of the appropriate SDMOData attribute.
public static final String	*ATTRIBUTE_VALUE_SEMANTICS_ACTION* on page 918	Value option for appropriate SDMOData attribute.
public static final String	*ELEMENT_AUTHOR* on page 918	Name of the appropriate SDMOData element.
public static final String	*ELEMENT_CATEGORY* on page 918	Name of the appropriate SDMOData element.

Modifier and Type	Member	Description
public static final String	*ELEMENT_CONTENT* on page 918	Name of the appropriate SDMOData element.
public static final String	*ELEMENT_ENTRY* on page 918	Name of the appropriate SDMOData element.
public static final String	*ELEMENT_LINK* on page 918	Name of the appropriate SDMOData element.
public static final String	*ELEMENT_NAME* on page 918	Name of the appropriate SDMOData element.
public static final String	*ELEMENT_PROPERTIES* on page 919	Name of the appropriate SDMOData element.
public static final String	*ELEMENT_SUMMARY* on page 919	Name of the appropriate SDMOData element.
public static final String	*ELEMENT_TITLE* on page 919	Name of the appropriate SDMOData element.
public static final String	*ELEMENT_UPDATED* on page 919	Name of the appropriate SDMOData element.
public static final String	*PROPERTY_LEVEL_SEPARATOR* on page 919	
public void	*setCachestate(cacheState)* on page 916	

Inherited members from ISDMParserDocument

Modifier and Type	Member	Description
public static final String	*ATTRIBUTE_ETAG* on page 1082	Name of the appropriate SDMOData element.
public static final String	*ATTRIBUTE_VALUEPREFIX_EDMTYPE* on page 1082	Value prefix for EDM Type type values.
public abstract ISDMParserDocument	*clone()* on page 1069	Creates a copy of this object.
public static Map< String, String >	*DEFAULT_PREFIXMAPPING* on page 1082	The default XML Namespace-to-Prefix mapping used for building XMLS.

Modifier and Type	Member	Description
public static final String[]	*EDMDATETIME_PATTERNS* on page 1082	Possible EDM DateTime patterns Note: Some pattern are not supported by OData specification but still widely used.
public static final String[]	*EDMDATETIMEOFFSET_PATTERNS* on page 1082	Possible EDM TimeOffset patterns Note: Some pattern are not supported by OData specification but still widely used.
public static final String	*EDMTIME_PATTERN* on page 1082	EDM Time pattern.
public static String	*ELEMENT_FEED* on page 1083	Name of the appropriate SDMOData element.
public static final String	*ELEMENT_ID* on page 1083	Name of the appropriate SDMOData element.
public abstract String	*getAttribute(String...)* on page 1069	Returns the value of the first attribute with the given route.
public abstract List< String >	*getAttributes(String...)* on page 1070	Returns all the values of attributes with the given route.
public abstract Map< String, String >	*getChildAttributeMap(String...)* on page 1070	Returns all the name-value pairs of attributes contained by the element with the given route.
public abstract List< String >	*getChildAttributes(String...)* on page 1070	Returns all the values of attributes contained by the element with the given route.
public abstract List< ISDMParserDocument >	*getChildDocuments(String...)* on page 1071	Returns the elements contained by the element with the given route.
public abstract List< ISDMParserDocument >	*getChildDocumentsWithAttribute(String, String, String...)* on page 1071	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public abstract List< ISDMParserDocument >	*getChildDocumentsWithAttribute(String, String, boolean, String...)* on page 1072	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	*getDocument(String...)* on page 1072	Returns the first element with the given route.
public abstract List< ISDMParserDocument >	*getDocuments(String...)* on page 1073	Returns all the elements with the given route.
public abstract List< ISDMParserDocument >	*getDocumentsWithAttribute(String, String, String...)* on page 1073	Returns the elements with the given route that contains the given attribute with the given value.
public abstract List< ISDMParserDocument >	*getDocumentsWithAttribute(String, String, boolean, String...)* on page 1074	Returns the elements with the given route that contains the given attribute with the given value.
public abstract ISDMParserDocument	*getDocumentWithAttribute(String, String, String...)* on page 1074	Returns the first element with the given route that contains the given attribute with the given value.
public abstract ISDMParserDocument	*getDocumentWithAttribute(String, String, boolean, String...)* on page 1075	Returns the first element with the given route that contains the given attribute with the given value.
public abstract String	*getElementName()* on page 1075	Returns The name of the root element of this document.
public abstract String	*getFunctionImportComplexPropertyValue(String...)* on page 1076	
public abstract String	*getPrefixForUri(String)* on page 1076	Returns the appropriate name-space prefix for the given XML name-space URI.
public abstract String[]	*getStrings()* on page 1076	Returns all the string values contained by this document.
public abstract String	*getValue(String...)* on page 1076	Returns the value of the first element with the given route.
public abstract List< String >	*getValues(String...)* on page 1077	Returns all the values of elements with the given route.

Modifier and Type	Member	Description
public abstract void	*putAttribute(String, String...)* on page 1077	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	*putDocument(ISDMParserDocument, String...)* on page 1078	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	*putValue(String, String...)* on page 1078	Sets the value of the first element with the given route.
public abstract boolean	*removeAttribute(String...)* on page 1079	Removes first element with the given route.
public abstract boolean	*removeAttributes(String...)* on page 1079	Removes all the attribute with the given route.
public abstract boolean	*removeDocument(String...)* on page 1079	Removes first element with the given route For removing multiple element use setDocuemtns with null arguments.
public static final String	*ROOT_DOCUMENT_NAME* on page 1083	The default root element name for a new document.
public abstract void	*setAttributes(List< String >, String...)* on page 1080	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	*setDocuments(List< ISDMParserDocument >, String...)* on page 1080	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	*setElementName(String, String...)* on page 1081	Sets the name of the root element with the given route Use empty route for setting root name of this document.
public abstract void	*setValues(List< String >, String...)* on page 1081	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	*toXMLString()* on page 1081	Returns the XML string representation of this object.
public static final String	*XMLNS_APPLICATION_URI* on page 1083	Constant for XMLNS URI: http://schemas.microsoft.com/ado/2007/08/dataservices.
public static final String	*XMLNS_ATOM_URI* on page 1083	Constant for XMLNS URI: http://www.w3.org/2005/Atom.
public static final String	*XMLNS_DATASERVICES_URI* on page 1083	Constant for XMLNS URI: http://schemas.microsoft.com/ado/2007/08/dataservices.
public static final String	*XMLNS_EDM_URI* on page 1083	Constant for XMLNS URI: http://schemas.microsoft.com/ado/2007/05/edm.
public static final String	*XMLNS_EDMX_URI* on page 1084	Constant for XMLNS URI: http://schemas.microsoft.com/ado/2007/06/edmx.

Modifier and Type	Member	Description
public static final String	*XMLNS_GENERICPLAY-ER_URI* on page 1084	Constant for XMLNS URI: http://www.sap.com/Protocols/SAPData/GenericPlayer.
public static final String	*XMLNS_METADATA_URI* on page 1084	Constant for XMLNS URI: http://schemas.microsoft.com/ado/2007/08/dataservices/metadata.
public static final String	*XMLNS_SAP_URI* on page 1084	Constant for XMLNS URI: http://www.sap.com/Protocols/SAPData.

Inherited members from ISDMPersistable

Modifier and Type	Member	Description
public void	*read(BufferedReader)* on page 1085	
public void	*write(BufferedWriter)* on page 1085	

SDMODataEntry() constructor

Syntax

```
public SDMODataEntry ()
```

SDMODataEntry(boolean) constructor

Syntax

```
public SDMODataEntry (boolean isComplex)
```

SDMODataEntry(int[], String[]) constructor

Syntax

```
protected SDMODataEntry (
    int[] routes,
    String[] values
)
```

SDMODataEntry(ISDMODataSchema) constructor

Syntax

```
public SDMODataEntry (ISDMODataSchema schema)
```

SDMODataEntry(JsonObject) constructor
Json Related

Syntax

```
public SDMODataEntry (JsonObject entry)
```

SDMODataEntry(SDMParserDocument) constructor

Syntax

```
public SDMODataEntry (SDMParserDocument document)
```

SDMODataEntry(SDMParserDocument, ISDMODataSchema) constructor

Syntax

```
public SDMODataEntry (
    SDMParserDocument document,
    ISDMODataSchema schema
)
```

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 name-space) attribute with value 'action')

Syntax

```
public List< ISDMODataLink > getActionLinks ()
```

Returns
List of SDMOData Action Link documents

getAuthorName() method
Returns The value of the 'name' SDMOData element of the 'author' SDMOData element.

Syntax

```
public String getAuthorName ()
```

Returns
The value of the 'name' SDMOData element of the 'author' SDMOData 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 SDMOData Collection that this Entry belongs to.

Syntax

```
public 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 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 SDMOData elements.

Syntax

```
public 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 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 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 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 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 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 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 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 ISDMParserDocument 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.

Remarks
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 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 Map< String, String > getPropertyValues ()
```

Returns
The name/path and value pairs of the contained properties

Remarks
The name of the properties will contain their current name-space prefixes.

getRelatedDataLinks() method
Returns SDMOData Link objects that represents links to Related Data.

Syntax

```
public 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 List< ISDMODataProperty >
getSAPSearchablePropertiesData ()
```

Returns
The meta-informations and values of the appropriate properties

getSchema() method
Returns the appropriate SDMOData Schema object.

Syntax

```
public 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 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

Remarks
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(ISDMParserDocument, 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 (
    ISDMParserDocument 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 SDMOData Entry document (value of appropriate SDMOData 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' 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

Remarks

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

Remarks

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' SDMOData element of the 'author' SDMOData 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

Package

```
com.sap.mobile.lib.sdmparser
```

Syntax

```
public class SDMODataError extends SDMParserDocument implements
ISDMODataError
```

Base class

- *SDMParserDocument* on page 1672

Implemented interfaces

- *ISDMODataError* on page 919

Members

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

Modifier and Type	Constructor	Description
public	*SDMODataError()* on page 1363	
protected	*SDMODataError(int[], String[])* on page 1363	

Modifier and Type	Constructor	Description
public	*SDMODataError(SDMParser-Document)* on page 1363	

Methods

Modifier and Type	Method	Description
public String	*getErrorCode()* on page 1363	Returns The value of the 'code' SDMOData element.
public String	*getLang()* on page 1364	Returns The value of the appropriate SDMOData attribute of the 'message' element.
public String	*getMessage()* on page 1364	Return the localized error message.

Inherited members from SDMParserDocument

Modifier and Type	Member	Description
public SDMParserDocument	*clone()* on page 1681	Creates a copy of this object.
protected Map< String, String >	*extensions* on page 1701	
public String	*getAttribute(String...)* on page 1682	Returns the value of the first attribute with the given route.
public List< String >	*getAttributes(String...)* on page 1682	Returns all the values of attributes with the given route.
protected int	*getAttributesEndPosition(int[], int, int)* on page 1682	
public Map< String, String >	*getChildAttribute-Map(String...)* on page 1683	Returns all the name-value pairs of attributes contained by the element with the given route.
public List< String >	*getChildAttributes(String...)* on page 1683	Returns all the values of attributes contained by the element with the given route.
public List< ISDMParserDocument >	*getChildDocuments(String...)* on page 1683	Returns the elements contained by the element with the given route.

Modifier and Type	Member	Description
public List< ISDMParserDocument >	*getChildDocumentsWithAttribute(String, String, String...)* on page 1684	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public List< ISDMParserDocument >	*getChildDocumentsWithAttribute(String, String, boolean, String...)* on page 1684	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public SDMParserDocument	*getDocument(String...)* on page 1685	Returns the first element with the given route.
protected List< int[]>	*getDocumentPositions(String[], int, boolean, boolean)* on page 1685	
public List< ISDMParserDocument >	*getDocuments(String...)* on page 1686	Returns all the elements with the given route.
public List< ISDMParserDocument >	*getDocumentsWithAttribute(String, String, String...)* on page 1686	Returns the elements with the given route that contains the given attribute with the given value.
public List< ISDMParserDocument >	*getDocumentsWithAttribute(String, String, boolean, String...)* on page 1687	Returns the elements with the given route that contains the given attribute with the given value.
public ISDMParserDocument	*getDocumentWithAttribute(String, String, String...)* on page 1687	Returns the first element with the given route that contains the given attribute with the given value.
public ISDMParserDocument	*getDocumentWithAttribute(String, String, boolean, String...)* on page 1688	Returns the first element with the given route that contains the given attribute with the given value.
public String	*getElementName()* on page 1688	Returns The name of the root element of this document.
public String	*getExtension(String)* on page 1689	

Modifier and Type	Member	Description
public String	*getFunctionImportComplex-PropertyValue(String...)* on page 1689	
public static List< String >	*getNameMap()* on page 1689	
public static String	*getPrefix(String)* on page 1689	
public String	*getPrefixForUri(String)* on page 1689	Returns the appropriate name-space prefix for the given XML name-space URI.
public static Map< String, String >	*getPrefixMapping()* on page 1689	
protected List< Integer >	*getStringPositions(String[], int, boolean, boolean)* on page 1690	
public String[]	*getStrings()* on page 1690	Returns all the string values contained by this document.
public String	*getValue(String...)* on page 1690	Returns the value of the first el-ement with the given route.
public List< String >	*getValues(String...)* on page 1690	Returns all the values of ele-ments with the given route.
protected int[]	*insertRoutePositions(int[], int, int[])* on page 1691	
protected void	*insertRoutesPositions(int, int[])* on page 1691	
protected void	*insertStringsPositions(int, String[])* on page 1691	
protected String[]	*insertStringsPositions(String[], int, String[])* on page 1691	
protected boolean	*isMatched(String, String)* on page 1692	

Modifier and Type	Member	Description
public void	*putAttribute(String, String...)* on page 1692	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	*putDocument(ISDMParserDocument, String...)* on page 1692	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	*putExtension(String, String)* on page 1693	
protected void	*putString(int, String, int, String...)* on page 1693	
public void	*putValue(String, String...)* on page 1693	Sets the value of the first element with the given route.
public void	*read(BufferedReader)* on page 1693	
public static void	*readNameMap(BufferedReader)* on page 1694	
public boolean	*removeAttribute(String...)* on page 1694	Removes first element with the given route.
public boolean	*removeAttributes(String...)* on page 1694	Removes all the attribute with the given route.
public boolean	*removeDocument(String...)* on page 1695	Removes first element with the given route For removing multiple element use setDocuemtns with null arguments.
public void	*removeExtension(String)* on page 1695	
protected void	*removeRoutesPositions(int, int)* on page 1695	

Modifier and Type	Member	Description
protected int[]	*removeRoutesPositions(int[], int, int)* on page 1695	
protected boolean	*removeString(String...)* on page 1695	
protected boolean	*removeStrings(String...)* on page 1696	
protected void	*removeStringsPositions(int, int)* on page 1696	
protected String[]	*removeStringsPositions(String[], int, int)* on page 1696	
protected int	*replaceRoutesPositions(int, int, int[])* on page 1696	
protected int[]	*replaceRoutesPositions(int[], int, int, int[])* on page 1696	
protected int	*replaceStringsPositions(int, int, String[])* on page 1697	
protected String[]	*replaceStringsPositions(String[], int, int, String[])* on page 1697	
public static String	*resolveUrl(String, String)* on page 1697	
protected int[]	*routes* on page 1701	
public	*SDMParserDocument(String)* on page 1681	
public	*SDMParserDocument(SDMParserDocument)* on page 1681	
protected	*SDMParserDocument(int[], String[])* on page 1681	
protected	*SDMParserDocument(String, boolean)* on page 1681	

Modifier and Type	Member	Description
public void	*setAttribute(String, String...)* on page 1697	
public void	*setAttributes(List< String >, String...)* on page 1697	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	*setDocument(ISDMParserDocument, String...)* on page 1698	
public void	*setDocuments(List< ISDMParserDocument >, String...)* on page 1698	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	*setElementName(String, String...)* on page 1698	Sets the name of the root element with the given route Use empty route for setting root name of this document.
public static void	*setNameMap(List< String >)* on page 1699	
public static void	*setPrefixMapping(Map< String, String >)* on page 1699	
protected void	*setString(String, String...)* on page 1699	
protected void	*setStrings(List< String >, String...)* on page 1699	
public void	*setValue(String, String...)* on page 1699	

Modifier and Type	Member	Description
public void	*setValues(List< String >, String...)* on page 1700	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[]	*strings* on page 1701	
public String	*toXMLString()* on page 1700	Returns the XML string representation of this object.
protected static final String	*URL_PROTOCOL_PREFIX* on page 1701	
public void	*write(BufferedWriter)* on page 1700	
public static void	*writeNameMap(BufferedWriter)* on page 1701	

Inherited members from ISDMParserDocument

Modifier and Type	Member	Description
public static final String	*ATTRIBUTE_ETAG* on page 1082	Name of the appropriate SDMOData element.
public static final String	*ATTRIBUTE_VALUEPREFIX_EDMTYPE* on page 1082	Value prefix for EDM Type type values.
public static Map< String, String >	*DEFAULT_PREFIXMAPPING* on page 1082	The default XML Namespace-to-Prefix mapping used for building XMLS.
public static final String[]	*EDMDATETIME_PATTERNS* on page 1082	Possible EDM DateTime patterns Note: Some pattern are not supported by OData specification but still widely used.
public static final String[]	*EDMDATETIMEOFFSET_PATTERNS* on page 1082	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	*EDMTIME_PATTERN* on page 1082	EDM Time pattern.
public static String	*ELEMENT_FEED* on page 1083	Name of the appropriate SDMOData element.
public static final String	*ELEMENT_ID* on page 1083	Name of the appropriate SDMOData element.
public static final String	*ROOT_DOCUMENT_NAME* on page 1083	The default root element name for a new document.
public static final String	*XMLNS_APPLICATION_URI* on page 1083	Constant for XMLNS URI: http://schemas.microsoft.com/ado/2007/08/dataservices.
public static final String	*XMLNS_ATOM_URI* on page 1083	Constant for XMLNS URI: http://www.w3.org/2005/Atom.
public static final String	*XMLNS_DATASERVICES_URI* on page 1083	Constant for XMLNS URI: http://schemas.microsoft.com/ado/2007/08/dataservices.
public static final String	*XMLNS_EDM_URI* on page 1083	Constant for XMLNS URI: http://schemas.microsoft.com/ado/2007/05/edm.
public static final String	*XMLNS_EDMX_URI* on page 1084	Constant for XMLNS URI: http://schemas.microsoft.com/ado/2007/06/edmx.
public static final String	*XMLNS_GENERICPLAYER_URI* on page 1084	Constant for XMLNS URI: http://www.sap.com/Protocols/SAPData/GenericPlayer.
public static final String	*XMLNS_METADATA_URI* on page 1084	Constant for XMLNS URI: http://schemas.microsoft.com/ado/2007/08/dataservices/metadata.
public static final String	*XMLNS_SAP_URI* on page 1084	Constant for XMLNS URI: http://www.sap.com/Protocols/SAPData.

Inherited members from ISDMPersistable

Modifier and Type	Member	Description
public void	*read(BufferedReader)* on page 1085	
public void	*write(BufferedWriter)* on page 1085	

Inherited members from ISDMODataError

Modifier and Type	Member	Description
public static final String	*ATTRIBUTE_LANGUAGE* on page 926	Name of the appropriate SDMOData attribute.
public static final String	*ELEMENT_ERROR* on page 926	Name of the appropriate SDMOData element.
public static final String	*ELEMENT_ERRORCODE* on page 926	Name of the appropriate SDMOData element.
public static final String	*ELEMENT_MESSAGE* on page 926	Name of the appropriate SDMOData element.

Inherited members from ISDMParserDocument

Modifier and Type	Member	Description
public static final String	*ATTRIBUTE_ETAG* on page 1082	Name of the appropriate SDMOData element.
public static final String	*ATTRIBUTE_ VALUEPRE-FIX_EDMTYPE* on page 1082	Value prefix for EDM Type type values.
public abstract ISDMParserDo-cument	*clone()* on page 1069	Creates a copy of this object.
public static Map< String, String >	*DEFAULT_PREFIXMAP-PING* on page 1082	The default XML Namespace-to-Prefix mapping used for building XMLS.
public static final String[]	*EDMDATETIME_PATTERNS* on page 1082	Possible EDM DateTime 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[]	*EDMDATETIMEOFFSET_PATTERNS* on page 1082	Possible EDM TimeOffset patterns Note: Some pattern are not supported by OData specification but still widely used.
public static final String	*EDMTIME_PATTERN* on page 1082	EDM Time pattern.
public static String	*ELEMENT_FEED* on page 1083	Name of the appropriate SDMOData element.
public static final String	*ELEMENT_ID* on page 1083	Name of the appropriate SDMOData element.
public abstract String	*getAttribute(String...)* on page 1069	Returns the value of the first attribute with the given route.
public abstract List< String >	*getAttributes(String...)* on page 1070	Returns all the values of attributes with the given route.
public abstract Map< String, String >	*getChildAttributeMap(String...)* on page 1070	Returns all the name-value pairs of attributes contained by the element with the given route.
public abstract List< String >	*getChildAttributes(String...)* on page 1070	Returns all the values of attributes contained by the element with the given route.
public abstract List< ISDMParserDocument >	*getChildDocuments(String...)* on page 1071	Returns the elements contained by the element with the given route.
public abstract List< ISDMParserDocument >	*getChildDocumentsWithAttribute(String, String, String...)* on page 1071	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public abstract List< ISDMParserDocument >	*getChildDocumentsWithAttribute(String, String, boolean, String...)* on page 1072	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public abstract ISDMParserDocument	*getDocument(String...)* on page 1072	Returns the first element with the given route.
public abstract List< ISDMParserDocument >	*getDocuments(String...)* on page 1073	Returns all the elements with the given route.

Modifier and Type	Member	Description
public abstract List< ISDMParserDocument >	*getDocumentsWithAttribute(String, String, String...)* on page 1073	Returns the elements with the given route that contains the given attribute with the given value.
public abstract List< ISDMParserDocument >	*getDocumentsWithAttribute(String, String, boolean, String...)* on page 1074	Returns the elements with the given route that contains the given attribute with the given value.
public abstract ISDMParserDocument	*getDocumentWithAttribute(String, String, String...)* on page 1074	Returns the first element with the given route that contains the given attribute with the given value.
public abstract ISDMParserDocument	*getDocumentWithAttribute(String, String, boolean, String...)* on page 1075	Returns the first element with the given route that contains the given attribute with the given value.
public abstract String	*getElementName()* on page 1075	Returns The name of the root element of this document.
public abstract String	*getFunctionImportComplexPropertyValue(String...)* on page 1076	
public abstract String	*getPrefixForUri(String)* on page 1076	Returns the appropriate name-space prefix for the given XML name-space URI.
public abstract String[]	*getStrings()* on page 1076	Returns all the string values contained by this document.
public abstract String	*getValue(String...)* on page 1076	Returns the value of the first element with the given route.
public abstract List< String >	*getValues(String...)* on page 1077	Returns all the values of elements with the given route.
public abstract void	*putAttribute(String, String...)* on page 1077	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	*putDocument(ISDMParserDocument, String...)* on page 1078	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	*putValue(String, String...)* on page 1078	Sets the value of the first element with the given route.
public abstract boolean	*removeAttribute(String...)* on page 1079	Removes first element with the given route.
public abstract boolean	*removeAttributes(String...)* on page 1079	Removes all the attribute with the given route.
public abstract boolean	*removeDocument(String...)* on page 1079	Removes first element with the given route For removing multiple element use setDocuemtns with null arguments.
public static final String	*ROOT_DOCUMENT_NAME* on page 1083	The default root element name for a new document.
public abstract void	*setAttributes(List< String >, String...)* on page 1080	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	*setDocuments(List< ISDMParserDocument >, String...)* on page 1080	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	*setElementName(String, String...)* on page 1081	Sets the name of the root element with the given route Use empty route for setting root name of this document.
public abstract void	*setValues(List< String >, String...)* on page 1081	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	*toXMLString()* on page 1081	Returns the XML string representation of this object.
public static final String	*XMLNS_APPLICATION_URI* on page 1083	Constant for XMLNS URI: http://schemas.microsoft.com/ado/2007/08/dataservices.
public static final String	*XMLNS_ATOM_URI* on page 1083	Constant for XMLNS URI: http://www.w3.org/2005/Atom.
public static final String	*XMLNS_DATASERVICES_URI* on page 1083	Constant for XMLNS URI: http://schemas.microsoft.com/ado/2007/08/dataservices.
public static final String	*XMLNS_EDM_URI* on page 1083	Constant for XMLNS URI: http://schemas.microsoft.com/ado/2007/05/edm.
public static final String	*XMLNS_EDMX_URI* on page 1084	Constant for XMLNS URI: http://schemas.microsoft.com/ado/2007/06/edmx.
public static final String	*XMLNS_GENERICPLAYER_URI* on page 1084	Constant for XMLNS URI: http://www.sap.com/Protocols/SAPData/GenericPlayer.
public static final String	*XMLNS_METADATA_URI* on page 1084	Constant for XMLNS URI: http://schemas.microsoft.com/ado/2007/08/dataservices/metadata.

Modifier and Type	Member	Description
public static final String	*XMLNS_SAP_URI* on page 1084	Constant for XMLNS URI: http://www.sap.com/Protocols/SAPData.

Inherited members from ISDMPersistable

Modifier and Type	Member	Description
public void	*read(BufferedReader)* on page 1085	
public void	*write(BufferedWriter)* on page 1085	

SDMODataError() constructor

Syntax

```
public SDMODataError ()
```

SDMODataError(int[], String[]) constructor

Syntax

```
protected SDMODataError (
    int[] routes,
    String[] values
)
```

SDMODataError(SDMParserDocument) constructor

Syntax

```
public SDMODataError (SDMParserDocument document)
```

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

Package

```
com.sap.mobile.lib.sdmparser
```

Syntax

```
public class SDMODataFunctionImport extends SDMParserDocument
implements ISDMODataFunctionImport
```

Base class

- *SDMParserDocument* on page 1672

Implemented interfaces

- *ISDMODataFunctionImport* on page 926

Members
All members of SDMODataFunctionImport, including inherited members. **Variables**

Modifier and Type	Variable	Description
protected String	baseUrl	

Constructors

Modifier and Type	Constructor	Description
public	*SDMODataFunctionImport()* on page 1379	
protected	*SDMODataFunctionImport(int[], String[])* on page 1379	
public	*SDMODataFunctionImport(SDMParserDocument)* on page 1379	

Methods

Modifier and Type	Method	Description
public String	*getActionFor()* on page 1380	Returns The value of the appropriate SDMOData attribute.
public String	*getCollectionId()* on page 1380	Returns The value of the 'EntitySet' SDMOData attribute.
public String	*getEntitySet()* on page 1380	Returns The value of the 'EntitySet' SDMOData attribute.
public String	*getExecutionUrl(Map< String, String >)* on page 1380	Calculate the full execution URL for executing this Function Import according to the passed paramteres.
public String	*getHTTPMethod()* on page 1380	Returns The value of the appropriate SDMOData attribute.
public List< String >	*getInputParameterNames()* on page 1381	Returns The list of the appropriate SDMOData element with 'In' or 'InOut' attribute value.
public String	*getName()* on page 1381	Returns The value of the appropriate SDMOData attribute.
public List< String >	*getOutputParameterNames()* on page 1381	Returns The list of the appropriate SDMOData element with 'Out' or 'InOut' attribute value.
public List< ISDMODataParameter >	*getParameters()* on page 1381	Returns The list of the appropriate SDMOData element.

Modifier and Type	Method	Description
public String	*getReturnType()* on page 1382	Returns The value of the appropriate SDMOData attribute.
public RETURNTYPE_ENUM	*getReturnTypeEnum()* on page 1382	Returns The return type of this Function Import SDMOData document.
public void	*read(BufferedReader)* on page 1382	
public void	*setBaseUrl(String)* on page 1382	
public void	*write(BufferedWriter)* on page 1382	

Inherited members from SDMParserDocument

Modifier and Type	Member	Description
public SDMParserDocument	*clone()* on page 1681	Creates a copy of this object.
protected Map< String, String >	*extensions* on page 1701	
public String	*getAttribute(String...)* on page 1682	Returns the value of the first attribute with the given route.
public List< String >	*getAttributes(String...)* on page 1682	Returns all the values of attributes with the given route.
protected int	*getAttributesEndPosition(int[], int, int)* on page 1682	
public Map< String, String >	*getChildAttributeMap(String...)* on page 1683	Returns all the name-value pairs of attributes contained by the element with the given route.
public List< String >	*getChildAttributes(String...)* on page 1683	Returns all the values of attributes contained by the element with the given route.
public List< ISDMParserDocument >	*getChildDocuments(String...)* on page 1683	Returns the elements contained by the element with the given route.

Modifier and Type	Member	Description
public List< ISDMParserDocument >	*getChildDocumentsWithAttribute(String, String, String...)* on page 1684	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public List< ISDMParserDocument >	*getChildDocumentsWithAttribute(String, String, boolean, String...)* on page 1684	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public SDMParserDocument	*getDocument(String...)* on page 1685	Returns the first element with the given route.
protected List< int[]>	*getDocumentPositions(String[], int, boolean, boolean)* on page 1685	
public List< ISDMParserDocument >	*getDocuments(String...)* on page 1686	Returns all the elements with the given route.
public List< ISDMParserDocument >	*getDocumentsWithAttribute(String, String, String...)* on page 1686	Returns the elements with the given route that contains the given attribute with the given value.
public List< ISDMParserDocument >	*getDocumentsWithAttribute(String, String, boolean, String...)* on page 1687	Returns the elements with the given route that contains the given attribute with the given value.
public ISDMParserDocument	*getDocumentWithAttribute(String, String, String...)* on page 1687	Returns the first element with the given route that contains the given attribute with the given value.
public ISDMParserDocument	*getDocumentWithAttribute(String, String, boolean, String...)* on page 1688	Returns the first element with the given route that contains the given attribute with the given value.
public String	*getElementName()* on page 1688	Returns The name of the root element of this document.
public String	*getExtension(String)* on page 1689	

Modifier and Type	Member	Description
public String	*getFunctionImportComplex-PropertyValue(String...)* on page 1689	
public static List< String >	*getNameMap()* on page 1689	
public static String	*getPrefix(String)* on page 1689	
public String	*getPrefixForUri(String)* on page 1689	Returns the appropriate name-space prefix for the given XML name-space URI.
public static Map< String, String >	*getPrefixMapping()* on page 1689	
protected List< Integer >	*getStringPositions(String[], int, boolean, boolean)* on page 1690	
public String[]	*getStrings()* on page 1690	Returns all the string values contained by this document.
public String	*getValue(String...)* on page 1690	Returns the value of the first element with the given route.
public List< String >	*getValues(String...)* on page 1690	Returns all the values of elements with the given route.
protected int[]	*insertRoutePositions(int[], int, int[])* on page 1691	
protected void	*insertRoutesPositions(int, int[])* on page 1691	
protected void	*insertStringsPositions(int, String[])* on page 1691	
protected String[]	*insertStringsPositions(String[], int, String[])* on page 1691	
protected boolean	*isMatched(String, String)* on page 1692	

Modifier and Type	Member	Description
public void	*putAttribute(String, String...)* on page 1692	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	*putDocument(ISDMParserDocument, String...)* on page 1692	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	*putExtension(String, String)* on page 1693	
protected void	*putString(int, String, int, String...)* on page 1693	
public void	*putValue(String, String...)* on page 1693	Sets the value of the first element with the given route.
public static void	*readNameMap(BufferedReader)* on page 1694	
public boolean	*removeAttribute(String...)* on page 1694	Removes first element with the given route.
public boolean	*removeAttributes(String...)* on page 1694	Removes all the attribute with the given route.
public boolean	*removeDocument(String...)* on page 1695	Removes first element with the given route For removing multiple element use setDocuemtns with null arguments.
public void	*removeExtension(String)* on page 1695	
protected void	*removeRoutesPositions(int, int)* on page 1695	
protected int[]	*removeRoutesPositions(int[], int, int)* on page 1695	

Modifier and Type	Member	Description
protected boolean	*removeString(String...)* on page 1695	
protected boolean	*removeStrings(String...)* on page 1696	
protected void	*removeStringsPositions(int, int)* on page 1696	
protected String[]	*removeStringsPositions(String[], int, int)* on page 1696	
protected int	*replaceRoutesPositions(int, int, int[])* on page 1696	
protected int[]	*replaceRoutesPositions(int[], int, int, int[])* on page 1696	
protected int	*replaceStringsPositions(int, int, String[])* on page 1697	
protected String[]	*replaceStringsPositions(String[], int, int, String[])* on page 1697	
public static String	*resolveUrl(String, String)* on page 1697	
protected int[]	*routes* on page 1701	
public	*SDMParserDocument(String)* on page 1681	
public	*SDMParserDocument(SDMParserDocument)* on page 1681	
protected	*SDMParserDocument(int[], String[])* on page 1681	
protected	*SDMParserDocument(String, boolean)* on page 1681	
public void	*setAttribute(String, String...)* on page 1697	

Modifier and Type	Member	Description
public void	*setAttributes(List< String >, String...)* on page 1697	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	*setDocument(ISDMParserDocument, String...)* on page 1698	
public void	*setDocuments(List< ISDMParserDocument >, String...)* on page 1698	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	*setElementName(String, String...)* on page 1698	Sets the name of the root element with the given route Use empty route for setting root name of this document.
public static void	*setNameMap(List< String >)* on page 1699	
public static void	*setPrefixMapping(Map< String, String >)* on page 1699	
protected void	*setString(String, String...)* on page 1699	
protected void	*setStrings(List< String >, String...)* on page 1699	
public void	*setValue(String, String...)* on page 1699	

Modifier and Type	Member	Description
public void	*setValues(List< String >, String...)* on page 1700	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[]	*strings* on page 1701	
public String	*toXMLString()* on page 1700	Returns the XML string representation of this object.
protected static final String	*URL_PROTOCOL_PREFIX* on page 1701	
public static void	*writeNameMap(BufferedWriter)* on page 1701	

Inherited members from ISDMParserDocument

Modifier and Type	Member	Description
public static final String	*ATTRIBUTE_ETAG* on page 1082	Name of the appropriate SDMOData element.
public static final String	*ATTRIBUTE_VALUEPREFIX_EDMTYPE* on page 1082	Value prefix for EDM Type type values.
public static Map< String, String >	*DEFAULT_PREFIXMAPPING* on page 1082	The default XML Namespace-to-Prefix mapping used for building XMLS.
public static final String[]	*EDMDATETIME_PATTERNS* on page 1082	Possible EDM DateTime patterns Note: Some pattern are not supported by OData specification but still widely used.
public static final String[]	*EDMDATETIMEOFFSET_PATTERNS* on page 1082	Possible EDM TimeOffset patterns Note: Some pattern are not supported by OData specification but still widely used.
public static final String	*EDMTIME_PATTERN* on page 1082	EDM Time pattern.

Modifier and Type	Member	Description
public static String	*ELEMENT_FEED* on page 1083	Name of the appropriate SDMOData element.
public static final String	*ELEMENT_ID* on page 1083	Name of the appropriate SDMOData element.
public static final String	*ROOT_DOCUMENT_NAME* on page 1083	The default root element name for a new document.
public static final String	*XMLNS_APPLICATION_URI* on page 1083	Constant for XMLNS URI: http://schemas.microsoft.com/ado/2007/08/dataservices.
public static final String	*XMLNS_ATOM_URI* on page 1083	Constant for XMLNS URI: http://www.w3.org/2005/Atom.
public static final String	*XMLNS_DATASERVICES_URI* on page 1083	Constant for XMLNS URI: http://schemas.microsoft.com/ado/2007/08/dataservices.
public static final String	*XMLNS_EDM_URI* on page 1083	Constant for XMLNS URI: http://schemas.microsoft.com/ado/2007/05/edm.
public static final String	*XMLNS_EDMX_URI* on page 1084	Constant for XMLNS URI: http://schemas.microsoft.com/ado/2007/06/edmx.
public static final String	*XMLNS_GENERICPLAYER_URI* on page 1084	Constant for XMLNS URI: http://www.sap.com/Protocols/SAPData/GenericPlayer.
public static final String	*XMLNS_METADATA_URI* on page 1084	Constant for XMLNS URI: http://schemas.microsoft.com/ado/2007/08/dataservices/metadata.
public static final String	*XMLNS_SAP_URI* on page 1084	Constant for XMLNS URI: http://www.sap.com/Protocols/SAPData.

Inherited members from ISDMPersistable

Modifier and Type	Member	Description
public void	*read(BufferedReader)* on page 1085	
public void	*write(BufferedWriter)* on page 1085	

Inherited members from ISDMODataFunctionImport

Modifier and Type	Member	Description
public static final String	*ATTRIBUTE_ACTION_FOR* on page 936	Name of the appropriate SDMSDMOData attribute.
public static final String	*ATTRIBUTE_ENTITYSET* on page 936	Name of the appropriate SDMOData attribute.
public static final String	*ATTRIBUTE_HTTPME-THOD* on page 936	Name of the appropriate SDMOData attribute.
public static final String	*ATTRIBUTE_NAME* on page 936	Name of the appropriate SDMOData attribute.
public static final String	*ATTRIBUTE_RETURNTYPE* on page 936	Name of the appropriate SDMOData attribute.
public static final String	*ELEMENT_FUNCTIONA-LIMPORT* on page 936	Name of the appropriate SDMOData element.
public static final String	*ELEMENT_PARAMETER* on page 937	Name of the appropriate SDMOData element.

Inherited members from ISDMParserDocument

Modifier and Type	Member	Description
public static final String	*ATTRIBUTE_ETAG* on page 1082	Name of the appropriate SDMOData element.
public static final String	*ATTRIBUTE_VALUEPRE-FIX_EDMTYPE* on page 1082	Value prefix for EDM Type type values.
public abstract ISDMParserDo-cument	*clone()* on page 1069	Creates a copy of this object.
public static Map< String, String >	*DEFAULT_PREFIXMAP-PING* on page 1082	The default XML Namespace-to-Prefix mapping used for building XMLS.

Modifier and Type	Member	Description
public static final String[]	*EDMDATETIME_PATTERNS* on page 1082	Possible EDM DateTime patterns Note: Some pattern are not supported by OData specification but still widely used.
public static final String[]	*EDMDATETIMEOFFSET_PATTERNS* on page 1082	Possible EDM TimeOffset patterns Note: Some pattern are not supported by OData specification but still widely used.
public static final String	*EDMTIME_PATTERN* on page 1082	EDM Time pattern.
public static String	*ELEMENT_FEED* on page 1083	Name of the appropriate SDMOData element.
public static final String	*ELEMENT_ID* on page 1083	Name of the appropriate SDMOData element.
public abstract String	*getAttribute(String...)* on page 1069	Returns the value of the first attribute with the given route.
public abstract List< String >	*getAttributes(String...)* on page 1070	Returns all the values of attributes with the given route.
public abstract Map< String, String >	*getChildAttributeMap(String...)* on page 1070	Returns all the name-value pairs of attributes contained by the element with the given route.
public abstract List< String >	*getChildAttributes(String...)* on page 1070	Returns all the values of attributes contained by the element with the given route.
public abstract List< ISDMParserDocument >	*getChildDocuments(String...)* on page 1071	Returns the elements contained by the element with the given route.
public abstract List< ISDMParserDocument >	*getChildDocumentsWithAttribute(String, String, String...)* on page 1071	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public abstract List< ISDMParserDocument >	*getChildDocumentsWithAttribute(String, String, boolean, String...)* on page 1072	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	*getDocument(String...)* on page 1072	Returns the first element with the given route.
public abstract List< ISDMParserDocument >	*getDocuments(String...)* on page 1073	Returns all the elements with the given route.
public abstract List< ISDMParserDocument >	*getDocumentsWithAttribute(String, String, String...)* on page 1073	Returns the elements with the given route that contains the given attribute with the given value.
public abstract List< ISDMParserDocument >	*getDocumentsWithAttribute(String, String, boolean, String...)* on page 1074	Returns the elements with the given route that contains the given attribute with the given value.
public abstract ISDMParserDocument	*getDocumentWithAttribute(String, String, String...)* on page 1074	Returns the first element with the given route that contains the given attribute with the given value.
public abstract ISDMParserDocument	*getDocumentWithAttribute(String, String, boolean, String...)* on page 1075	Returns the first element with the given route that contains the given attribute with the given value.
public abstract String	*getElementName()* on page 1075	Returns The name of the root element of this document.
public abstract String	*getFunctionImportComplexPropertyValue(String...)* on page 1076	
public abstract String	*getPrefixForUri(String)* on page 1076	Returns the appropriate name-space prefix for the given XML name-space URI.
public abstract String[]	*getStrings()* on page 1076	Returns all the string values contained by this document.
public abstract String	*getValue(String...)* on page 1076	Returns the value of the first element with the given route.
public abstract List< String >	*getValues(String...)* on page 1077	Returns all the values of elements with the given route.

Modifier and Type	Member	Description
public abstract void	*putAttribute(String, String...)* on page 1077	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	*putDocument(ISDMParserDocument, String...)* on page 1078	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	*putValue(String, String...)* on page 1078	Sets the value of the first element with the given route.
public abstract boolean	*removeAttribute(String...)* on page 1079	Removes first element with the given route.
public abstract boolean	*removeAttributes(String...)* on page 1079	Removes all the attribute with the given route.
public abstract boolean	*removeDocument(String...)* on page 1079	Removes first element with the given route For removing multiple element use setDocuemtns with null arguments.
public static final String	*ROOT_DOCUMENT_NAME* on page 1083	The default root element name for a new document.
public abstract void	*setAttributes(List< String >, String...)* on page 1080	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	*setDocuments(List< ISDMParserDocument >, String...)* on page 1080	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	*setElementName(String, String...)* on page 1081	Sets the name of the root element with the given route Use empty route for setting root name of this document.
public abstract void	*setValues(List< String >, String...)* on page 1081	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	*toXMLString()* on page 1081	Returns the XML string representation of this object.
public static final String	*XMLNS_APPLICATION_URI* on page 1083	Constant for XMLNS URI: http://schemas.microsoft.com/ado/2007/08/dataservices.
public static final String	*XMLNS_ATOM_URI* on page 1083	Constant for XMLNS URI: http://www.w3.org/2005/Atom.
public static final String	*XMLNS_DATASERVICES_URI* on page 1083	Constant for XMLNS URI: http://schemas.microsoft.com/ado/2007/08/dataservices.
public static final String	*XMLNS_EDM_URI* on page 1083	Constant for XMLNS URI: http://schemas.microsoft.com/ado/2007/05/edm.
public static final String	*XMLNS_EDMX_URI* on page 1084	Constant for XMLNS URI: http://schemas.microsoft.com/ado/2007/06/edmx.

Modifier and Type	Member	Description
public static final String	*XMLNS_GENERICPLAY-ER_URI* on page 1084	Constant for XMLNS URI: http://www.sap.com/Protocols/SAPData/GenericPlayer.
public static final String	*XMLNS_METADATA_URI* on page 1084	Constant for XMLNS URI: http://schemas.microsoft.com/ado/2007/08/dataservices/metadata.
public static final String	*XMLNS_SAP_URI* on page 1084	Constant for XMLNS URI: http://www.sap.com/Protocols/SAPData.

Inherited members from ISDMPersistable

Modifier and Type	Member	Description
public void	*read(BufferedReader)* on page 1085	
public void	*write(BufferedWriter)* on page 1085	

SDMODataFunctionImport() constructor

Syntax

```
public SDMODataFunctionImport ()
```

SDMODataFunctionImport(int[], String[]) constructor

Syntax

```
protected SDMODataFunctionImport (
    int[] routes,
    String[] values
)
```

SDMODataFunctionImport(SDMParserDocument) constructor

Syntax

```
public SDMODataFunctionImport (SDMParserDocument document)
```

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 paramteres.

Syntax

```
public String getExecutionUrl (Map< String, String > parameters)
```

Returns
The full execution URL

getHTTPMethod() method
Returns The value of the appropriate SDMOData attribute.

Syntax

```
public String getHTTPMethod ()
```

Returns
The value of the appropriate SDMOData attribute

getInputParameterNames() method
Returns The list of the appropriate SDMOData element with 'In' or 'InOut' attribute value.

Syntax
```
public List< String > getInputParameterNames ()
```

Returns
The list of the appropriate SDMOData element with 'In' or 'InOut' attribute value

getName() method
Returns The value of the appropriate SDMOData attribute.

Syntax
```
public String getName ()
```

Returns
The value of the appropriate SDMOData attribute

getOutputParameterNames() method
Returns The list of the appropriate SDMOData 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 RETURNTYPE_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

Package

```
com.sap.mobile.lib.sdmparser
```

Syntax

```
public class SDMODataIcon extends SDMParserDocument implements
ISDMODataIcon
```

Base class

- *SDMParserDocument* on page 1672

Implemented interfaces

- *ISDMODataIcon* on page 937

Members
All members of SDMODataIcon, including inherited members. **Variables**

Modifier and Type	Variable	Description
protected String	baseUrl	

Constructors

Modifier and Type	Constructor	Description
public	*SDMODataIcon()* on page 1397	

Modifier and Type	Constructor	Description
protected	*SDMODataIcon(int[], String[])* on page 1397	
public	*SDMODataIcon(SDMParser-Document)* on page 1397	

Methods

Modifier and Type	Method	Description
public int	*getHeight()* on page 1397	Returns The value of the appropriate SDMOData attribute.
public String	*getUrl()* on page 1398	Returns The value of the appropriate SDMOData attribute.
public int	*getWidth()* on page 1398	Returns The value of the appropriate SDMOData attribute.
public void	*read(BufferedReader)* on page 1398	
protected void	*setBaseUrl(String)* on page 1398	
public void	*write(BufferedWriter)* on page 1398	

Inherited members from SDMParserDocument

Modifier and Type	Member	Description
public SDMParserDocument	*clone()* on page 1681	Creates a copy of this object.
protected Map< String, String >	*extensions* on page 1701	
public String	*getAttribute(String...)* on page 1682	Returns the value of the first attribute with the given route.
public List< String >	*getAttributes(String...)* on page 1682	Returns all the values of attributes with the given route.
protected int	*getAttributesEndPosition(int[], int, int)* on page 1682	
public Map< String, String >	*getChildAttribute-Map(String...)* on page 1683	Returns all the name-value pairs of attributes contained by the element with the given route.

Modifier and Type	Member	Description
public List< String >	*getChildAttributes(String...)* on page 1683	Returns all the values of attributes contained by the element with the given route.
public List< ISDMParserDocument >	*getChildDocuments(String...)* on page 1683	Returns the elements contained by the element with the given route.
public List< ISDMParserDocument >	*getChildDocumentsWithAttribute(String, String, String...)* on page 1684	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public List< ISDMParserDocument >	*getChildDocumentsWithAttribute(String, String, boolean, String...)* on page 1684	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public SDMParserDocument	*getDocument(String...)* on page 1685	Returns the first element with the given route.
protected List< int[]>	*getDocumentPositions(String[], int, boolean, boolean)* on page 1685	
public List< ISDMParserDocument >	*getDocuments(String...)* on page 1686	Returns all the elements with the given route.
public List< ISDMParserDocument >	*getDocumentsWithAttribute(String, String, String...)* on page 1686	Returns the elements with the given route that contains the given attribute with the given value.
public List< ISDMParserDocument >	*getDocumentsWithAttribute(String, String, boolean, String...)* on page 1687	Returns the elements with the given route that contains the given attribute with the given value.
public ISDMParserDocument	*getDocumentWithAttribute(String, String, String...)* on page 1687	Returns the first element with the given route that contains the given attribute with the given value.

Modifier and Type	Member	Description
public ISDMParserDocument	*getDocumentWithAttribute(String, String, boolean, String...)* on page 1688	Returns the first element with the given route that contains the given attribute with the given value.
public String	*getElementName()* on page 1688	Returns The name of the root element of this document.
public String	*getExtension(String)* on page 1689	
public String	*getFunctionImportComplexPropertyValue(String...)* on page 1689	
public static List< String >	*getNameMap()* on page 1689	
public static String	*getPrefix(String)* on page 1689	
public String	*getPrefixForUri(String)* on page 1689	Returns the appropriate name-space prefix for the given XML name-space URI.
public static Map< String, String >	*getPrefixMapping()* on page 1689	
protected List< Integer >	*getStringPositions(String[], int, boolean, boolean)* on page 1690	
public String[]	*getStrings()* on page 1690	Returns all the string values contained by this document.
public String	*getValue(String...)* on page 1690	Returns the value of the first element with the given route.
public List< String >	*getValues(String...)* on page 1690	Returns all the values of elements with the given route.
protected int[]	*insertRoutePositions(int[], int, int[])* on page 1691	
protected void	*insertRoutesPositions(int, int[])* on page 1691	
protected void	*insertStringsPositions(int, String[])* on page 1691	

Modifier and Type	Member	Description
protected String[]	*insertStringsPositions(String[], int, String[])* on page 1691	
protected boolean	*isMatched(String, String)* on page 1692	
public void	*putAttribute(String, String...)* on page 1692	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	*putDocument(ISDMParserDocument, String...)* on page 1692	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	*putExtension(String, String)* on page 1693	
protected void	*putString(int, String, int, String...)* on page 1693	
public void	*putValue(String, String...)* on page 1693	Sets the value of the first element with the given route.
public static void	*readNameMap(BufferedReader)* on page 1694	
public boolean	*removeAttribute(String...)* on page 1694	Removes first element with the given route.
public boolean	*removeAttributes(String...)* on page 1694	Removes all the attribute with the given route.
public boolean	*removeDocument(String...)* on page 1695	Removes first element with the given route For removing multiple element use setDocuemtns with null arguments.
public void	*removeExtension(String)* on page 1695	

Modifier and Type	Member	Description
protected void	*removeRoutesPositions(int, int)* on page 1695	
protected int[]	*removeRoutesPositions(int[], int, int)* on page 1695	
protected boolean	*removeString(String...)* on page 1695	
protected boolean	*removeStrings(String...)* on page 1696	
protected void	*removeStringsPositions(int, int)* on page 1696	
protected String[]	*removeStringsPositions(String[], int, int)* on page 1696	
protected int	*replaceRoutesPositions(int, int, int[])* on page 1696	
protected int[]	*replaceRoutesPositions(int[], int, int, int[])* on page 1696	
protected int	*replaceStringsPositions(int, int, String[])* on page 1697	
protected String[]	*replaceStringsPositions(String[], int, int, String[])* on page 1697	
public static String	*resolveUrl(String, String)* on page 1697	
protected int[]	*routes* on page 1701	
public	*SDMParserDocument(String)* on page 1681	
public	*SDMParserDocument(SDMParserDocument)* on page 1681	
protected	*SDMParserDocument(int[], String[])* on page 1681	

Modifier and Type	Member	Description
protected	*SDMParserDocument(String, boolean)* on page 1681	
public void	*setAttribute(String, String...)* on page 1697	
public void	*setAttributes(List< String >, String...)* on page 1697	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	*setDocument(ISDMParserDocument, String...)* on page 1698	
public void	*setDocuments(List< ISDMParserDocument >, String...)* on page 1698	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	*setElementName(String, String...)* on page 1698	Sets the name of the root element with the given route Use empty route for setting root name of this document.
public static void	*setNameMap(List< String >)* on page 1699	
public static void	*setPrefixMapping(Map< String, String >)* on page 1699	
protected void	*setString(String, String...)* on page 1699	
protected void	*setStrings(List< String >, String...)* on page 1699	

Modifier and Type	Member	Description
public void	*setValue(String, String...)* on page 1699	
public void	*setValues(List< String >, String...)* on page 1700	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[]	*strings* on page 1701	
public String	*toXMLString()* on page 1700	Returns the XML string representation of this object.
protected static final String	*URL_PROTOCOL_PREFIX* on page 1701	
public static void	*writeNameMap(BufferedWriter)* on page 1701	

Inherited members from ISDMParserDocument

Modifier and Type	Member	Description
public static final String	*ATTRIBUTE_ETAG* on page 1082	Name of the appropriate SDMOData element.
public static final String	*ATTRIBUTE_VALUEPREFIX_EDMTYPE* on page 1082	Value prefix for EDM Type type values.
public static Map< String, String >	*DEFAULT_PREFIXMAPPING* on page 1082	The default XML Namespace-to-Prefix mapping used for building XMLS.
public static final String[]	*EDMDATETIME_PATTERNS* on page 1082	Possible EDM DateTime patterns Note: Some pattern are not supported by OData specification but still widely used.
public static final String[]	*EDMDATETIMEOFFSET_PATTERNS* on page 1082	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	*EDMTIME_PATTERN* on page 1082	EDM Time pattern.
public static String	*ELEMENT_FEED* on page 1083	Name of the appropriate SDMOData element.
public static final String	*ELEMENT_ID* on page 1083	Name of the appropriate SDMOData element.
public static final String	*ROOT_DOCUMENT_NAME* on page 1083	The default root element name for a new document.
public static final String	*XMLNS_APPLICATION_URI* on page 1083	Constant for XMLNS URI: http://schemas.microsoft.com/ado/2007/08/dataservices.
public static final String	*XMLNS_ATOM_URI* on page 1083	Constant for XMLNS URI: http://www.w3.org/2005/Atom.
public static final String	*XMLNS_DATASERVICES_URI* on page 1083	Constant for XMLNS URI: http://schemas.microsoft.com/ado/2007/08/dataservices.
public static final String	*XMLNS_EDM_URI* on page 1083	Constant for XMLNS URI: http://schemas.microsoft.com/ado/2007/05/edm.
public static final String	*XMLNS_EDMX_URI* on page 1084	Constant for XMLNS URI: http://schemas.microsoft.com/ado/2007/06/edmx.
public static final String	*XMLNS_GENERICPLAYER_URI* on page 1084	Constant for XMLNS URI: http://www.sap.com/Protocols/SAPData/GenericPlayer.
public static final String	*XMLNS_METADATA_URI* on page 1084	Constant for XMLNS URI: http://schemas.microsoft.com/ado/2007/08/dataservices/metadata.
public static final String	*XMLNS_SAP_URI* on page 1084	Constant for XMLNS URI: http://www.sap.com/Protocols/SAPData.

Inherited members from ISDMPersistable

Modifier and Type	Member	Description
public void	*read(BufferedReader)* on page 1085	
public void	*write(BufferedWriter)* on page 1085	

Inherited members from ISDMODataIcon

Modifier and Type	Member	Description
public static final String	*ATTRIBUTE_HEIGHT* on page 943	Name of the appropriate SDMSDMOData attribute.
public static final String	*ATTRIBUTE_WIDTH* on page 943	Name of the appropriate SDMSDMOData attribute.
public static final String	*ELEMENT_ICON* on page 944	Name of the appropriate SDMSDMOData element.

Inherited members from ISDMParserDocument

Modifier and Type	Member	Description
public static final String	*ATTRIBUTE_ETAG* on page 1082	Name of the appropriate SDMOData element.
public static final String	*ATTRIBUTE_VALUEPREFIX_EDMTYPE* on page 1082	Value prefix for EDM Type type values.
public abstract ISDMParserDocument	*clone()* on page 1069	Creates a copy of this object.
public static Map< String, String >	*DEFAULT_PREFIXMAPPING* on page 1082	The default XML Namespace-to-Prefix mapping used for building XMLS.
public static final String[]	*EDMDATETIME_PATTERNS* on page 1082	Possible EDM DateTime patterns Note: Some pattern are not supported by OData specification but still widely used.
public static final String[]	*EDMDATETIMEOFFSET_PATTERNS* on page 1082	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	*EDMTIME_PATTERN* on page 1082	EDM Time pattern.
public static String	*ELEMENT_FEED* on page 1083	Name of the appropriate SDMOData element.
public static final String	*ELEMENT_ID* on page 1083	Name of the appropriate SDMOData element.
public abstract String	*getAttribute(String...)* on page 1069	Returns the value of the first attribute with the given route.
public abstract List< String >	*getAttributes(String...)* on page 1070	Returns all the values of attributes with the given route.
public abstract Map< String, String >	*getChildAttributeMap(String...)* on page 1070	Returns all the name-value pairs of attributes contained by the element with the given route.
public abstract List< String >	*getChildAttributes(String...)* on page 1070	Returns all the values of attributes contained by the element with the given route.
public abstract List< ISDMParserDocument >	*getChildDocuments(String...)* on page 1071	Returns the elements contained by the element with the given route.
public abstract List< ISDMParserDocument >	*getChildDocumentsWithAttribute(String, String, String...)* on page 1071	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public abstract List< ISDMParserDocument >	*getChildDocumentsWithAttribute(String, String, boolean, String...)* on page 1072	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public abstract ISDMParserDocument	*getDocument(String...)* on page 1072	Returns the first element with the given route.
public abstract List< ISDMParserDocument >	*getDocuments(String...)* on page 1073	Returns all the elements with the given route.
public abstract List< ISDMParserDocument >	*getDocumentsWithAttribute(String, String, String...)* on page 1073	Returns the elements with the given route that contains the given attribute with the given value.

Modifier and Type	Member	Description
public abstract List< ISDMParserDocument >	*getDocumentsWithAttribute(String, String, boolean, String...)* on page 1074	Returns the elements with the given route that contains the given attribute with the given value.
public abstract ISDMParserDocument	*getDocumentWithAttribute(String, String, String...)* on page 1074	Returns the first element with the given route that contains the given attribute with the given value.
public abstract ISDMParserDocument	*getDocumentWithAttribute(String, String, boolean, String...)* on page 1075	Returns the first element with the given route that contains the given attribute with the given value.
public abstract String	*getElementName()* on page 1075	Returns The name of the root element of this document.
public abstract String	*getFunctionImportComplexPropertyValue(String...)* on page 1076	
public abstract String	*getPrefixForUri(String)* on page 1076	Returns the appropriate name-space prefix for the given XML name-space URI.
public abstract String[]	*getStrings()* on page 1076	Returns all the string values contained by this document.
public abstract String	*getValue(String...)* on page 1076	Returns the value of the first element with the given route.
public abstract List< String >	*getValues(String...)* on page 1077	Returns all the values of elements with the given route.
public abstract void	*putAttribute(String, String...)* on page 1077	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	*putDocument(ISDMParserDocument, String...)* on page 1078	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	*putValue(String, String...)* on page 1078	Sets the value of the first element with the given route.
public abstract boolean	*removeAttribute(String...)* on page 1079	Removes first element with the given route.
public abstract boolean	*removeAttributes(String...)* on page 1079	Removes all the attribute with the given route.
public abstract boolean	*removeDocument(String...)* on page 1079	Removes first element with the given route For removing multiple element use setDocuemtns with null arguments.
public static final String	*ROOT_DOCUMENT_NAME* on page 1083	The default root element name for a new document.
public abstract void	*setAttributes(List< String >, String...)* on page 1080	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	*setDocuments(List< ISDMParserDocument >, String...)* on page 1080	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	*setElementName(String, String...)* on page 1081	Sets the name of the root element with the given route Use empty route for setting root name of this document.
public abstract void	*setValues(List< String >, String...)* on page 1081	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	*toXMLString()* on page 1081	Returns the XML string representation of this object.
public static final String	*XMLNS_APPLICATION_URI* on page 1083	Constant for XMLNS URI: http://schemas.microsoft.com/ado/2007/08/dataservices.
public static final String	*XMLNS_ATOM_URI* on page 1083	Constant for XMLNS URI: http://www.w3.org/2005/Atom.
public static final String	*XMLNS_DATASERVICES_URI* on page 1083	Constant for XMLNS URI: http://schemas.microsoft.com/ado/2007/08/dataservices.
public static final String	*XMLNS_EDM_URI* on page 1083	Constant for XMLNS URI: http://schemas.microsoft.com/ado/2007/05/edm.
public static final String	*XMLNS_EDMX_URI* on page 1084	Constant for XMLNS URI: http://schemas.microsoft.com/ado/2007/06/edmx.
public static final String	*XMLNS_GENERICPLAYER_URI* on page 1084	Constant for XMLNS URI: http://www.sap.com/Protocols/SAPData/GenericPlayer.
public static final String	*XMLNS_METADATA_URI* on page 1084	Constant for XMLNS URI: http://schemas.microsoft.com/ado/2007/08/dataservices/metadata.

Modifier and Type	Member	Description
public static final String	*XMLNS_SAP_URI* on page 1084	Constant for XMLNS URI: http://www.sap.com/Protocols/SAPData.

Inherited members from ISDMPersistable

Modifier and Type	Member	Description
public void	*read(BufferedReader)* on page 1085	
public void	*write(BufferedWriter)* on page 1085	

SDMODataIcon() constructor

Syntax

```
public SDMODataIcon ()
```

SDMODataIcon(int[], String[]) constructor

Syntax

```
protected SDMODataIcon (
    int[] routes,
    String[] values
)
```

SDMODataIcon(SDMParserDocument) constructor

Syntax

```
public SDMODataIcon (SDMParserDocument document)
```

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

Package

```
com.sap.mobile.lib.sdmparser
```

Syntax

```
public class SDMODataLink extends SDMParserDocument implements
ISDMODataLink
```

Base class

- *SDMParserDocument* on page 1672

Implemented interfaces

- *ISDMODataLink* on page 944

Members
All members of SDMODataLink, including inherited members. **Variables**

Modifier and Type	Variable	Description
protected String	targetCollectionId	
protected String	baseUrl	
protected ISDMODataSchema	schema	

Constructors

Modifier and Type	Constructor	Description
public	*SDMODataLink()* on page 1414	
protected	*SDMODataLink(int[], String[])* on page 1414	
public	*SDMODataLink(SDMParser-Document)* on page 1415	

Methods

Modifier and Type	Method	Description
public String	*getHref()* on page 1415	Returns the value of the appropriate SDMOData attribute.
public List< ISDMODataEntry >	*getInlineEntries()* on page 1415	Returns the list of SDMOData Entries contained by the appropriate SDMOData 'inline' element.
public List< String >	*getInputParameterNames()* on page 1415	Returns the list of the appropriate SDMOData Parameter elements that should be used as input parameter.
public List< String >	*getOutputParameterNames()* on page 1416	Returns the list of the appropriate SDMOData Parameter elements that should be used as output parameter.
public List< ISDMODataParameter >	*getParameters()* on page 1416	Returns the list of the appropriate SDMOData Parameter elements.
public String	*getRel()* on page 1416	Returns the value of the appropriate SDMOData attribute.
public ISDMODataSchema	*getSchema()* on page 1416	Returns the Schema that is to be used for 'Inline entries'.
public String	*getSemantics()* on page 1417	Returns The value of the appropriate SDMOData extension (vCard) attribute.
public String	*getTargetCollectionId()* on page 1417	Returns the Id of the collection that this link points to (if any)

Modifier and Type	Method	Description
public String	*getTitle()* on page 1417	Returns the value of the appropriate SDMOData attribute.
public String	*getUrl()* on page 1417	Returns the full URL for this SDMOData Link object without parameters.
public String	*getUrlWithParameters(Map< String, String >)* on page 1418	Returns the full URL for this SDMOData Link object extended with the given parameter names and values.
public void	*read(BufferedReader)* on page 1418	
protected void	*setBaseUrl(String)* on page 1418	
public void	*setSchema(ISDMODataSchema)* on page 1418	Sets the Schema that is to be used for 'Inline entries'.
public void	*setTargetCollectionId(String)* on page 1418	Maintains the Id of the collection that this link points to (if any)
public void	*write(BufferedWriter)* on page 1419	

Inherited members from SDMParserDocument

Modifier and Type	Member	Description
public SDMParserDocument	*clone()* on page 1681	Creates a copy of this object.
protected Map< String, String >	*extensions* on page 1701	
public String	*getAttribute(String...)* on page 1682	Returns the value of the first attribute with the given route.
public List< String >	*getAttributes(String...)* on page 1682	Returns all the values of attributes with the given route.
protected int	*getAttributesEndPosition(int[], int, int)* on page 1682	
public Map< String, String >	*getChildAttributeMap(String...)* on page 1683	Returns all the name-value pairs of attributes contained by the element with the given route.

Modifier and Type	Member	Description
public List< String >	*getChildAttributes(String...)* on page 1683	Returns all the values of attributes contained by the element with the given route.
public List< ISDMParserDocument >	*getChildDocuments(String...)* on page 1683	Returns the elements contained by the element with the given route.
public List< ISDMParserDocument >	*getChildDocumentsWithAttribute(String, String, String...)* on page 1684	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public List< ISDMParserDocument >	*getChildDocumentsWithAttribute(String, String, boolean, String...)* on page 1684	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public SDMParserDocument	*getDocument(String...)* on page 1685	Returns the first element with the given route.
protected List< int[]>	*getDocumentPositions(String[], int, boolean, boolean)* on page 1685	
public List< ISDMParserDocument >	*getDocuments(String...)* on page 1686	Returns all the elements with the given route.
public List< ISDMParserDocument >	*getDocumentsWithAttribute(String, String, String...)* on page 1686	Returns the elements with the given route that contains the given attribute with the given value.
public List< ISDMParserDocument >	*getDocumentsWithAttribute(String, String, boolean, String...)* on page 1687	Returns the elements with the given route that contains the given attribute with the given value.
public ISDMParserDocument	*getDocumentWithAttribute(String, String, String...)* on page 1687	Returns the first element with the given route that contains the given attribute with the given value.

Modifier and Type	Member	Description
public ISDMParserDocument	*getDocumentWithAttribute(String, String, boolean, String...)* on page 1688	Returns the first element with the given route that contains the given attribute with the given value.
public String	*getElementName()* on page 1688	Returns The name of the root element of this document.
public String	*getExtension(String)* on page 1689	
public String	*getFunctionImportComplexPropertyValue(String...)* on page 1689	
public static List< String >	*getNameMap()* on page 1689	
public static String	*getPrefix(String)* on page 1689	
public String	*getPrefixForUri(String)* on page 1689	Returns the appropriate name-space prefix for the given XML name-space URI.
public static Map< String, String >	*getPrefixMapping()* on page 1689	
protected List< Integer >	*getStringPositions(String[], int, boolean, boolean)* on page 1690	
public String[]	*getStrings()* on page 1690	Returns all the string values contained by this document.
public String	*getValue(String...)* on page 1690	Returns the value of the first element with the given route.
public List< String >	*getValues(String...)* on page 1690	Returns all the values of elements with the given route.
protected int[]	*insertRoutePositions(int[], int, int[])* on page 1691	
protected void	*insertRoutesPositions(int, int[])* on page 1691	
protected void	*insertStringsPositions(int, String[])* on page 1691	

Modifier and Type	Member	Description
protected String[]	*insertStringsPositions(String[], int, String[])* on page 1691	
protected boolean	*isMatched(String, String)* on page 1692	
public void	*putAttribute(String, String...)* on page 1692	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	*putDocument(ISDMParserDocument, String...)* on page 1692	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	*putExtension(String, String)* on page 1693	
protected void	*putString(int, String, int, String...)* on page 1693	
public void	*putValue(String, String...)* on page 1693	Sets the value of the first element with the given route.
public static void	*readNameMap(BufferedReader)* on page 1694	
public boolean	*removeAttribute(String...)* on page 1694	Removes first element with the given route.
public boolean	*removeAttributes(String...)* on page 1694	Removes all the attribute with the given route.
public boolean	*removeDocument(String...)* on page 1695	Removes first element with the given route For removing multiple element use setDocuemtns with null arguments.
public void	*removeExtension(String)* on page 1695	

Modifier and Type	Member	Description
protected void	*removeRoutesPositions(int, int)* on page 1695	
protected int[]	*removeRoutesPositions(int[], int, int)* on page 1695	
protected boolean	*removeString(String...)* on page 1695	
protected boolean	*removeStrings(String...)* on page 1696	
protected void	*removeStringsPositions(int, int)* on page 1696	
protected String[]	*removeStringsPositions(String[], int, int)* on page 1696	
protected int	*replaceRoutesPositions(int, int, int[])* on page 1696	
protected int[]	*replaceRoutesPositions(int[], int, int, int[])* on page 1696	
protected int	*replaceStringsPositions(int, int, String[])* on page 1697	
protected String[]	*replaceStringsPositions(String[], int, int, String[])* on page 1697	
public static String	*resolveUrl(String, String)* on page 1697	
protected int[]	*routes* on page 1701	
public	*SDMParserDocument(String)* on page 1681	
public	*SDMParserDocument(SDMParserDocument)* on page 1681	
protected	*SDMParserDocument(int[], String[])* on page 1681	

Modifier and Type	Member	Description
protected	*SDMParserDocument(String, boolean)* on page 1681	
public void	*setAttribute(String, String...)* on page 1697	
public void	*setAttributes(List< String >, String...)* on page 1697	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	*setDocument(ISDMParserDocument, String...)* on page 1698	
public void	*setDocuments(List< ISDMParserDocument >, String...)* on page 1698	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	*setElementName(String, String...)* on page 1698	Sets the name of the root element with the given route Use empty route for setting root name of this document.
public static void	*setNameMap(List< String >)* on page 1699	
public static void	*setPrefixMapping(Map< String, String >)* on page 1699	
protected void	*setString(String, String...)* on page 1699	
protected void	*setStrings(List< String >, String...)* on page 1699	

Modifier and Type	Member	Description
public void	*setValue(String, String...)* on page 1699	
public void	*setValues(List< String >, String...)* on page 1700	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[]	*strings* on page 1701	
public String	*toXMLString()* on page 1700	Returns the XML string representation of this object.
protected static final String	*URL_PROTOCOL_PREFIX* on page 1701	
public static void	*writeNameMap(BufferedWriter)* on page 1701	

Inherited members from ISDMParserDocument

Modifier and Type	Member	Description
public static final String	*ATTRIBUTE_ETAG* on page 1082	Name of the appropriate SDMOData element.
public static final String	*ATTRIBUTE_VALUEPREFIX_EDMTYPE* on page 1082	Value prefix for EDM Type type values.
public static Map< String, String >	*DEFAULT_PREFIXMAPPING* on page 1082	The default XML Namespace-to-Prefix mapping used for building XMLS.
public static final String[]	*EDMDATETIME_PATTERNS* on page 1082	Possible EDM DateTime patterns Note: Some pattern are not supported by OData specification but still widely used.
public static final String[]	*EDMDATETIMEOFFSET_PATTERNS* on page 1082	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	*EDMTIME_PATTERN* on page 1082	EDM Time pattern.
public static String	*ELEMENT_FEED* on page 1083	Name of the appropriate SDMOData element.
public static final String	*ELEMENT_ID* on page 1083	Name of the appropriate SDMOData element.
public static final String	*ROOT_DOCUMENT_NAME* on page 1083	The default root element name for a new document.
public static final String	*XMLNS_APPLICATION_URI* on page 1083	Constant for XMLNS URI: http://schemas.microsoft.com/ado/2007/08/dataservices.
public static final String	*XMLNS_ATOM_URI* on page 1083	Constant for XMLNS URI: http://www.w3.org/2005/Atom.
public static final String	*XMLNS_DATASERVICES_URI* on page 1083	Constant for XMLNS URI: http://schemas.microsoft.com/ado/2007/08/dataservices.
public static final String	*XMLNS_EDM_URI* on page 1083	Constant for XMLNS URI: http://schemas.microsoft.com/ado/2007/05/edm.
public static final String	*XMLNS_EDMX_URI* on page 1084	Constant for XMLNS URI: http://schemas.microsoft.com/ado/2007/06/edmx.
public static final String	*XMLNS_GENERICPLAYER_URI* on page 1084	Constant for XMLNS URI: http://www.sap.com/Protocols/SAPData/GenericPlayer.
public static final String	*XMLNS_METADATA_URI* on page 1084	Constant for XMLNS URI: http://schemas.microsoft.com/ado/2007/08/dataservices/metadata.
public static final String	*XMLNS_SAP_URI* on page 1084	Constant for XMLNS URI: http://www.sap.com/Protocols/SAPData.

Inherited members from ISDMPersistable

Modifier and Type	Member	Description
public void	*read(BufferedReader)* on page 1085	
public void	*write(BufferedWriter)* on page 1085	

Inherited members from ISDMODataLink

Modifier and Type	Member	Description
public static final String	*ATTRIBUTE_HREF* on page 954	Name of the appropriate SDMOData attribute.
public static final String	*ATTRIBUTE_REL* on page 955	Name of the appropriate SDMOData attribute.
public static final String	*ATTRIBUTE_REL_VALUE_EDIT* on page 955	Value option for the appropriate SDMOData parameter.
public static final String	*ATTRIBUTE_REL_VALUE_SELF* on page 955	Value option for the appropriate SDMOData parameter.
public static final String	*ATTRIBUTE_SEMANTICS* on page 955	Name of the appropriate SDMOData attribute.
public static final String	*ATTRIBUTE_TITLE* on page 955	Name of the appropriate SDMOData attribute.
public static final String	*ATTRIBUTE_VALUEPART_RELATED* on page 955	String that should be part of every rel attribute of a Related Data Link.
public static final String	*ATTRIBUTE_VALUESUFFIX_SUBSCRIPTION* on page 955	String that should be end of every rel attribute of a Subscription Link.
public static final String	*ELEMENT_INLINE* on page 956	Name of the appropriate SDMOData element.
public static final String	*ELEMENT_LINK* on page 956	Name of the appropriate SDMOData element.
public static final String	*ELEMENT_PARAMETER* on page 956	Name of the appropriate SDMOData element.
public static final String	*ELEMENT_PARAMETERSET* on page 956	Name of the appropriate SDMOData element.

Inherited members from ISDMParserDocument

Modifier and Type	Member	Description
public static final String	*ATTRIBUTE_ETAG* on page 1082	Name of the appropriate SDMOData element.
public static final String	*ATTRIBUTE_VALUEPREFIX_EDMTYPE* on page 1082	Value prefix for EDM Type type values.
public abstract ISDMParserDocument	*clone()* on page 1069	Creates a copy of this object.
public static Map< String, String >	*DEFAULT_PREFIXMAPPING* on page 1082	The default XML Namespace-to-Prefix mapping used for building XMLS.
public static final String[]	*EDMDATETIME_PATTERNS* on page 1082	Possible EDM DateTime patterns Note: Some pattern are not supported by OData specification but still widely used.
public static final String[]	*EDMDATETIMEOFFSET_PATTERNS* on page 1082	Possible EDM TimeOffset patterns Note: Some pattern are not supported by OData specification but still widely used.
public static final String	*EDMTIME_PATTERN* on page 1082	EDM Time pattern.
public static String	*ELEMENT_FEED* on page 1083	Name of the appropriate SDMOData element.
public static final String	*ELEMENT_ID* on page 1083	Name of the appropriate SDMOData element.
public abstract String	*getAttribute(String...)* on page 1069	Returns the value of the first attribute with the given route.
public abstract List< String >	*getAttributes(String...)* on page 1070	Returns all the values of attributes with the given route.
public abstract Map< String, String >	*getChildAttributeMap(String...)* on page 1070	Returns all the name-value pairs of attributes contained by the element with the given route.
public abstract List< String >	*getChildAttributes(String...)* on page 1070	Returns all the values of attributes contained by the element with the given route.

Modifier and Type	Member	Description
public abstract List< ISDMParserDocument >	*getChildDocuments(String...)* on page 1071	Returns the elements contained by the element with the given route.
public abstract List< ISDMParserDocument >	*getChildDocumentsWithAttribute(String, String, String...)* on page 1071	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public abstract List< ISDMParserDocument >	*getChildDocumentsWithAttribute(String, String, boolean, String...)* on page 1072	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public abstract ISDMParserDocument	*getDocument(String...)* on page 1072	Returns the first element with the given route.
public abstract List< ISDMParserDocument >	*getDocuments(String...)* on page 1073	Returns all the elements with the given route.
public abstract List< ISDMParserDocument >	*getDocumentsWithAttribute(String, String, String...)* on page 1073	Returns the elements with the given route that contains the given attribute with the given value.
public abstract List< ISDMParserDocument >	*getDocumentsWithAttribute(String, String, boolean, String...)* on page 1074	Returns the elements with the given route that contains the given attribute with the given value.
public abstract ISDMParserDocument	*getDocumentWithAttribute(String, String, String...)* on page 1074	Returns the first element with the given route that contains the given attribute with the given value.
public abstract ISDMParserDocument	*getDocumentWithAttribute(String, String, boolean, String...)* on page 1075	Returns the first element with the given route that contains the given attribute with the given value.
public abstract String	*getElementName()* on page 1075	Returns The name of the root element of this document.
public abstract String	*getFunctionImportComplexPropertyValue(String...)* on page 1076	

Modifier and Type	Member	Description
public abstract String	*getPrefixForUri(String)* on page 1076	Returns the appropriate name-space prefix for the given XML name-space URI.
public abstract String[]	*getStrings()* on page 1076	Returns all the string values contained by this document.
public abstract String	*getValue(String...)* on page 1076	Returns the value of the first element with the given route.
public abstract List< String >	*getValues(String...)* on page 1077	Returns all the values of elements with the given route.
public abstract void	*putAttribute(String, String...)* on page 1077	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	*putDocument(ISDMParserDocument, String...)* on page 1078	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	*putValue(String, String...)* on page 1078	Sets the value of the first element with the given route.
public abstract boolean	*removeAttribute(String...)* on page 1079	Removes first element with the given route.
public abstract boolean	*removeAttributes(String...)* on page 1079	Removes all the attribute with the given route.
public abstract boolean	*removeDocument(String...)* on page 1079	Removes first element with the given route For removing multiple element use setDocuemtns with null arguments.
public static final String	*ROOT_DOCUMENT_NAME* on page 1083	The default root element name for a new document.

Modifier and Type	Member	Description
public abstract void	*setAttributes(List< String >, String...)* on page 1080	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	*setDocuments(List< ISDMParserDocument >, String...)* on page 1080	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	*setElementName(String, String...)* on page 1081	Sets the name of the root element with the given route Use empty route for setting root name of this document.
public abstract void	*setValues(List< String >, String...)* on page 1081	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	*toXMLString()* on page 1081	Returns the XML string representation of this object.
public static final String	*XMLNS_APPLICATION_URI* on page 1083	Constant for XMLNS URI: http://schemas.microsoft.com/ado/2007/08/dataservices.
public static final String	*XMLNS_ATOM_URI* on page 1083	Constant for XMLNS URI: http://www.w3.org/2005/Atom.

Modifier and Type	Member	Description
public static final String	*XMLNS_DATASERVICES_URI* on page 1083	Constant for XMLNS URI: http://schemas.microsoft.com/ado/2007/08/dataservices.
public static final String	*XMLNS_EDM_URI* on page 1083	Constant for XMLNS URI: http://schemas.microsoft.com/ado/2007/05/edm.
public static final String	*XMLNS_EDMX_URI* on page 1084	Constant for XMLNS URI: http://schemas.microsoft.com/ado/2007/06/edmx.
public static final String	*XMLNS_GENERICPLAYER_URI* on page 1084	Constant for XMLNS URI: http://www.sap.com/Protocols/SAPData/GenericPlayer.
public static final String	*XMLNS_METADATA_URI* on page 1084	Constant for XMLNS URI: http://schemas.microsoft.com/ado/2007/08/dataservices/metadata.
public static final String	*XMLNS_SAP_URI* on page 1084	Constant for XMLNS URI: http://www.sap.com/Protocols/SAPData.

Inherited members from ISDMPersistable

Modifier and Type	Member	Description
public void	*read(BufferedReader)* on page 1085	
public void	*write(BufferedWriter)* on page 1085	

SDMODataLink() constructor

Syntax

```
public SDMODataLink ()
```

SDMODataLink(int[], String[]) constructor

Syntax

```
protected SDMODataLink (
    int[] routes,
```

```
    String[] values
)
```

SDMODataLink(SDMParserDocument) constructor

Syntax

```
public SDMODataLink (SDMParserDocument document)
```

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 SDMOData Parameter elements that should be used as output parameter.

Syntax

```
public 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 List< ISDMODataParameter > getParameters ()
```

Returns
The list of the appropriate SDMOData Parameter elements

getRel() method
Returns the value of the appropriate SDMOData attribute.

Syntax

```
public 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 ISDMODataSchema getSchema ()
```

Returns
The relevant schema

getSemantics() method
Returns The value of the appropriate SDMOData extension (vCard) attribute.

Syntax
```
public 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 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 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 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 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

Package

```
com.sap.mobile.lib.sdmparser
```

Syntax

```
public class SDMODataNavigationProperty extends
SDMParserDocument implements ISDMODataNavigationProperty
```

Base class

- *SDMParserDocument* on page 1672

Implemented interfaces

- *ISDMODataNavigationProperty* on page 956

Members

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

Modifier and Type	Constructor	Description
public	*SDMODataNavigationProperty()* on page 1433	
protected	*SDMODataNavigationProperty(int[], String[])* on page 1433	
public	*SDMODataNavigationProperty(SDMParserDocument)* on page 1434	

Methods

Modifier and Type	Method	Description
public String	*getFromRole()* on page 1434	Returns The value of the appropriate SDMOData attribute.
public String	*getName()* on page 1434	Returns The value of the appropriate SDMOData attribute.
public String	*getRelationship()* on page 1434	Returns The value of the appropriate SDMOData attribute.
public String	*getToRole()* on page 1434	Returns The value of the appropriate SDMOData attribute.

Inherited members from SDMParserDocument

Modifier and Type	Member	Description
public SDMParserDocument	*clone()* on page 1681	Creates a copy of this object.
protected Map< String, String >	*extensions* on page 1701	

Modifier and Type	Member	Description
public String	*getAttribute(String...)* on page 1682	Returns the value of the first attribute with the given route.
public List< String >	*getAttributes(String...)* on page 1682	Returns all the values of attributes with the given route.
protected int	*getAttributesEndPosition(int[], int, int)* on page 1682	
public Map< String, String >	*getChildAttributeMap(String...)* on page 1683	Returns all the name-value pairs of attributes contained by the element with the given route.
public List< String >	*getChildAttributes(String...)* on page 1683	Returns all the values of attributes contained by the element with the given route.
public List< ISDMParserDocument >	*getChildDocuments(String...)* on page 1683	Returns the elements contained by the element with the given route.
public List< ISDMParserDocument >	*getChildDocumentsWithAttribute(String, String, String...)* on page 1684	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public List< ISDMParserDocument >	*getChildDocumentsWithAttribute(String, String, boolean, String...)* on page 1684	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public SDMParserDocument	*getDocument(String...)* on page 1685	Returns the first element with the given route.
protected List< int[]>	*getDocumentPositions(String[], int, boolean, boolean)* on page 1685	
public List< ISDMParserDocument >	*getDocuments(String...)* on page 1686	Returns all the elements with the given route.
public List< ISDMParserDocument >	*getDocumentsWithAttribute(String, String, String...)* on page 1686	Returns the elements with the given route that contains the given attribute with the given value.

Modifier and Type	Member	Description
public List< ISDMParserDocument >	*getDocumentsWithAttribute(String, String, boolean, String...)* on page 1687	Returns the elements with the given route that contains the given attribute with the given value.
public ISDMParserDocument	*getDocumentWithAttribute(String, String, String...)* on page 1687	Returns the first element with the given route that contains the given attribute with the given value.
public ISDMParserDocument	*getDocumentWithAttribute(String, String, boolean, String...)* on page 1688	Returns the first element with the given route that contains the given attribute with the given value.
public String	*getElementName()* on page 1688	Returns The name of the root element of this document.
public String	*getExtension(String)* on page 1689	
public String	*getFunctionImportComplexPropertyValue(String...)* on page 1689	
public static List< String >	*getNameMap()* on page 1689	
public static String	*getPrefix(String)* on page 1689	
public String	*getPrefixForUri(String)* on page 1689	Returns the appropriate name-space prefix for the given XML name-space URI.
public static Map< String, String >	*getPrefixMapping()* on page 1689	
protected List< Integer >	*getStringPositions(String[], int, boolean, boolean)* on page 1690	
public String[]	*getStrings()* on page 1690	Returns all the string values contained by this document.
public String	*getValue(String...)* on page 1690	Returns the value of the first element with the given route.

Modifier and Type	Member	Description
public List< String >	*getValues(String...)* on page 1690	Returns all the values of elements with the given route.
protected int[]	*insertRoutePositions(int[], int, int[])* on page 1691	
protected void	*insertRoutesPositions(int, int[])* on page 1691	
protected void	*insertStringsPositions(int, String[])* on page 1691	
protected String[]	*insertStringsPositions(String[], int, String[])* on page 1691	
protected boolean	*isMatched(String, String)* on page 1692	
public void	*putAttribute(String, String...)* on page 1692	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	*putDocument(ISDMParserDocument, String...)* on page 1692	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	*putExtension(String, String)* on page 1693	
protected void	*putString(int, String, int, String...)* on page 1693	
public void	*putValue(String, String...)* on page 1693	Sets the value of the first element with the given route.
public void	*read(BufferedReader)* on page 1693	
public static void	*readNameMap(BufferedReader)* on page 1694	

Modifier and Type	Member	Description
public boolean	*removeAttribute(String...)* on page 1694	Removes first element with the given route.
public boolean	*removeAttributes(String...)* on page 1694	Removes all the attribute with the given route.
public boolean	*removeDocument(String...)* on page 1695	Removes first element with the given route For removing multiple element use setDocuemtns with null arguments.
public void	*removeExtension(String)* on page 1695	
protected void	*removeRoutesPositions(int, int)* on page 1695	
protected int[]	*removeRoutesPositions(int[], int, int)* on page 1695	
protected boolean	*removeString(String...)* on page 1695	
protected boolean	*removeStrings(String...)* on page 1696	
protected void	*removeStringsPositions(int, int)* on page 1696	
protected String[]	*removeStringsPositions(String[], int, int)* on page 1696	
protected int	*replaceRoutesPositions(int, int, int[])* on page 1696	
protected int[]	*replaceRoutesPositions(int[], int, int, int[])* on page 1696	
protected int	*replaceStringsPositions(int, int, String[])* on page 1697	
protected String[]	*replaceStringsPositions(String[], int, int, String[])* on page 1697	
public static String	*resolveUrl(String, String)* on page 1697	

Modifier and Type	Member	Description
protected int[]	*routes* on page 1701	
public	*SDMParserDocument(String)* on page 1681	
public	*SDMParserDocument(SDMParserDocument)* on page 1681	
protected	*SDMParserDocument(int[], String[])* on page 1681	
protected	*SDMParserDocument(String, boolean)* on page 1681	
public void	*setAttribute(String, String...)* on page 1697	
public void	*setAttributes(List< String >, String...)* on page 1697	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	*setDocument(ISDMParserDocument, String...)* on page 1698	
public void	*setDocuments(List< ISDMParserDocument >, String...)* on page 1698	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	*setElementName(String, String...)* on page 1698	Sets the name of the root element with the given route Use empty route for setting root name of this document.

Modifier and Type	Member	Description
public static void	*setNameMap(List< String >)* on page 1699	
public static void	*setPrefixMapping(Map< String, String >)* on page 1699	
protected void	*setString(String, String...)* on page 1699	
protected void	*setStrings(List< String >, String...)* on page 1699	
public void	*setValue(String, String...)* on page 1699	
public void	*setValues(List< String >, String...)* on page 1700	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[]	*strings* on page 1701	
public String	*toXMLString()* on page 1700	Returns the XML string representation of this object.
protected static final String	*URL_PROTOCOL_PREFIX* on page 1701	
public void	*write(BufferedWriter)* on page 1700	
public static void	*writeNameMap(BufferedWriter)* on page 1701	

Inherited members from ISDMParserDocument

Modifier and Type	Member	Description
public static final String	*ATTRIBUTE_ETAG* on page 1082	Name of the appropriate SDMOData element.
public static final String	*ATTRIBUTE_VALUEPREFIX_EDMTYPE* on page 1082	Value prefix for EDM Type type values.

Modifier and Type	Member	Description
public static Map< String, String >	*DEFAULT_PREFIXMAPPING* on page 1082	The default XML Namespace-to-Prefix mapping used for building XMLS.
public static final String[]	*EDMDATETIME_PATTERNS* on page 1082	Possible EDM DateTime patterns Note: Some pattern are not supported by OData specification but still widely used.
public static final String[]	*EDMDATETIMEOFFSET_PATTERNS* on page 1082	Possible EDM TimeOffset patterns Note: Some pattern are not supported by OData specification but still widely used.
public static final String	*EDMTIME_PATTERN* on page 1082	EDM Time pattern.
public static String	*ELEMENT_FEED* on page 1083	Name of the appropriate SDMOData element.
public static final String	*ELEMENT_ID* on page 1083	Name of the appropriate SDMOData element.
public static final String	*ROOT_DOCUMENT_NAME* on page 1083	The default root element name for a new document.
public static final String	*XMLNS_APPLICATION_URI* on page 1083	Constant for XMLNS URI: http://schemas.microsoft.com/ado/2007/08/dataservices.
public static final String	*XMLNS_ATOM_URI* on page 1083	Constant for XMLNS URI: http://www.w3.org/2005/Atom.
public static final String	*XMLNS_DATASERVICES_URI* on page 1083	Constant for XMLNS URI: http://schemas.microsoft.com/ado/2007/08/dataservices.
public static final String	*XMLNS_EDM_URI* on page 1083	Constant for XMLNS URI: http://schemas.microsoft.com/ado/2007/05/edm.
public static final String	*XMLNS_EDMX_URI* on page 1084	Constant for XMLNS URI: http://schemas.microsoft.com/ado/2007/06/edmx.

Modifier and Type	Member	Description
public static final String	*XMLNS_GENERICPLAY-ER_URI* on page 1084	Constant for XMLNS URI: http://www.sap.com/Protocols/SAPData/GenericPlayer.
public static final String	*XMLNS_METADATA_URI* on page 1084	Constant for XMLNS URI: http://schemas.microsoft.com/ado/2007/08/dataservices/metadata.
public static final String	*XMLNS_SAP_URI* on page 1084	Constant for XMLNS URI: http://www.sap.com/Protocols/SAPData.

Inherited members from ISDMPersistable

Modifier and Type	Member	Description
public void	*read(BufferedReader)* on page 1085	
public void	*write(BufferedWriter)* on page 1085	

Inherited members from ISDMODataNavigationProperty

Modifier and Type	Member	Description
public static final String	*ATTRIBUTE_FROMROLE* on page 963	Name of the appropriate SDMOData attribute.
public static final String	*ATTRIBUTE_NAME* on page 963	Name of the appropriate SDMOData attribute.
public static final String	*ATTRIBUTE_RELATION-SHIP* on page 963	Name of the appropriate SDMOData attribute.
public static final String	*ATTRIBUTE_TOROLE* on page 963	Name of the appropriate SDMOData attribute.
public static final String	*ELEMENT_NAVIGATION-PROPERTY* on page 964	Name of the appropriate SDMOData element.

Inherited members from ISDMParserDocument

Modifier and Type	Member	Description
public static final String	*ATTRIBUTE_ETAG* on page 1082	Name of the appropriate SDMOData element.
public static final String	*ATTRIBUTE_VALUEPREFIX_EDMTYPE* on page 1082	Value prefix for EDM Type type values.
public abstract ISDMParserDocument	*clone()* on page 1069	Creates a copy of this object.
public static Map< String, String >	*DEFAULT_PREFIXMAPPING* on page 1082	The default XML Namespace-to-Prefix mapping used for building XMLS.
public static final String[]	*EDMDATETIME_PATTERNS* on page 1082	Possible EDM DateTime patterns Note: Some pattern are not supported by OData specification but still widely used.
public static final String[]	*EDMDATETIMEOFFSET_PATTERNS* on page 1082	Possible EDM TimeOffset patterns Note: Some pattern are not supported by OData specification but still widely used.
public static final String	*EDMTIME_PATTERN* on page 1082	EDM Time pattern.
public static String	*ELEMENT_FEED* on page 1083	Name of the appropriate SDMOData element.
public static final String	*ELEMENT_ID* on page 1083	Name of the appropriate SDMOData element.
public abstract String	*getAttribute(String...)* on page 1069	Returns the value of the first attribute with the given route.
public abstract List< String >	*getAttributes(String...)* on page 1070	Returns all the values of attributes with the given route.
public abstract Map< String, String >	*getChildAttributeMap(String...)* on page 1070	Returns all the name-value pairs of attributes contained by the element with the given route.
public abstract List< String >	*getChildAttributes(String...)* on page 1070	Returns all the values of attributes contained by the element with the given route.

Modifier and Type	Member	Description
public abstract List< ISDMParserDocument >	*getChildDocuments(String...)* on page 1071	Returns the elements contained by the element with the given route.
public abstract List< ISDMParserDocument >	*getChildDocumentsWithAttribute(String, String, String...)* on page 1071	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public abstract List< ISDMParserDocument >	*getChildDocumentsWithAttribute(String, String, boolean, String...)* on page 1072	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public abstract ISDMParserDocument	*getDocument(String...)* on page 1072	Returns the first element with the given route.
public abstract List< ISDMParserDocument >	*getDocuments(String...)* on page 1073	Returns all the elements with the given route.
public abstract List< ISDMParserDocument >	*getDocumentsWithAttribute(String, String, String...)* on page 1073	Returns the elements with the given route that contains the given attribute with the given value.
public abstract List< ISDMParserDocument >	*getDocumentsWithAttribute(String, String, boolean, String...)* on page 1074	Returns the elements with the given route that contains the given attribute with the given value.
public abstract ISDMParserDocument	*getDocumentWithAttribute(String, String, String...)* on page 1074	Returns the first element with the given route that contains the given attribute with the given value.
public abstract ISDMParserDocument	*getDocumentWithAttribute(String, String, boolean, String...)* on page 1075	Returns the first element with the given route that contains the given attribute with the given value.
public abstract String	*getElementName()* on page 1075	Returns The name of the root element of this document.
public abstract String	*getFunctionImportComplexPropertyValue(String...)* on page 1076	

Modifier and Type	Member	Description
public abstract String	*getPrefixForUri(String)* on page 1076	Returns the appropriate name-space prefix for the given XML name-space URI.
public abstract String[]	*getStrings()* on page 1076	Returns all the string values contained by this document.
public abstract String	*getValue(String...)* on page 1076	Returns the value of the first element with the given route.
public abstract List< String >	*getValues(String...)* on page 1077	Returns all the values of elements with the given route.
public abstract void	*putAttribute(String, String...)* on page 1077	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	*putDocument(ISDMParserDocument, String...)* on page 1078	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	*putValue(String, String...)* on page 1078	Sets the value of the first element with the given route.
public abstract boolean	*removeAttribute(String...)* on page 1079	Removes first element with the given route.
public abstract boolean	*removeAttributes(String...)* on page 1079	Removes all the attribute with the given route.
public abstract boolean	*removeDocument(String...)* on page 1079	Removes first element with the given route For removing multiple element use setDocuemtns with null arguments.
public static final String	*ROOT_DOCUMENT_NAME* on page 1083	The default root element name for a new document.

Modifier and Type	Member	Description
public abstract void	*setAttributes(List< String >, String...)* on page 1080	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	*setDocuments(List< ISDMParserDocument >, String...)* on page 1080	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	*setElementName(String, String...)* on page 1081	Sets the name of the root element with the given route Use empty route for setting root name of this document.
public abstract void	*setValues(List< String >, String...)* on page 1081	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	*toXMLString()* on page 1081	Returns the XML string representation of this object.
public static final String	*XMLNS_APPLICATION_URI* on page 1083	Constant for XMLNS URI: http://schemas.microsoft.com/ado/2007/08/dataservices.
public static final String	*XMLNS_ATOM_URI* on page 1083	Constant for XMLNS URI: http://www.w3.org/2005/Atom.

Modifier and Type	Member	Description
public static final String	*XMLNS_DATASERVICES_URI* on page 1083	Constant for XMLNS URI: http://schemas.microsoft.com/ado/2007/08/dataservices.
public static final String	*XMLNS_EDM_URI* on page 1083	Constant for XMLNS URI: http://schemas.microsoft.com/ado/2007/05/edm.
public static final String	*XMLNS_EDMX_URI* on page 1084	Constant for XMLNS URI: http://schemas.microsoft.com/ado/2007/06/edmx.
public static final String	*XMLNS_GENERICPLAYER_URI* on page 1084	Constant for XMLNS URI: http://www.sap.com/Protocols/SAPData/GenericPlayer.
public static final String	*XMLNS_METADATA_URI* on page 1084	Constant for XMLNS URI: http://schemas.microsoft.com/ado/2007/08/dataservices/metadata.
public static final String	*XMLNS_SAP_URI* on page 1084	Constant for XMLNS URI: http://www.sap.com/Protocols/SAPData.

Inherited members from ISDMPersistable

Modifier and Type	Member	Description
public void	*read(BufferedReader)* on page 1085	
public void	*write(BufferedWriter)* on page 1085	

SDMODataNavigationProperty() constructor

Syntax

```
public SDMODataNavigationProperty ()
```

SDMODataNavigationProperty(int[], String[]) constructor

Syntax

```
protected SDMODataNavigationProperty (
    int[] routes,
```

```
    String[] values
)
```

SDMODataNavigationProperty(SDMParserDocument) constructor

Syntax

```
public SDMODataNavigationProperty (SDMParserDocument document)
```

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

SDMODataOpenSearchDescription class
Deprecated. since 3.0, Use ODataOpenSearchDescription

Package

```
com.sap.mobile.lib.sdmparser
```

Syntax

```
public class SDMODataOpenSearchDescription extends
SDMParserDocument implements ISDMODataOpenSearchDescription
```

Base class

- *SDMParserDocument* on page 1672

Implemented interfaces

- *ISDMODataOpenSearchDescription* on page 964

Members
All members of SDMODataOpenSearchDescription, including inherited members.
Variables

Modifier and Type	Variable	Description
protected String	baseUrl	

Constructors

Modifier and Type	Constructor	Description
public	*SDMODataOpenSearchDescription()* on page 1449	
protected	*SDMODataOpenSearchDescription(int[], String[])* on page 1449	
public	*SDMODataOpenSearchDescription(SDMParserDocument)* on page 1449	

Methods

Modifier and Type	Method	Description
public String	*getDescription()* on page 1449	Returns The value of the appropriate SDMOData element.

Modifier and Type	Method	Description
public String	*getShortName()* on page 1450	Returns The value of the appropriate SDMOData element.
public List< ISDMODataURL >	*getUrls()* on page 1450	Returns The list of the appropriate SDMOData element.
public void	*read(BufferedReader)* on page 1450	
protected void	*setBaseUrl(String)* on page 1450	
public void	*write(BufferedWriter)* on page 1450	

Inherited members from SDMParserDocument

Modifier and Type	Member	Description
public SDMParserDocument	*clone()* on page 1681	Creates a copy of this object.
protected Map< String, String >	*extensions* on page 1701	
public String	*getAttribute(String...)* on page 1682	Returns the value of the first attribute with the given route.
public List< String >	*getAttributes(String...)* on page 1682	Returns all the values of attributes with the given route.
protected int	*getAttributesEndPosition(int[], int, int)* on page 1682	
public Map< String, String >	*getChildAttributeMap(String...)* on page 1683	Returns all the name-value pairs of attributes contained by the element with the given route.
public List< String >	*getChildAttributes(String...)* on page 1683	Returns all the values of attributes contained by the element with the given route.
public List< ISDMParserDocument >	*getChildDocuments(String...)* on page 1683	Returns the elements contained by the element with the given route.
public List< ISDMParserDocument >	*getChildDocumentsWithAttribute(String, String, String...)* on page 1684	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 >	*getChildDocumentsWithAttribute(String, String, boolean, String...)* on page 1684	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public SDMParserDocument	*getDocument(String...)* on page 1685	Returns the first element with the given route.
protected List< int[]>	*getDocumentPositions(String[], int, boolean, boolean)* on page 1685	
public List< ISDMParserDocument >	*getDocuments(String...)* on page 1686	Returns all the elements with the given route.
public List< ISDMParserDocument >	*getDocumentsWithAttribute(String, String, String...)* on page 1686	Returns the elements with the given route that contains the given attribute with the given value.
public List< ISDMParserDocument >	*getDocumentsWithAttribute(String, String, boolean, String...)* on page 1687	Returns the elements with the given route that contains the given attribute with the given value.
public ISDMParserDocument	*getDocumentWithAttribute(String, String, String...)* on page 1687	Returns the first element with the given route that contains the given attribute with the given value.
public ISDMParserDocument	*getDocumentWithAttribute(String, String, boolean, String...)* on page 1688	Returns the first element with the given route that contains the given attribute with the given value.
public String	*getElementName()* on page 1688	Returns The name of the root element of this document.
public String	*getExtension(String)* on page 1689	
public String	*getFunctionImportComplexPropertyValue(String...)* on page 1689	
public static List< String >	*getNameMap()* on page 1689	

Modifier and Type	Member	Description
public static String	*getPrefix(String)* on page 1689	
public String	*getPrefixForUri(String)* on page 1689	Returns the appropriate name-space prefix for the given XML name-space URI.
public static Map< String, String >	*getPrefixMapping()* on page 1689	
protected List< Integer >	*getStringPositions(String[], int, boolean, boolean)* on page 1690	
public String[]	*getStrings()* on page 1690	Returns all the string values contained by this document.
public String	*getValue(String...)* on page 1690	Returns the value of the first element with the given route.
public List< String >	*getValues(String...)* on page 1690	Returns all the values of elements with the given route.
protected int[]	*insertRoutePositions(int[], int, int[])* on page 1691	
protected void	*insertRoutesPositions(int, int[])* on page 1691	
protected void	*insertStringsPositions(int, String[])* on page 1691	
protected String[]	*insertStringsPositions(String[], int, String[])* on page 1691	
protected boolean	*isMatched(String, String)* on page 1692	
public void	*putAttribute(String, String...)* on page 1692	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	*putDocument(ISDMParserDocument, String...)* on page 1692	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	*putExtension(String, String)* on page 1693	
protected void	*putString(int, String, int, String...)* on page 1693	
public void	*putValue(String, String...)* on page 1693	Sets the value of the first element with the given route.
public static void	*readNameMap(BufferedReader)* on page 1694	
public boolean	*removeAttribute(String...)* on page 1694	Removes first element with the given route.
public boolean	*removeAttributes(String...)* on page 1694	Removes all the attribute with the given route.
public boolean	*removeDocument(String...)* on page 1695	Removes first element with the given route For removing multiple element use setDocuemtns with null arguments.
public void	*removeExtension(String)* on page 1695	
protected void	*removeRoutesPositions(int, int)* on page 1695	
protected int[]	*removeRoutesPositions(int[], int, int)* on page 1695	
protected boolean	*removeString(String...)* on page 1695	
protected boolean	*removeStrings(String...)* on page 1696	

Modifier and Type	Member	Description
protected void	*removeStringsPositions(int, int)* on page 1696	
protected String[]	*removeStringsPositions(String[], int, int)* on page 1696	
protected int	*replaceRoutesPositions(int, int, int[])* on page 1696	
protected int[]	*replaceRoutesPositions(int[], int, int, int[])* on page 1696	
protected int	*replaceStringsPositions(int, int, String[])* on page 1697	
protected String[]	*replaceStringsPositions(String[], int, int, String[])* on page 1697	
public static String	*resolveUrl(String, String)* on page 1697	
protected int[]	*routes* on page 1701	
public	*SDMParserDocument(String)* on page 1681	
public	*SDMParserDocument(SDMParserDocument)* on page 1681	
protected	*SDMParserDocument(int[], String[])* on page 1681	
protected	*SDMParserDocument(String, boolean)* on page 1681	
public void	*setAttribute(String, String...)* on page 1697	

Modifier and Type	Member	Description
public void	*setAttributes(List< String >, String...)* on page 1697	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	*setDocument(ISDMParserDocument, String...)* on page 1698	
public void	*setDocuments(List< ISDMParserDocument >, String...)* on page 1698	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	*setElementName(String, String...)* on page 1698	Sets the name of the root element with the given route Use empty route for setting root name of this document.
public static void	*setNameMap(List< String >)* on page 1699	
public static void	*setPrefixMapping(Map< String, String >)* on page 1699	
protected void	*setString(String, String...)* on page 1699	
protected void	*setStrings(List< String >, String...)* on page 1699	
public void	*setValue(String, String...)* on page 1699	

Modifier and Type	Member	Description
public void	*setValues(List< String >, String...)* on page 1700	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[]	*strings* on page 1701	
public String	*toXMLString()* on page 1700	Returns the XML string representation of this object.
protected static final String	*URL_PROTOCOL_PREFIX* on page 1701	
public static void	*writeNameMap(BufferedWriter)* on page 1701	

Inherited members from ISDMParserDocument

Modifier and Type	Member	Description
public static final String	*ATTRIBUTE_ETAG* on page 1082	Name of the appropriate SDMOData element.
public static final String	*ATTRIBUTE_VALUEPREFIX_EDMTYPE* on page 1082	Value prefix for EDM Type type values.
public static Map< String, String >	*DEFAULT_PREFIXMAPPING* on page 1082	The default XML Namespace-to-Prefix mapping used for building XMLS.
public static final String[]	*EDMDATETIME_PATTERNS* on page 1082	Possible EDM DateTime patterns Note: Some pattern are not supported by OData specification but still widely used.
public static final String[]	*EDMDATETIMEOFFSET_PATTERNS* on page 1082	Possible EDM TimeOffset patterns Note: Some pattern are not supported by OData specification but still widely used.
public static final String	*EDMTIME_PATTERN* on page 1082	EDM Time pattern.

Modifier and Type	Member	Description
public static String	*ELEMENT_FEED* on page 1083	Name of the appropriate SDMOData element.
public static final String	*ELEMENT_ID* on page 1083	Name of the appropriate SDMOData element.
public static final String	*ROOT_DOCUMENT_NAME* on page 1083	The default root element name for a new document.
public static final String	*XMLNS_APPLICATION_URI* on page 1083	Constant for XMLNS URI: http://schemas.microsoft.com/ado/2007/08/dataservices.
public static final String	*XMLNS_ATOM_URI* on page 1083	Constant for XMLNS URI: http://www.w3.org/2005/Atom.
public static final String	*XMLNS_DATASERVICES_URI* on page 1083	Constant for XMLNS URI: http://schemas.microsoft.com/ado/2007/08/dataservices.
public static final String	*XMLNS_EDM_URI* on page 1083	Constant for XMLNS URI: http://schemas.microsoft.com/ado/2007/05/edm.
public static final String	*XMLNS_EDMX_URI* on page 1084	Constant for XMLNS URI: http://schemas.microsoft.com/ado/2007/06/edmx.
public static final String	*XMLNS_GENERICPLAYER_URI* on page 1084	Constant for XMLNS URI: http://www.sap.com/Protocols/SAPData/GenericPlayer.
public static final String	*XMLNS_METADATA_URI* on page 1084	Constant for XMLNS URI: http://schemas.microsoft.com/ado/2007/08/dataservices/metadata.
public static final String	*XMLNS_SAP_URI* on page 1084	Constant for XMLNS URI: http://www.sap.com/Protocols/SAPData.

Inherited members from ISDMPersistable

Modifier and Type	Member	Description
public void	*read(BufferedReader)* on page 1085	
public void	*write(BufferedWriter)* on page 1085	

Inherited members from ISDMODataOpenSearchDescription

Modifier and Type	Member	Description
public static final String	*ELEMENT_DESCRIPTION* on page 970	Name of the appropriate SDMOData element.
public static final String	*ELEMENT_OPENSEARCH-DESCRIPTION* on page 970	Name of the appropriate SDMOData element.
public static final String	*ELEMENT_SHORTNAME* on page 971	Name of the appropriate SDMOData element.
public static final String	*ELEMENT_URL* on page 971	Name of the appropriate SDMOData element.

Inherited members from ISDMParserDocument

Modifier and Type	Member	Description
public static final String	*ATTRIBUTE_ETAG* on page 1082	Name of the appropriate SDMOData element.
public static final String	*ATTRIBUTE_VALUEPRE-FIX_EDMTYPE* on page 1082	Value prefix for EDM Type type values.
public abstract ISDMParserDo-cument	*clone()* on page 1069	Creates a copy of this object.
public static Map< String, String >	*DEFAULT_PREFIXMAP-PING* on page 1082	The default XML Namespace-to-Prefix mapping used for building XMLS.
public static final String[]	*EDMDATETIME_PATTERNS* on page 1082	Possible EDM DateTime 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[]	*EDMDATETIMEOFFSET_PATTERNS* on page 1082	Possible EDM TimeOffset patterns Note: Some pattern are not supported by OData specification but still widely used.
public static final String	*EDMTIME_PATTERN* on page 1082	EDM Time pattern.
public static String	*ELEMENT_FEED* on page 1083	Name of the appropriate SDMOData element.
public static final String	*ELEMENT_ID* on page 1083	Name of the appropriate SDMOData element.
public abstract String	*getAttribute(String...)* on page 1069	Returns the value of the first attribute with the given route.
public abstract List< String >	*getAttributes(String...)* on page 1070	Returns all the values of attributes with the given route.
public abstract Map< String, String >	*getChildAttributeMap(String...)* on page 1070	Returns all the name-value pairs of attributes contained by the element with the given route.
public abstract List< String >	*getChildAttributes(String...)* on page 1070	Returns all the values of attributes contained by the element with the given route.
public abstract List< ISDMParserDocument >	*getChildDocuments(String...)* on page 1071	Returns the elements contained by the element with the given route.
public abstract List< ISDMParserDocument >	*getChildDocumentsWithAttribute(String, String, String...)* on page 1071	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public abstract List< ISDMParserDocument >	*getChildDocumentsWithAttribute(String, String, boolean, String...)* on page 1072	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public abstract ISDMParserDocument	*getDocument(String...)* on page 1072	Returns the first element with the given route.
public abstract List< ISDMParserDocument >	*getDocuments(String...)* on page 1073	Returns all the elements with the given route.

Modifier and Type	Member	Description
public abstract List< ISDMParserDocument >	*getDocumentsWithAttribute(String, String, String...)* on page 1073	Returns the elements with the given route that contains the given attribute with the given value.
public abstract List< ISDMParserDocument >	*getDocumentsWithAttribute(String, String, boolean, String...)* on page 1074	Returns the elements with the given route that contains the given attribute with the given value.
public abstract ISDMParserDocument	*getDocumentWithAttribute(String, String, String...)* on page 1074	Returns the first element with the given route that contains the given attribute with the given value.
public abstract ISDMParserDocument	*getDocumentWithAttribute(String, String, boolean, String...)* on page 1075	Returns the first element with the given route that contains the given attribute with the given value.
public abstract String	*getElementName()* on page 1075	Returns The name of the root element of this document.
public abstract String	*getFunctionImportComplexPropertyValue(String...)* on page 1076	
public abstract String	*getPrefixForUri(String)* on page 1076	Returns the appropriate name-space prefix for the given XML name-space URI.
public abstract String[]	*getStrings()* on page 1076	Returns all the string values contained by this document.
public abstract String	*getValue(String...)* on page 1076	Returns the value of the first element with the given route.
public abstract List< String >	*getValues(String...)* on page 1077	Returns all the values of elements with the given route.
public abstract void	*putAttribute(String, String...)* on page 1077	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	*putDocument(ISDMParserDocument, String...)* on page 1078	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	*putValue(String, String...)* on page 1078	Sets the value of the first element with the given route.
public abstract boolean	*removeAttribute(String...)* on page 1079	Removes first element with the given route.
public abstract boolean	*removeAttributes(String...)* on page 1079	Removes all the attribute with the given route.
public abstract boolean	*removeDocument(String...)* on page 1079	Removes first element with the given route For removing multiple element use setDocuemtns with null arguments.
public static final String	*ROOT_DOCUMENT_NAME* on page 1083	The default root element name for a new document.
public abstract void	*setAttributes(List< String >, String...)* on page 1080	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	*setDocuments(List< ISDMParserDocument >, String...)* on page 1080	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	*setElementName(String, String...)* on page 1081	Sets the name of the root element with the given route Use empty route for setting root name of this document.
public abstract void	*setValues(List< String >, String...)* on page 1081	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	*toXMLString()* on page 1081	Returns the XML string representation of this object.
public static final String	*XMLNS_APPLICATION_URI* on page 1083	Constant for XMLNS URI: http://schemas.microsoft.com/ado/2007/08/dataservices.
public static final String	*XMLNS_ATOM_URI* on page 1083	Constant for XMLNS URI: http://www.w3.org/2005/Atom.
public static final String	*XMLNS_DATASERVICES_URI* on page 1083	Constant for XMLNS URI: http://schemas.microsoft.com/ado/2007/08/dataservices.
public static final String	*XMLNS_EDM_URI* on page 1083	Constant for XMLNS URI: http://schemas.microsoft.com/ado/2007/05/edm.
public static final String	*XMLNS_EDMX_URI* on page 1084	Constant for XMLNS URI: http://schemas.microsoft.com/ado/2007/06/edmx.
public static final String	*XMLNS_GENERICPLAYER_URI* on page 1084	Constant for XMLNS URI: http://www.sap.com/Protocols/SAPData/GenericPlayer.
public static final String	*XMLNS_METADATA_URI* on page 1084	Constant for XMLNS URI: http://schemas.microsoft.com/ado/2007/08/dataservices/metadata.

Modifier and Type	Member	Description
public static final String	*XMLNS_SAP_URI* on page 1084	Constant for XMLNS URI: http://www.sap.com/Protocols/SAPData.

Inherited members from ISDMPersistable

Modifier and Type	Member	Description
public void	*read(BufferedReader)* on page 1085	
public void	*write(BufferedWriter)* on page 1085	

SDMODataOpenSearchDescription() constructor

Syntax

```
public SDMODataOpenSearchDescription ()
```

SDMODataOpenSearchDescription(int[], String[]) constructor

Syntax

```
protected SDMODataOpenSearchDescription (
    int[] routes,
    String[] values
)
```

SDMODataOpenSearchDescription(SDMParserDocument) constructor

Syntax

```
public SDMODataOpenSearchDescription (SDMParserDocument
document)
```

getDescription() method

Returns The value of the appropriate SDMOData element.

Syntax

```
public String getDescription ()
```

Returns

The value of the appropriate SDMOData element

getShortName() method
Returns The value of the appropriate SDMOData element.

Syntax

```
public String getShortName ()
```

Returns
The value of the appropriate SDMOData element

getUrls() method
Returns The list of the appropriate SDMOData element.

Syntax

```
public List< ISDMODataURL > getUrls ()
```

Returns
The list of the appropriate SDMOData 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

Package

```
com.sap.mobile.lib.sdmparser
```

Syntax

```
public class SDMODataParameter extends SDMParserDocument
implements ISDMODataParameter
```

Base class

- *SDMParserDocument* on page 1672

Implemented interfaces

- *ISDMODataParameter* on page 971

Members
All members of SDMODataParameter, including inherited members. **Constructors**

Modifier and Type	Constructor	Description
public	*SDMODataParameter()* on page 1465	
protected	*SDMODataParameter(int[], String[])* on page 1465	
public	*SDMODataParameter(SDMParserDocument)* on page 1465	

Methods

Modifier and Type	Method	Description
public String	*getMode()* on page 1466	Returns The value of the appropriate SDMOData attribute.
public String	*getName()* on page 1466	Returns The value of the appropriate SDMOData attribute.
public String	*getType()* on page 1466	Returns The value of the appropriate SDMOData attribute.

Inherited members from SDMParserDocument

Modifier and Type	Member	Description
public SDMParserDocument	*clone()* on page 1681	Creates a copy of this object.
protected Map< String, String >	*extensions* on page 1701	
public String	*getAttribute(String...)* on page 1682	Returns the value of the first attribute with the given route.
public List< String >	*getAttributes(String...)* on page 1682	Returns all the values of attributes with the given route.
protected int	*getAttributesEndPosition(int[], int, int)* on page 1682	
public Map< String, String >	*getChildAttributeMap(String...)* on page 1683	Returns all the name-value pairs of attributes contained by the element with the given route.
public List< String >	*getChildAttributes(String...)* on page 1683	Returns all the values of attributes contained by the element with the given route.
public List< ISDMParserDocument >	*getChildDocuments(String...)* on page 1683	Returns the elements contained by the element with the given route.
public List< ISDMParserDocument >	*getChildDocumentsWithAttribute(String, String, String...)* on page 1684	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public List< ISDMParserDocument >	*getChildDocumentsWithAttribute(String, String, boolean, String...)* on page 1684	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 SDMParserDocument	*getDocument(String...)* on page 1685	Returns the first element with the given route.
protected List< int[]>	*getDocumentPositions(String[], int, boolean, boolean)* on page 1685	
public List< ISDMParserDocument >	*getDocuments(String...)* on page 1686	Returns all the elements with the given route.
public List< ISDMParserDocument >	*getDocumentsWithAttribute(String, String, String...)* on page 1686	Returns the elements with the given route that contains the given attribute with the given value.
public List< ISDMParserDocument >	*getDocumentsWithAttribute(String, String, boolean, String...)* on page 1687	Returns the elements with the given route that contains the given attribute with the given value.
public ISDMParserDocument	*getDocumentWithAttribute(String, String, String...)* on page 1687	Returns the first element with the given route that contains the given attribute with the given value.
public ISDMParserDocument	*getDocumentWithAttribute(String, String, boolean, String...)* on page 1688	Returns the first element with the given route that contains the given attribute with the given value.
public String	*getElementName()* on page 1688	Returns The name of the root element of this document.
public String	*getExtension(String)* on page 1689	
public String	*getFunctionImportComplexPropertyValue(String...)* on page 1689	
public static List< String >	*getNameMap()* on page 1689	
public static String	*getPrefix(String)* on page 1689	

Modifier and Type	Member	Description
public String	*getPrefixForUri(String)* on page 1689	Returns the appropriate name-space prefix for the given XML name-space URI.
public static Map< String, String >	*getPrefixMapping()* on page 1689	
protected List< Integer >	*getStringPositions(String[], int, boolean, boolean)* on page 1690	
public String[]	*getStrings()* on page 1690	Returns all the string values contained by this document.
public String	*getValue(String...)* on page 1690	Returns the value of the first element with the given route.
public List< String >	*getValues(String...)* on page 1690	Returns all the values of elements with the given route.
protected int[]	*insertRoutePositions(int[], int, int[])* on page 1691	
protected void	*insertRoutesPositions(int, int[])* on page 1691	
protected void	*insertStringsPositions(int, String[])* on page 1691	
protected String[]	*insertStringsPositions(String[], int, String[])* on page 1691	
protected boolean	*isMatched(String, String)* on page 1692	
public void	*putAttribute(String, String...)* on page 1692	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	*putDocument(ISDMParserDocument, String...)* on page 1692	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	*putExtension(String, String)* on page 1693	
protected void	*putString(int, String, int, String...)* on page 1693	
public void	*putValue(String, String...)* on page 1693	Sets the value of the first element with the given route.
public void	*read(BufferedReader)* on page 1693	
public static void	*readNameMap(BufferedReader)* on page 1694	
public boolean	*removeAttribute(String...)* on page 1694	Removes first element with the given route.
public boolean	*removeAttributes(String...)* on page 1694	Removes all the attribute with the given route.
public boolean	*removeDocument(String...)* on page 1695	Removes first element with the given route For removing multiple element use setDocuemtns with null arguments.
public void	*removeExtension(String)* on page 1695	
protected void	*removeRoutesPositions(int, int)* on page 1695	
protected int[]	*removeRoutesPositions(int[], int, int)* on page 1695	
protected boolean	*removeString(String...)* on page 1695	

Modifier and Type	Member	Description
protected boolean	*removeStrings(String...)* on page 1696	
protected void	*removeStringsPositions(int, int)* on page 1696	
protected String[]	*removeStringsPositions(String[], int, int)* on page 1696	
protected int	*replaceRoutesPositions(int, int, int[])* on page 1696	
protected int[]	*replaceRoutesPositions(int[], int, int, int[])* on page 1696	
protected int	*replaceStringsPositions(int, int, String[])* on page 1697	
protected String[]	*replaceStringsPositions(String[], int, int, String[])* on page 1697	
public static String	*resolveUrl(String, String)* on page 1697	
protected int[]	*routes* on page 1701	
public	*SDMParserDocument(String)* on page 1681	
public	*SDMParserDocument(SDMParserDocument)* on page 1681	
protected	*SDMParserDocument(int[], String[])* on page 1681	
protected	*SDMParserDocument(String, boolean)* on page 1681	
public void	*setAttribute(String, String...)* on page 1697	

Modifier and Type	Member	Description
public void	*setAttributes(List< String >, String...)* on page 1697	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	*setDocument(ISDMParserDocument, String...)* on page 1698	
public void	*setDocuments(List< ISDMParserDocument >, String...)* on page 1698	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	*setElementName(String, String...)* on page 1698	Sets the name of the root element with the given route Use empty route for setting root name of this document.
public static void	*setNameMap(List< String >)* on page 1699	
public static void	*setPrefixMapping(Map< String, String >)* on page 1699	
protected void	*setString(String, String...)* on page 1699	
protected void	*setStrings(List< String >, String...)* on page 1699	
public void	*setValue(String, String...)* on page 1699	

Modifier and Type	Member	Description
public void	*setValues(List< String >, String...)* on page 1700	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[]	*strings* on page 1701	
public String	*toXMLString()* on page 1700	Returns the XML string representation of this object.
protected static final String	*URL_PROTOCOL_PREFIX* on page 1701	
public void	*write(BufferedWriter)* on page 1700	
public static void	*writeNameMap(BufferedWriter)* on page 1701	

Inherited members from ISDMParserDocument

Modifier and Type	Member	Description
public static final String	*ATTRIBUTE_ETAG* on page 1082	Name of the appropriate SDMOData element.
public static final String	*ATTRIBUTE_VALUEPREFIX_EDMTYPE* on page 1082	Value prefix for EDM Type type values.
public static Map< String, String >	*DEFAULT_PREFIXMAPPING* on page 1082	The default XML Namespace-to-Prefix mapping used for building XMLS.
public static final String[]	*EDMDATETIME_PATTERNS* on page 1082	Possible EDM DateTime patterns Note: Some pattern are not supported by OData specification but still widely used.
public static final String[]	*EDMDATETIMEOFFSET_PATTERNS* on page 1082	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	*EDMTIME_PATTERN* on page 1082	EDM Time pattern.
public static String	*ELEMENT_FEED* on page 1083	Name of the appropriate SDMOData element.
public static final String	*ELEMENT_ID* on page 1083	Name of the appropriate SDMOData element.
public static final String	*ROOT_DOCUMENT_NAME* on page 1083	The default root element name for a new document.
public static final String	*XMLNS_APPLICATION_URI* on page 1083	Constant for XMLNS URI: http://schemas.microsoft.com/ado/2007/08/dataservices.
public static final String	*XMLNS_ATOM_URI* on page 1083	Constant for XMLNS URI: http://www.w3.org/2005/Atom.
public static final String	*XMLNS_DATASERVICES_URI* on page 1083	Constant for XMLNS URI: http://schemas.microsoft.com/ado/2007/08/dataservices.
public static final String	*XMLNS_EDM_URI* on page 1083	Constant for XMLNS URI: http://schemas.microsoft.com/ado/2007/05/edm.
public static final String	*XMLNS_EDMX_URI* on page 1084	Constant for XMLNS URI: http://schemas.microsoft.com/ado/2007/06/edmx.
public static final String	*XMLNS_GENERICPLAYER_URI* on page 1084	Constant for XMLNS URI: http://www.sap.com/Protocols/SAPData/GenericPlayer.
public static final String	*XMLNS_METADATA_URI* on page 1084	Constant for XMLNS URI: http://schemas.microsoft.com/ado/2007/08/dataservices/metadata.
public static final String	*XMLNS_SAP_URI* on page 1084	Constant for XMLNS URI: http://www.sap.com/Protocols/SAPData.

Inherited members from ISDMPersistable

Modifier and Type	Member	Description
public void	*read(BufferedReader)* on page 1085	
public void	*write(BufferedWriter)* on page 1085	

Inherited members from ISDMODataParameter

Modifier and Type	Member	Description
public static final String	*ATTRIBUTE_MODE* on page 978	Name of the appropriate SDMOData attribute.
public static final String	*ATTRIBUTE_NAME* on page 978	Name of the appropriate SDMOData attribute.
public static final String	*ATTRIBUTE_TYPE* on page 978	Name of the appropriate SDMOData attribute.
public static final String	*ELEMENT_PARAMETER* on page 978	Name of the appropriate SDMOData element.
public static final String	*VALUE_MODE_IN* on page 978	Value option for the 'Mode' SDMOData attribute.
public static final String	*VALUE_MODE_OUT* on page 978	Value option for the 'Mode' SDMOData attribute.

Inherited members from ISDMParserDocument

Modifier and Type	Member	Description
public static final String	*ATTRIBUTE_ETAG* on page 1082	Name of the appropriate SDMOData element.
public static final String	*ATTRIBUTE_VALUEPREFIX_EDMTYPE* on page 1082	Value prefix for EDM Type type values.
public abstract ISDMParserDocument	*clone()* on page 1069	Creates a copy of this object.
public static Map< String, String >	*DEFAULT_PREFIXMAPPING* on page 1082	The default XML Namespace-to-Prefix mapping used for building XMLS.

Modifier and Type	Member	Description
public static final String[]	*EDMDATETIME_PATTERNS* on page 1082	Possible EDM DateTime patterns Note: Some pattern are not supported by OData specification but still widely used.
public static final String[]	*EDMDATETIMEOFFSET_PATTERNS* on page 1082	Possible EDM TimeOffset patterns Note: Some pattern are not supported by OData specification but still widely used.
public static final String	*EDMTIME_PATTERN* on page 1082	EDM Time pattern.
public static String	*ELEMENT_FEED* on page 1083	Name of the appropriate SDMOData element.
public static final String	*ELEMENT_ID* on page 1083	Name of the appropriate SDMOData element.
public abstract String	*getAttribute(String...)* on page 1069	Returns the value of the first attribute with the given route.
public abstract List< String >	*getAttributes(String...)* on page 1070	Returns all the values of attributes with the given route.
public abstract Map< String, String >	*getChildAttributeMap(String...)* on page 1070	Returns all the name-value pairs of attributes contained by the element with the given route.
public abstract List< String >	*getChildAttributes(String...)* on page 1070	Returns all the values of attributes contained by the element with the given route.
public abstract List< ISDMParserDocument >	*getChildDocuments(String...)* on page 1071	Returns the elements contained by the element with the given route.
public abstract List< ISDMParserDocument >	*getChildDocumentsWithAttribute(String, String, String...)* on page 1071	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public abstract List< ISDMParserDocument >	*getChildDocumentsWithAttribute(String, String, boolean, String...)* on page 1072	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	*getDocument(String...)* on page 1072	Returns the first element with the given route.
public abstract List< ISDMParserDocument >	*getDocuments(String...)* on page 1073	Returns all the elements with the given route.
public abstract List< ISDMParserDocument >	*getDocumentsWithAttribute(String, String, String...)* on page 1073	Returns the elements with the given route that contains the given attribute with the given value.
public abstract List< ISDMParserDocument >	*getDocumentsWithAttribute(String, String, boolean, String...)* on page 1074	Returns the elements with the given route that contains the given attribute with the given value.
public abstract ISDMParserDocument	*getDocumentWithAttribute(String, String, String...)* on page 1074	Returns the first element with the given route that contains the given attribute with the given value.
public abstract ISDMParserDocument	*getDocumentWithAttribute(String, String, boolean, String...)* on page 1075	Returns the first element with the given route that contains the given attribute with the given value.
public abstract String	*getElementName()* on page 1075	Returns The name of the root element of this document.
public abstract String	*getFunctionImportComplexPropertyValue(String...)* on page 1076	
public abstract String	*getPrefixForUri(String)* on page 1076	Returns the appropriate name-space prefix for the given XML name-space URI.
public abstract String[]	*getStrings()* on page 1076	Returns all the string values contained by this document.
public abstract String	*getValue(String...)* on page 1076	Returns the value of the first element with the given route.
public abstract List< String >	*getValues(String...)* on page 1077	Returns all the values of elements with the given route.

Modifier and Type	Member	Description
public abstract void	*putAttribute(String, String...)* on page 1077	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	*putDocument(ISDMParserDocument, String...)* on page 1078	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	*putValue(String, String...)* on page 1078	Sets the value of the first element with the given route.
public abstract boolean	*removeAttribute(String...)* on page 1079	Removes first element with the given route.
public abstract boolean	*removeAttributes(String...)* on page 1079	Removes all the attribute with the given route.
public abstract boolean	*removeDocument(String...)* on page 1079	Removes first element with the given route For removing multiple element use setDocuemtns with null arguments.
public static final String	*ROOT_DOCUMENT_NAME* on page 1083	The default root element name for a new document.
public abstract void	*setAttributes(List< String >, String...)* on page 1080	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	*setDocuments(List< ISDMParserDocument >, String...)* on page 1080	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	*setElementName(String, String...)* on page 1081	Sets the name of the root element with the given route Use empty route for setting root name of this document.
public abstract void	*setValues(List< String >, String...)* on page 1081	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	*toXMLString()* on page 1081	Returns the XML string representation of this object.
public static final String	*XMLNS_APPLICATION_URI* on page 1083	Constant for XMLNS URI: http://schemas.microsoft.com/ado/2007/08/dataservices.
public static final String	*XMLNS_ATOM_URI* on page 1083	Constant for XMLNS URI: http://www.w3.org/2005/Atom.
public static final String	*XMLNS_DATASERVICES_URI* on page 1083	Constant for XMLNS URI: http://schemas.microsoft.com/ado/2007/08/dataservices.
public static final String	*XMLNS_EDM_URI* on page 1083	Constant for XMLNS URI: http://schemas.microsoft.com/ado/2007/05/edm.
public static final String	*XMLNS_EDMX_URI* on page 1084	Constant for XMLNS URI: http://schemas.microsoft.com/ado/2007/06/edmx.

Modifier and Type	Member	Description
public static final String	*XMLNS_GENERICPLAY-ER_URI* on page 1084	Constant for XMLNS URI: http://www.sap.com/Protocols/SAPData/GenericPlayer.
public static final String	*XMLNS_METADATA_URI* on page 1084	Constant for XMLNS URI: http://schemas.microsoft.com/ado/2007/08/dataservices/metadata.
public static final String	*XMLNS_SAP_URI* on page 1084	Constant for XMLNS URI: http://www.sap.com/Protocols/SAPData.

Inherited members from ISDMPersistable

Modifier and Type	Member	Description
public void	*read(BufferedReader)* on page 1085	
public void	*write(BufferedWriter)* on page 1085	

SDMODataParameter() constructor

Syntax

```
public SDMODataParameter ()
```

SDMODataParameter(int[], String[]) constructor

Syntax

```
protected SDMODataParameter (
    int[] routes,
    String[] values
)
```

SDMODataParameter(SDMParserDocument) constructor

Syntax

```
public SDMODataParameter (SDMParserDocument document)
```

getMode() method
Returns The value of the appropriate SDMOData attribute.

Syntax

```
public String getMode ()
```

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

getType() method
Returns The value of the appropriate SDMOData attribute.

Syntax

```
public String getType ()
```

Returns
The value of the appropriate SDMOData attribute

SDMODataProperty class
Deprecated. since 3.0, Use ODataProperty

Package

```
com.sap.mobile.lib.sdmparser
```

Syntax

```
public class SDMODataProperty extends SDMParserDocument
implements ISDMODataProperty
```

Base class

- *SDMParserDocument* on page 1672

Implemented interfaces

- *ISDMODataProperty* on page 978

Members

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

Modifier and Type	Constructor	Description
public	*SDMODataProperty()* on page 1483	
protected	*SDMODataProperty(int[], String[])* on page 1483	
public	*SDMODataProperty(SDMParserDocument)* on page 1484	

Methods

Modifier and Type	Method	Description
public List< ISDMODataProperty >	*getChildPropertiesData()* on page 1484	Returns all the child properties added to this document with putChildProperty method.
public List< ISDMODataProperty >	*getChildPropertiesDataWithAttribute(String, String)* on page 1484	Returns list of appropriate contained Property SDMOData elements with the given attribute value.
public List< ISDMODataProperty >	*getChildPropertiesDataWithAttribute(String, String, boolean)* on page 1484	Returns list of appropriate contained Property SDMOData elements with the given attribute value.
public ISDMODataProperty	*getChildPropertyData(String)* on page 1485	Return a single child property added with putChildProperty method.
public String	*getCollation()* on page 1485	Returns the value of the appropriate SDMOData attribute.
public String	*getDefaultValue()* on page 1485	Returns the value of the appropriate SDMOData attribute.

Modifier and Type	Method	Description
public int	*getDetailDisplayOrder()* on page 1486	In current version it return the same value as getListDisplay-Order.
public String	*getLabel()* on page 1486	Returns The value of the appropriate SDMOData attribute.
public int	*getListDisplayOrder()* on page 1486	In current version it returns the same value as getDetailDisplay-Order.
public int	*getMaxLength()* on page 1486	Returns the value of the appropriate SDMOData attribute with defaultValue = 0;.
public String	*getName()* on page 1486	Returns The value of the appropriate SDMOData attribute.
public String	*getPrecision()* on page 1487	Returns the value of the appropriate SDMOData attribute.
public String	*getScale()* on page 1487	Returns the value of the appropriate SDMOData attribute.
public String	*getSemantics()* on page 1487	Returns the value of the appropriate SDMOData attribute with defaultValue = 0;.
public String	*getType()* on page 1487	Returns The value of the appropriate SDMOData attribute.
public String	*getValue()* on page 1488	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	*hasFixedLength()* on page 1488	Returns The value of the appropriate SDMOData attribute.
public boolean	*isComplex()* on page 1488	Returns if the property has complex type and has child properties.
public boolean	*isCreatable()* on page 1488	Returns The value of the appropriate SDMOData attribute.

Modifier and Type	Method	Description
public boolean	*isDeletable()* on page 1489	Returns The value of the appropriate SDMOData attribute.
public boolean	*isFilterable()* on page 1489	Returns The value of the appropriate SDMOData attribute.
public boolean	*isNullable()* on page 1489	Returns The value of the appropriate SDMOData attribute.
public boolean	*isSearchable()* on page 1489	Returns The value of the appropriate SDMOData attribute.
public boolean	*isUnicode()* on page 1489	Returns the value of the appropriate SDMOData attribute.
public boolean	*isUpdatable()* on page 1490	Returns The value of the appropriate SDMOData attribute.
public void	*putChildPropertyData(ISDMODataProperty)* on page 1490	Put new child property to this property document.
public void	*setValue(String)* on page 1490	Sets the value of the property, represented by this object.

Inherited members from SDMParserDocument

Modifier and Type	Member	Description
public SDMParserDocument	*clone()* on page 1681	Creates a copy of this object.
protected Map< String, String >	*extensions* on page 1701	
public String	*getAttribute(String...)* on page 1682	Returns the value of the first attribute with the given route.
public List< String >	*getAttributes(String...)* on page 1682	Returns all the values of attributes with the given route.
protected int	*getAttributesEndPosition(int[], int, int)* on page 1682	
public Map< String, String >	*getChildAttributeMap(String...)* on page 1683	Returns all the name-value pairs of attributes contained by the element with the given route.

Modifier and Type	Member	Description
public List< String >	*getChildAttributes(String...)* on page 1683	Returns all the values of attributes contained by the element with the given route.
public List< ISDMParserDocument >	*getChildDocuments(String...)* on page 1683	Returns the elements contained by the element with the given route.
public List< ISDMParserDocument >	*getChildDocumentsWithAttribute(String, String, String...)* on page 1684	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public List< ISDMParserDocument >	*getChildDocumentsWithAttribute(String, String, boolean, String...)* on page 1684	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public SDMParserDocument	*getDocument(String...)* on page 1685	Returns the first element with the given route.
protected List< int[]>	*getDocumentPositions(String[], int, boolean, boolean)* on page 1685	
public List< ISDMParserDocument >	*getDocuments(String...)* on page 1686	Returns all the elements with the given route.
public List< ISDMParserDocument >	*getDocumentsWithAttribute(String, String, String...)* on page 1686	Returns the elements with the given route that contains the given attribute with the given value.
public List< ISDMParserDocument >	*getDocumentsWithAttribute(String, String, boolean, String...)* on page 1687	Returns the elements with the given route that contains the given attribute with the given value.
public ISDMParserDocument	*getDocumentWithAttribute(String, String, String...)* on page 1687	Returns the first element with the given route that contains the given attribute with the given value.

Modifier and Type	Member	Description
public ISDMParserDocument	*getDocumentWithAttribute(String, String, boolean, String...)* on page 1688	Returns the first element with the given route that contains the given attribute with the given value.
public String	*getElementName()* on page 1688	Returns The name of the root element of this document.
public String	*getExtension(String)* on page 1689	
public String	*getFunctionImportComplexPropertyValue(String...)* on page 1689	
public static List< String >	*getNameMap()* on page 1689	
public static String	*getPrefix(String)* on page 1689	
public String	*getPrefixForUri(String)* on page 1689	Returns the appropriate name-space prefix for the given XML name-space URI.
public static Map< String, String >	*getPrefixMapping()* on page 1689	
protected List< Integer >	*getStringPositions(String[], int, boolean, boolean)* on page 1690	
public String[]	*getStrings()* on page 1690	Returns all the string values contained by this document.
public String	*getValue(String...)* on page 1690	Returns the value of the first element with the given route.
public List< String >	*getValues(String...)* on page 1690	Returns all the values of elements with the given route.
protected int[]	*insertRoutePositions(int[], int, int[])* on page 1691	
protected void	*insertRoutesPositions(int, int[])* on page 1691	
protected void	*insertStringsPositions(int, String[])* on page 1691	

Modifier and Type	Member	Description
protected String[]	*insertStringsPositions(String[], int, String[])* on page 1691	
protected boolean	*isMatched(String, String)* on page 1692	
public void	*putAttribute(String, String...)* on page 1692	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	*putDocument(ISDMParserDocument, String...)* on page 1692	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	*putExtension(String, String)* on page 1693	
protected void	*putString(int, String, int, String...)* on page 1693	
public void	*putValue(String, String...)* on page 1693	Sets the value of the first element with the given route.
public void	*read(BufferedReader)* on page 1693	
public static void	*readNameMap(BufferedReader)* on page 1694	
public boolean	*removeAttribute(String...)* on page 1694	Removes first element with the given route.
public boolean	*removeAttributes(String...)* on page 1694	Removes all the attribute with the given route.
public boolean	*removeDocument(String...)* on page 1695	Removes first element with the given route For removing multiple element use setDocuemtns with null arguments.

Modifier and Type	Member	Description
public void	*removeExtension(String)* on page 1695	
protected void	*removeRoutesPositions(int, int)* on page 1695	
protected int[]	*removeRoutesPositions(int[], int, int)* on page 1695	
protected boolean	*removeString(String...)* on page 1695	
protected boolean	*removeStrings(String...)* on page 1696	
protected void	*removeStringsPositions(int, int)* on page 1696	
protected String[]	*removeStringsPositions(String[], int, int)* on page 1696	
protected int	*replaceRoutesPositions(int, int, int[])* on page 1696	
protected int[]	*replaceRoutesPositions(int[], int, int, int[])* on page 1696	
protected int	*replaceStringsPositions(int, int, String[])* on page 1697	
protected String[]	*replaceStringsPositions(String[], int, int, String[])* on page 1697	
public static String	*resolveUrl(String, String)* on page 1697	
protected int[]	*routes* on page 1701	
public	*SDMParserDocument(String)* on page 1681	
public	*SDMParserDocument(SDMParserDocument)* on page 1681	

Modifier and Type	Member	Description
protected	*SDMParserDocument(int[], String[])* on page 1681	
protected	*SDMParserDocument(String, boolean)* on page 1681	
public void	*setAttribute(String, String...)* on page 1697	
public void	*setAttributes(List< String >, String...)* on page 1697	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	*setDocument(ISDMParserDocument, String...)* on page 1698	
public void	*setDocuments(List< ISDMParserDocument >, String...)* on page 1698	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	*setElementName(String, String...)* on page 1698	Sets the name of the root element with the given route Use empty route for setting root name of this document.
public static void	*setNameMap(List< String >)* on page 1699	
public static void	*setPrefixMapping(Map< String, String >)* on page 1699	
protected void	*setString(String, String...)* on page 1699	

Modifier and Type	Member	Description
protected void	*setStrings(List< String >, String...)* on page 1699	
public void	*setValue(String, String...)* on page 1699	
public void	*setValues(List< String >, String...)* on page 1700	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[]	*strings* on page 1701	
public String	*toXMLString()* on page 1700	Returns the XML string representation of this object.
protected static final String	*URL_PROTOCOL_PREFIX* on page 1701	
public void	*write(BufferedWriter)* on page 1700	
public static void	*writeNameMap(BufferedWriter)* on page 1701	

Inherited members from ISDMParserDocument

Modifier and Type	Member	Description
public static final String	*ATTRIBUTE_ETAG* on page 1082	Name of the appropriate SDMOData element.
public static final String	*ATTRIBUTE_VALUEPREFIX_EDMTYPE* on page 1082	Value prefix for EDM Type type values.
public static Map< String, String >	*DEFAULT_PREFIXMAPPING* on page 1082	The default XML Namespace-to-Prefix mapping used for building XMLS.
public static final String[]	*EDMDATETIME_PATTERNS* on page 1082	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[]	*EDMDATETIMEOFFSET_PATTERNS* on page 1082	Possible EDM TimeOffset patterns Note: Some pattern are not supported by OData specification but still widely used.
public static final String	*EDMTIME_PATTERN* on page 1082	EDM Time pattern.
public static String	*ELEMENT_FEED* on page 1083	Name of the appropriate SDMOData element.
public static final String	*ELEMENT_ID* on page 1083	Name of the appropriate SDMOData element.
public static final String	*ROOT_DOCUMENT_NAME* on page 1083	The default root element name for a new document.
public static final String	*XMLNS_APPLICATION_URI* on page 1083	Constant for XMLNS URI: http://schemas.microsoft.com/ado/2007/08/dataservices.
public static final String	*XMLNS_ATOM_URI* on page 1083	Constant for XMLNS URI: http://www.w3.org/2005/Atom.
public static final String	*XMLNS_DATASERVICES_URI* on page 1083	Constant for XMLNS URI: http://schemas.microsoft.com/ado/2007/08/dataservices.
public static final String	*XMLNS_EDM_URI* on page 1083	Constant for XMLNS URI: http://schemas.microsoft.com/ado/2007/05/edm.
public static final String	*XMLNS_EDMX_URI* on page 1084	Constant for XMLNS URI: http://schemas.microsoft.com/ado/2007/06/edmx.
public static final String	*XMLNS_GENERICPLAYER_URI* on page 1084	Constant for XMLNS URI: http://www.sap.com/Protocols/SAPData/GenericPlayer.
public static final String	*XMLNS_METADATA_URI* on page 1084	Constant for XMLNS URI: http://schemas.microsoft.com/ado/2007/08/dataservices/metadata.

Modifier and Type	Member	Description
public static final String	*XMLNS_SAP_URI* on page 1084	Constant for XMLNS URI: http://www.sap.com/Protocols/SAPData.

Inherited members from ISDMPersistable

Modifier and Type	Member	Description
public void	*read(BufferedReader)* on page 1085	
public void	*write(BufferedWriter)* on page 1085	

Inherited members from ISDMODataProperty

Modifier and Type	Member	Description
public static final String	*ATTRIBUTE_COLLATION* on page 994	Name of the appropriate SDMOData attribute.
public static final String	*ATTRIBUTE_CREATABLE* on page 994	Name of the appropriate SDMOData attribute.
public static final String	*ATTRIBUTE_DEFAULTVALUE* on page 994	Name of the appropriate SDMOData attribute.
public static final String	*ATTRIBUTE_DELETABLE* on page 995	Name of the appropriate SDMOData attribute.
public static final String	*ATTRIBUTE_DETAIL_DISPLAYORDER* on page 995	Name of the display-order SDMOData attribute.
public static final String	*ATTRIBUTE_FILTERABLE* on page 995	Name of the appropriate SDMOData attribute.
public static final String	*ATTRIBUTE_FIXEDLENGTH* on page 995	Name of the appropriate SDMOData attribute.
public static final String	*ATTRIBUTE_LABEL* on page 995	Name of the appropriate SDMOData attribute.
public static final String	*ATTRIBUTE_LIST_DISPLAYORDER* on page 995	Name of the display-order SDMOData attribute.
public static final String	*ATTRIBUTE_MAXLENGTH* on page 995	Name of the appropriate SDMOData attribute.

Modifier and Type	Member	Description
public static final String	*ATTRIBUTE_NAME* on page 996	Name of the appropriate SDMOData attribute.
public static final String	*ATTRIBUTE_NULLABLE* on page 996	Name of the appropriate SDMOData attribute.
public static final String	*ATTRIBUTE_PRECISION* on page 996	Name of the appropriate SDMOData attribute.
public static final String	*ATTRIBUTE_SCALE* on page 996	Name of the appropriate SDMOData attribute.
public static final String	*ATTRIBUTE_SEARCHABLE* on page 996	Name of the appropriate SDMOData attribute.
public static final String	*ATTRIBUTE_SEMANTICS* on page 996	Name of the appropriate SDMOData attribute.
public static final String	*ATTRIBUTE_TYPE* on page 996	Name of the appropriate SDMOData attribute.
public static final String	*ATTRIBUTE_UNICODE* on page 997	Name of the appropriate SDMOData attribute.
public static final String	*ATTRIBUTE_UPDATABLE* on page 997	Name of the appropriate SDMOData attribute.
public static final String	*ATTRIBUTE_USEIN-SEARCH* on page 997	Name of the appropriate SDMOData attribute.
public static final String	*ATTRIBUTE_VISIBLEINDE-TAIL* on page 997	Name of the appropriate SDMOData attribute.
public static final String	*ATTRIBUTE_VISIBLEIN-LIST* on page 997	Name of the appropriate SDMOData attribute.
public static final String	*ELEMENT_PROPERTY* on page 997	Name of the appropriate SDMOData element.

Inherited members from ISDMParserDocument

Modifier and Type	Member	Description
public static final String	*ATTRIBUTE_ETAG* on page 1082	Name of the appropriate SDMOData element.
public static final String	*ATTRIBUTE_VALUEPRE-FIX_EDMTYPE* on page 1082	Value prefix for EDM Type type values.

Modifier and Type	Member	Description
public abstract ISDMParserDocument	*clone()* on page 1069	Creates a copy of this object.
public static Map< String, String >	*DEFAULT_PREFIXMAPPING* on page 1082	The default XML Namespace-to-Prefix mapping used for building XMLS.
public static final String[]	*EDMDATETIME_PATTERNS* on page 1082	Possible EDM DateTime patterns Note: Some pattern are not supported by OData specification but still widely used.
public static final String[]	*EDMDATETIMEOFFSET_PATTERNS* on page 1082	Possible EDM TimeOffset patterns Note: Some pattern are not supported by OData specification but still widely used.
public static final String	*EDMTIME_PATTERN* on page 1082	EDM Time pattern.
public static String	*ELEMENT_FEED* on page 1083	Name of the appropriate SDMOData element.
public static final String	*ELEMENT_ID* on page 1083	Name of the appropriate SDMOData element.
public abstract String	*getAttribute(String...)* on page 1069	Returns the value of the first attribute with the given route.
public abstract List< String >	*getAttributes(String...)* on page 1070	Returns all the values of attributes with the given route.
public abstract Map< String, String >	*getChildAttributeMap(String...)* on page 1070	Returns all the name-value pairs of attributes contained by the element with the given route.
public abstract List< String >	*getChildAttributes(String...)* on page 1070	Returns all the values of attributes contained by the element with the given route.
public abstract List< ISDMParserDocument >	*getChildDocuments(String...)* on page 1071	Returns the elements contained by the element with the given route.

Modifier and Type	Member	Description
public abstract List< ISDMParserDocument >	*getChildDocumentsWithAttribute(String, String, String...)* on page 1071	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public abstract List< ISDMParserDocument >	*getChildDocumentsWithAttribute(String, String, boolean, String...)* on page 1072	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public abstract ISDMParserDocument	*getDocument(String...)* on page 1072	Returns the first element with the given route.
public abstract List< ISDMParserDocument >	*getDocuments(String...)* on page 1073	Returns all the elements with the given route.
public abstract List< ISDMParserDocument >	*getDocumentsWithAttribute(String, String, String...)* on page 1073	Returns the elements with the given route that contains the given attribute with the given value.
public abstract List< ISDMParserDocument >	*getDocumentsWithAttribute(String, String, boolean, String...)* on page 1074	Returns the elements with the given route that contains the given attribute with the given value.
public abstract ISDMParserDocument	*getDocumentWithAttribute(String, String, String...)* on page 1074	Returns the first element with the given route that contains the given attribute with the given value.
public abstract ISDMParserDocument	*getDocumentWithAttribute(String, String, boolean, String...)* on page 1075	Returns the first element with the given route that contains the given attribute with the given value.
public abstract String	*getElementName()* on page 1075	Returns The name of the root element of this document.
public abstract String	*getFunctionImportComplexPropertyValue(String...)* on page 1076	
public abstract String	*getPrefixForUri(String)* on page 1076	Returns the appropriate name-space prefix for the given XML name-space URI.

Modifier and Type	Member	Description
public abstract String[]	*getStrings()* on page 1076	Returns all the string values contained by this document.
public abstract String	*getValue(String...)* on page 1076	Returns the value of the first element with the given route.
public abstract List< String >	*getValues(String...)* on page 1077	Returns all the values of elements with the given route.
public abstract void	*putAttribute(String, String...)* on page 1077	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	*putDocument(ISDMParserDocument, String...)* on page 1078	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	*putValue(String, String...)* on page 1078	Sets the value of the first element with the given route.
public abstract boolean	*removeAttribute(String...)* on page 1079	Removes first element with the given route.
public abstract boolean	*removeAttributes(String...)* on page 1079	Removes all the attribute with the given route.
public abstract boolean	*removeDocument(String...)* on page 1079	Removes first element with the given route For removing multiple element use setDocuemtns with null arguments.
public static final String	*ROOT_DOCUMENT_NAME* on page 1083	The default root element name for a new document.

Modifier and Type	Member	Description
public abstract void	*setAttributes(List< String >, String...)* on page 1080	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	*setDocuments(List< ISDMParserDocument >, String...)* on page 1080	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	*setElementName(String, String...)* on page 1081	Sets the name of the root element with the given route Use empty route for setting root name of this document.
public abstract void	*setValues(List< String >, String...)* on page 1081	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	*toXMLString()* on page 1081	Returns the XML string representation of this object.
public static final String	*XMLNS_APPLICATION_URI* on page 1083	Constant for XMLNS URI: http://schemas.microsoft.com/ado/2007/08/dataservices.
public static final String	*XMLNS_ATOM_URI* on page 1083	Constant for XMLNS URI: http://www.w3.org/2005/Atom.

Modifier and Type	Member	Description
public static final String	*XMLNS_DATASERVICES_URI* on page 1083	Constant for XMLNS URI: http://schemas.microsoft.com/ado/2007/08/dataservices.
public static final String	*XMLNS_EDM_URI* on page 1083	Constant for XMLNS URI: http://schemas.microsoft.com/ado/2007/05/edm.
public static final String	*XMLNS_EDMX_URI* on page 1084	Constant for XMLNS URI: http://schemas.microsoft.com/ado/2007/06/edmx.
public static final String	*XMLNS_GENERICPLAYER_URI* on page 1084	Constant for XMLNS URI: http://www.sap.com/Protocols/SAPData/GenericPlayer.
public static final String	*XMLNS_METADATA_URI* on page 1084	Constant for XMLNS URI: http://schemas.microsoft.com/ado/2007/08/dataservices/metadata.
public static final String	*XMLNS_SAP_URI* on page 1084	Constant for XMLNS URI: http://www.sap.com/Protocols/SAPData.

Inherited members from ISDMPersistable

Modifier and Type	Member	Description
public void	*read(BufferedReader)* on page 1085	
public void	*write(BufferedWriter)* on page 1085	

SDMODataProperty() constructor

Syntax

```
public SDMODataProperty ()
```

SDMODataProperty(int[], String[]) constructor

Syntax

```
protected SDMODataProperty (
    int[] routes,
```

```
    String[] values
)
```

SDMODataProperty(SDMParserDocument) constructor

Syntax

```
public SDMODataProperty (SDMParserDocument document)
```

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 SDMOData elements with the given attribute value.

Syntax

```
public List< ISDMODataProperty >
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 SDMOData elements with the given attribute value

getChildPropertyData(String) method
Return a single child property added with putChildProperty method.

Syntax

```
public ISDMODataProperty 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 SDMOData attribute.

Syntax

```
public String getCollation ()
```

Returns
The value of the appropriate SDMOData attribute

getDefaultValue() method
Returns the value of the appropriate SDMOData attribute.

Syntax

```
public String getDefaultValue ()
```

Returns
The value of the appropriate SDMOData 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 defaultValue = 0;

getLabel() method
Returns The value of the appropriate SDMOData attribute.

Syntax

```
public String getLabel ()
```

Returns
The value of the appropriate SDMOData 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 defaultValue = 0;

getMaxLength() method
Returns the value of the appropriate SDMOData attribute with defaultValue = 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 SDMOData attribute.

Syntax
```
public String getType ()
```

Returns
The value of the appropriate SDMOData 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.

Remarks
Otherwise it returns null.

Typically this object contains value only if this object was returned by an SDMOData Entry.

hasFixedLength() method
Returns The value of the appropriate SDMOData attribute.

Syntax

```
public boolean hasFixedLength ()
```

Returns
The value of the appropriate SDMOData 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 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

isNullable() method
Returns The value of the appropriate SDMOData attribute.

Syntax
```
public boolean isNullable ()
```

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

isUnicode() method
Returns the value of the appropriate SDMOData attribute.

Syntax
```
public boolean isUnicode ()
```

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

putChildPropertyData(ISDMODataProperty) method
Put new child property to this property document.

Syntax

```
public void putChildPropertyData (ISDMODataProperty 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.

Remarks
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 SDMOData Entry object.

SDMODataReturnTypeEntry class
Deprecated. since 3.0, Use ODataReturnTypeEntry

Package

```
com.sap.mobile.lib.sdmparser
```

Syntax

```
public class SDMODataReturnTypeEntry extends SDMODataEntry
implements ISDMODataEntry
```

Base class

- *SDMODataEntry* on page 1313

Implemented interfaces

- *ISDMODataEntry* on page 895

Members

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

Modifier and Type	Variable	Description
protected static final String	SDM_RETURNTYPE_COLLECTION	

Constructors

Modifier and Type	Constructor	Description
public	*SDMODataReturnTypeEntry(boolean)* on page 1516	
public	*SDMODataReturnTypeEntry(SDMParserDocument, ISDMODataFunctionImport, ISDMODataSchema, boolean)* on page 1516	

Methods

Modifier and Type	Method	Description
public void	*putPropertyValue(String, String)* on page 1517	Puts the new property element as a sub-element of the 'properties' SDMOData element.
public void	*putPropertyValue(String, String, boolean)* on page 1517	Puts the new property element as a sub-element of the 'properties' SDMOData element.
public void	*read(BufferedReader)* on page 1518	

Modifier and Type	Method	Description
public void	*setCollectionId(String)* on page 1518	Maintains the Id of the SDMOCata Collection that this Entry belongs to.
public void	*setSchema(ISDMODataSchema)* on page 1518	Maintains the reference to the appropriate SDMOData Schema object.
public void	*write(BufferedWriter)* on page 1518	

Inherited members from SDMODataEntry

Modifier and Type	Member	Description
protected void	*addPropertyValues(ISDMODataProperty, Map< String, String >, String)* on page 1334	
protected static Long	*cache_timestamp* on page 1347	
protected static cacheState	*Cachestate* on page 1348	
protected String	*collectionId* on page 1348	
protected static final int	*FALSE* on page 1348	
protected void	*fillPropertyData(ISDMODataProperty, String...)* on page 1334	
protected void	*fillPropertyDataWithAttribute(ISDMODataProperty, String, String, boolean, String...)* on page 1335	
protected static final String	*FILTER* on page 1348	
protected static final String	*FILTER_AND* on page 1348	
protected static final String	*FILTER_EQ* on page 1348	
public List< ISDMODataLink >	*getActionLinks()* on page 1335	Returns SDMOData Link objects that are set as action links (Has semantics (SAP namespace) attribute with value 'action')

Modifier and Type	Member	Description
public String	*getAuthorName()* on page 1335	Returns The value of the 'name' SDMOData element of the 'author' SDMOData element.
public cacheState	*getCachestate()* on page 1335	
public Long	*getCacheTimestamp()* on page 1335	
public String	*getCollectionId()* on page 1336	Returns the Id of the SDMOCata Collection that this Entry belongs to.
public String	*getEtag()* on page 1336	Returns the Id of the SDMOData Collection that this Entry belongs to.
public String	*getFilterUrl()* on page 1336	Returns the full execution URL hat can be used for filtering collection search for this single entry.
public List< ISDMODataProperty >	*getGPUseInSearchPropertiesData()* on page 1336	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 >	*getGPVisibleInDetailPropertiesData()* on page 1337	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 >	*getGPVisibleInListPropertiesData()* on page 1337	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.

Modifier and Type	Member	Description
public List< ISDMODataIcon >	*getIcons()* on page 1337	Returns the list of the appropriate SDMOData elements.
public String	*getId()* on page 1337	Returns The Id of this SDMOData Entry (value of appropriate SDMOData Id element)
public boolean	*getIsLocal()* on page 1338	
public Map< String, String >	*getKeyPropertyValues()* on page 1338	Returns the values of the properties that are marked as key properties in the SDMOData Schema document.
public Date	*getLastUpdated()* on page 1338	Returns The parsed value of the 'updated' SDMOData Element.
public List< ISDMODataLink >	*getLinks()* on page 1338	Returns the list of the appropriate SDMOData elements.
public List< ISDMODataProperty >	*getPropertiesData()* on page 1338	Returns the value and meta information (retrieved from SDMOData Schema document) of the properties of this SDMOdata Entry document.
public List< ISDMODataProperty >	*getPropertiesDataWithAttribute(String, String)* on page 1339	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 >	*getPropertiesDataWithAttribute(String, String, boolean)* on page 1339	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	*getPropertiesDocument()* on page 1340	Returns the representer document of SDMOData '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	*getPropertyValue(String...)* on page 1340	Returns the value of the appropriate property.
public List< String >	*getPropertyValues(List< String[]>)* on page 1340	Return list of property values for the given property paths.
public Map< String, String >	*getPropertyValues()* on page 1341	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 >	*getRelatedDataLinks()* on page 1341	Returns SDMOData Link objects that represents links to Related Data.
public List< ISDMODataProperty >	*getSAPSearchablePropertiesData()* on page 1341	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	*getSchema()* on page 1342	Returns the appropriate SDMOData Schema object.
public ISDMODataLink	*getSelfLink()* on page 1342	Returns SDMSDMOData Link object that should be used for self related operations (with 'rel' attribute value 'self' or 'edit')
public ISDMODataLink	*getSubscriptionLink()* on page 1342	Returns SDMOData Link object that should be used for subscription or null if there is no subscription link defined.
public String	*getSummary()* on page 1342	Returns The value of the appropriate SDMOData element.
public String	*getTitle()* on page 1343	Returns The value of the appropriate SDMOData element.
protected static boolean	*isLocalEntry* on page 1348	

Modifier and Type	Member	Description
protected JsonObject	*jsonObject* on page 1348	JSON related variables
protected void	*materialize()* on page 1343	
protected static final int	*NOT_TESTED* on page 1349	
protected void	*parseCollectionId()* on page 1343	
protected long	*parseEdmTime(String)* on page 1343	
public void	*putComplexPropertyValue(String, String...)* on page 1343	Puts the new property element as a sub-element of the 'complex properties' SDMOData element.
public void	*putDocument(ISDMParserDocument, String...)* on page 1344	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	*putId(String)* on page 1344	Sets id of this SDMOData Entry document (value of appropriate SDMOData Id element)
protected String	*resolveTargetCollection(ISDMODataLink)* on page 1345	
protected ISDMODataSchema	*schema* on page 1349	
public	*SDMODataEntry()* on page 1333	
public	*SDMODataEntry(boolean)* on page 1333	
protected	*SDMODataEntry(int[], String[])* on page 1333	
public	*SDMODataEntry(ISDMODataSchema)* on page 1334	
public	*SDMODataEntry(SDMParserDocument)* on page 1334	

Modifier and Type	Member	Description
public	*SDMODataEntry(SDMParserDocument, ISDMODataSchema)* on page 1334	
public	*SDMODataEntry(JsonObject)* on page 1334	Json Related
public void	*setAuthorName(String)* on page 1346	Sets the value of the 'name' SDMOData element of the 'author' SDMOData element.
public void	*setCachestate(cacheState)* on page 1346	
public void	*setCacheTimestamp(Long)* on page 1346	
public void	*setIsLocal(boolean)* on page 1346	
public void	*setSummary(String)* on page 1347	Sets the value of the appropriate SDMOData element.
public void	*setTitle(String)* on page 1347	Sets the value of the appropriate SDMOData element.
protected static final int	*TRUE* on page 1349	

Inherited members from SDMParserDocument

Modifier and Type	Member	Description
public SDMParserDocument	*clone()* on page 1681	Creates a copy of this object.
protected Map< String, String >	*extensions* on page 1701	
public String	*getAttribute(String...)* on page 1682	Returns the value of the first attribute with the given route.
public List< String >	*getAttributes(String...)* on page 1682	Returns all the values of attributes with the given route.
protected int	*getAttributesEndPosition(int[], int, int)* on page 1682	
public Map< String, String >	*getChildAttributeMap(String...)* on page 1683	Returns all the name-value pairs of attributes contained by the element with the given route.

Modifier and Type	Member	Description
public List< String >	*getChildAttributes(String...)* on page 1683	Returns all the values of attributes contained by the element with the given route.
public List< ISDMParserDocument >	*getChildDocuments(String...)* on page 1683	Returns the elements contained by the element with the given route.
public List< ISDMParserDocument >	*getChildDocumentsWithAttribute(String, String, String...)* on page 1684	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public List< ISDMParserDocument >	*getChildDocumentsWithAttribute(String, String, boolean, String...)* on page 1684	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public SDMParserDocument	*getDocument(String...)* on page 1685	Returns the first element with the given route.
protected List< int[]>	*getDocumentPositions(String[], int, boolean, boolean)* on page 1685	
public List< ISDMParserDocument >	*getDocuments(String...)* on page 1686	Returns all the elements with the given route.
public List< ISDMParserDocument >	*getDocumentsWithAttribute(String, String, String...)* on page 1686	Returns the elements with the given route that contains the given attribute with the given value.
public List< ISDMParserDocument >	*getDocumentsWithAttribute(String, String, boolean, String...)* on page 1687	Returns the elements with the given route that contains the given attribute with the given value.
public ISDMParserDocument	*getDocumentWithAttribute(String, String, String...)* on page 1687	Returns the first element with the given route that contains the given attribute with the given value.

Modifier and Type	Member	Description
public ISDMParserDocument	*getDocumentWithAttribute(String, String, boolean, String...)* on page 1688	Returns the first element with the given route that contains the given attribute with the given value.
public String	*getElementName()* on page 1688	Returns The name of the root element of this document.
public String	*getExtension(String)* on page 1689	
public String	*getFunctionImportComplexPropertyValue(String...)* on page 1689	
public static List< String >	*getNameMap()* on page 1689	
public static String	*getPrefix(String)* on page 1689	
public String	*getPrefixForUri(String)* on page 1689	Returns the appropriate name-space prefix for the given XML name-space URI.
public static Map< String, String >	*getPrefixMapping()* on page 1689	
protected List< Integer >	*getStringPositions(String[], int, boolean, boolean)* on page 1690	
public String[]	*getStrings()* on page 1690	Returns all the string values contained by this document.
public String	*getValue(String...)* on page 1690	Returns the value of the first element with the given route.
public List< String >	*getValues(String...)* on page 1690	Returns all the values of elements with the given route.
protected int[]	*insertRoutePositions(int[], int, int[])* on page 1691	
protected void	*insertRoutesPositions(int, int[])* on page 1691	
protected void	*insertStringsPositions(int, String[])* on page 1691	

Modifier and Type	Member	Description
protected String[]	*insertStringsPositions(String[], int, String[])* on page 1691	
protected boolean	*isMatched(String, String)* on page 1692	
public void	*putAttribute(String, String...)* on page 1692	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	*putExtension(String, String)* on page 1693	
protected void	*putString(int, String, int, String...)* on page 1693	
public void	*putValue(String, String...)* on page 1693	Sets the value of the first element with the given route.
public static void	*readNameMap(BufferedReader)* on page 1694	
public boolean	*removeAttribute(String...)* on page 1694	Removes first element with the given route.
public boolean	*removeAttributes(String...)* on page 1694	Removes all the attribute with the given route.
public boolean	*removeDocument(String...)* on page 1695	Removes first element with the given route For removing multiple element use setDocuemtns with null arguments.
public void	*removeExtension(String)* on page 1695	
protected void	*removeRoutesPositions(int, int)* on page 1695	
protected int[]	*removeRoutesPositions(int[], int, int)* on page 1695	
protected boolean	*removeString(String...)* on page 1695	

Modifier and Type	Member	Description
protected boolean	*removeStrings(String...)* on page 1696	
protected void	*removeStringsPositions(int, int)* on page 1696	
protected String[]	*removeStringsPositions(String[], int, int)* on page 1696	
protected int	*replaceRoutesPositions(int, int, int[])* on page 1696	
protected int[]	*replaceRoutesPositions(int[], int, int, int[])* on page 1696	
protected int	*replaceStringsPositions(int, int, String[])* on page 1697	
protected String[]	*replaceStringsPositions(String[], int, int, String[])* on page 1697	
public static String	*resolveUrl(String, String)* on page 1697	
protected int[]	*routes* on page 1701	
public	*SDMParserDocument(String)* on page 1681	
public	*SDMParserDocument(SDMParserDocument)* on page 1681	
protected	*SDMParserDocument(int[], String[])* on page 1681	
protected	*SDMParserDocument(String, boolean)* on page 1681	
public void	*setAttribute(String, String...)* on page 1697	

Modifier and Type	Member	Description
public void	*setAttributes(List< String >, String...)* on page 1697	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	*setDocument(ISDMParserDocument, String...)* on page 1698	
public void	*setDocuments(List< ISDMParserDocument >, String...)* on page 1698	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	*setElementName(String, String...)* on page 1698	Sets the name of the root element with the given route Use empty route for setting root name of this document.
public static void	*setNameMap(List< String >)* on page 1699	
public static void	*setPrefixMapping(Map< String, String >)* on page 1699	
protected void	*setString(String, String...)* on page 1699	
protected void	*setStrings(List< String >, String...)* on page 1699	
public void	*setValue(String, String...)* on page 1699	

Modifier and Type	Member	Description
public void	*setValues(List< String >, String...)* on page 1700	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[]	*strings* on page 1701	
public String	*toXMLString()* on page 1700	Returns the XML string representation of this object.
protected static final String	*URL_PROTOCOL_PREFIX* on page 1701	
public static void	*writeNameMap(BufferedWriter)* on page 1701	

Inherited members from ISDMParserDocument

Modifier and Type	Member	Description
public static final String	*ATTRIBUTE_ETAG* on page 1082	Name of the appropriate SDMOData element.
public static final String	*ATTRIBUTE_VALUEPREFIX_EDMTYPE* on page 1082	Value prefix for EDM Type type values.
public static Map< String, String >	*DEFAULT_PREFIXMAPPING* on page 1082	The default XML Namespace-to-Prefix mapping used for building XMLS.
public static final String[]	*EDMDATETIME_PATTERNS* on page 1082	Possible EDM DateTime patterns Note: Some pattern are not supported by OData specification but still widely used.
public static final String[]	*EDMDATETIMEOFFSET_PATTERNS* on page 1082	Possible EDM TimeOffset patterns Note: Some pattern are not supported by OData specification but still widely used.
public static final String	*EDMTIME_PATTERN* on page 1082	EDM Time pattern.

Modifier and Type	Member	Description
public static String	*ELEMENT_FEED* on page 1083	Name of the appropriate SDMOData element.
public static final String	*ELEMENT_ID* on page 1083	Name of the appropriate SDMOData element.
public static final String	*ROOT_DOCUMENT_NAME* on page 1083	The default root element name for a new document.
public static final String	*XMLNS_APPLICATION_URI* on page 1083	Constant for XMLNS URI: http://schemas.microsoft.com/ado/2007/08/dataservices.
public static final String	*XMLNS_ATOM_URI* on page 1083	Constant for XMLNS URI: http://www.w3.org/2005/Atom.
public static final String	*XMLNS_DATASERVICES_URI* on page 1083	Constant for XMLNS URI: http://schemas.microsoft.com/ado/2007/08/dataservices.
public static final String	*XMLNS_EDM_URI* on page 1083	Constant for XMLNS URI: http://schemas.microsoft.com/ado/2007/05/edm.
public static final String	*XMLNS_EDMX_URI* on page 1084	Constant for XMLNS URI: http://schemas.microsoft.com/ado/2007/06/edmx.
public static final String	*XMLNS_GENERICPLAYER_URI* on page 1084	Constant for XMLNS URI: http://www.sap.com/Protocols/SAPData/GenericPlayer.
public static final String	*XMLNS_METADATA_URI* on page 1084	Constant for XMLNS URI: http://schemas.microsoft.com/ado/2007/08/dataservices/metadata.
public static final String	*XMLNS_SAP_URI* on page 1084	Constant for XMLNS URI: http://www.sap.com/Protocols/SAPData.

Inherited members from ISDMPersistable

Modifier and Type	Member	Description
public void	*read(BufferedReader)* on page 1085	
public void	*write(BufferedWriter)* on page 1085	

Inherited members from ISDMODataEntry

Modifier and Type	Member	Description
public static final String	*ATTRIBUTE_SEMANTICS* on page 917	Name of the appropriate SDMOData attribute.
public static final String	*ATTRIBUTE_TERM* on page 917	Name of the appropriate SDMOData attribute.
public static final String	*ATTRIBUTE_VALUE_SEMANTICS_ACTION* on page 918	Value option for appropriate SDMOData attribute.
public static final String	*ELEMENT_AUTHOR* on page 918	Name of the appropriate SDMOData element.
public static final String	*ELEMENT_CATEGORY* on page 918	Name of the appropriate SDMOData element.
public static final String	*ELEMENT_CONTENT* on page 918	Name of the appropriate SDMOData element.
public static final String	*ELEMENT_ENTRY* on page 918	Name of the appropriate SDMOData element.
public static final String	*ELEMENT_LINK* on page 918	Name of the appropriate SDMOData element.
public static final String	*ELEMENT_NAME* on page 918	Name of the appropriate SDMOData element.
public static final String	*ELEMENT_PROPERTIES* on page 919	Name of the appropriate SDMOData element.
public static final String	*ELEMENT_SUMMARY* on page 919	Name of the appropriate SDMOData element.
public static final String	*ELEMENT_TITLE* on page 919	Name of the appropriate SDMOData element.

Modifier and Type	Member	Description
public static final String	*ELEMENT_UPDATED* on page 919	Name of the appropriate SDMOData element.
public static final String	*PROPERTY_LEVEL_SEPARATOR* on page 919	
public void	*setCachestate(cacheState)* on page 916	

Inherited members from ISDMParserDocument

Modifier and Type	Member	Description
public static final String	*ATTRIBUTE_ETAG* on page 1082	Name of the appropriate SDMOData element.
public static final String	*ATTRIBUTE_VALUEPREFIX_EDMTYPE* on page 1082	Value prefix for EDM Type type values.
public abstract ISDMParserDocument	*clone()* on page 1069	Creates a copy of this object.
public static Map< String, String >	*DEFAULT_PREFIXMAPPING* on page 1082	The default XML Namespace-to-Prefix mapping used for building XMLS.
public static final String[]	*EDMDATETIME_PATTERNS* on page 1082	Possible EDM DateTime patterns Note: Some pattern are not supported by OData specification but still widely used.
public static final String[]	*EDMDATETIMEOFFSET_PATTERNS* on page 1082	Possible EDM TimeOffset patterns Note: Some pattern are not supported by OData specification but still widely used.
public static final String	*EDMTIME_PATTERN* on page 1082	EDM Time pattern.
public static String	*ELEMENT_FEED* on page 1083	Name of the appropriate SDMOData element.
public static final String	*ELEMENT_ID* on page 1083	Name of the appropriate SDMOData element.
public abstract String	*getAttribute(String...)* on page 1069	Returns the value of the first attribute with the given route.

Modifier and Type	Member	Description
public abstract List< String >	*getAttributes(String...)* on page 1070	Returns all the values of attributes with the given route.
public abstract Map< String, String >	*getChildAttributeMap(String...)* on page 1070	Returns all the name-value pairs of attributes contained by the element with the given route.
public abstract List< String >	*getChildAttributes(String...)* on page 1070	Returns all the values of attributes contained by the element with the given route.
public abstract List< ISDMParserDocument >	*getChildDocuments(String...)* on page 1071	Returns the elements contained by the element with the given route.
public abstract List< ISDMParserDocument >	*getChildDocumentsWithAttribute(String, String, String...)* on page 1071	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public abstract List< ISDMParserDocument >	*getChildDocumentsWithAttribute(String, String, boolean, String...)* on page 1072	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public abstract ISDMParserDocument	*getDocument(String...)* on page 1072	Returns the first element with the given route.
public abstract List< ISDMParserDocument >	*getDocuments(String...)* on page 1073	Returns all the elements with the given route.
public abstract List< ISDMParserDocument >	*getDocumentsWithAttribute(String, String, String...)* on page 1073	Returns the elements with the given route that contains the given attribute with the given value.
public abstract List< ISDMParserDocument >	*getDocumentsWithAttribute(String, String, boolean, String...)* on page 1074	Returns the elements with the given route that contains the given attribute with the given value.
public abstract ISDMParserDocument	*getDocumentWithAttribute(String, String, String...)* on page 1074	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	*getDocumentWithAttribute(String, String, boolean, String...)* on page 1075	Returns the first element with the given route that contains the given attribute with the given value.
public abstract String	*getElementName()* on page 1075	Returns The name of the root element of this document.
public abstract String	*getFunctionImportComplexPropertyValue(String...)* on page 1076	
public abstract String	*getPrefixForUri(String)* on page 1076	Returns the appropriate name-space prefix for the given XML name-space URI.
public abstract String[]	*getStrings()* on page 1076	Returns all the string values contained by this document.
public abstract String	*getValue(String...)* on page 1076	Returns the value of the first element with the given route.
public abstract List< String >	*getValues(String...)* on page 1077	Returns all the values of elements with the given route.
public abstract void	*putAttribute(String, String...)* on page 1077	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	*putDocument(ISDMParserDocument, String...)* on page 1078	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	*putValue(String, String...)* on page 1078	Sets the value of the first element with the given route.
public abstract boolean	*removeAttribute(String...)* on page 1079	Removes first element with the given route.

Modifier and Type	Member	Description
public abstract boolean	*removeAttributes(String...)* on page 1079	Removes all the attribute with the given route.
public abstract boolean	*removeDocument(String...)* on page 1079	Removes first element with the given route For removing multiple element use setDocuemtns with null arguments.
public static final String	*ROOT_DOCUMENT_NAME* on page 1083	The default root element name for a new document.
public abstract void	*setAttributes(List< String >, String...)* on page 1080	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	*setDocuments(List< ISDMParserDocument >, String...)* on page 1080	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	*setElementName(String, String...)* on page 1081	Sets the name of the root element with the given route Use empty route for setting root name of this document.
public abstract void	*setValues(List< String >, String...)* on page 1081	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	*toXMLString()* on page 1081	Returns the XML string representation of this object.

Modifier and Type	Member	Description
public static final String	*XMLNS_APPLICATION_URI* on page 1083	Constant for XMLNS URI: http://schemas.microsoft.com/ado/2007/08/dataservices.
public static final String	*XMLNS_ATOM_URI* on page 1083	Constant for XMLNS URI: http://www.w3.org/2005/Atom.
public static final String	*XMLNS_DATASERVICES_URI* on page 1083	Constant for XMLNS URI: http://schemas.microsoft.com/ado/2007/08/dataservices.
public static final String	*XMLNS_EDM_URI* on page 1083	Constant for XMLNS URI: http://schemas.microsoft.com/ado/2007/05/edm.
public static final String	*XMLNS_EDMX_URI* on page 1084	Constant for XMLNS URI: http://schemas.microsoft.com/ado/2007/06/edmx.
public static final String	*XMLNS_GENERICPLAYER_URI* on page 1084	Constant for XMLNS URI: http://www.sap.com/Protocols/SAPData/GenericPlayer.
public static final String	*XMLNS_METADATA_URI* on page 1084	Constant for XMLNS URI: http://schemas.microsoft.com/ado/2007/08/dataservices/metadata.
public static final String	*XMLNS_SAP_URI* on page 1084	Constant for XMLNS URI: http://www.sap.com/Protocols/SAPData.

Inherited members from ISDMPersistable

Modifier and Type	Member	Description
public void	*read(BufferedReader)* on page 1085	
public void	*write(BufferedWriter)* on page 1085	

Inherited members from ISDMODataEntry

Modifier and Type	Member	Description
public static final String	*ATTRIBUTE_SEMANTICS* on page 917	Name of the appropriate SDMOData attribute.
public static final String	*ATTRIBUTE_TERM* on page 917	Name of the appropriate SDMOData attribute.
public static final String	*ATTRIBUTE_VALUE_SEMANTICS_ACTION* on page 918	Value option for appropriate SDMOData attribute.
public static final String	*ELEMENT_AUTHOR* on page 918	Name of the appropriate SDMOData element.
public static final String	*ELEMENT_CATEGORY* on page 918	Name of the appropriate SDMOData element.
public static final String	*ELEMENT_CONTENT* on page 918	Name of the appropriate SDMOData element.
public static final String	*ELEMENT_ENTRY* on page 918	Name of the appropriate SDMOData element.
public static final String	*ELEMENT_LINK* on page 918	Name of the appropriate SDMOData element.
public static final String	*ELEMENT_NAME* on page 918	Name of the appropriate SDMOData element.
public static final String	*ELEMENT_PROPERTIES* on page 919	Name of the appropriate SDMOData element.
public static final String	*ELEMENT_SUMMARY* on page 919	Name of the appropriate SDMOData element.
public static final String	*ELEMENT_TITLE* on page 919	Name of the appropriate SDMOData element.
public static final String	*ELEMENT_UPDATED* on page 919	Name of the appropriate SDMOData element.
public static final String	*PROPERTY_LEVEL_SEPARATOR* on page 919	
public void	*setCachestate(cacheState)* on page 916	

Inherited members from ISDMParserDocument

Modifier and Type	Member	Description
public static final String	*ATTRIBUTE_ETAG* on page 1082	Name of the appropriate SDMOData element.
public static final String	*ATTRIBUTE_VALUEPREFIX_EDMTYPE* on page 1082	Value prefix for EDM Type type values.
public abstract ISDMParserDocument	*clone()* on page 1069	Creates a copy of this object.
public static Map< String, String >	*DEFAULT_PREFIXMAPPING* on page 1082	The default XML Namespace-to-Prefix mapping used for building XMLS.
public static final String[]	*EDMDATETIME_PATTERNS* on page 1082	Possible EDM DateTime patterns Note: Some pattern are not supported by OData specification but still widely used.
public static final String[]	*EDMDATETIMEOFFSET_PATTERNS* on page 1082	Possible EDM TimeOffset patterns Note: Some pattern are not supported by OData specification but still widely used.
public static final String	*EDMTIME_PATTERN* on page 1082	EDM Time pattern.
public static String	*ELEMENT_FEED* on page 1083	Name of the appropriate SDMOData element.
public static final String	*ELEMENT_ID* on page 1083	Name of the appropriate SDMOData element.
public abstract String	*getAttribute(String...)* on page 1069	Returns the value of the first attribute with the given route.
public abstract List< String >	*getAttributes(String...)* on page 1070	Returns all the values of attributes with the given route.
public abstract Map< String, String >	*getChildAttributeMap(String...)* on page 1070	Returns all the name-value pairs of attributes contained by the element with the given route.
public abstract List< String >	*getChildAttributes(String...)* on page 1070	Returns all the values of attributes contained by the element with the given route.

Modifier and Type	Member	Description
public abstract List< ISDMParserDocument >	*getChildDocuments(String...)* on page 1071	Returns the elements contained by the element with the given route.
public abstract List< ISDMParserDocument >	*getChildDocumentsWithAttribute(String, String, String...)* on page 1071	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public abstract List< ISDMParserDocument >	*getChildDocumentsWithAttribute(String, String, boolean, String...)* on page 1072	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public abstract ISDMParserDocument	*getDocument(String...)* on page 1072	Returns the first element with the given route.
public abstract List< ISDMParserDocument >	*getDocuments(String...)* on page 1073	Returns all the elements with the given route.
public abstract List< ISDMParserDocument >	*getDocumentsWithAttribute(String, String, String...)* on page 1073	Returns the elements with the given route that contains the given attribute with the given value.
public abstract List< ISDMParserDocument >	*getDocumentsWithAttribute(String, String, boolean, String...)* on page 1074	Returns the elements with the given route that contains the given attribute with the given value.
public abstract ISDMParserDocument	*getDocumentWithAttribute(String, String, String...)* on page 1074	Returns the first element with the given route that contains the given attribute with the given value.
public abstract ISDMParserDocument	*getDocumentWithAttribute(String, String, boolean, String...)* on page 1075	Returns the first element with the given route that contains the given attribute with the given value.
public abstract String	*getElementName()* on page 1075	Returns The name of the root element of this document.
public abstract String	*getFunctionImportComplexPropertyValue(String...)* on page 1076	

Modifier and Type	Member	Description
public abstract String	*getPrefixForUri(String)* on page 1076	Returns the appropriate name-space prefix for the given XML name-space URI.
public abstract String[]	*getStrings()* on page 1076	Returns all the string values contained by this document.
public abstract String	*getValue(String...)* on page 1076	Returns the value of the first element with the given route.
public abstract List< String >	*getValues(String...)* on page 1077	Returns all the values of elements with the given route.
public abstract void	*putAttribute(String, String...)* on page 1077	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	*putDocument(ISDMParserDocument, String...)* on page 1078	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	*putValue(String, String...)* on page 1078	Sets the value of the first element with the given route.
public abstract boolean	*removeAttribute(String...)* on page 1079	Removes first element with the given route.
public abstract boolean	*removeAttributes(String...)* on page 1079	Removes all the attribute with the given route.
public abstract boolean	*removeDocument(String...)* on page 1079	Removes first element with the given route For removing multiple element use setDocuemtns with null arguments.
public static final String	*ROOT_DOCUMENT_NAME* on page 1083	The default root element name for a new document.

Modifier and Type	Member	Description
public abstract void	*setAttributes(List< String >, String...)* on page 1080	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	*setDocuments(List< ISDMParserDocument >, String...)* on page 1080	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	*setElementName(String, String...)* on page 1081	Sets the name of the root element with the given route Use empty route for setting root name of this document.
public abstract void	*setValues(List< String >, String...)* on page 1081	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	*toXMLString()* on page 1081	Returns the XML string representation of this object.
public static final String	*XMLNS_APPLICATION_URI* on page 1083	Constant for XMLNS URI: http://schemas.microsoft.com/ado/2007/08/dataservices.
public static final String	*XMLNS_ATOM_URI* on page 1083	Constant for XMLNS URI: http://www.w3.org/2005/Atom.

Modifier and Type	Member	Description
public static final String	*XMLNS_DATASERVICES_URI* on page 1083	Constant for XMLNS URI: http://schemas.microsoft.com/ado/2007/08/dataservices.
public static final String	*XMLNS_EDM_URI* on page 1083	Constant for XMLNS URI: http://schemas.microsoft.com/ado/2007/05/edm.
public static final String	*XMLNS_EDMX_URI* on page 1084	Constant for XMLNS URI: http://schemas.microsoft.com/ado/2007/06/edmx.
public static final String	*XMLNS_GENERICPLAYER_URI* on page 1084	Constant for XMLNS URI: http://www.sap.com/Protocols/SAPData/GenericPlayer.
public static final String	*XMLNS_METADATA_URI* on page 1084	Constant for XMLNS URI: http://schemas.microsoft.com/ado/2007/08/dataservices/metadata.
public static final String	*XMLNS_SAP_URI* on page 1084	Constant for XMLNS URI: http://www.sap.com/Protocols/SAPData.

Inherited members from ISDMPersistable

Modifier and Type	Member	Description
public void	*read(BufferedReader)* on page 1085	
public void	*write(BufferedWriter)* on page 1085	

SDMODataReturnTypeEntry(boolean) constructor

Syntax

```
public SDMODataReturnTypeEntry (boolean isComplex)
```

SDMODataReturnTypeEntry(SDMParserDocument, ISDMODataFunctionImport, ISDMODataSchema, boolean) constructor

Syntax

```
public SDMODataReturnTypeEntry (
    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

Remarks
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

Remarks
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
```

SDMODataReturnTypeEntry.SDMODataReturnSchema class
Deprecated. since 3.0, Use com.sap.mobile.lib.request.ODataReturnTypeEntry.ODataReturnSchema

Package

```
com.sap.mobile.lib.sdmparser.SDMODataReturnTypeEntry
```

Syntax

```
protected class SDMODataReturnSchema extends SDMODataSchema
implements ISDMLocalSchema
```

Base class

- *SDMODataSchema* on page 1552

Implemented interfaces

- *ISDMLocalSchema* on page 817

Members
All members of SDMODataReturnSchema, including inherited members. **Variables**

Modifier and Type	Variable	Description
protected List< ISDMODataP-roperty >	referenceProperties	
protected SDMODataCom-plexType	complexType	

Constructors

Modifier and Type	Constructor	Description
public	*SDMODataReturnSchema()* on page 1535	

Modifier and Type	Constructor	Description
public	*SDMODataReturnSchema(List< ISDMODataProperty >)* on page 1535	
public	*SDMODataReturnSchema(List< ISDMODataProperty >, SDMODataComplexType)* on page 1535	

Methods

Modifier and Type	Method	Description
public void	*addProperty(ISDMODataProperty)* on page 1535	
public SDMODataComplexType	*getComplexType(String)* on page 1535	
public SDMODataEntityType	*getEntityTypeForCollection(String)* on page 1536	
public void	*read(BufferedReader)* on page 1536	
public void	*write(BufferedWriter)* on page 1536	

Inherited members from SDMODataSchema

Modifier and Type	Member	Description
public SDMODataAssociation	*getAssociation(String)* on page 1568	Returns the appropriate SDMOData Association element with the given relationship attribute.
public List< ISDMODataAssociation >	*getAssociations()* on page 1568	Returns the list of the appropriate SDMOData elements.
public SDMODataAssociationSet	*getAssociationSet(String)* on page 1569	Returns the appropriate AssociationSet with for given association.
public List< ISDMODataAssociationSet >	*getAssociationSets()* on page 1569	Returns the list of the appropriate SDMOData elements.

Modifier and Type	Member	Description
public List< ISDMODataComplexType >	*getComplexTypes()* on page 1570	Returns The list of the appropriate SDMOData element.
public SDMODataEntitySet	*getEntitySet(String)* on page 1570	Returns The appropriate SDMOData EntitySet.
public SDMODataEntityType	*getEntityType(String)* on page 1570	Returns The 'EntityType' SDMOData element associated with the reference argument.
public List< ISDMODataFunctionImport >	*getFunctionImports()* on page 1571	Returns The list of the 'FunctionImport' SDMOData element.
public List< ISDMODataFunctionImport >	*getFunctionImportsForCollection(String)* on page 1571	Returns List of FunctionImports valid for the appropriate collection.
public ISDMODataServiceDocument	*getServiceDocument()* on page 1571	Returns the appropriate SDMOData Service Document.
public String	*getTargetCollectionIdForNavigationProperty(String, String)* on page 1571	Resolves the target collection Id of the given SDMOData Navigation Property element.
public	*SDMODataSchema()* on page 1568	
protected	*SDMODataSchema(int[], String[])* on page 1568	
public	*SDMODataSchema(SDMParserDocument)* on page 1568	
protected ISDMODataServiceDocument	*serviceDocument* on page 1572	
public void	*setServiceDocument(ISDMODataServiceDocument)* on page 1572	Maintains reference to the appropriate SDMOData Service Document.

Inherited members from SDMParserDocument

Modifier and Type	Member	Description
public SDMParserDocument	*clone()* on page 1681	Creates a copy of this object.
protected Map< String, String >	*extensions* on page 1701	

Modifier and Type	Member	Description
public String	*getAttribute(String...)* on page 1682	Returns the value of the first attribute with the given route.
public List< String >	*getAttributes(String...)* on page 1682	Returns all the values of attributes with the given route.
protected int	*getAttributesEndPosition(int[], int, int)* on page 1682	
public Map< String, String >	*getChildAttributeMap(String...)* on page 1683	Returns all the name-value pairs of attributes contained by the element with the given route.
public List< String >	*getChildAttributes(String...)* on page 1683	Returns all the values of attributes contained by the element with the given route.
public List< ISDMParserDocument >	*getChildDocuments(String...)* on page 1683	Returns the elements contained by the element with the given route.
public List< ISDMParserDocument >	*getChildDocumentsWithAttribute(String, String, String...)* on page 1684	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public List< ISDMParserDocument >	*getChildDocumentsWithAttribute(String, String, boolean, String...)* on page 1684	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public SDMParserDocument	*getDocument(String...)* on page 1685	Returns the first element with the given route.
protected List< int[]>	*getDocumentPositions(String[], int, boolean, boolean)* on page 1685	
public List< ISDMParserDocument >	*getDocuments(String...)* on page 1686	Returns all the elements with the given route.
public List< ISDMParserDocument >	*getDocumentsWithAttribute(String, String, String...)* on page 1686	Returns the elements with the given route that contains the given attribute with the given value.

Modifier and Type	Member	Description
public List< ISDMParserDocument >	*getDocumentsWithAttribute(String, String, boolean, String...)* on page 1687	Returns the elements with the given route that contains the given attribute with the given value.
public ISDMParserDocument	*getDocumentWithAttribute(String, String, String...)* on page 1687	Returns the first element with the given route that contains the given attribute with the given value.
public ISDMParserDocument	*getDocumentWithAttribute(String, String, boolean, String...)* on page 1688	Returns the first element with the given route that contains the given attribute with the given value.
public String	*getElementName()* on page 1688	Returns The name of the root element of this document.
public String	*getExtension(String)* on page 1689	
public String	*getFunctionImportComplexPropertyValue(String...)* on page 1689	
public static List< String >	*getNameMap()* on page 1689	
public static String	*getPrefix(String)* on page 1689	
public String	*getPrefixForUri(String)* on page 1689	Returns the appropriate name-space prefix for the given XML name-space URI.
public static Map< String, String >	*getPrefixMapping()* on page 1689	
protected List< Integer >	*getStringPositions(String[], int, boolean, boolean)* on page 1690	
public String[]	*getStrings()* on page 1690	Returns all the string values contained by this document.
public String	*getValue(String...)* on page 1690	Returns the value of the first element with the given route.

Modifier and Type	Member	Description
public List< String >	*getValues(String...)* on page 1690	Returns all the values of elements with the given route.
protected int[]	*insertRoutePositions(int[], int, int[])* on page 1691	
protected void	*insertRoutesPositions(int, int[])* on page 1691	
protected void	*insertStringsPositions(int, String[])* on page 1691	
protected String[]	*insertStringsPositions(String[], int, String[])* on page 1691	
protected boolean	*isMatched(String, String)* on page 1692	
public void	*putAttribute(String, String...)* on page 1692	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	*putDocument(ISDMParserDocument, String...)* on page 1692	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	*putExtension(String, String)* on page 1693	
protected void	*putString(int, String, int, String...)* on page 1693	
public void	*putValue(String, String...)* on page 1693	Sets the value of the first element with the given route.
public void	*read(BufferedReader)* on page 1693	
public static void	*readNameMap(BufferedReader)* on page 1694	

Modifier and Type	Member	Description
public boolean	*removeAttribute(String...)* on page 1694	Removes first element with the given route.
public boolean	*removeAttributes(String...)* on page 1694	Removes all the attribute with the given route.
public boolean	*removeDocument(String...)* on page 1695	Removes first element with the given route For removing multiple element use setDocuemtns with null arguments.
public void	*removeExtension(String)* on page 1695	
protected void	*removeRoutesPositions(int, int)* on page 1695	
protected int[]	*removeRoutesPositions(int[], int, int)* on page 1695	
protected boolean	*removeString(String...)* on page 1695	
protected boolean	*removeStrings(String...)* on page 1696	
protected void	*removeStringsPositions(int, int)* on page 1696	
protected String[]	*removeStringsPositions(String[], int, int)* on page 1696	
protected int	*replaceRoutesPositions(int, int, int[])* on page 1696	
protected int[]	*replaceRoutesPositions(int[], int, int, int[])* on page 1696	
protected int	*replaceStringsPositions(int, int, String[])* on page 1697	
protected String[]	*replaceStringsPositions(String[], int, int, String[])* on page 1697	
public static String	*resolveUrl(String, String)* on page 1697	

Modifier and Type	Member	Description
protected int[]	*routes* on page 1701	
public	*SDMParserDocument(String)* on page 1681	
public	*SDMParserDocument(SDMParserDocument)* on page 1681	
protected	*SDMParserDocument(int[], String[])* on page 1681	
protected	*SDMParserDocument(String, boolean)* on page 1681	
public void	*setAttribute(String, String...)* on page 1697	
public void	*setAttributes(List< String >, String...)* on page 1697	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	*setDocument(ISDMParserDocument, String...)* on page 1698	
public void	*setDocuments(List< ISDMParserDocument >, String...)* on page 1698	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	*setElementName(String, String...)* on page 1698	Sets the name of the root element with the given route Use empty route for setting root name of this document.

Modifier and Type	Member	Description
public static void	*setNameMap(List< String >)* on page 1699	
public static void	*setPrefixMapping(Map< String, String >)* on page 1699	
protected void	*setString(String, String...)* on page 1699	
protected void	*setStrings(List< String >, String...)* on page 1699	
public void	*setValue(String, String...)* on page 1699	
public void	*setValues(List< String >, String...)* on page 1700	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[]	*strings* on page 1701	
public String	*toXMLString()* on page 1700	Returns the XML string representation of this object.
protected static final String	*URL_PROTOCOL_PREFIX* on page 1701	
public void	*write(BufferedWriter)* on page 1700	
public static void	*writeNameMap(BufferedWriter)* on page 1701	

Inherited members from ISDMParserDocument

Modifier and Type	Member	Description
public static final String	*ATTRIBUTE_ETAG* on page 1082	Name of the appropriate SDMOData element.
public static final String	*ATTRIBUTE_VALUEPREFIX_EDMTYPE* on page 1082	Value prefix for EDM Type type values.

Modifier and Type	Member	Description
public static Map< String, String >	*DEFAULT_PREFIXMAPPING* on page 1082	The default XML Namespace-to-Prefix mapping used for building XMLS.
public static final String[]	*EDMDATETIME_PATTERNS* on page 1082	Possible EDM DateTime patterns Note: Some pattern are not supported by OData specification but still widely used.
public static final String[]	*EDMDATETIMEOFFSET_PATTERNS* on page 1082	Possible EDM TimeOffset patterns Note: Some pattern are not supported by OData specification but still widely used.
public static final String	*EDMTIME_PATTERN* on page 1082	EDM Time pattern.
public static String	*ELEMENT_FEED* on page 1083	Name of the appropriate SDMOData element.
public static final String	*ELEMENT_ID* on page 1083	Name of the appropriate SDMOData element.
public static final String	*ROOT_DOCUMENT_NAME* on page 1083	The default root element name for a new document.
public static final String	*XMLNS_APPLICATION_URI* on page 1083	Constant for XMLNS URI: http://schemas.microsoft.com/ado/2007/08/dataservices.
public static final String	*XMLNS_ATOM_URI* on page 1083	Constant for XMLNS URI: http://www.w3.org/2005/Atom.
public static final String	*XMLNS_DATASERVICES_URI* on page 1083	Constant for XMLNS URI: http://schemas.microsoft.com/ado/2007/08/dataservices.
public static final String	*XMLNS_EDM_URI* on page 1083	Constant for XMLNS URI: http://schemas.microsoft.com/ado/2007/05/edm.
public static final String	*XMLNS_EDMX_URI* on page 1084	Constant for XMLNS URI: http://schemas.microsoft.com/ado/2007/06/edmx.

Modifier and Type	Member	Description
public static final String	*XMLNS_GENERICPLAY-ER_URI* on page 1084	Constant for XMLNS URI: http://www.sap.com/Protocols/SAPData/GenericPlayer.
public static final String	*XMLNS_METADATA_URI* on page 1084	Constant for XMLNS URI: http://schemas.microsoft.com/ado/2007/08/dataservices/met-adata.
public static final String	*XMLNS_SAP_URI* on page 1084	Constant for XMLNS URI: http://www.sap.com/Protocols/SAPData.

Inherited members from ISDMPersistable

Modifier and Type	Member	Description
public void	*read(BufferedReader)* on page 1085	
public void	*write(BufferedWriter)* on page 1085	

Inherited members from ISDMODataSchema

Modifier and Type	Member	Description
public static final String	*ACTION_FOR* on page 1009	name of the appropriate SDMO-data attribute
public static final String	*ATTRIBUTE_ENTITYSET* on page 1009	Name of the appropriate SDMOData attribute.
public static final String	*ATTRIBUTE_ENTITYTYPE* on page 1009	Name of the appropriate SDMOData attribute.
public static final String	*ATTRIBUTE_NAME* on page 1009	Name of the appropriate SDMOData attribute.
public static final String	*ATTRIBUTE_NAMESPACE* on page 1009	Name of the appropriate SDMOData attribute.
public static final String	*ELEMENT_COMPLEXTYPE* on page 1010	Name of the appropriate SDMOData element.
public static final String	*ELEMENT_DATASERVICES* on page 1010	Name of the appropriate SDMOData element.

Modifier and Type	Member	Description
public static final String	*ELEMENT_EDMX* on page 1010	Name of the appropriate SDMOData element.
public static final String	*ELEMENT_ENTITYCONTAINER* on page 1010	Name of the appropriate SDMOData element.
public static final String	*ELEMENT_ENTITYSET* on page 1010	Name of the appropriate SDMOData element.
public static final String	*ELEMENT_ENTITYTYPE* on page 1010	Name of the appropriate SDMOData element.
public static final String	*ELEMENT_FUNCTIONALIMPORT* on page 1010	Name of the appropriate SDMOData element.
public static final String	*ELEMENT_SCHEMA* on page 1011	Name of the appropriate SDMOData element.

Inherited members from ISDMParserDocument

Modifier and Type	Member	Description
public static final String	*ATTRIBUTE_ETAG* on page 1082	Name of the appropriate SDMOData element.
public static final String	*ATTRIBUTE_VALUEPREFIX_EDMTYPE* on page 1082	Value prefix for EDM Type type values.
public abstract ISDMParserDocument	*clone()* on page 1069	Creates a copy of this object.
public static Map< String, String >	*DEFAULT_PREFIXMAPPING* on page 1082	The default XML Namespace-to-Prefix mapping used for building XMLS.
public static final String[]	*EDMDATETIME_PATTERNS* on page 1082	Possible EDM DateTime patterns Note: Some pattern are not supported by OData specification but still widely used.
public static final String[]	*EDMDATETIMEOFFSET_PATTERNS* on page 1082	Possible EDM TimeOffset patterns Note: Some pattern are not supported by OData specification but still widely used.
public static final String	*EDMTIME_PATTERN* on page 1082	EDM Time pattern.

Modifier and Type	Member	Description
public static String	*ELEMENT_FEED* on page 1083	Name of the appropriate SDMOData element.
public static final String	*ELEMENT_ID* on page 1083	Name of the appropriate SDMOData element.
public abstract String	*getAttribute(String...)* on page 1069	Returns the value of the first attribute with the given route.
public abstract List< String >	*getAttributes(String...)* on page 1070	Returns all the values of attributes with the given route.
public abstract Map< String, String >	*getChildAttributeMap(String...)* on page 1070	Returns all the name-value pairs of attributes contained by the element with the given route.
public abstract List< String >	*getChildAttributes(String...)* on page 1070	Returns all the values of attributes contained by the element with the given route.
public abstract List< ISDMParserDocument >	*getChildDocuments(String...)* on page 1071	Returns the elements contained by the element with the given route.
public abstract List< ISDMParserDocument >	*getChildDocumentsWithAttribute(String, String, String...)* on page 1071	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public abstract List< ISDMParserDocument >	*getChildDocumentsWithAttribute(String, String, boolean, String...)* on page 1072	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public abstract ISDMParserDocument	*getDocument(String...)* on page 1072	Returns the first element with the given route.
public abstract List< ISDMParserDocument >	*getDocuments(String...)* on page 1073	Returns all the elements with the given route.
public abstract List< ISDMParserDocument >	*getDocumentsWithAttribute(String, String, String...)* on page 1073	Returns the elements with the given route that contains the given attribute with the given value.

Modifier and Type	Member	Description
public abstract List< ISDMParserDocument >	*getDocumentsWithAttribute(String, String, boolean, String...)* on page 1074	Returns the elements with the given route that contains the given attribute with the given value.
public abstract ISDMParserDocument	*getDocumentWithAttribute(String, String, String...)* on page 1074	Returns the first element with the given route that contains the given attribute with the given value.
public abstract ISDMParserDocument	*getDocumentWithAttribute(String, String, boolean, String...)* on page 1075	Returns the first element with the given route that contains the given attribute with the given value.
public abstract String	*getElementName()* on page 1075	Returns The name of the root element of this document.
public abstract String	*getFunctionImportComplexPropertyValue(String...)* on page 1076	
public abstract String	*getPrefixForUri(String)* on page 1076	Returns the appropriate name-space prefix for the given XML name-space URI.
public abstract String[]	*getStrings()* on page 1076	Returns all the string values contained by this document.
public abstract String	*getValue(String...)* on page 1076	Returns the value of the first element with the given route.
public abstract List< String >	*getValues(String...)* on page 1077	Returns all the values of elements with the given route.
public abstract void	*putAttribute(String, String...)* on page 1077	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	*putDocument(ISDMParserDocument, String...)* on page 1078	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	*putValue(String, String...)* on page 1078	Sets the value of the first element with the given route.
public abstract boolean	*removeAttribute(String...)* on page 1079	Removes first element with the given route.
public abstract boolean	*removeAttributes(String...)* on page 1079	Removes all the attribute with the given route.
public abstract boolean	*removeDocument(String...)* on page 1079	Removes first element with the given route For removing multiple element use setDocuemtns with null arguments.
public static final String	*ROOT_DOCUMENT_NAME* on page 1083	The default root element name for a new document.
public abstract void	*setAttributes(List< String >, String...)* on page 1080	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	*setDocuments(List< ISDMParserDocument >, String...)* on page 1080	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	*setElementName(String, String...)* on page 1081	Sets the name of the root element with the given route Use empty route for setting root name of this document.
public abstract void	*setValues(List< String >, String...)* on page 1081	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	*toXMLString()* on page 1081	Returns the XML string representation of this object.
public static final String	*XMLNS_APPLICATION_URI* on page 1083	Constant for XMLNS URI: http://schemas.microsoft.com/ado/2007/08/dataservices.
public static final String	*XMLNS_ATOM_URI* on page 1083	Constant for XMLNS URI: http://www.w3.org/2005/Atom.
public static final String	*XMLNS_DATASERVICES_URI* on page 1083	Constant for XMLNS URI: http://schemas.microsoft.com/ado/2007/08/dataservices.
public static final String	*XMLNS_EDM_URI* on page 1083	Constant for XMLNS URI: http://schemas.microsoft.com/ado/2007/05/edm.
public static final String	*XMLNS_EDMX_URI* on page 1084	Constant for XMLNS URI: http://schemas.microsoft.com/ado/2007/06/edmx.
public static final String	*XMLNS_GENERICPLAYER_URI* on page 1084	Constant for XMLNS URI: http://www.sap.com/Protocols/SAPData/GenericPlayer.
public static final String	*XMLNS_METADATA_URI* on page 1084	Constant for XMLNS URI: http://schemas.microsoft.com/ado/2007/08/dataservices/metadata.

Modifier and Type	Member	Description
public static final String	*XMLNS_SAP_URI* on page 1084	Constant for XMLNS URI: http://www.sap.com/Protocols/SAPData.

Inherited members from ISDMPersistable

Modifier and Type	Member	Description
public void	*read(BufferedReader)* on page 1085	
public void	*write(BufferedWriter)* on page 1085	

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
```

SDMODataReturnTypeEntry.SDMODataReturnSchema.SDMODataReturnEntityType class

Deprecated. since 3.0, Use com.sap.mobile.lib.request.ODataReturnTypeEntry.ODataReturnSchema.ODataReturnEntityType

Package

```
com.sap.mobile.lib.sdmparser.SDMODataReturnTypeEntry.SDMODataReturnSchema
```

Syntax

```
protected class SDMODataReturnEntityType extends SDMODataEntityType
```

Base class

- *SDMODataEntityType* on page 1293

Members

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

Modifier and Type	Variable	Description
protected List< ISDMODataProperty >	referenceProperties	

Constructors

Modifier and Type	Constructor	Description
public	*SDMODataReturnEntityType(List< ISDMODataProperty >)* on page 1552	

Methods

Modifier and Type	Method	Description
public List< ISDMODataProperty >	*getProperties()* on page 1552	

Inherited members from SDMODataEntityType

Modifier and Type	Member	Description
public List< ISDMODataProperty >	*getGPUseInSearchPropertiesData()* on page 1309	Returns The list of appropriate SDMOData elements with 'true' use-in-search (Generic Player names-pace) attribute value.
public List< ISDMODataProperty >	*getGPVisibleInDetailPropertiesData()* on page 1309	Returns The list of appropriate SDMOData elements with 'true' visible-in-detail (Generic Player names-pace) attribute value.
public List< ISDMODataProperty >	*getGPVisibleInListPropertiesData()* on page 1309	Returns The list of appropriate SDMOData elements with 'true' visible-in-list (Generic Player names-pace) attribute value.

Modifier and Type	Member	Description
public List< String >	*getKeyPropertyNames()* on page 1310	Returns the list of the values of the 'PropertyRef' SDMOData element contained by the 'Key' SDMOData element.
public String	*getName()* on page 1310	Returns The value of the appropriate SDMOData attribute.
public List< ISDMODataNavigationProperty >	*getNavigationProperties()* on page 1310	Returns The list of appropriate SDMOData elements.
public ISDMODataNavigationProperty	*getNavigationProperty(String)* on page 1310	Returns The appropriate SDMOData element with the given name.
public List< ISDMODataProperty >	*getPropertiesWithAttribute(String, String)* on page 1311	Returns The list of appropriate SDMOData elements with given attribute value.
public List< ISDMODataProperty >	*getPropertiesWithAttribute(String, String, boolean)* on page 1311	Returns The list of appropriate SDMOData elements with given attribute value.
public ISDMODataProperty	*getProperty(String)* on page 1311	Returns The appropriate SDMOData element with the given name.
public List< ISDMODataProperty >	*getSAPSearchablePropertiesData()* on page 1312	Returns The list of appropriate SDMOData elements with 'true' searchable (SAP names-pace) attribute value.
protected ISDMODataSchema	*getSchema()* on page 1312	
public List< ISDMODataProperty >	*getSearchablePropertiesData(String)* on page 1312	Returns The list of appropriate SDMOData elements with 'true' attribute value of the given attribute.
public boolean	*hasStream()* on page 1312	Returns The value of the appropriate SDMOData attribute.
public	*SDMODataEntityType()* on page 1308	
protected	*SDMODataEntityType(int[], String[])* on page 1308	

Modifier and Type	Member	Description
public	*SDMODataEntity-Type(SDMParserDocument)* on page 1309	
protected void	*setSchema(ISDMODataSche-ma)* on page 1313	

Inherited members from SDMParserDocument

Modifier and Type	Member	Description
public SDMParserDocument	*clone()* on page 1681	Creates a copy of this object.
protected Map< String, String >	*extensions* on page 1701	
public String	*getAttribute(String...)* on page 1682	Returns the value of the first attribute with the given route.
public List< String >	*getAttributes(String...)* on page 1682	Returns all the values of attributes with the given route.
protected int	*getAttributesEndPosition(int[], int, int)* on page 1682	
public Map< String, String >	*getChildAttribute-Map(String...)* on page 1683	Returns all the name-value pairs of attributes contained by the element with the given route.
public List< String >	*getChildAttributes(String...)* on page 1683	Returns all the values of attributes contained by the element with the given route.
public List< ISDMParserDocument >	*getChildDocuments(String...)* on page 1683	Returns the elements contained by the element with the given route.
public List< ISDMParserDocument >	*getChildDocumentsWithAttribute(String, String, String...)* on page 1684	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public List< ISDMParserDocument >	*getChildDocumentsWithAttribute(String, String, boolean, String...)* on page 1684	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 SDMParserDocument	*getDocument(String...)* on page 1685	Returns the first element with the given route.
protected List< int[]>	*getDocumentPositions(String[], int, boolean, boolean)* on page 1685	
public List< ISDMParserDocument >	*getDocuments(String...)* on page 1686	Returns all the elements with the given route.
public List< ISDMParserDocument >	*getDocumentsWithAttribute(String, String, String...)* on page 1686	Returns the elements with the given route that contains the given attribute with the given value.
public List< ISDMParserDocument >	*getDocumentsWithAttribute(String, String, boolean, String...)* on page 1687	Returns the elements with the given route that contains the given attribute with the given value.
public ISDMParserDocument	*getDocumentWithAttribute(String, String, String...)* on page 1687	Returns the first element with the given route that contains the given attribute with the given value.
public ISDMParserDocument	*getDocumentWithAttribute(String, String, boolean, String...)* on page 1688	Returns the first element with the given route that contains the given attribute with the given value.
public String	*getElementName()* on page 1688	Returns The name of the root element of this document.
public String	*getExtension(String)* on page 1689	
public String	*getFunctionImportComplexPropertyValue(String...)* on page 1689	
public static List< String >	*getNameMap()* on page 1689	
public static String	*getPrefix(String)* on page 1689	

Modifier and Type	Member	Description
public String	*getPrefixForUri(String)* on page 1689	Returns the appropriate name-space prefix for the given XML name-space URI.
public static Map< String, String >	*getPrefixMapping()* on page 1689	
protected List< Integer >	*getStringPositions(String[], int, boolean, boolean)* on page 1690	
public String[]	*getStrings()* on page 1690	Returns all the string values contained by this document.
public String	*getValue(String...)* on page 1690	Returns the value of the first element with the given route.
public List< String >	*getValues(String...)* on page 1690	Returns all the values of elements with the given route.
protected int[]	*insertRoutePositions(int[], int, int[])* on page 1691	
protected void	*insertRoutesPositions(int, int[])* on page 1691	
protected void	*insertStringsPositions(int, String[])* on page 1691	
protected String[]	*insertStringsPositions(String[], int, String[])* on page 1691	
protected boolean	*isMatched(String, String)* on page 1692	
public void	*putAttribute(String, String...)* on page 1692	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	*putDocument(ISDMParserDocument, String...)* on page 1692	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	*putExtension(String, String)* on page 1693	
protected void	*putString(int, String, int, String...)* on page 1693	
public void	*putValue(String, String...)* on page 1693	Sets the value of the first element with the given route.
public void	*read(BufferedReader)* on page 1693	
public static void	*readNameMap(BufferedReader)* on page 1694	
public boolean	*removeAttribute(String...)* on page 1694	Removes first element with the given route.
public boolean	*removeAttributes(String...)* on page 1694	Removes all the attribute with the given route.
public boolean	*removeDocument(String...)* on page 1695	Removes first element with the given route For removing multiple element use setDocuemtns with null arguments.
public void	*removeExtension(String)* on page 1695	
protected void	*removeRoutesPositions(int, int)* on page 1695	
protected int[]	*removeRoutesPositions(int[], int, int)* on page 1695	
protected boolean	*removeString(String...)* on page 1695	

Modifier and Type	Member	Description
protected boolean	*removeStrings(String...)* on page 1696	
protected void	*removeStringsPositions(int, int)* on page 1696	
protected String[]	*removeStringsPositions(String[], int, int)* on page 1696	
protected int	*replaceRoutesPositions(int, int, int[])* on page 1696	
protected int[]	*replaceRoutesPositions(int[], int, int, int[])* on page 1696	
protected int	*replaceStringsPositions(int, int, String[])* on page 1697	
protected String[]	*replaceStringsPositions(String[], int, int, String[])* on page 1697	
public static String	*resolveUrl(String, String)* on page 1697	
protected int[]	*routes* on page 1701	
public	*SDMParserDocument(String)* on page 1681	
public	*SDMParserDocument(SDMParserDocument)* on page 1681	
protected	*SDMParserDocument(int[], String[])* on page 1681	
protected	*SDMParserDocument(String, boolean)* on page 1681	
public void	*setAttribute(String, String...)* on page 1697	

Modifier and Type	Member	Description
public void	*setAttributes(List< String >, String...)* on page 1697	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	*setDocument(ISDMParserDocument, String...)* on page 1698	
public void	*setDocuments(List< ISDMParserDocument >, String...)* on page 1698	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	*setElementName(String, String...)* on page 1698	Sets the name of the root element with the given route Use empty route for setting root name of this document.
public static void	*setNameMap(List< String >)* on page 1699	
public static void	*setPrefixMapping(Map< String, String >)* on page 1699	
protected void	*setString(String, String...)* on page 1699	
protected void	*setStrings(List< String >, String...)* on page 1699	
public void	*setValue(String, String...)* on page 1699	

Modifier and Type	Member	Description
public void	*setValues(List< String >, String...)* on page 1700	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[]	*strings* on page 1701	
public String	*toXMLString()* on page 1700	Returns the XML string representation of this object.
protected static final String	*URL_PROTOCOL_PREFIX* on page 1701	
public void	*write(BufferedWriter)* on page 1700	
public static void	*writeNameMap(BufferedWriter)* on page 1701	

Inherited members from ISDMParserDocument

Modifier and Type	Member	Description
public static final String	*ATTRIBUTE_ETAG* on page 1082	Name of the appropriate SDMOData element.
public static final String	*ATTRIBUTE_VALUEPREFIX_EDMTYPE* on page 1082	Value prefix for EDM Type type values.
public static Map< String, String >	*DEFAULT_PREFIXMAPPING* on page 1082	The default XML Namespace-to-Prefix mapping used for building XMLS.
public static final String[]	*EDMDATETIME_PATTERNS* on page 1082	Possible EDM DateTime patterns Note: Some pattern are not supported by OData specification but still widely used.
public static final String[]	*EDMDATETIMEOFFSET_PATTERNS* on page 1082	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	*EDMTIME_PATTERN* on page 1082	EDM Time pattern.
public static String	*ELEMENT_FEED* on page 1083	Name of the appropriate SDMOData element.
public static final String	*ELEMENT_ID* on page 1083	Name of the appropriate SDMOData element.
public static final String	*ROOT_DOCUMENT_NAME* on page 1083	The default root element name for a new document.
public static final String	*XMLNS_APPLICATION_URI* on page 1083	Constant for XMLNS URI: http://schemas.microsoft.com/ado/2007/08/dataservices.
public static final String	*XMLNS_ATOM_URI* on page 1083	Constant for XMLNS URI: http://www.w3.org/2005/Atom.
public static final String	*XMLNS_DATASERVICES_URI* on page 1083	Constant for XMLNS URI: http://schemas.microsoft.com/ado/2007/08/dataservices.
public static final String	*XMLNS_EDM_URI* on page 1083	Constant for XMLNS URI: http://schemas.microsoft.com/ado/2007/05/edm.
public static final String	*XMLNS_EDMX_URI* on page 1084	Constant for XMLNS URI: http://schemas.microsoft.com/ado/2007/06/edmx.
public static final String	*XMLNS_GENERICPLAYER_URI* on page 1084	Constant for XMLNS URI: http://www.sap.com/Protocols/SAPData/GenericPlayer.
public static final String	*XMLNS_METADATA_URI* on page 1084	Constant for XMLNS URI: http://schemas.microsoft.com/ado/2007/08/dataservices/metadata.
public static final String	*XMLNS_SAP_URI* on page 1084	Constant for XMLNS URI: http://www.sap.com/Protocols/SAPData.

Inherited members from ISDMPersistable

Modifier and Type	Member	Description
public void	*read(BufferedReader)* on page 1085	
public void	*write(BufferedWriter)* on page 1085	

Inherited members from ISDMODataEntityType

Modifier and Type	Member	Description
public static final String	*ATTRIBUTE_HASSTREAM* on page 894	Name of the appropriate SDMOData attribute.
public static final String	*ATTRIBUTE_NAME* on page 894	Name of the appropriate SDMOData attribute.
public static final String	*ELEMENT_ENTITYTYPE* on page 894	Name of the appropriate SDMOData element.
public static final String	*ELEMENT_KEY* on page 894	Name of the appropriate SDMOData element.
public static final String	*ELEMENT_PROPERTY* on page 894	Name of the appropriate SDMOData element.
public static final String	*ELEMENT_PROPERTYREF* on page 895	Name of the appropriate SDMOData element.

Inherited members from ISDMParserDocument

Modifier and Type	Member	Description
public static final String	*ATTRIBUTE_ETAG* on page 1082	Name of the appropriate SDMOData element.
public static final String	*ATTRIBUTE_VALUEPREFIX_EDMTYPE* on page 1082	Value prefix for EDM Type type values.
public abstract ISDMParserDocument	*clone()* on page 1069	Creates a copy of this object.
public static Map< String, String >	*DEFAULT_PREFIXMAPPING* on page 1082	The default XML Namespace-to-Prefix mapping used for building XMLS.

Modifier and Type	Member	Description
public static final String[]	*EDMDATETIME_PATTERNS* on page 1082	Possible EDM DateTime patterns Note: Some pattern are not supported by OData specification but still widely used.
public static final String[]	*EDMDATETIMEOFFSET_PATTERNS* on page 1082	Possible EDM TimeOffset patterns Note: Some pattern are not supported by OData specification but still widely used.
public static final String	*EDMTIME_PATTERN* on page 1082	EDM Time pattern.
public static String	*ELEMENT_FEED* on page 1083	Name of the appropriate SDMOData element.
public static final String	*ELEMENT_ID* on page 1083	Name of the appropriate SDMOData element.
public abstract String	*getAttribute(String...)* on page 1069	Returns the value of the first attribute with the given route.
public abstract List< String >	*getAttributes(String...)* on page 1070	Returns all the values of attributes with the given route.
public abstract Map< String, String >	*getChildAttributeMap(String...)* on page 1070	Returns all the name-value pairs of attributes contained by the element with the given route.
public abstract List< String >	*getChildAttributes(String...)* on page 1070	Returns all the values of attributes contained by the element with the given route.
public abstract List< ISDMParserDocument >	*getChildDocuments(String...)* on page 1071	Returns the elements contained by the element with the given route.
public abstract List< ISDMParserDocument >	*getChildDocumentsWithAttribute(String, String, String...)* on page 1071	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public abstract List< ISDMParserDocument >	*getChildDocumentsWithAttribute(String, String, boolean, String...)* on page 1072	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	*getDocument(String...)* on page 1072	Returns the first element with the given route.
public abstract List< ISDMParserDocument >	*getDocuments(String...)* on page 1073	Returns all the elements with the given route.
public abstract List< ISDMParserDocument >	*getDocumentsWithAttribute(String, String, String...)* on page 1073	Returns the elements with the given route that contains the given attribute with the given value.
public abstract List< ISDMParserDocument >	*getDocumentsWithAttribute(String, String, boolean, String...)* on page 1074	Returns the elements with the given route that contains the given attribute with the given value.
public abstract ISDMParserDocument	*getDocumentWithAttribute(String, String, String...)* on page 1074	Returns the first element with the given route that contains the given attribute with the given value.
public abstract ISDMParserDocument	*getDocumentWithAttribute(String, String, boolean, String...)* on page 1075	Returns the first element with the given route that contains the given attribute with the given value.
public abstract String	*getElementName()* on page 1075	Returns The name of the root element of this document.
public abstract String	*getFunctionImportComplexPropertyValue(String...)* on page 1076	
public abstract String	*getPrefixForUri(String)* on page 1076	Returns the appropriate name-space prefix for the given XML name-space URI.
public abstract String[]	*getStrings()* on page 1076	Returns all the string values contained by this document.
public abstract String	*getValue(String...)* on page 1076	Returns the value of the first element with the given route.
public abstract List< String >	*getValues(String...)* on page 1077	Returns all the values of elements with the given route.

Modifier and Type	Member	Description
public abstract void	*putAttribute(String, String...)* on page 1077	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	*putDocument(ISDMParserDocument, String...)* on page 1078	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	*putValue(String, String...)* on page 1078	Sets the value of the first element with the given route.
public abstract boolean	*removeAttribute(String...)* on page 1079	Removes first element with the given route.
public abstract boolean	*removeAttributes(String...)* on page 1079	Removes all the attribute with the given route.
public abstract boolean	*removeDocument(String...)* on page 1079	Removes first element with the given route For removing multiple element use setDocuemtns with null arguments.
public static final String	*ROOT_DOCUMENT_NAME* on page 1083	The default root element name for a new document.
public abstract void	*setAttributes(List< String >, String...)* on page 1080	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	*setDocuments(List< ISDMParserDocument >, String...)* on page 1080	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	*setElementName(String, String...)* on page 1081	Sets the name of the root element with the given route Use empty route for setting root name of this document.
public abstract void	*setValues(List< String >, String...)* on page 1081	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	*toXMLString()* on page 1081	Returns the XML string representation of this object.
public static final String	*XMLNS_APPLICATION_URI* on page 1083	Constant for XMLNS URI: http://schemas.microsoft.com/ado/2007/08/dataservices.
public static final String	*XMLNS_ATOM_URI* on page 1083	Constant for XMLNS URI: http://www.w3.org/2005/Atom.
public static final String	*XMLNS_DATASERVICES_URI* on page 1083	Constant for XMLNS URI: http://schemas.microsoft.com/ado/2007/08/dataservices.
public static final String	*XMLNS_EDM_URI* on page 1083	Constant for XMLNS URI: http://schemas.microsoft.com/ado/2007/05/edm.
public static final String	*XMLNS_EDMX_URI* on page 1084	Constant for XMLNS URI: http://schemas.microsoft.com/ado/2007/06/edmx.

Modifier and Type	Member	Description
public static final String	*XMLNS_GENERICPLAY-ER_URI* on page 1084	Constant for XMLNS URI: http://www.sap.com/Protocols/SAPData/GenericPlayer.
public static final String	*XMLNS_METADATA_URI* on page 1084	Constant for XMLNS URI: http://schemas.microsoft.com/ado/2007/08/dataservices/metadata.
public static final String	*XMLNS_SAP_URI* on page 1084	Constant for XMLNS URI: http://www.sap.com/Protocols/SAPData.

Inherited members from ISDMPersistable

Modifier and Type	Member	Description
public void	*read(BufferedReader)* on page 1085	
public void	*write(BufferedWriter)* on page 1085	

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

Package

```
com.sap.mobile.lib.sdmparser
```

Syntax

```
public class SDMODataSchema extends SDMParserDocument
implements ISDMODataSchema
```

Base class

- *SDMParserDocument* on page 1672

Implemented interfaces

- *ISDMODataSchema* on page 997

Derived classes

- *SDMODataReturnSchema* on page 1519

Members

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

Modifier and Type	Variable	Description
protected ISDMODataService-Document	serviceDocument	

Constructors

Modifier and Type	Constructor	Description
public	*SDMODataSchema()* on page 1568	
protected	*SDMODataSchema(int[], String[])* on page 1568	
public	*SDMODataSchema(SDMParserDocument)* on page 1568	

Methods

Modifier and Type	Method	Description
public SDMODataAssociation	*getAssociation(String)* on page 1568	Returns the appropriate SDMOData Association element with the given relationship attribute.
public List< ISDMODataAssociation >	*getAssociations()* on page 1568	Returns the list of the appropriate SDMOData elements.

Modifier and Type	Method	Description
public SDMODataAssociationSet	*getAssociationSet(String)* on page 1569	Returns the appropriate AssociationSet with for given association.
public List< ISDMODataAssociationSet >	*getAssociationSets()* on page 1569	Returns the list of the appropriate SDMOData elements.
public SDMODataComplexType	*getComplexType(String)* on page 1569	Returns The 'ComplexType' SDMOData element associated with the reference.
public List< ISDMODataComplexType >	*getComplexTypes()* on page 1570	Returns The list of the appropriate SDMOData element.
public SDMODataEntitySet	*getEntitySet(String)* on page 1570	Returns The appropriate SDMOData EntitySet.
public SDMODataEntityType	*getEntityType(String)* on page 1570	Returns The 'EntityType' SDMOData element associated with the reference argument.
public SDMODataEntityType	*getEntityTypeForCollection(String)* on page 1570	Returns the 'EntityType' SDMOData element contained by the 'EntitySet' element that is associated with the collectionId matching.
public List< ISDMODataFunctionImport >	*getFunctionImports()* on page 1571	Returns The list of the 'FunctionImport' SDMOData element.
public List< ISDMODataFunctionImport >	*getFunctionImportsForCollection(String)* on page 1571	Returns List of FunctionImports valid for the appropriate collection.
public ISDMODataServiceDocument	*getServiceDocument()* on page 1571	Returns the appropriate SDMOData Service Document.
public String	*getTargetCollectionIdForNavigationProperty(String, String)* on page 1571	Resolves the target collection Id of the given SDMOData Navigation Property element.
public void	*setServiceDocument(ISDMODataServiceDocument)* on page 1572	Maintains reference to the appropriate SDMOData Service Document.

Inherited members from SDMParserDocument

Modifier and Type	Member	Description
public SDMParserDocument	*clone()* on page 1681	Creates a copy of this object.
protected Map< String, String >	*extensions* on page 1701	
public String	*getAttribute(String...)* on page 1682	Returns the value of the first attribute with the given route.
public List< String >	*getAttributes(String...)* on page 1682	Returns all the values of attributes with the given route.
protected int	*getAttributesEndPosition(int[], int, int)* on page 1682	
public Map< String, String >	*getChildAttributeMap(String...)* on page 1683	Returns all the name-value pairs of attributes contained by the element with the given route.
public List< String >	*getChildAttributes(String...)* on page 1683	Returns all the values of attributes contained by the element with the given route.
public List< ISDMParserDocument >	*getChildDocuments(String...)* on page 1683	Returns the elements contained by the element with the given route.
public List< ISDMParserDocument >	*getChildDocumentsWithAttribute(String, String, String...)* on page 1684	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public List< ISDMParserDocument >	*getChildDocumentsWithAttribute(String, String, boolean, String...)* on page 1684	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public SDMParserDocument	*getDocument(String...)* on page 1685	Returns the first element with the given route.
protected List< int[]>	*getDocumentPositions(String[], int, boolean, boolean)* on page 1685	
public List< ISDMParserDocument >	*getDocuments(String...)* on page 1686	Returns all the elements with the given route.

Modifier and Type	Member	Description
public List< ISDMParserDocument >	*getDocumentsWithAttribute(String, String, String...)* on page 1686	Returns the elements with the given route that contains the given attribute with the given value.
public List< ISDMParserDocument >	*getDocumentsWithAttribute(String, String, boolean, String...)* on page 1687	Returns the elements with the given route that contains the given attribute with the given value.
public ISDMParserDocument	*getDocumentWithAttribute(String, String, String...)* on page 1687	Returns the first element with the given route that contains the given attribute with the given value.
public ISDMParserDocument	*getDocumentWithAttribute(String, String, boolean, String...)* on page 1688	Returns the first element with the given route that contains the given attribute with the given value.
public String	*getElementName()* on page 1688	Returns The name of the root element of this document.
public String	*getExtension(String)* on page 1689	
public String	*getFunctionImportComplexPropertyValue(String...)* on page 1689	
public static List< String >	*getNameMap()* on page 1689	
public static String	*getPrefix(String)* on page 1689	
public String	*getPrefixForUri(String)* on page 1689	Returns the appropriate name-space prefix for the given XML name-space URI.
public static Map< String, String >	*getPrefixMapping()* on page 1689	
protected List< Integer >	*getStringPositions(String[], int, boolean, boolean)* on page 1690	

Modifier and Type	Member	Description
public String[]	*getStrings()* on page 1690	Returns all the string values contained by this document.
public String	*getValue(String...)* on page 1690	Returns the value of the first element with the given route.
public List< String >	*getValues(String...)* on page 1690	Returns all the values of elements with the given route.
protected int[]	*insertRoutePositions(int[], int, int[])* on page 1691	
protected void	*insertRoutesPositions(int, int[])* on page 1691	
protected void	*insertStringsPositions(int, String[])* on page 1691	
protected String[]	*insertStringsPositions(String[], int, String[])* on page 1691	
protected boolean	*isMatched(String, String)* on page 1692	
public void	*putAttribute(String, String...)* on page 1692	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	*putDocument(ISDMParserDocument, String...)* on page 1692	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	*putExtension(String, String)* on page 1693	
protected void	*putString(int, String, int, String...)* on page 1693	
public void	*putValue(String, String...)* on page 1693	Sets the value of the first element with the given route.

Modifier and Type	Member	Description
public void	*read(BufferedReader)* on page 1693	
public static void	*readNameMap(BufferedReader)* on page 1694	
public boolean	*removeAttribute(String...)* on page 1694	Removes first element with the given route.
public boolean	*removeAttributes(String...)* on page 1694	Removes all the attribute with the given route.
public boolean	*removeDocument(String...)* on page 1695	Removes first element with the given route For removing multiple element use setDocuemtns with null arguments.
public void	*removeExtension(String)* on page 1695	
protected void	*removeRoutesPositions(int, int)* on page 1695	
protected int[]	*removeRoutesPositions(int[], int, int)* on page 1695	
protected boolean	*removeString(String...)* on page 1695	
protected boolean	*removeStrings(String...)* on page 1696	
protected void	*removeStringsPositions(int, int)* on page 1696	
protected String[]	*removeStringsPositions(String[], int, int)* on page 1696	
protected int	*replaceRoutesPositions(int, int, int[])* on page 1696	
protected int[]	*replaceRoutesPositions(int[], int, int, int[])* on page 1696	
protected int	*replaceStringsPositions(int, int, String[])* on page 1697	

Modifier and Type	Member	Description
protected String[]	*replaceStringsPositions(String[], int, int, String[])* on page 1697	
public static String	*resolveUrl(String, String)* on page 1697	
protected int[]	*routes* on page 1701	
public	*SDMParserDocument(String)* on page 1681	
public	*SDMParserDocument(SDMParserDocument)* on page 1681	
protected	*SDMParserDocument(int[], String[])* on page 1681	
protected	*SDMParserDocument(String, boolean)* on page 1681	
public void	*setAttribute(String, String...)* on page 1697	
public void	*setAttributes(List< String >, String...)* on page 1697	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	*setDocument(ISDMParserDocument, String...)* on page 1698	
public void	*setDocuments(List< ISDMParserDocument >, String...)* on page 1698	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	*setElementName(String, String...)* on page 1698	Sets the name of the root element with the given route Use empty route for setting root name of this document.
public static void	*setNameMap(List< String >)* on page 1699	
public static void	*setPrefixMapping(Map< String, String >)* on page 1699	
protected void	*setString(String, String...)* on page 1699	
protected void	*setStrings(List< String >, String...)* on page 1699	
public void	*setValue(String, String...)* on page 1699	
public void	*setValues(List< String >, String...)* on page 1700	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[]	*strings* on page 1701	
public String	*toXMLString()* on page 1700	Returns the XML string representation of this object.
protected static final String	*URL_PROTOCOL_PREFIX* on page 1701	
public void	*write(BufferedWriter)* on page 1700	
public static void	*writeNameMap(BufferedWriter)* on page 1701	

Inherited members from ISDMParserDocument

Modifier and Type	Member	Description
public static final String	*ATTRIBUTE_ETAG* on page 1082	Name of the appropriate SDMOData element.
public static final String	*ATTRIBUTE_VALUEPREFIX_EDMTYPE* on page 1082	Value prefix for EDM Type type values.
public static Map< String, String >	*DEFAULT_PREFIXMAPPING* on page 1082	The default XML Namespace-to-Prefix mapping used for building XMLS.
public static final String[]	*EDMDATETIME_PATTERNS* on page 1082	Possible EDM DateTime patterns Note: Some pattern are not supported by OData specification but still widely used.
public static final String[]	*EDMDATETIMEOFFSET_PATTERNS* on page 1082	Possible EDM TimeOffset patterns Note: Some pattern are not supported by OData specification but still widely used.
public static final String	*EDMTIME_PATTERN* on page 1082	EDM Time pattern.
public static String	*ELEMENT_FEED* on page 1083	Name of the appropriate SDMOData element.
public static final String	*ELEMENT_ID* on page 1083	Name of the appropriate SDMOData element.
public static final String	*ROOT_DOCUMENT_NAME* on page 1083	The default root element name for a new document.
public static final String	*XMLNS_APPLICATION_URI* on page 1083	Constant for XMLNS URI: http://schemas.microsoft.com/ado/2007/08/dataservices.
public static final String	*XMLNS_ATOM_URI* on page 1083	Constant for XMLNS URI: http://www.w3.org/2005/Atom.
public static final String	*XMLNS_DATASERVICES_URI* on page 1083	Constant for XMLNS URI: http://schemas.microsoft.com/ado/2007/08/dataservices.
public static final String	*XMLNS_EDM_URI* on page 1083	Constant for XMLNS URI: http://schemas.microsoft.com/ado/2007/05/edm.

Modifier and Type	Member	Description
public static final String	*XMLNS_EDMX_URI* on page 1084	Constant for XMLNS URI: http://schemas.microsoft.com/ado/2007/06/edmx.
public static final String	*XMLNS_GENERICPLAYER_URI* on page 1084	Constant for XMLNS URI: http://www.sap.com/Protocols/SAPData/GenericPlayer.
public static final String	*XMLNS_METADATA_URI* on page 1084	Constant for XMLNS URI: http://schemas.microsoft.com/ado/2007/08/dataservices/metadata.
public static final String	*XMLNS_SAP_URI* on page 1084	Constant for XMLNS URI: http://www.sap.com/Protocols/SAPData.

Inherited members from ISDMPersistable

Modifier and Type	Member	Description
public void	*read(BufferedReader)* on page 1085	
public void	*write(BufferedWriter)* on page 1085	

Inherited members from ISDMODataSchema

Modifier and Type	Member	Description
public static final String	*ACTION_FOR* on page 1009	name of the appropriate SDMOdata attribute
public static final String	*ATTRIBUTE_ENTITYSET* on page 1009	Name of the appropriate SDMOData attribute.
public static final String	*ATTRIBUTE_ENTITYTYPE* on page 1009	Name of the appropriate SDMOData attribute.
public static final String	*ATTRIBUTE_NAME* on page 1009	Name of the appropriate SDMOData attribute.
public static final String	*ATTRIBUTE_NAMESPACE* on page 1009	Name of the appropriate SDMOData attribute.

Modifier and Type	Member	Description
public static final String	*ELEMENT_COMPLEXTYPE* on page 1010	Name of the appropriate SDMOData element.
public static final String	*ELEMENT_DATASERVICES* on page 1010	Name of the appropriate SDMOData element.
public static final String	*ELEMENT_EDMX* on page 1010	Name of the appropriate SDMOData element.
public static final String	*ELEMENT_ENTITYCONTAINER* on page 1010	Name of the appropriate SDMOData element.
public static final String	*ELEMENT_ENTITYSET* on page 1010	Name of the appropriate SDMOData element.
public static final String	*ELEMENT_ENTITYTYPE* on page 1010	Name of the appropriate SDMOData element.
public static final String	*ELEMENT_FUNCTIONALIMPORT* on page 1010	Name of the appropriate SDMOData element.
public static final String	*ELEMENT_SCHEMA* on page 1011	Name of the appropriate SDMOData element.

Inherited members from ISDMParserDocument

Modifier and Type	Member	Description
public static final String	*ATTRIBUTE_ETAG* on page 1082	Name of the appropriate SDMOData element.
public static final String	*ATTRIBUTE_VALUEPREFIX_EDMTYPE* on page 1082	Value prefix for EDM Type type values.
public abstract ISDMParserDocument	*clone()* on page 1069	Creates a copy of this object.
public static Map< String, String >	*DEFAULT_PREFIXMAPPING* on page 1082	The default XML Namespace-to-Prefix mapping used for building XMLS.
public static final String[]	*EDMDATETIME_PATTERNS* on page 1082	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[]	*EDMDATETIMEOFFSET_PATTERNS* on page 1082	Possible EDM TimeOffset patterns Note: Some pattern are not supported by OData specification but still widely used.
public static final String	*EDMTIME_PATTERN* on page 1082	EDM Time pattern.
public static String	*ELEMENT_FEED* on page 1083	Name of the appropriate SDMOData element.
public static final String	*ELEMENT_ID* on page 1083	Name of the appropriate SDMOData element.
public abstract String	*getAttribute(String...)* on page 1069	Returns the value of the first attribute with the given route.
public abstract List< String >	*getAttributes(String...)* on page 1070	Returns all the values of attributes with the given route.
public abstract Map< String, String >	*getChildAttributeMap(String...)* on page 1070	Returns all the name-value pairs of attributes contained by the element with the given route.
public abstract List< String >	*getChildAttributes(String...)* on page 1070	Returns all the values of attributes contained by the element with the given route.
public abstract List< ISDMParserDocument >	*getChildDocuments(String...)* on page 1071	Returns the elements contained by the element with the given route.
public abstract List< ISDMParserDocument >	*getChildDocumentsWithAttribute(String, String, String...)* on page 1071	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public abstract List< ISDMParserDocument >	*getChildDocumentsWithAttribute(String, String, boolean, String...)* on page 1072	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public abstract ISDMParserDocument	*getDocument(String...)* on page 1072	Returns the first element with the given route.
public abstract List< ISDMParserDocument >	*getDocuments(String...)* on page 1073	Returns all the elements with the given route.

Modifier and Type	Member	Description
public abstract List< ISDMParserDocument >	*getDocumentsWithAttribute(String, String, String...)* on page 1073	Returns the elements with the given route that contains the given attribute with the given value.
public abstract List< ISDMParserDocument >	*getDocumentsWithAttribute(String, String, boolean, String...)* on page 1074	Returns the elements with the given route that contains the given attribute with the given value.
public abstract ISDMParserDocument	*getDocumentWithAttribute(String, String, String...)* on page 1074	Returns the first element with the given route that contains the given attribute with the given value.
public abstract ISDMParserDocument	*getDocumentWithAttribute(String, String, boolean, String...)* on page 1075	Returns the first element with the given route that contains the given attribute with the given value.
public abstract String	*getElementName()* on page 1075	Returns The name of the root element of this document.
public abstract String	*getFunctionImportComplexPropertyValue(String...)* on page 1076	
public abstract String	*getPrefixForUri(String)* on page 1076	Returns the appropriate name-space prefix for the given XML name-space URI.
public abstract String[]	*getStrings()* on page 1076	Returns all the string values contained by this document.
public abstract String	*getValue(String...)* on page 1076	Returns the value of the first element with the given route.
public abstract List< String >	*getValues(String...)* on page 1077	Returns all the values of elements with the given route.
public abstract void	*putAttribute(String, String...)* on page 1077	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	*putDocument(ISDMParserDocument, String...)* on page 1078	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	*putValue(String, String...)* on page 1078	Sets the value of the first element with the given route.
public abstract boolean	*removeAttribute(String...)* on page 1079	Removes first element with the given route.
public abstract boolean	*removeAttributes(String...)* on page 1079	Removes all the attribute with the given route.
public abstract boolean	*removeDocument(String...)* on page 1079	Removes first element with the given route For removing multiple element use setDocuemtns with null arguments.
public static final String	*ROOT_DOCUMENT_NAME* on page 1083	The default root element name for a new document.
public abstract void	*setAttributes(List< String >, String...)* on page 1080	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	*setDocuments(List< ISDMParserDocument >, String...)* on page 1080	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	*setElementName(String, String...)* on page 1081	Sets the name of the root element with the given route Use empty route for setting root name of this document.
public abstract void	*setValues(List< String >, String...)* on page 1081	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	*toXMLString()* on page 1081	Returns the XML string representation of this object.
public static final String	*XMLNS_APPLICATION_URI* on page 1083	Constant for XMLNS URI: http://schemas.microsoft.com/ado/2007/08/dataservices.
public static final String	*XMLNS_ATOM_URI* on page 1083	Constant for XMLNS URI: http://www.w3.org/2005/Atom.
public static final String	*XMLNS_DATASERVICES_URI* on page 1083	Constant for XMLNS URI: http://schemas.microsoft.com/ado/2007/08/dataservices.
public static final String	*XMLNS_EDM_URI* on page 1083	Constant for XMLNS URI: http://schemas.microsoft.com/ado/2007/05/edm.
public static final String	*XMLNS_EDMX_URI* on page 1084	Constant for XMLNS URI: http://schemas.microsoft.com/ado/2007/06/edmx.
public static final String	*XMLNS_GENERICPLAYER_URI* on page 1084	Constant for XMLNS URI: http://www.sap.com/Protocols/SAPData/GenericPlayer.
public static final String	*XMLNS_METADATA_URI* on page 1084	Constant for XMLNS URI: http://schemas.microsoft.com/ado/2007/08/dataservices/metadata.

Modifier and Type	Member	Description
public static final String	*XMLNS_SAP_URI* on page 1084	Constant for XMLNS URI: http://www.sap.com/Protocols/SAPData.

Inherited members from ISDMPersistable

Modifier and Type	Member	Description
public void	*read(BufferedReader)* on page 1085	
public void	*write(BufferedWriter)* on page 1085	

SDMODataSchema() constructor

Syntax

```
public SDMODataSchema ()
```

SDMODataSchema(int[], String[]) constructor

Syntax

```
protected SDMODataSchema (
    int[] routes,
    String[] values
)
```

SDMODataSchema(SDMParserDocument) constructor

Syntax

```
public SDMODataSchema (SDMParserDocument document)
```

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 SDMOData elements.

Syntax

```
public List< ISDMODataAssociationSet > getAssociationSets ()
```

Returns
List of the appropriate SDMOData elements

getComplexType(String) method
Returns The 'ComplexType' SDMOData element associated with the reference.

Syntax

```
public SDMODataComplexType getComplexType (String
complexTypeReference)
```

Parameters

- **complexTypeReference –** Reference to the appropriate Complex Type (example: 'namsepace.complextypename')

Returns
The 'ComplexType' SDMOData element associated with the reference

getComplexTypes() method
Returns The list of the appropriate SDMOData element.

Syntax

```
public List< ISDMODataComplexType > getComplexTypes ()
```

Returns
The list of the appropriate SDMOData element

getEntitySet(String) method
Returns The appropriate SDMOData EntitySet.

Syntax

```
public SDMODataEntitySet getEntitySet (String collectionId)
```

Parameters

- **collectionId –** The href of the collection to find the SDMOData EntitySet for

Returns
The appropriate SDMOData 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: 'namsepace.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

Package

```
com.sap.mobile.lib.sdmparser
```

Syntax

```
public class SDMODataServiceDocument extends SDMParserDocument
implements ISDMODataServiceDocument
```

Base class

- *SDMParserDocument* on page 1672

Implemented interfaces

- *ISDMODataServiceDocument* on page 1011

Members

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

Modifier and Type	Variable	Description
protected ISDMODataSchema	schema	
protected boolean	isJson	
protected Map< String, ISDMODataOpenSearchDescription >	openSearchDescriptions	
protected JsonObject	gwServiceDocument	

Constructors

Modifier and Type	Constructor	Description
public	*SDMODataServiceDocument()* on page 1587	
protected	*SDMODataServiceDocument(int[], String[])* on page 1587	
public	*SDMODataServiceDocument(JsonObject)* on page 1587	
public	*SDMODataServiceDocument(SDMParserDocument)* on page 1588	

Methods

Modifier and Type	Method	Description
public List< ISDMODataCollection >	*getAllCollections()* on page 1588	Returns the list of all 'collection' SDMOData element contained by the 'workspace' elements.
public String	*getBaseUrl()* on page 1588	Returns The value of the 'base' SDMOData attribute.
public String	*getEtag()* on page 1588	Returns The value of the 'etag' SDMOData attribute.

Modifier and Type	Method	Description
public String	*getLanguage()* on page 1588	Returns the value of the 'lang' SDMOData attribute.
public ISDMODataOpenSearchDescription	*getOpenSearchDescription(String)* on page 1589	Returns the appropriate OpenSearch Description Document for the given collection.
public ISDMODataSchema	*getSchema()* on page 1589	Returns the appropriate SDMOData Schema document.
public String	*getSchemaUrl()* on page 1589	Returns The full URL that can be used for retrieving the SDMOData Schema document.
public List< ISDMODataWorkspace >	*getWorkspaces()* on page 1589	Returns the list of appropriate SDMOData elements.
public void	*read(BufferedReader)* on page 1590	
public void	*setOpenSearchDescription(String, ISDMODataOpenSearchDescription)* on page 1590	Maintains the appropriate OpenSearch Description Document for the given collection.
public void	*setSchema(ISDMODataSchema)* on page 1590	Maintains the appropriate SDMOData Schema document.
public void	*write(BufferedWriter)* on page 1590	

Inherited members from SDMParserDocument

Modifier and Type	Member	Description
public SDMParserDocument	*clone()* on page 1681	Creates a copy of this object.
protected Map< String, String >	*extensions* on page 1701	
public String	*getAttribute(String...)* on page 1682	Returns the value of the first attribute with the given route.
public List< String >	*getAttributes(String...)* on page 1682	Returns all the values of attributes with the given route.
protected int	*getAttributesEndPosition(int[], int, int)* on page 1682	

Modifier and Type	Member	Description
public Map< String, String >	*getChildAttributeMap(String...)* on page 1683	Returns all the name-value pairs of attributes contained by the element with the given route.
public List< String >	*getChildAttributes(String...)* on page 1683	Returns all the values of attributes contained by the element with the given route.
public List< ISDMParserDocument >	*getChildDocuments(String...)* on page 1683	Returns the elements contained by the element with the given route.
public List< ISDMParserDocument >	*getChildDocumentsWithAttribute(String, String, String...)* on page 1684	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public List< ISDMParserDocument >	*getChildDocumentsWithAttribute(String, String, boolean, String...)* on page 1684	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public SDMParserDocument	*getDocument(String...)* on page 1685	Returns the first element with the given route.
protected List< int[]>	*getDocumentPositions(String[], int, boolean, boolean)* on page 1685	
public List< ISDMParserDocument >	*getDocuments(String...)* on page 1686	Returns all the elements with the given route.
public List< ISDMParserDocument >	*getDocumentsWithAttribute(String, String, String...)* on page 1686	Returns the elements with the given route that contains the given attribute with the given value.
public List< ISDMParserDocument >	*getDocumentsWithAttribute(String, String, boolean, String...)* on page 1687	Returns the elements with the given route that contains the given attribute with the given value.
public ISDMParserDocument	*getDocumentWithAttribute(String, String, String...)* on page 1687	Returns the first element with the given route that contains the given attribute with the given value.

Modifier and Type	Member	Description
public ISDMParserDocument	*getDocumentWithAttribute(String, String, boolean, String...)* on page 1688	Returns the first element with the given route that contains the given attribute with the given value.
public String	*getElementName()* on page 1688	Returns The name of the root element of this document.
public String	*getExtension(String)* on page 1689	
public String	*getFunctionImportComplexPropertyValue(String...)* on page 1689	
public static List< String >	*getNameMap()* on page 1689	
public static String	*getPrefix(String)* on page 1689	
public String	*getPrefixForUri(String)* on page 1689	Returns the appropriate name-space prefix for the given XML name-space URI.
public static Map< String, String >	*getPrefixMapping()* on page 1689	
protected List< Integer >	*getStringPositions(String[], int, boolean, boolean)* on page 1690	
public String[]	*getStrings()* on page 1690	Returns all the string values contained by this document.
public String	*getValue(String...)* on page 1690	Returns the value of the first element with the given route.
public List< String >	*getValues(String...)* on page 1690	Returns all the values of elements with the given route.
protected int[]	*insertRoutePositions(int[], int, int[])* on page 1691	
protected void	*insertRoutesPositions(int, int[])* on page 1691	
protected void	*insertStringsPositions(int, String[])* on page 1691	

Modifier and Type	Member	Description
protected String[]	*insertStringsPositions(String[], int, String[])* on page 1691	
protected boolean	*isMatched(String, String)* on page 1692	
public void	*putAttribute(String, String...)* on page 1692	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	*putDocument(ISDMParserDocument, String...)* on page 1692	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	*putExtension(String, String)* on page 1693	
protected void	*putString(int, String, int, String...)* on page 1693	
public void	*putValue(String, String...)* on page 1693	Sets the value of the first element with the given route.
public static void	*readNameMap(BufferedReader)* on page 1694	
public boolean	*removeAttribute(String...)* on page 1694	Removes first element with the given route.
public boolean	*removeAttributes(String...)* on page 1694	Removes all the attribute with the given route.
public boolean	*removeDocument(String...)* on page 1695	Removes first element with the given route For removing multiple element use setDocuemtns with null arguments.
public void	*removeExtension(String)* on page 1695	

Modifier and Type	Member	Description
protected void	*removeRoutesPositions(int, int)* on page 1695	
protected int[]	*removeRoutesPositions(int[], int, int)* on page 1695	
protected boolean	*removeString(String...)* on page 1695	
protected boolean	*removeStrings(String...)* on page 1696	
protected void	*removeStringsPositions(int, int)* on page 1696	
protected String[]	*removeStringsPositions(String[], int, int)* on page 1696	
protected int	*replaceRoutesPositions(int, int, int[])* on page 1696	
protected int[]	*replaceRoutesPositions(int[], int, int, int[])* on page 1696	
protected int	*replaceStringsPositions(int, int, String[])* on page 1697	
protected String[]	*replaceStringsPositions(String[], int, int, String[])* on page 1697	
public static String	*resolveUrl(String, String)* on page 1697	
protected int[]	*routes* on page 1701	
public	*SDMParserDocument(String)* on page 1681	
public	*SDMParserDocument(SDMParserDocument)* on page 1681	
protected	*SDMParserDocument(int[], String[])* on page 1681	

Modifier and Type	Member	Description
protected	*SDMParserDocument(String, boolean)* on page 1681	
public void	*setAttribute(String, String...)* on page 1697	
public void	*setAttributes(List< String >, String...)* on page 1697	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	*setDocument(ISDMParserDocument, String...)* on page 1698	
public void	*setDocuments(List< ISDMParserDocument >, String...)* on page 1698	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	*setElementName(String, String...)* on page 1698	Sets the name of the root element with the given route Use empty route for setting root name of this document.
public static void	*setNameMap(List< String >)* on page 1699	
public static void	*setPrefixMapping(Map< String, String >)* on page 1699	
protected void	*setString(String, String...)* on page 1699	
protected void	*setStrings(List< String >, String...)* on page 1699	

Modifier and Type	Member	Description
public void	*setValue(String, String...)* on page 1699	
public void	*setValues(List< String >, String...)* on page 1700	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[]	*strings* on page 1701	
public String	*toXMLString()* on page 1700	Returns the XML string representation of this object.
protected static final String	*URL_PROTOCOL_PREFIX* on page 1701	
public static void	*writeNameMap(BufferedWriter)* on page 1701	

Inherited members from ISDMParserDocument

Modifier and Type	Member	Description
public static final String	*ATTRIBUTE_ETAG* on page 1082	Name of the appropriate SDMOData element.
public static final String	*ATTRIBUTE_VALUEPREFIX_EDMTYPE* on page 1082	Value prefix for EDM Type type values.
public static Map< String, String >	*DEFAULT_PREFIXMAPPING* on page 1082	The default XML Namespace-to-Prefix mapping used for building XMLS.
public static final String[]	*EDMDATETIME_PATTERNS* on page 1082	Possible EDM DateTime patterns Note: Some pattern are not supported by OData specification but still widely used.
public static final String[]	*EDMDATETIMEOFFSET_PATTERNS* on page 1082	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	*EDMTIME_PATTERN* on page 1082	EDM Time pattern.
public static String	*ELEMENT_FEED* on page 1083	Name of the appropriate SDMOData element.
public static final String	*ELEMENT_ID* on page 1083	Name of the appropriate SDMOData element.
public static final String	*ROOT_DOCUMENT_NAME* on page 1083	The default root element name for a new document.
public static final String	*XMLNS_APPLICATION_URI* on page 1083	Constant for XMLNS URI: http://schemas.microsoft.com/ado/2007/08/dataservices.
public static final String	*XMLNS_ATOM_URI* on page 1083	Constant for XMLNS URI: http://www.w3.org/2005/Atom.
public static final String	*XMLNS_DATASERVICES_URI* on page 1083	Constant for XMLNS URI: http://schemas.microsoft.com/ado/2007/08/dataservices.
public static final String	*XMLNS_EDM_URI* on page 1083	Constant for XMLNS URI: http://schemas.microsoft.com/ado/2007/05/edm.
public static final String	*XMLNS_EDMX_URI* on page 1084	Constant for XMLNS URI: http://schemas.microsoft.com/ado/2007/06/edmx.
public static final String	*XMLNS_GENERICPLAYER_URI* on page 1084	Constant for XMLNS URI: http://www.sap.com/Protocols/SAPData/GenericPlayer.
public static final String	*XMLNS_METADATA_URI* on page 1084	Constant for XMLNS URI: http://schemas.microsoft.com/ado/2007/08/dataservices/metadata.
public static final String	*XMLNS_SAP_URI* on page 1084	Constant for XMLNS URI: http://www.sap.com/Protocols/SAPData.

Inherited members from ISDMPersistable

Modifier and Type	Member	Description
public void	*read(BufferedReader)* on page 1085	
public void	*write(BufferedWriter)* on page 1085	

Inherited members from ISDMODataServiceDocument

Modifier and Type	Member	Description
public static final String	*ATTRIBUTE_BASE* on page 1020	Name of the appropriate SDMOData attribute.
public static final String	*ATTRIBUTE_LANG* on page 1020	Name of the appropriate SDMOData attribute.
public static final String	*ELEMENT_COLLECTION* on page 1020	Name of the appropriate SDMOData element.
public static final String	*ELEMENT_SERVICE* on page 1020	Name of the appropriate SDMOData element.
public static final String	*ELEMENT_WORKSPACE* on page 1020	Name of the appropriate SDMOData element.
public static final String	*URL_SUFFIX_METADATA* on page 1021	URL value suffix for retrieving SDMOData Schema document.

Inherited members from ISDMParserDocument

Modifier and Type	Member	Description
public static final String	*ATTRIBUTE_ETAG* on page 1082	Name of the appropriate SDMOData element.
public static final String	*ATTRIBUTE_VALUEPREFIX_EDMTYPE* on page 1082	Value prefix for EDM Type type values.
public abstract ISDMParserDocument	*clone()* on page 1069	Creates a copy of this object.
public static Map< String, String >	*DEFAULT_PREFIXMAPPING* on page 1082	The default XML Namespace-to-Prefix mapping used for building XMLS.

Modifier and Type	Member	Description
public static final String[]	*EDMDATETIME_PATTERNS* on page 1082	Possible EDM DateTime patterns Note: Some pattern are not supported by OData specification but still widely used.
public static final String[]	*EDMDATETIMEOFFSET_PATTERNS* on page 1082	Possible EDM TimeOffset patterns Note: Some pattern are not supported by OData specification but still widely used.
public static final String	*EDMTIME_PATTERN* on page 1082	EDM Time pattern.
public static String	*ELEMENT_FEED* on page 1083	Name of the appropriate SDMOData element.
public static final String	*ELEMENT_ID* on page 1083	Name of the appropriate SDMOData element.
public abstract String	*getAttribute(String...)* on page 1069	Returns the value of the first attribute with the given route.
public abstract List< String >	*getAttributes(String...)* on page 1070	Returns all the values of attributes with the given route.
public abstract Map< String, String >	*getChildAttributeMap(String...)* on page 1070	Returns all the name-value pairs of attributes contained by the element with the given route.
public abstract List< String >	*getChildAttributes(String...)* on page 1070	Returns all the values of attributes contained by the element with the given route.
public abstract List< ISDMParserDocument >	*getChildDocuments(String...)* on page 1071	Returns the elements contained by the element with the given route.
public abstract List< ISDMParserDocument >	*getChildDocumentsWithAttribute(String, String, String...)* on page 1071	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public abstract List< ISDMParserDocument >	*getChildDocumentsWithAttribute(String, String, boolean, String...)* on page 1072	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	*getDocument(String...)* on page 1072	Returns the first element with the given route.
public abstract List< ISDMParserDocument >	*getDocuments(String...)* on page 1073	Returns all the elements with the given route.
public abstract List< ISDMParserDocument >	*getDocumentsWithAttribute(String, String, String...)* on page 1073	Returns the elements with the given route that contains the given attribute with the given value.
public abstract List< ISDMParserDocument >	*getDocumentsWithAttribute(String, String, boolean, String...)* on page 1074	Returns the elements with the given route that contains the given attribute with the given value.
public abstract ISDMParserDocument	*getDocumentWithAttribute(String, String, String...)* on page 1074	Returns the first element with the given route that contains the given attribute with the given value.
public abstract ISDMParserDocument	*getDocumentWithAttribute(String, String, boolean, String...)* on page 1075	Returns the first element with the given route that contains the given attribute with the given value.
public abstract String	*getElementName()* on page 1075	Returns The name of the root element of this document.
public abstract String	*getFunctionImportComplexPropertyValue(String...)* on page 1076	
public abstract String	*getPrefixForUri(String)* on page 1076	Returns the appropriate name-space prefix for the given XML name-space URI.
public abstract String[]	*getStrings()* on page 1076	Returns all the string values contained by this document.
public abstract String	*getValue(String...)* on page 1076	Returns the value of the first element with the given route.
public abstract List< String >	*getValues(String...)* on page 1077	Returns all the values of elements with the given route.

Modifier and Type	Member	Description
public abstract void	*putAttribute(String, String...)* on page 1077	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	*putDocument(ISDMParserDocument, String...)* on page 1078	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	*putValue(String, String...)* on page 1078	Sets the value of the first element with the given route.
public abstract boolean	*removeAttribute(String...)* on page 1079	Removes first element with the given route.
public abstract boolean	*removeAttributes(String...)* on page 1079	Removes all the attribute with the given route.
public abstract boolean	*removeDocument(String...)* on page 1079	Removes first element with the given route For removing multiple element use setDocuemtns with null arguments.
public static final String	*ROOT_DOCUMENT_NAME* on page 1083	The default root element name for a new document.
public abstract void	*setAttributes(List< String >, String...)* on page 1080	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	*setDocuments(List< ISDMParserDocument >, String...)* on page 1080	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	*setElementName(String, String...)* on page 1081	Sets the name of the root element with the given route Use empty route for setting root name of this document.
public abstract void	*setValues(List< String >, String...)* on page 1081	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	*toXMLString()* on page 1081	Returns the XML string representation of this object.
public static final String	*XMLNS_APPLICATION_URI* on page 1083	Constant for XMLNS URI: http://schemas.microsoft.com/ado/2007/08/dataservices.
public static final String	*XMLNS_ATOM_URI* on page 1083	Constant for XMLNS URI: http://www.w3.org/2005/Atom.
public static final String	*XMLNS_DATASERVICES_URI* on page 1083	Constant for XMLNS URI: http://schemas.microsoft.com/ado/2007/08/dataservices.
public static final String	*XMLNS_EDM_URI* on page 1083	Constant for XMLNS URI: http://schemas.microsoft.com/ado/2007/05/edm.
public static final String	*XMLNS_EDMX_URI* on page 1084	Constant for XMLNS URI: http://schemas.microsoft.com/ado/2007/06/edmx.

Modifier and Type	Member	Description
public static final String	*XMLNS_GENERICPLAY-ER_URI* on page 1084	Constant for XMLNS URI: http://www.sap.com/Protocols/SAPData/GenericPlayer.
public static final String	*XMLNS_METADATA_URI* on page 1084	Constant for XMLNS URI: http://schemas.microsoft.com/ado/2007/08/dataservices/metadata.
public static final String	*XMLNS_SAP_URI* on page 1084	Constant for XMLNS URI: http://www.sap.com/Protocols/SAPData.

Inherited members from ISDMPersistable

Modifier and Type	Member	Description
public void	*read(BufferedReader)* on page 1085	
public void	*write(BufferedWriter)* on page 1085	

SDMODataServiceDocument() constructor

Syntax

```
public SDMODataServiceDocument ()
```

SDMODataServiceDocument(int[], String[]) constructor

Syntax

```
protected SDMODataServiceDocument (
    int[] routes,
    String[] values
)
```

SDMODataServiceDocument(JsonObject) constructor

Syntax

```
public SDMODataServiceDocument (JsonObject document)
```

SDMODataServiceDocument(SDMParserDocument) constructor

Syntax

```
public SDMODataServiceDocument (SDMParserDocument document)
```

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

Package

```
com.sap.mobile.lib.sdmparser
```

Syntax

```
public class SDMODataSubscriptionEntry extends SDMODataEntry
implements ISDMODataSubscriptionEntry
```

Base class

- *SDMODataEntry* on page 1313

Implemented interfaces

- *ISDMODataSubscriptionEntry* on page 1021

Members

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

Modifier and Type	Constructor	Description
public	*SDMODataSubscriptionEntry()* on page 1622	
protected	*SDMODataSubscriptionEntry(int[], String[])* on page 1622	
public	*SDMODataSubscriptionEntry(SDMParserDocument)* on page 1623	
public	*SDMODataSubscriptionEntry(String, String)* on page 1623	
public	*SDMODataSubscriptionEntry(String, String, String, String, String, String)* on page 1623	

Methods

Modifier and Type	Method	Description
public String	*getCollection()* on page 1623	Returns The value of the appropriate entry property.
public String	*getDeliveryAddress()* on page 1623	Returns The value of the appropriate entry property.
public String	*getFilter()* on page 1624	Returns The value of the appropriate entry property.
public String	*getSelect()* on page 1624	Returns The value of the appropriate entry property.
public void	*setCollection(String)* on page 1624	Sets the value of the appropriate entry property.

Modifier and Type	Method	Description
public void	*setDeliveryAddress(String)* on page 1624	Sets the value of the appropriate entry property.
public void	*setFilter(String)* on page 1625	Sets the value of the appropriate entry property.
public void	*setSelect(String)* on page 1625	Sets the value of the appropriate entry property.

Inherited members from SDMODataEntry

Modifier and Type	Member	Description
protected void	*addPropertyValues(ISDMODataProperty, Map< String, String >, String)* on page 1334	
protected static Long	*cache_timestamp* on page 1347	
protected static cacheState	*Cachestate* on page 1348	
protected String	*collectionId* on page 1348	
protected static final int	*FALSE* on page 1348	
protected void	*fillPropertyData(ISDMODataProperty, String...)* on page 1334	
protected void	*fillPropertyDataWithAttribute(ISDMODataProperty, String, String, boolean, String...)* on page 1335	
protected static final String	*FILTER* on page 1348	
protected static final String	*FILTER_AND* on page 1348	
protected static final String	*FILTER_EQ* on page 1348	
public List< ISDMODataLink >	*getActionLinks()* on page 1335	Returns SDMOData Link objects that are set as action links (Has semantics (SAP namespace) attribute with value 'action')

Modifier and Type	Member	Description
public String	*getAuthorName()* on page 1335	Returns The value of the 'name' SDMOData element of the 'author' SDMOData element.
public cacheState	*getCachestate()* on page 1335	
public Long	*getCacheTimestamp()* on page 1335	
public String	*getCollectionId()* on page 1336	Returns the Id of the SDMOCata Collection that this Entry belongs to.
public String	*getEtag()* on page 1336	Returns the Id of the SDMOData Collection that this Entry belongs to.
public String	*getFilterUrl()* on page 1336	Returns the full execution URL hat can be used for filtering collection search for this single entry.
public List< ISDMODataProperty >	*getGPUseInSearchPropertiesData()* on page 1336	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 >	*getGPVisibleInDetailPropertiesData()* on page 1337	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 >	*getGPVisibleInListPropertiesData()* on page 1337	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.

Modifier and Type	Member	Description
public List< ISDMODataIcon >	*getIcons()* on page 1337	Returns the list of the appropriate SDMOData elements.
public String	*getId()* on page 1337	Returns The Id of this SDMOData Entry (value of appropriate SDMOData Id element)
public boolean	*getIsLocal()* on page 1338	
public Map< String, String >	*getKeyPropertyValues()* on page 1338	Returns the values of the properties that are marked as key properties in the SDMOData Schema document.
public Date	*getLastUpdated()* on page 1338	Returns The parsed value of the 'updated' SDMOData Element.
public List< ISDMODataLink >	*getLinks()* on page 1338	Returns the list of the appropriate SDMOData elements.
public List< ISDMODataProperty >	*getPropertiesData()* on page 1338	Returns the value and meta information (retrieved from SDMOData Schema document) of the properties of this SDMOdata Entry document.
public List< ISDMODataProperty >	*getPropertiesDataWithAttribute(String, String)* on page 1339	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 >	*getPropertiesDataWithAttribute(String, String, boolean)* on page 1339	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	*getPropertiesDocument()* on page 1340	Returns the representer document of SDMOData '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	*getPropertyValue(String...)* on page 1340	Returns the value of the appropriate property.
public List< String >	*getPropertyValues(List< String[]>)* on page 1340	Return list of property values for the given property paths.
public Map< String, String >	*getPropertyValues()* on page 1341	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 >	*getRelatedDataLinks()* on page 1341	Returns SDMOData Link objects that represents links to Related Data.
public List< ISDMODataProperty >	*getSAPSearchablePropertiesData()* on page 1341	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	*getSchema()* on page 1342	Returns the appropriate SDMOData Schema object.
public ISDMODataLink	*getSelfLink()* on page 1342	Returns SDMSDMOData Link object that should be used for self related operations (with 'rel' attribute value 'self' or 'edit')
public ISDMODataLink	*getSubscriptionLink()* on page 1342	Returns SDMOData Link object that should be used for subscription or null if there is no subscription link defined.
public String	*getSummary()* on page 1342	Returns The value of the appropriate SDMOData element.
public String	*getTitle()* on page 1343	Returns The value of the appropriate SDMOData element.
protected static boolean	*isLocalEntry* on page 1348	

Modifier and Type	Member	Description
protected JsonObject	*jsonObject* on page 1348	JSON related variables
protected void	*materialize()* on page 1343	
protected static final int	*NOT_TESTED* on page 1349	
protected void	*parseCollectionId()* on page 1343	
protected long	*parseEdmTime(String)* on page 1343	
public void	*putComplexPropertyValue(String, String...)* on page 1343	Puts the new property element as a sub-element of the 'complex properties' SDMOData element.
public void	*putDocument(ISDMParserDocument, String...)* on page 1344	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	*putId(String)* on page 1344	Sets id of this SDMOData Entry document (value of appropriate SDMOData Id element)
public void	*putPropertyValue(String, String)* on page 1344	Puts the new property element as a sub-element of the 'properties' SDMOData element.
public void	*putPropertyValue(String, String, boolean)* on page 1345	Puts the new property element as a sub-element of the 'properties' SDMOData element.
public void	*read(BufferedReader)* on page 1345	
protected String	*resolveTargetCollection(ISDMODataLink)* on page 1345	
protected ISDMODataSchema	*schema* on page 1349	
public	*SDMODataEntry()* on page 1333	

Modifier and Type	Member	Description
public	*SDMODataEntry(boolean)* on page 1333	
protected	*SDMODataEntry(int[], String[])* on page 1333	
public	*SDMODataEntry(ISDMODataSchema)* on page 1334	
public	*SDMODataEntry(SDMParserDocument)* on page 1334	
public	*SDMODataEntry(SDMParserDocument, ISDMODataSchema)* on page 1334	
public	*SDMODataEntry(JsonObject)* on page 1334	Json Related
public void	*setAuthorName(String)* on page 1346	Sets the value of the 'name' SDMOData element of the 'author' SDMOData element.
public void	*setCachestate(cacheState)* on page 1346	
public void	*setCacheTimestamp(Long)* on page 1346	
public void	*setCollectionId(String)* on page 1346	Maintains the Id of the SDMOCata Collection that this Entry belongs to.
public void	*setIsLocal(boolean)* on page 1346	
public void	*setSchema(ISDMODataSchema)* on page 1346	Maintains the reference to the appropriate SDMOData Schema object.
public void	*setSummary(String)* on page 1347	Sets the value of the appropriate SDMOData element.
public void	*setTitle(String)* on page 1347	Sets the value of the appropriate SDMOData element.
protected static final int	*TRUE* on page 1349	

Modifier and Type	Member	Description
public void	*write(BufferedWriter)* on page 1347	

Inherited members from SDMParserDocument

Modifier and Type	Member	Description
public SDMParserDocument	*clone()* on page 1681	Creates a copy of this object.
protected Map< String, String >	*extensions* on page 1701	
public String	*getAttribute(String...)* on page 1682	Returns the value of the first attribute with the given route.
public List< String >	*getAttributes(String...)* on page 1682	Returns all the values of attributes with the given route.
protected int	*getAttributesEndPosition(int[], int, int)* on page 1682	
public Map< String, String >	*getChildAttributeMap(String...)* on page 1683	Returns all the name-value pairs of attributes contained by the element with the given route.
public List< String >	*getChildAttributes(String...)* on page 1683	Returns all the values of attributes contained by the element with the given route.
public List< ISDMParserDocument >	*getChildDocuments(String...)* on page 1683	Returns the elements contained by the element with the given route.
public List< ISDMParserDocument >	*getChildDocumentsWithAttribute(String, String, String...)* on page 1684	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public List< ISDMParserDocument >	*getChildDocumentsWithAttribute(String, String, boolean, String...)* on page 1684	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public SDMParserDocument	*getDocument(String...)* on page 1685	Returns the first element with the given route.

Modifier and Type	Member	Description
protected List< int[]>	*getDocumentPositions(String[], int, boolean, boolean)* on page 1685	
public List< ISDMParserDocument >	*getDocuments(String...)* on page 1686	Returns all the elements with the given route.
public List< ISDMParserDocument >	*getDocumentsWithAttribute(String, String, String...)* on page 1686	Returns the elements with the given route that contains the given attribute with the given value.
public List< ISDMParserDocument >	*getDocumentsWithAttribute(String, String, boolean, String...)* on page 1687	Returns the elements with the given route that contains the given attribute with the given value.
public ISDMParserDocument	*getDocumentWithAttribute(String, String, String...)* on page 1687	Returns the first element with the given route that contains the given attribute with the given value.
public ISDMParserDocument	*getDocumentWithAttribute(String, String, boolean, String...)* on page 1688	Returns the first element with the given route that contains the given attribute with the given value.
public String	*getElementName()* on page 1688	Returns The name of the root element of this document.
public String	*getExtension(String)* on page 1689	
public String	*getFunctionImportComplexPropertyValue(String...)* on page 1689	
public static List< String >	*getNameMap()* on page 1689	
public static String	*getPrefix(String)* on page 1689	
public String	*getPrefixForUri(String)* on page 1689	Returns the appropriate name-space prefix for the given XML name-space URI.

Modifier and Type	Member	Description
public static Map< String, String >	*getPrefixMapping()* on page 1689	
protected List< Integer >	*getStringPositions(String[], int, boolean, boolean)* on page 1690	
public String[]	*getStrings()* on page 1690	Returns all the string values contained by this document.
public String	*getValue(String...)* on page 1690	Returns the value of the first element with the given route.
public List< String >	*getValues(String...)* on page 1690	Returns all the values of elements with the given route.
protected int[]	*insertRoutePositions(int[], int, int[])* on page 1691	
protected void	*insertRoutesPositions(int, int[])* on page 1691	
protected void	*insertStringsPositions(int, String[])* on page 1691	
protected String[]	*insertStringsPositions(String[], int, String[])* on page 1691	
protected boolean	*isMatched(String, String)* on page 1692	
public void	*putAttribute(String, String...)* on page 1692	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	*putExtension(String, String)* on page 1693	
protected void	*putString(int, String, int, String...)* on page 1693	
public void	*putValue(String, String...)* on page 1693	Sets the value of the first element with the given route.
public static void	*readNameMap(BufferedReader)* on page 1694	

Modifier and Type	Member	Description
public boolean	*removeAttribute(String...)* on page 1694	Removes first element with the given route.
public boolean	*removeAttributes(String...)* on page 1694	Removes all the attribute with the given route.
public boolean	*removeDocument(String...)* on page 1695	Removes first element with the given route For removing multiple element use setDocuemtns with null arguments.
public void	*removeExtension(String)* on page 1695	
protected void	*removeRoutesPositions(int, int)* on page 1695	
protected int[]	*removeRoutesPositions(int[], int, int)* on page 1695	
protected boolean	*removeString(String...)* on page 1695	
protected boolean	*removeStrings(String...)* on page 1696	
protected void	*removeStringsPositions(int, int)* on page 1696	
protected String[]	*removeStringsPositions(String[], int, int)* on page 1696	
protected int	*replaceRoutesPositions(int, int, int[])* on page 1696	
protected int[]	*replaceRoutesPositions(int[], int, int, int[])* on page 1696	
protected int	*replaceStringsPositions(int, int, String[])* on page 1697	
protected String[]	*replaceStringsPositions(String[], int, int, String[])* on page 1697	
public static String	*resolveUrl(String, String)* on page 1697	

Modifier and Type	Member	Description
protected int[]	*routes* on page 1701	
public	*SDMParserDocument(String)* on page 1681	
public	*SDMParserDocument(SDMParserDocument)* on page 1681	
protected	*SDMParserDocument(int[], String[])* on page 1681	
protected	*SDMParserDocument(String, boolean)* on page 1681	
public void	*setAttribute(String, String...)* on page 1697	
public void	*setAttributes(List< String >, String...)* on page 1697	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	*setDocument(ISDMParserDocument, String...)* on page 1698	
public void	*setDocuments(List< ISDMParserDocument >, String...)* on page 1698	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	*setElementName(String, String...)* on page 1698	Sets the name of the root element with the given route Use empty route for setting root name of this document.

Modifier and Type	Member	Description
public static void	*setNameMap(List< String >)* on page 1699	
public static void	*setPrefixMapping(Map< String, String >)* on page 1699	
protected void	*setString(String, String...)* on page 1699	
protected void	*setStrings(List< String >, String...)* on page 1699	
public void	*setValue(String, String...)* on page 1699	
public void	*setValues(List< String >, String...)* on page 1700	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[]	*strings* on page 1701	
public String	*toXMLString()* on page 1700	Returns the XML string representation of this object.
protected static final String	*URL_PROTOCOL_PREFIX* on page 1701	
public static void	*writeNameMap(BufferedWriter)* on page 1701	

Inherited members from ISDMParserDocument

Modifier and Type	Member	Description
public static final String	*ATTRIBUTE_ETAG* on page 1082	Name of the appropriate SDMOData element.
public static final String	*ATTRIBUTE_VALUEPREFIX_EDMTYPE* on page 1082	Value prefix for EDM Type type values.

Modifier and Type	Member	Description
public static Map< String, String >	*DEFAULT_PREFIXMAPPING* on page 1082	The default XML Namespace-to-Prefix mapping used for building XMLS.
public static final String[]	*EDMDATETIME_PATTERNS* on page 1082	Possible EDM DateTime patterns Note: Some pattern are not supported by OData specification but still widely used.
public static final String[]	*EDMDATETIMEOFFSET_PATTERNS* on page 1082	Possible EDM TimeOffset patterns Note: Some pattern are not supported by OData specification but still widely used.
public static final String	*EDMTIME_PATTERN* on page 1082	EDM Time pattern.
public static String	*ELEMENT_FEED* on page 1083	Name of the appropriate SDMOData element.
public static final String	*ELEMENT_ID* on page 1083	Name of the appropriate SDMOData element.
public static final String	*ROOT_DOCUMENT_NAME* on page 1083	The default root element name for a new document.
public static final String	*XMLNS_APPLICATION_URI* on page 1083	Constant for XMLNS URI: http://schemas.microsoft.com/ado/2007/08/dataservices.
public static final String	*XMLNS_ATOM_URI* on page 1083	Constant for XMLNS URI: http://www.w3.org/2005/Atom.
public static final String	*XMLNS_DATASERVICES_URI* on page 1083	Constant for XMLNS URI: http://schemas.microsoft.com/ado/2007/08/dataservices.
public static final String	*XMLNS_EDM_URI* on page 1083	Constant for XMLNS URI: http://schemas.microsoft.com/ado/2007/05/edm.
public static final String	*XMLNS_EDMX_URI* on page 1084	Constant for XMLNS URI: http://schemas.microsoft.com/ado/2007/06/edmx.

Modifier and Type	Member	Description
public static final String	*XMLNS_GENERICPLAY-ER_URI* on page 1084	Constant for XMLNS URI: http://www.sap.com/Protocols/SAPData/GenericPlayer.
public static final String	*XMLNS_METADATA_URI* on page 1084	Constant for XMLNS URI: http://schemas.microsoft.com/ado/2007/08/dataservices/metadata.
public static final String	*XMLNS_SAP_URI* on page 1084	Constant for XMLNS URI: http://www.sap.com/Protocols/SAPData.

Inherited members from ISDMPersistable

Modifier and Type	Member	Description
public void	*read(BufferedReader)* on page 1085	
public void	*write(BufferedWriter)* on page 1085	

Inherited members from ISDMODataEntry

Modifier and Type	Member	Description
public static final String	*ATTRIBUTE_SEMANTICS* on page 917	Name of the appropriate SDMOData attribute.
public static final String	*ATTRIBUTE_TERM* on page 917	Name of the appropriate SDMOData attribute.
public static final String	*ATTRIBUTE_VALUE_SE-MANTICS_ACTION* on page 918	Value option for appropriate SDMOData attribute.
public static final String	*ELEMENT_AUTHOR* on page 918	Name of the appropriate SDMOData element.
public static final String	*ELEMENT_CATEGORY* on page 918	Name of the appropriate SDMOData element.
public static final String	*ELEMENT_CONTENT* on page 918	Name of the appropriate SDMOData element.

Modifier and Type	Member	Description
public static final String	*ELEMENT_ENTRY* on page 918	Name of the appropriate SDMOData element.
public static final String	*ELEMENT_LINK* on page 918	Name of the appropriate SDMOData element.
public static final String	*ELEMENT_NAME* on page 918	Name of the appropriate SDMOData element.
public static final String	*ELEMENT_PROPERTIES* on page 919	Name of the appropriate SDMOData element.
public static final String	*ELEMENT_SUMMARY* on page 919	Name of the appropriate SDMOData element.
public static final String	*ELEMENT_TITLE* on page 919	Name of the appropriate SDMOData element.
public static final String	*ELEMENT_UPDATED* on page 919	Name of the appropriate SDMOData element.
public static final String	*PROPERTY_LEVEL_SEPARATOR* on page 919	
public void	*setCachestate(cacheState)* on page 916	

Inherited members from ISDMParserDocument

Modifier and Type	Member	Description
public static final String	*ATTRIBUTE_ETAG* on page 1082	Name of the appropriate SDMOData element.
public static final String	*ATTRIBUTE_VALUEPREFIX_EDMTYPE* on page 1082	Value prefix for EDM Type type values.
public abstract ISDMParserDocument	*clone()* on page 1069	Creates a copy of this object.
public static Map< String, String >	*DEFAULT_PREFIXMAPPING* on page 1082	The default XML Namespace-to-Prefix mapping used for building XMLS.
public static final String[]	*EDMDATETIME_PATTERNS* on page 1082	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[]	*EDMDATETIMEOFFSET_PATTERNS* on page 1082	Possible EDM TimeOffset patterns Note: Some pattern are not supported by OData specification but still widely used.
public static final String	*EDMTIME_PATTERN* on page 1082	EDM Time pattern.
public static String	*ELEMENT_FEED* on page 1083	Name of the appropriate SDMOData element.
public static final String	*ELEMENT_ID* on page 1083	Name of the appropriate SDMOData element.
public abstract String	*getAttribute(String...)* on page 1069	Returns the value of the first attribute with the given route.
public abstract List< String >	*getAttributes(String...)* on page 1070	Returns all the values of attributes with the given route.
public abstract Map< String, String >	*getChildAttributeMap(String...)* on page 1070	Returns all the name-value pairs of attributes contained by the element with the given route.
public abstract List< String >	*getChildAttributes(String...)* on page 1070	Returns all the values of attributes contained by the element with the given route.
public abstract List< ISDMParserDocument >	*getChildDocuments(String...)* on page 1071	Returns the elements contained by the element with the given route.
public abstract List< ISDMParserDocument >	*getChildDocumentsWithAttribute(String, String, String...)* on page 1071	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public abstract List< ISDMParserDocument >	*getChildDocumentsWithAttribute(String, String, boolean, String...)* on page 1072	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public abstract ISDMParserDocument	*getDocument(String...)* on page 1072	Returns the first element with the given route.
public abstract List< ISDMParserDocument >	*getDocuments(String...)* on page 1073	Returns all the elements with the given route.

Modifier and Type	Member	Description
public abstract List< ISDMParserDocument >	*getDocumentsWithAttribute(String, String, String...)* on page 1073	Returns the elements with the given route that contains the given attribute with the given value.
public abstract List< ISDMParserDocument >	*getDocumentsWithAttribute(String, String, boolean, String...)* on page 1074	Returns the elements with the given route that contains the given attribute with the given value.
public abstract ISDMParserDocument	*getDocumentWithAttribute(String, String, String...)* on page 1074	Returns the first element with the given route that contains the given attribute with the given value.
public abstract ISDMParserDocument	*getDocumentWithAttribute(String, String, boolean, String...)* on page 1075	Returns the first element with the given route that contains the given attribute with the given value.
public abstract String	*getElementName()* on page 1075	Returns The name of the root element of this document.
public abstract String	*getFunctionImportComplexPropertyValue(String...)* on page 1076	
public abstract String	*getPrefixForUri(String)* on page 1076	Returns the appropriate name-space prefix for the given XML name-space URI.
public abstract String[]	*getStrings()* on page 1076	Returns all the string values contained by this document.
public abstract String	*getValue(String...)* on page 1076	Returns the value of the first element with the given route.
public abstract List< String >	*getValues(String...)* on page 1077	Returns all the values of elements with the given route.
public abstract void	*putAttribute(String, String...)* on page 1077	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	*putDocument(ISDMParserDocument, String...)* on page 1078	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	*putValue(String, String...)* on page 1078	Sets the value of the first element with the given route.
public abstract boolean	*removeAttribute(String...)* on page 1079	Removes first element with the given route.
public abstract boolean	*removeAttributes(String...)* on page 1079	Removes all the attribute with the given route.
public abstract boolean	*removeDocument(String...)* on page 1079	Removes first element with the given route For removing multiple element use setDocuemtns with null arguments.
public static final String	*ROOT_DOCUMENT_NAME* on page 1083	The default root element name for a new document.
public abstract void	*setAttributes(List< String >, String...)* on page 1080	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	*setDocuments(List< ISDMParserDocument >, String...)* on page 1080	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	*setElementName(String, String...)* on page 1081	Sets the name of the root element with the given route Use empty route for setting root name of this document.
public abstract void	*setValues(List< String >, String...)* on page 1081	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	*toXMLString()* on page 1081	Returns the XML string representation of this object.
public static final String	*XMLNS_APPLICATION_URI* on page 1083	Constant for XMLNS URI: http://schemas.microsoft.com/ado/2007/08/dataservices.
public static final String	*XMLNS_ATOM_URI* on page 1083	Constant for XMLNS URI: http://www.w3.org/2005/Atom.
public static final String	*XMLNS_DATASERVICES_URI* on page 1083	Constant for XMLNS URI: http://schemas.microsoft.com/ado/2007/08/dataservices.
public static final String	*XMLNS_EDM_URI* on page 1083	Constant for XMLNS URI: http://schemas.microsoft.com/ado/2007/05/edm.
public static final String	*XMLNS_EDMX_URI* on page 1084	Constant for XMLNS URI: http://schemas.microsoft.com/ado/2007/06/edmx.
public static final String	*XMLNS_GENERICPLAYER_URI* on page 1084	Constant for XMLNS URI: http://www.sap.com/Protocols/SAPData/GenericPlayer.
public static final String	*XMLNS_METADATA_URI* on page 1084	Constant for XMLNS URI: http://schemas.microsoft.com/ado/2007/08/dataservices/metadata.

Modifier and Type	Member	Description
public static final String	*XMLNS_SAP_URI* on page 1084	Constant for XMLNS URI: http://www.sap.com/Protocols/SAPData.

Inherited members from ISDMPersistable

Modifier and Type	Member	Description
public void	*read(BufferedReader)* on page 1085	
public void	*write(BufferedWriter)* on page 1085	

Inherited members from ISDMODataSubscriptionEntry

Modifier and Type	Member	Description
public static final String	*ELEMENT_COLLECTION* on page 1034	Name of the appropriate SDMOData element.
public static final String	*ELEMENT_DELIVERYADDRESS* on page 1034	Name of the appropriate SDMOData element.
public static final String	*ELEMENT_FILTER* on page 1034	Name of the appropriate SDMOData element.
public static final String	*ELEMENT_SELECT* on page 1035	Name of the appropriate SDMOData element.

Inherited members from ISDMODataEntry

Modifier and Type	Member	Description
public static final String	*ATTRIBUTE_SEMANTICS* on page 917	Name of the appropriate SDMOData attribute.
public static final String	*ATTRIBUTE_TERM* on page 917	Name of the appropriate SDMOData attribute.
public static final String	*ATTRIBUTE_VALUE_SEMANTICS_ACTION* on page 918	Value option for appropriate SDMOData attribute.
public static final String	*ELEMENT_AUTHOR* on page 918	Name of the appropriate SDMOData element.

Modifier and Type	Member	Description
public static final String	*ELEMENT_CATEGORY* on page 918	Name of the appropriate SDMOData element.
public static final String	*ELEMENT_CONTENT* on page 918	Name of the appropriate SDMOData element.
public static final String	*ELEMENT_ENTRY* on page 918	Name of the appropriate SDMOData element.
public static final String	*ELEMENT_LINK* on page 918	Name of the appropriate SDMOData element.
public static final String	*ELEMENT_NAME* on page 918	Name of the appropriate SDMOData element.
public static final String	*ELEMENT_PROPERTIES* on page 919	Name of the appropriate SDMOData element.
public static final String	*ELEMENT_SUMMARY* on page 919	Name of the appropriate SDMOData element.
public static final String	*ELEMENT_TITLE* on page 919	Name of the appropriate SDMOData element.
public static final String	*ELEMENT_UPDATED* on page 919	Name of the appropriate SDMOData element.
public abstract List< ISDMO-DataLink >	*getActionLinks()* on page 905	Returns SDMOData Link objects that are set as action links (Has semantics (SAP namespace) attribute with value 'action')
public abstract String	*getAuthorName()* on page 906	Returns The value of the 'name' SDMOData element of the 'author' SDMOData element.
public cacheState	*getCachestate()* on page 906	
public Long	*getCacheTimestamp()* on page 906	
public abstract String	*getCollectionId()* on page 906	Returns the Id of the SDMOCata Collection that this Entry belongs to.

Modifier and Type	Member	Description
public abstract String	*getEtag()* on page 906	Returns the Id of the SDMOData Collection that this Entry belongs to.
public abstract String	*getFilterUrl()* on page 907	Returns the full execution URL hat can be used for filtering collection search for this single entry.
public abstract List< ISDMODataProperty >	*getGPUseInSearchPropertiesData()* on page 907	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 >	*getGPVisibleInDetailPropertiesData()* on page 907	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 >	*getGPVisibleInListPropertiesData()* on page 907	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 >	*getIcons()* on page 908	Returns the list of the appropriate SDMOData elements.
public abstract String	*getId()* on page 908	Returns The Id of this SDMOData Entry (value of appropriate SDMOData Id element)
public boolean	*getIsLocal()* on page 908	

Modifier and Type	Member	Description
public abstract Map< String, String >	*getKeyPropertyValues()* on page 908	Returns the values of the properties that are marked as key properties in the SDMOData Schema document.
public abstract Date	*getLastUpdated()* on page 908	Returns The parsed value of the 'updated' SDMOData Element.
public abstract List< ISDMODataLink >	*getLinks()* on page 909	Returns the list of the appropriate SDMOData elements.
public abstract List< ISDMODataProperty >	*getPropertiesData()* on page 909	Returns the value and meta information (retrieved from SDMOData Schema document) of the properties of this SDMOdata Entry document.
public abstract List< ISDMODataProperty >	*getPropertiesDataWithAttribute(String, String)* on page 909	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 abstract List< ISDMODataProperty >	*getPropertiesDataWithAttribute(String, String, boolean)* on page 910	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 abstract ISDMParserDocument	*getPropertiesDocument()* on page 910	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	*getPropertyValue(String...)* on page 910	Returns the value of the appropriate property.
public abstract< T > T	*getPropertyValueParsed(String...)* on page 911	Returns the value of the appropriate property parsed to it's real type.

Modifier and Type	Member	Description
public abstract Map< String, String >	*getPropertyValues()* on page 912	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 >	*getPropertyValues(List< String[]>)* on page 912	Return list of property values for the given property paths.
public abstract List< ISDMODataLink >	*getRelatedDataLinks()* on page 912	Returns SDMOData Link objects that represents links to Related Data.
public abstract List< ISDMODataProperty >	*getSAPSearchablePropertiesData()* on page 913	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 ISDMODataSchema	*getSchema()* on page 913	Returns the appropriate SDMOData Schema object.
public abstract ISDMODataLink	*getSelfLink()* on page 913	Returns SDMSDMOData Link object that should be used for self related operations (with 'rel' attribute value 'self' or 'edit')
public abstract ISDMODataLink	*getSubscriptionLink()* on page 913	Returns SDMOData Link object that should be used for subscription or null if there is no subscription link defined.
public abstract String	*getSummary()* on page 914	Returns The value of the appropriate SDMOData element.
public abstract String	*getTitle()* on page 914	Returns The value of the appropriate SDMOData element.
public static final String	*PROPERTY_LEVEL_SEPARATOR* on page 919	

Modifier and Type	Member	Description
public abstract void	*putComplexPropertyValue(String, String...)* on page 914	Puts the new property element as a sub-element of the 'complex properties' SDMOData element.
public abstract void	*putId(String)* on page 915	Sets id of this SDMOData Entry document (value of appropriate SDMOData Id element)
public abstract void	*putPropertyValue(String, String)* on page 915	Puts the new property element as a sub-element of the 'properties' SDMOData element.
public abstract void	*putPropertyValue(String, String, boolean)* on page 915	Puts the new property element as a sub-element of the 'properties' SDMOData element.
public abstract void	*setAuthorName(String)* on page 916	Sets the value of the 'name' SDMOData element of the 'author' SDMOData element.
public void	*setCachestate(cacheState)* on page 916	
public void	*setCacheTimestamp(Long)* on page 916	
public abstract void	*setCollectionId(String)* on page 916	Maintains the Id of the SDMOCata Collection that this Entry belongs to.
public void	*setIsLocal(boolean)* on page 916	
public abstract void	*setSchema(ISDMODataSchema)* on page 917	Maintains the reference to the appropriate SDMOData Schema object.
public abstract void	*setSummary(String)* on page 917	Sets the value of the appropriate SDMOData element.
public abstract void	*setTitle(String)* on page 917	Sets the value of the appropriate SDMOData element.

Inherited members from ISDMParserDocument

Modifier and Type	Member	Description
public static final String	*ATTRIBUTE_ETAG* on page 1082	Name of the appropriate SDMOData element.
public static final String	*ATTRIBUTE_VALUEPREFIX_EDMTYPE* on page 1082	Value prefix for EDM Type type values.
public abstract ISDMParserDocument	*clone()* on page 1069	Creates a copy of this object.
public static Map< String, String >	*DEFAULT_PREFIXMAPPING* on page 1082	The default XML Namespace-to-Prefix mapping used for building XMLS.
public static final String[]	*EDMDATETIME_PATTERNS* on page 1082	Possible EDM DateTime patterns Note: Some pattern are not supported by OData specification but still widely used.
public static final String[]	*EDMDATETIMEOFFSET_PATTERNS* on page 1082	Possible EDM TimeOffset patterns Note: Some pattern are not supported by OData specification but still widely used.
public static final String	*EDMTIME_PATTERN* on page 1082	EDM Time pattern.
public static String	*ELEMENT_FEED* on page 1083	Name of the appropriate SDMOData element.
public static final String	*ELEMENT_ID* on page 1083	Name of the appropriate SDMOData element.
public abstract String	*getAttribute(String...)* on page 1069	Returns the value of the first attribute with the given route.
public abstract List< String >	*getAttributes(String...)* on page 1070	Returns all the values of attributes with the given route.
public abstract Map< String, String >	*getChildAttributeMap(String...)* on page 1070	Returns all the name-value pairs of attributes contained by the element with the given route.
public abstract List< String >	*getChildAttributes(String...)* on page 1070	Returns all the values of attributes contained by the element with the given route.

Modifier and Type	Member	Description
public abstract List< ISDMParserDocument >	*getChildDocuments(String...)* on page 1071	Returns the elements contained by the element with the given route.
public abstract List< ISDMParserDocument >	*getChildDocumentsWithAttribute(String, String, String...)* on page 1071	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public abstract List< ISDMParserDocument >	*getChildDocumentsWithAttribute(String, String, boolean, String...)* on page 1072	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public abstract ISDMParserDocument	*getDocument(String...)* on page 1072	Returns the first element with the given route.
public abstract List< ISDMParserDocument >	*getDocuments(String...)* on page 1073	Returns all the elements with the given route.
public abstract List< ISDMParserDocument >	*getDocumentsWithAttribute(String, String, String...)* on page 1073	Returns the elements with the given route that contains the given attribute with the given value.
public abstract List< ISDMParserDocument >	*getDocumentsWithAttribute(String, String, boolean, String...)* on page 1074	Returns the elements with the given route that contains the given attribute with the given value.
public abstract ISDMParserDocument	*getDocumentWithAttribute(String, String, String...)* on page 1074	Returns the first element with the given route that contains the given attribute with the given value.
public abstract ISDMParserDocument	*getDocumentWithAttribute(String, String, boolean, String...)* on page 1075	Returns the first element with the given route that contains the given attribute with the given value.
public abstract String	*getElementName()* on page 1075	Returns The name of the root element of this document.
public abstract String	*getFunctionImportComplexPropertyValue(String...)* on page 1076	

Modifier and Type	Member	Description
public abstract String	*getPrefixForUri(String)* on page 1076	Returns the appropriate name-space prefix for the given XML name-space URI.
public abstract String[]	*getStrings()* on page 1076	Returns all the string values contained by this document.
public abstract String	*getValue(String...)* on page 1076	Returns the value of the first element with the given route.
public abstract List< String >	*getValues(String...)* on page 1077	Returns all the values of elements with the given route.
public abstract void	*putAttribute(String, String...)* on page 1077	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	*putDocument(ISDMParserDocument, String...)* on page 1078	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	*putValue(String, String...)* on page 1078	Sets the value of the first element with the given route.
public abstract boolean	*removeAttribute(String...)* on page 1079	Removes first element with the given route.
public abstract boolean	*removeAttributes(String...)* on page 1079	Removes all the attribute with the given route.
public abstract boolean	*removeDocument(String...)* on page 1079	Removes first element with the given route For removing multiple element use setDocuemtns with null arguments.
public static final String	*ROOT_DOCUMENT_NAME* on page 1083	The default root element name for a new document.

Modifier and Type	Member	Description
public abstract void	*setAttributes(List< String >, String...)* on page 1080	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	*setDocuments(List< ISDMParserDocument >, String...)* on page 1080	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	*setElementName(String, String...)* on page 1081	Sets the name of the root element with the given route Use empty route for setting root name of this document.
public abstract void	*setValues(List< String >, String...)* on page 1081	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	*toXMLString()* on page 1081	Returns the XML string representation of this object.
public static final String	*XMLNS_APPLICATION_URI* on page 1083	Constant for XMLNS URI: http://schemas.microsoft.com/ado/2007/08/dataservices.
public static final String	*XMLNS_ATOM_URI* on page 1083	Constant for XMLNS URI: http://www.w3.org/2005/Atom.

Modifier and Type	Member	Description
public static final String	*XMLNS_DATASERVICES_URI* on page 1083	Constant for XMLNS URI: http://schemas.microsoft.com/ado/2007/08/dataservices.
public static final String	*XMLNS_EDM_URI* on page 1083	Constant for XMLNS URI: http://schemas.microsoft.com/ado/2007/05/edm.
public static final String	*XMLNS_EDMX_URI* on page 1084	Constant for XMLNS URI: http://schemas.microsoft.com/ado/2007/06/edmx.
public static final String	*XMLNS_GENERICPLAYER_URI* on page 1084	Constant for XMLNS URI: http://www.sap.com/Protocols/SAPData/GenericPlayer.
public static final String	*XMLNS_METADATA_URI* on page 1084	Constant for XMLNS URI: http://schemas.microsoft.com/ado/2007/08/dataservices/metadata.
public static final String	*XMLNS_SAP_URI* on page 1084	Constant for XMLNS URI: http://www.sap.com/Protocols/SAPData.

Inherited members from ISDMPersistable

Modifier and Type	Member	Description
public void	*read(BufferedReader)* on page 1085	
public void	*write(BufferedWriter)* on page 1085	

SDMODataSubscriptionEntry() constructor

Syntax

```
public SDMODataSubscriptionEntry ()
```

SDMODataSubscriptionEntry(int[], String[]) constructor

Syntax

```
protected SDMODataSubscriptionEntry (
    int[] routes,
```

```
    String[] values
)
```

SDMODataSubscriptionEntry(SDMParserDocument) constructor

Syntax

```
public SDMODataSubscriptionEntry (SDMParserDocument document)
```

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
)
```

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

Package

```
com.sap.mobile.lib.sdmparser
```

Syntax

```
public class SDMODataURL extends SDMParserDocument implements
ISDMODataURL
```

Base class

- *SDMParserDocument* on page 1672

Implemented interfaces

- *ISDMODataURL* on page 1035

Members
All members of SDMODataURL, including inherited members. **Variables**

Modifier and Type	Variable	Description
protected String	baseUrl	

Constructors

Modifier and Type	Constructor	Description
public	*SDMODataURL()* on page 1639	
protected	*SDMODataURL(int[], String[])* on page 1639	
public	*SDMODataURL(SDMParserDocument)* on page 1640	

Methods

Modifier and Type	Method	Description
public List< String >	*getMandatoryTemplateParameters()* on page 1640	Returns the list of mandatory template parameter names.
protected List< String >	*getMandatoryTemplateParameters(String)* on page 1640	
public List< String >	*getOptionalTemplateParameters()* on page 1640	Returns the list of optional template parameter names.
protected List< String >	*getOptionalTemplateParameters(String)* on page 1640	
public String	*getTemplate()* on page 1640	Returns the value of the appropriate SDMOData attribute.
public List< String >	*getTemplateParameters()* on page 1641	Returns the list of all template parameter names.
public String	*getType()* on page 1641	Returns the value of the appropriate SDMOData attribute.
public String	*getUrl()* on page 1641	Returns the full URL of this SDMOData attribute without parameters.
public String	*getUrlFromTemplate(Map< String, String >)* on page 1641	Returns the full URL of this SDMOData attribute extended with parameter names and values according to the given parameter map.
public void	*read(BufferedReader)* on page 1642	

Modifier and Type	Method	Description
protected void	*setBaseUrl(String)* on page 1642	
public void	*write(BufferedWriter)* on page 1642	

Inherited members from SDMParserDocument

Modifier and Type	Member	Description
public SDMParserDocument	*clone()* on page 1681	Creates a copy of this object.
protected Map< String, String >	*extensions* on page 1701	
public String	*getAttribute(String...)* on page 1682	Returns the value of the first attribute with the given route.
public List< String >	*getAttributes(String...)* on page 1682	Returns all the values of attributes with the given route.
protected int	*getAttributesEndPosition(int[], int, int)* on page 1682	
public Map< String, String >	*getChildAttributeMap(String...)* on page 1683	Returns all the name-value pairs of attributes contained by the element with the given route.
public List< String >	*getChildAttributes(String...)* on page 1683	Returns all the values of attributes contained by the element with the given route.
public List< ISDMParserDocument >	*getChildDocuments(String...)* on page 1683	Returns the elements contained by the element with the given route.
public List< ISDMParserDocument >	*getChildDocumentsWithAttribute(String, String, String...)* on page 1684	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public List< ISDMParserDocument >	*getChildDocumentsWithAttribute(String, String, boolean, String...)* on page 1684	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public SDMParserDocument	*getDocument(String...)* on page 1685	Returns the first element with the given route.

Modifier and Type	Member	Description
protected List< int[]>	*getDocumentPositions(String[], int, boolean, boolean)* on page 1685	
public List< ISDMParserDocument >	*getDocuments(String...)* on page 1686	Returns all the elements with the given route.
public List< ISDMParserDocument >	*getDocumentsWithAttribute(String, String, String...)* on page 1686	Returns the elements with the given route that contains the given attribute with the given value.
public List< ISDMParserDocument >	*getDocumentsWithAttribute(String, String, boolean, String...)* on page 1687	Returns the elements with the given route that contains the given attribute with the given value.
public ISDMParserDocument	*getDocumentWithAttribute(String, String, String...)* on page 1687	Returns the first element with the given route that contains the given attribute with the given value.
public ISDMParserDocument	*getDocumentWithAttribute(String, String, boolean, String...)* on page 1688	Returns the first element with the given route that contains the given attribute with the given value.
public String	*getElementName()* on page 1688	Returns The name of the root element of this document.
public String	*getExtension(String)* on page 1689	
public String	*getFunctionImportComplexPropertyValue(String...)* on page 1689	
public static List< String >	*getNameMap()* on page 1689	
public static String	*getPrefix(String)* on page 1689	
public String	*getPrefixForUri(String)* on page 1689	Returns the appropriate name-space prefix for the given XML name-space URI.

Modifier and Type	Member	Description
public static Map< String, String >	*getPrefixMapping()* on page 1689	
protected List< Integer >	*getStringPositions(String[], int, boolean, boolean)* on page 1690	
public String[]	*getStrings()* on page 1690	Returns all the string values contained by this document.
public String	*getValue(String...)* on page 1690	Returns the value of the first element with the given route.
public List< String >	*getValues(String...)* on page 1690	Returns all the values of elements with the given route.
protected int[]	*insertRoutePositions(int[], int, int[])* on page 1691	
protected void	*insertRoutesPositions(int, int[])* on page 1691	
protected void	*insertStringsPositions(int, String[])* on page 1691	
protected String[]	*insertStringsPositions(String[], int, String[])* on page 1691	
protected boolean	*isMatched(String, String)* on page 1692	
public void	*putAttribute(String, String...)* on page 1692	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	*putDocument(ISDMParserDocument, String...)* on page 1692	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	*putExtension(String, String)* on page 1693	

Modifier and Type	Member	Description
protected void	*putString(int, String, int, String...)* on page 1693	
public void	*putValue(String, String...)* on page 1693	Sets the value of the first element with the given route.
public static void	*readNameMap(BufferedReader)* on page 1694	
public boolean	*removeAttribute(String...)* on page 1694	Removes first element with the given route.
public boolean	*removeAttributes(String...)* on page 1694	Removes all the attribute with the given route.
public boolean	*removeDocument(String...)* on page 1695	Removes first element with the given route For removing multiple element use setDocuemtns with null arguments.
public void	*removeExtension(String)* on page 1695	
protected void	*removeRoutesPositions(int, int)* on page 1695	
protected int[]	*removeRoutesPositions(int[], int, int)* on page 1695	
protected boolean	*removeString(String...)* on page 1695	
protected boolean	*removeStrings(String...)* on page 1696	
protected void	*removeStringsPositions(int, int)* on page 1696	
protected String[]	*removeStringsPositions(String[], int, int)* on page 1696	
protected int	*replaceRoutesPositions(int, int, int[])* on page 1696	
protected int[]	*replaceRoutesPositions(int[], int, int, int[])* on page 1696	

Modifier and Type	Member	Description
protected int	*replaceStringsPositions(int, int, String[])* on page 1697	
protected String[]	*replaceStringsPositions(String[], int, int, String[])* on page 1697	
public static String	*resolveUrl(String, String)* on page 1697	
protected int[]	*routes* on page 1701	
public	*SDMParserDocument(String)* on page 1681	
public	*SDMParserDocument(SDMParserDocument)* on page 1681	
protected	*SDMParserDocument(int[], String[])* on page 1681	
protected	*SDMParserDocument(String, boolean)* on page 1681	
public void	*setAttribute(String, String...)* on page 1697	
public void	*setAttributes(List< String >, String...)* on page 1697	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	*setDocument(ISDMParserDocument, String...)* on page 1698	

Modifier and Type	Member	Description
public void	*setDocuments(List< ISDMParserDocument >, String...)* on page 1698	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	*setElementName(String, String...)* on page 1698	Sets the name of the root element with the given route Use empty route for setting root name of this document.
public static void	*setNameMap(List< String >)* on page 1699	
public static void	*setPrefixMapping(Map< String, String >)* on page 1699	
protected void	*setString(String, String...)* on page 1699	
protected void	*setStrings(List< String >, String...)* on page 1699	
public void	*setValue(String, String...)* on page 1699	
public void	*setValues(List< String >, String...)* on page 1700	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[]	*strings* on page 1701	
public String	*toXMLString()* on page 1700	Returns the XML string representation of this object.
protected static final String	*URL_PROTOCOL_PREFIX* on page 1701	

Modifier and Type	Member	Description
public static void	*writeNameMap(BufferedWriter)* on page 1701	

Inherited members from ISDMParserDocument

Modifier and Type	Member	Description
public static final String	*ATTRIBUTE_ETAG* on page 1082	Name of the appropriate SDMOData element.
public static final String	*ATTRIBUTE_ VALUEPREFIX_EDMTYPE* on page 1082	Value prefix for EDM Type type values.
public static Map< String, String >	*DEFAULT_PREFIXMAPPING* on page 1082	The default XML Namespace-to-Prefix mapping used for building XMLS.
public static final String[]	*EDMDATETIME_PATTERNS* on page 1082	Possible EDM DateTime patterns Note: Some pattern are not supported by OData specification but still widely used.
public static final String[]	*EDMDATETIMEOFFSET_PATTERNS* on page 1082	Possible EDM TimeOffset patterns Note: Some pattern are not supported by OData specification but still widely used.
public static final String	*EDMTIME_PATTERN* on page 1082	EDM Time pattern.
public static String	*ELEMENT_FEED* on page 1083	Name of the appropriate SDMOData element.
public static final String	*ELEMENT_ID* on page 1083	Name of the appropriate SDMOData element.
public static final String	*ROOT_DOCUMENT_NAME* on page 1083	The default root element name for a new document.
public static final String	*XMLNS_APPLICATION_URI* on page 1083	Constant for XMLNS URI: http://schemas.microsoft.com/ado/2007/08/dataservices.
public static final String	*XMLNS_ATOM_URI* on page 1083	Constant for XMLNS URI: http://www.w3.org/2005/Atom.

Modifier and Type	Member	Description
public static final String	*XMLNS_DATASERVICES_URI* on page 1083	Constant for XMLNS URI: http://schemas.microsoft.com/ado/2007/08/dataservices.
public static final String	*XMLNS_EDM_URI* on page 1083	Constant for XMLNS URI: http://schemas.microsoft.com/ado/2007/05/edm.
public static final String	*XMLNS_EDMX_URI* on page 1084	Constant for XMLNS URI: http://schemas.microsoft.com/ado/2007/06/edmx.
public static final String	*XMLNS_GENERICPLAYER_URI* on page 1084	Constant for XMLNS URI: http://www.sap.com/Protocols/SAPData/GenericPlayer.
public static final String	*XMLNS_METADATA_URI* on page 1084	Constant for XMLNS URI: http://schemas.microsoft.com/ado/2007/08/dataservices/metadata.
public static final String	*XMLNS_SAP_URI* on page 1084	Constant for XMLNS URI: http://www.sap.com/Protocols/SAPData.

Inherited members from ISDMPersistable

Modifier and Type	Member	Description
public void	*read(BufferedReader)* on page 1085	
public void	*write(BufferedWriter)* on page 1085	

Inherited members from ISDMODataURL

Modifier and Type	Member	Description
public static final String	*ATTRIBUTE_TEMPLATE* on page 1043	Name of the appropriate SDMOData attribute.
public static final String	*ATTRIBUTE_TYPE* on page 1043	Name of the appropriate SDMOData attribute.
public static final String	*ELEMENT_URL* on page 1043	Name of the appropriate SDMOData element.

Inherited members from ISDMParserDocument

Modifier and Type	Member	Description
public static final String	*ATTRIBUTE_ETAG* on page 1082	Name of the appropriate SDMOData element.
public static final String	*ATTRIBUTE_VALUEPREFIX_EDMTYPE* on page 1082	Value prefix for EDM Type type values.
public abstract ISDMParserDocument	*clone()* on page 1069	Creates a copy of this object.
public static Map< String, String >	*DEFAULT_PREFIXMAPPING* on page 1082	The default XML Namespace-to-Prefix mapping used for building XMLS.
public static final String[]	*EDMDATETIME_PATTERNS* on page 1082	Possible EDM DateTime patterns Note: Some pattern are not supported by OData specification but still widely used.
public static final String[]	*EDMDATETIMEOFFSET_PATTERNS* on page 1082	Possible EDM TimeOffset patterns Note: Some pattern are not supported by OData specification but still widely used.
public static final String	*EDMTIME_PATTERN* on page 1082	EDM Time pattern.
public static String	*ELEMENT_FEED* on page 1083	Name of the appropriate SDMOData element.
public static final String	*ELEMENT_ID* on page 1083	Name of the appropriate SDMOData element.
public abstract String	*getAttribute(String...)* on page 1069	Returns the value of the first attribute with the given route.
public abstract List< String >	*getAttributes(String...)* on page 1070	Returns all the values of attributes with the given route.
public abstract Map< String, String >	*getChildAttributeMap(String...)* on page 1070	Returns all the name-value pairs of attributes contained by the element with the given route.
public abstract List< String >	*getChildAttributes(String...)* on page 1070	Returns all the values of attributes contained by the element with the given route.

Modifier and Type	Member	Description
public abstract List< ISDMParserDocument >	*getChildDocuments(String...)* on page 1071	Returns the elements contained by the element with the given route.
public abstract List< ISDMParserDocument >	*getChildDocumentsWithAttribute(String, String, String...)* on page 1071	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public abstract List< ISDMParserDocument >	*getChildDocumentsWithAttribute(String, String, boolean, String...)* on page 1072	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public abstract ISDMParserDocument	*getDocument(String...)* on page 1072	Returns the first element with the given route.
public abstract List< ISDMParserDocument >	*getDocuments(String...)* on page 1073	Returns all the elements with the given route.
public abstract List< ISDMParserDocument >	*getDocumentsWithAttribute(String, String, String...)* on page 1073	Returns the elements with the given route that contains the given attribute with the given value.
public abstract List< ISDMParserDocument >	*getDocumentsWithAttribute(String, String, boolean, String...)* on page 1074	Returns the elements with the given route that contains the given attribute with the given value.
public abstract ISDMParserDocument	*getDocumentWithAttribute(String, String, String...)* on page 1074	Returns the first element with the given route that contains the given attribute with the given value.
public abstract ISDMParserDocument	*getDocumentWithAttribute(String, String, boolean, String...)* on page 1075	Returns the first element with the given route that contains the given attribute with the given value.
public abstract String	*getElementName()* on page 1075	Returns The name of the root element of this document.
public abstract String	*getFunctionImportComplexPropertyValue(String...)* on page 1076	

Modifier and Type	Member	Description
public abstract String	*getPrefixForUri(String)* on page 1076	Returns the appropriate name-space prefix for the given XML name-space URI.
public abstract String[]	*getStrings()* on page 1076	Returns all the string values contained by this document.
public abstract String	*getValue(String...)* on page 1076	Returns the value of the first element with the given route.
public abstract List< String >	*getValues(String...)* on page 1077	Returns all the values of elements with the given route.
public abstract void	*putAttribute(String, String...)* on page 1077	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	*putDocument(ISDMParserDocument, String...)* on page 1078	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	*putValue(String, String...)* on page 1078	Sets the value of the first element with the given route.
public abstract boolean	*removeAttribute(String...)* on page 1079	Removes first element with the given route.
public abstract boolean	*removeAttributes(String...)* on page 1079	Removes all the attribute with the given route.
public abstract boolean	*removeDocument(String...)* on page 1079	Removes first element with the given route For removing multiple element use setDocuemtns with null arguments.
public static final String	*ROOT_DOCUMENT_NAME* on page 1083	The default root element name for a new document.

Modifier and Type	Member	Description
public abstract void	*setAttributes(List< String >, String...)* on page 1080	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	*setDocuments(List< ISDMParserDocument >, String...)* on page 1080	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	*setElementName(String, String...)* on page 1081	Sets the name of the root element with the given route Use empty route for setting root name of this document.
public abstract void	*setValues(List< String >, String...)* on page 1081	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	*toXMLString()* on page 1081	Returns the XML string representation of this object.
public static final String	*XMLNS_APPLICATION_URI* on page 1083	Constant for XMLNS URI: http://schemas.microsoft.com/ado/2007/08/dataservices.
public static final String	*XMLNS_ATOM_URI* on page 1083	Constant for XMLNS URI: http://www.w3.org/2005/Atom.

Modifier and Type	Member	Description
public static final String	*XMLNS_DATASERVICES_URI* on page 1083	Constant for XMLNS URI: http://schemas.microsoft.com/ado/2007/08/dataservices.
public static final String	*XMLNS_EDM_URI* on page 1083	Constant for XMLNS URI: http://schemas.microsoft.com/ado/2007/05/edm.
public static final String	*XMLNS_EDMX_URI* on page 1084	Constant for XMLNS URI: http://schemas.microsoft.com/ado/2007/06/edmx.
public static final String	*XMLNS_GENERICPLAYER_URI* on page 1084	Constant for XMLNS URI: http://www.sap.com/Protocols/SAPData/GenericPlayer.
public static final String	*XMLNS_METADATA_URI* on page 1084	Constant for XMLNS URI: http://schemas.microsoft.com/ado/2007/08/dataservices/metadata.
public static final String	*XMLNS_SAP_URI* on page 1084	Constant for XMLNS URI: http://www.sap.com/Protocols/SAPData.

Inherited members from ISDMPersistable

Modifier and Type	Member	Description
public void	*read(BufferedReader)* on page 1085	
public void	*write(BufferedWriter)* on page 1085	

SDMODataURL() constructor

Syntax

```
public SDMODataURL ()
```

SDMODataURL(int[], String[]) constructor

Syntax

```
protected SDMODataURL (
    int[] routes,
```

```
    String[] values
)
```

SDMODataURL(SDMParserDocument) constructor

Syntax

```
public SDMODataURL (SDMParserDocument document)
```

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 SDMOData attribute.

Syntax

```
public String getTemplate ()
```

Returns
The value of the appropriate SDMOData 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 SDMOData attribute.

Syntax
```
public String getType ()
```

Returns
The value of the appropriate SDMOData attribute

getUrl() method
Returns the full URL of this SDMOData attribute without parameters.

Syntax
```
public 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 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

Package

```
com.sap.mobile.lib.sdmparser
```

Syntax

```
public class SDMODataWorkspace extends SDMParserDocument
implements ISDMODataWorkspace
```

Base class

- *SDMParserDocument* on page 1672

Implemented interfaces

- *ISDMODataWorkspace* on page 1043

Members

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

Modifier and Type	Variable	Description
protected String	baseUrl	

Constructors

Modifier and Type	Constructor	Description
public	*SDMODataWorkspace()* on page 1656	
protected	*SDMODataWorkspace(int[], String[])* on page 1656	
public	*SDMODataWorkspace(SDMParserDocument)* on page 1657	

Methods

Modifier and Type	Method	Description
public List< ISDMODataCollection >	*getCollections()* on page 1657	Returns The list of of 'collection' SDMOData element.
public String	*getSemantics()* on page 1657	Returns the value of the appropriate SDMOData attribute.
public String	*getTitle()* on page 1657	Returns the value of the appropriate SDMOData element.
protected void	*setBaseUrl(String)* on page 1657	

Inherited members from SDMParserDocument

Modifier and Type	Member	Description
public SDMParserDocument	*clone()* on page 1681	Creates a copy of this object.
protected Map< String, String >	*extensions* on page 1701	
public String	*getAttribute(String...)* on page 1682	Returns the value of the first attribute with the given route.
public List< String >	*getAttributes(String...)* on page 1682	Returns all the values of attributes with the given route.
protected int	*getAttributesEndPosition(int[], int, int)* on page 1682	
public Map< String, String >	*getChildAttributeMap(String...)* on page 1683	Returns all the name-value pairs of attributes contained by the element with the given route.
public List< String >	*getChildAttributes(String...)* on page 1683	Returns all the values of attributes contained by the element with the given route.
public List< ISDMParserDocument >	*getChildDocuments(String...)* on page 1683	Returns the elements contained by the element with the given route.
public List< ISDMParserDocument >	*getChildDocumentsWithAttribute(String, String, String...)* on page 1684	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public List< ISDMParserDocument >	*getChildDocumentsWithAttribute(String, String, boolean, String...)* on page 1684	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public SDMParserDocument	*getDocument(String...)* on page 1685	Returns the first element with the given route.
protected List< int[]>	*getDocumentPositions(String[], int, boolean, boolean)* on page 1685	
public List< ISDMParserDocument >	*getDocuments(String...)* on page 1686	Returns all the elements with the given route.

Modifier and Type	Member	Description
public List< ISDMParserDocument >	*getDocumentsWithAttribute(String, String, String...)* on page 1686	Returns the elements with the given route that contains the given attribute with the given value.
public List< ISDMParserDocument >	*getDocumentsWithAttribute(String, String, boolean, String...)* on page 1687	Returns the elements with the given route that contains the given attribute with the given value.
public ISDMParserDocument	*getDocumentWithAttribute(String, String, String...)* on page 1687	Returns the first element with the given route that contains the given attribute with the given value.
public ISDMParserDocument	*getDocumentWithAttribute(String, String, boolean, String...)* on page 1688	Returns the first element with the given route that contains the given attribute with the given value.
public String	*getElementName()* on page 1688	Returns The name of the root element of this document.
public String	*getExtension(String)* on page 1689	
public String	*getFunctionImportComplexPropertyValue(String...)* on page 1689	
public static List< String >	*getNameMap()* on page 1689	
public static String	*getPrefix(String)* on page 1689	
public String	*getPrefixForUri(String)* on page 1689	Returns the appropriate name-space prefix for the given XML name-space URI.
public static Map< String, String >	*getPrefixMapping()* on page 1689	
protected List< Integer >	*getStringPositions(String[], int, boolean, boolean)* on page 1690	

Modifier and Type	Member	Description
public String[]	*getStrings()* on page 1690	Returns all the string values contained by this document.
public String	*getValue(String...)* on page 1690	Returns the value of the first element with the given route.
public List< String >	*getValues(String...)* on page 1690	Returns all the values of elements with the given route.
protected int[]	*insertRoutePositions(int[], int, int[])* on page 1691	
protected void	*insertRoutesPositions(int, int[])* on page 1691	
protected void	*insertStringsPositions(int, String[])* on page 1691	
protected String[]	*insertStringsPositions(String[], int, String[])* on page 1691	
protected boolean	*isMatched(String, String)* on page 1692	
public void	*putAttribute(String, String...)* on page 1692	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	*putDocument(ISDMParserDocument, String...)* on page 1692	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	*putExtension(String, String)* on page 1693	
protected void	*putString(int, String, int, String...)* on page 1693	
public void	*putValue(String, String...)* on page 1693	Sets the value of the first element with the given route.

Modifier and Type	Member	Description
public void	*read(BufferedReader)* on page 1693	
public static void	*readNameMap(BufferedReader)* on page 1694	
public boolean	*removeAttribute(String...)* on page 1694	Removes first element with the given route.
public boolean	*removeAttributes(String...)* on page 1694	Removes all the attribute with the given route.
public boolean	*removeDocument(String...)* on page 1695	Removes first element with the given route For removing multiple element use setDocuemtns with null arguments.
public void	*removeExtension(String)* on page 1695	
protected void	*removeRoutesPositions(int, int)* on page 1695	
protected int[]	*removeRoutesPositions(int[], int, int)* on page 1695	
protected boolean	*removeString(String...)* on page 1695	
protected boolean	*removeStrings(String...)* on page 1696	
protected void	*removeStringsPositions(int, int)* on page 1696	
protected String[]	*removeStringsPositions(String[], int, int)* on page 1696	
protected int	*replaceRoutesPositions(int, int, int[])* on page 1696	
protected int[]	*replaceRoutesPositions(int[], int, int, int[])* on page 1696	
protected int	*replaceStringsPositions(int, int, String[])* on page 1697	

Modifier and Type	Member	Description
protected String[]	*replaceStringsPositions(String[], int, int, String[])* on page 1697	
public static String	*resolveUrl(String, String)* on page 1697	
protected int[]	*routes* on page 1701	
public	*SDMParserDocument(String)* on page 1681	
public	*SDMParserDocument(SDMParserDocument)* on page 1681	
protected	*SDMParserDocument(int[], String[])* on page 1681	
protected	*SDMParserDocument(String, boolean)* on page 1681	
public void	*setAttribute(String, String...)* on page 1697	
public void	*setAttributes(List< String >, String...)* on page 1697	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	*setDocument(ISDMParserDocument, String...)* on page 1698	
public void	*setDocuments(List< ISDMParserDocument >, String...)* on page 1698	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	*setElementName(String, String...)* on page 1698	Sets the name of the root element with the given route Use empty route for setting root name of this document.
public static void	*setNameMap(List< String >)* on page 1699	
public static void	*setPrefixMapping(Map< String, String >)* on page 1699	
protected void	*setString(String, String...)* on page 1699	
protected void	*setStrings(List< String >, String...)* on page 1699	
public void	*setValue(String, String...)* on page 1699	
public void	*setValues(List< String >, String...)* on page 1700	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[]	*strings* on page 1701	
public String	*toXMLString()* on page 1700	Returns the XML string representation of this object.
protected static final String	*URL_PROTOCOL_PREFIX* on page 1701	
public void	*write(BufferedWriter)* on page 1700	
public static void	*writeNameMap(BufferedWriter)* on page 1701	

Inherited members from ISDMParserDocument

Modifier and Type	Member	Description
public static final String	*ATTRIBUTE_ETAG* on page 1082	Name of the appropriate SDMOData element.
public static final String	*ATTRIBUTE_VALUEPREFIX_EDMTYPE* on page 1082	Value prefix for EDM Type type values.
public static Map< String, String >	*DEFAULT_PREFIXMAPPING* on page 1082	The default XML Namespace-to-Prefix mapping used for building XMLS.
public static final String[]	*EDMDATETIME_PATTERNS* on page 1082	Possible EDM DateTime patterns Note: Some pattern are not supported by OData specification but still widely used.
public static final String[]	*EDMDATETIMEOFFSET_PATTERNS* on page 1082	Possible EDM TimeOffset patterns Note: Some pattern are not supported by OData specification but still widely used.
public static final String	*EDMTIME_PATTERN* on page 1082	EDM Time pattern.
public static String	*ELEMENT_FEED* on page 1083	Name of the appropriate SDMOData element.
public static final String	*ELEMENT_ID* on page 1083	Name of the appropriate SDMOData element.
public static final String	*ROOT_DOCUMENT_NAME* on page 1083	The default root element name for a new document.
public static final String	*XMLNS_APPLICATION_URI* on page 1083	Constant for XMLNS URI: http://schemas.microsoft.com/ado/2007/08/dataservices.
public static final String	*XMLNS_ATOM_URI* on page 1083	Constant for XMLNS URI: http://www.w3.org/2005/Atom.
public static final String	*XMLNS_DATASERVICES_URI* on page 1083	Constant for XMLNS URI: http://schemas.microsoft.com/ado/2007/08/dataservices.
public static final String	*XMLNS_EDM_URI* on page 1083	Constant for XMLNS URI: http://schemas.microsoft.com/ado/2007/05/edm.

Modifier and Type	Member	Description
public static final String	*XMLNS_EDMX_URI* on page 1084	Constant for XMLNS URI: http://schemas.microsoft.com/ado/2007/06/edmx.
public static final String	*XMLNS_GENERICPLAYER_URI* on page 1084	Constant for XMLNS URI: http://www.sap.com/Protocols/SAPData/GenericPlayer.
public static final String	*XMLNS_METADATA_URI* on page 1084	Constant for XMLNS URI: http://schemas.microsoft.com/ado/2007/08/dataservices/metadata.
public static final String	*XMLNS_SAP_URI* on page 1084	Constant for XMLNS URI: http://www.sap.com/Protocols/SAPData.

Inherited members from ISDMPersistable

Modifier and Type	Member	Description
public void	*read(BufferedReader)* on page 1085	
public void	*write(BufferedWriter)* on page 1085	

Inherited members from ISDMODataWorkspace

Modifier and Type	Member	Description
public static final String	*ATTRIBUTE_SEMANTICS* on page 1050	Name of the appropriate SDMOData attribute.
public static final String	*ELEMENT_TITLE* on page 1050	Name of the appropriate SDMOData element.
public static final String	*ELEMENT_WORKSPACE* on page 1050	Name of the appropriate SDMOData element.

Inherited members from ISDMParserDocument

Modifier and Type	Member	Description
public static final String	*ATTRIBUTE_ETAG* on page 1082	Name of the appropriate SDMOData element.

Modifier and Type	Member	Description
public static final String	*ATTRIBUTE_VALUEPREFIX_EDMTYPE* on page 1082	Value prefix for EDM Type type values.
public abstract ISDMParserDocument	*clone()* on page 1069	Creates a copy of this object.
public static Map< String, String >	*DEFAULT_PREFIXMAPPING* on page 1082	The default XML Namespace-to-Prefix mapping used for building XMLS.
public static final String[]	*EDMDATETIME_PATTERNS* on page 1082	Possible EDM DateTime patterns Note: Some pattern are not supported by OData specification but still widely used.
public static final String[]	*EDMDATETIMEOFFSET_PATTERNS* on page 1082	Possible EDM TimeOffset patterns Note: Some pattern are not supported by OData specification but still widely used.
public static final String	*EDMTIME_PATTERN* on page 1082	EDM Time pattern.
public static String	*ELEMENT_FEED* on page 1083	Name of the appropriate SDMOData element.
public static final String	*ELEMENT_ID* on page 1083	Name of the appropriate SDMOData element.
public abstract String	*getAttribute(String...)* on page 1069	Returns the value of the first attribute with the given route.
public abstract List< String >	*getAttributes(String...)* on page 1070	Returns all the values of attributes with the given route.
public abstract Map< String, String >	*getChildAttributeMap(String...)* on page 1070	Returns all the name-value pairs of attributes contained by the element with the given route.
public abstract List< String >	*getChildAttributes(String...)* on page 1070	Returns all the values of attributes contained by the element with the given route.
public abstract List< ISDMParserDocument >	*getChildDocuments(String...)* on page 1071	Returns the elements contained by the element with the given route.

Modifier and Type	Member	Description
public abstract List< ISDMParserDocument >	*getChildDocumentsWithAttribute(String, String, String...)* on page 1071	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public abstract List< ISDMParserDocument >	*getChildDocumentsWithAttribute(String, String, boolean, String...)* on page 1072	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public abstract ISDMParserDocument	*getDocument(String...)* on page 1072	Returns the first element with the given route.
public abstract List< ISDMParserDocument >	*getDocuments(String...)* on page 1073	Returns all the elements with the given route.
public abstract List< ISDMParserDocument >	*getDocumentsWithAttribute(String, String, String...)* on page 1073	Returns the elements with the given route that contains the given attribute with the given value.
public abstract List< ISDMParserDocument >	*getDocumentsWithAttribute(String, String, boolean, String...)* on page 1074	Returns the elements with the given route that contains the given attribute with the given value.
public abstract ISDMParserDocument	*getDocumentWithAttribute(String, String, String...)* on page 1074	Returns the first element with the given route that contains the given attribute with the given value.
public abstract ISDMParserDocument	*getDocumentWithAttribute(String, String, boolean, String...)* on page 1075	Returns the first element with the given route that contains the given attribute with the given value.
public abstract String	*getElementName()* on page 1075	Returns The name of the root element of this document.
public abstract String	*getFunctionImportComplexPropertyValue(String...)* on page 1076	
public abstract String	*getPrefixForUri(String)* on page 1076	Returns the appropriate name-space prefix for the given XML name-space URI.

Modifier and Type	Member	Description
public abstract String[]	*getStrings()* on page 1076	Returns all the string values contained by this document.
public abstract String	*getValue(String...)* on page 1076	Returns the value of the first element with the given route.
public abstract List< String >	*getValues(String...)* on page 1077	Returns all the values of elements with the given route.
public abstract void	*putAttribute(String, String...)* on page 1077	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	*putDocument(ISDMParserDocument, String...)* on page 1078	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	*putValue(String, String...)* on page 1078	Sets the value of the first element with the given route.
public abstract boolean	*removeAttribute(String...)* on page 1079	Removes first element with the given route.
public abstract boolean	*removeAttributes(String...)* on page 1079	Removes all the attribute with the given route.
public abstract boolean	*removeDocument(String...)* on page 1079	Removes first element with the given route For removing multiple element use setDocuemtns with null arguments.
public static final String	*ROOT_DOCUMENT_NAME* on page 1083	The default root element name for a new document.

Modifier and Type	Member	Description
public abstract void	*setAttributes(List< String >, String...)* on page 1080	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	*setDocuments(List< ISDMParserDocument >, String...)* on page 1080	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	*setElementName(String, String...)* on page 1081	Sets the name of the root element with the given route Use empty route for setting root name of this document.
public abstract void	*setValues(List< String >, String...)* on page 1081	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	*toXMLString()* on page 1081	Returns the XML string representation of this object.
public static final String	*XMLNS_APPLICATION_URI* on page 1083	Constant for XMLNS URI: http://schemas.microsoft.com/ado/2007/08/dataservices.
public static final String	*XMLNS_ATOM_URI* on page 1083	Constant for XMLNS URI: http://www.w3.org/2005/Atom.

Modifier and Type	Member	Description
public static final String	*XMLNS_DATASERVICES_URI* on page 1083	Constant for XMLNS URI: http://schemas.microsoft.com/ado/2007/08/dataservices.
public static final String	*XMLNS_EDM_URI* on page 1083	Constant for XMLNS URI: http://schemas.microsoft.com/ado/2007/05/edm.
public static final String	*XMLNS_EDMX_URI* on page 1084	Constant for XMLNS URI: http://schemas.microsoft.com/ado/2007/06/edmx.
public static final String	*XMLNS_GENERICPLAYER_URI* on page 1084	Constant for XMLNS URI: http://www.sap.com/Protocols/SAPData/GenericPlayer.
public static final String	*XMLNS_METADATA_URI* on page 1084	Constant for XMLNS URI: http://schemas.microsoft.com/ado/2007/08/dataservices/metadata.
public static final String	*XMLNS_SAP_URI* on page 1084	Constant for XMLNS URI: http://www.sap.com/Protocols/SAPData.

Inherited members from ISDMPersistable

Modifier and Type	Member	Description
public void	*read(BufferedReader)* on page 1085	
public void	*write(BufferedWriter)* on page 1085	

SDMODataWorkspace() constructor

Syntax

```
public SDMODataWorkspace ()
```

SDMODataWorkspace(int[], String[]) constructor

Syntax

```
protected SDMODataWorkspace (
    int[] routes,
```

```
    String[] values
)
```

SDMODataWorkspace(SDMParserDocument) constructor

Syntax

```
public SDMODataWorkspace (SDMParserDocument document)
```

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

Package

```
com.sap.mobile.lib.sdmparser
```

Syntax

```
public class SDMParser implements ISDMParser
```

Implemented interfaces

- *ISDMParser* on page 1050

Members

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

Modifier and Type	Variable	Description
protected SAXParser	parser	
protected File	defaultFolder	
protected int	logLevel	
protected ISDMLogger	logger	
protected ISDMPreferences	preferences	
protected static final String	NAMEMAP_FILENAME	

Constructors

Modifier and Type	Constructor	Description
public	*SDMParser(ISDMPreferences, ISDMLogger)* on page 1661	

Methods

Modifier and Type	Method	Description
public String	*buildSDMODataDocumentXML(ISDMParserDocument)* on page 1661	Replaced by com.sap.mobile.lib.parser.IParser#buildODataDocument(IParserDocument).
public String	*buildSDMODataEntryJson(ISDMODataEntry, String, ISDMODataSchema)* on page 1661	Replaced by com.sap.mobile.lib.parser.IParser#buildODataEntryRequestBody(IODataEntry ,String , IODataSchema , int).
public String	*buildSDMODataEntryXML(ISDMODataEntry)* on page 1662	Replaced by com.sap.mobile.lib.parser.IParser#buildODataEntryRequestBody(IODataEntry ,String , IODataSchema , int).
public void	*enableParserPerformanceLog(boolean, Context)* on page 1662	Replaced by com.sap.mobile.lib.parser.IParser#enableParserPerformanceLog(boolean,Context).
public List< ISDMODataEntry >	*parseFunctionImportResultXML(String, ISDMODataFunctionImport, ISDMODataSchema)* on page 1663	Replaced by com.sap.mobile.lib.parser.IParser#parseFunctionImportResult(String , IODataFunctionImport , IODataSchema).
public List< ISDMODataEntry >	*parseFunctionImportResultXML(InputStream, ISDMODataFunctionImport, ISDMODataSchema)* on page 1663	Replaced by com.sap.mobile.lib.parser.IParser#parseFunctionImportResult(InputStream , IODataFunctionImport , IODataSchema).
public List< ISDMODataEntry >	*parseSDMODataEntriesXML(String, String, ISDMODataSchema)* on page 1664	Replaced by com.sap.mobile.lib.parser.IParser#parseODataEntries(String , String , IODataSchema).
public List< ISDMODataEntry >	*parseSDMODataEntriesXML(InputStream, String, ISDMODataSchema)* on page 1665	Replaced by com.sap.mobile.lib.parser.IParser#parseODataEntries(InputStream , String , IODataSchema).

Modifier and Type	Method	Description
public ISDMODataError	*parseSDMODataErrorXML(String)* on page 1665	Replaced by com.sap.mobile.lib.parser.IParser#parseODataError(String).
public ISDMODataError	*parseSDMODataErrorXML(InputStream)* on page 1666	Replaced by com.sap.mobile.lib.parser.IParser#parseODataError(InputStream).
public ISDMODataOpenSearchDescription	*parseSDMODataOpenSearchDescriptionXML(String, String, ISDMODataServiceDocument)* on page 1666	Replaced by com.sap.mobile.lib.parser.IParser#parseODataOpenSearchDescription(String , String , IODataServiceDocument).
public ISDMODataOpenSearchDescription	*parseSDMODataOpenSearchDescriptionXML(InputStream, String, ISDMODataServiceDocument)* on page 1667	Replaced by com.sap.mobile.lib.parser.IParser#parseODataOpenSearchDescription(InputStream , String , IODataServiceDocument).
public ISDMODataSchema	*parseSDMODataSchemaXML(String, ISDMODataServiceDocument)* on page 1668	Replaced by com.sap.mobile.lib.parser.IParser#parseODataSchema(String,IODataServiceDocument).
public ISDMODataSchema	*parseSDMODataSchemaXML(InputStream, ISDMODataServiceDocument)* on page 1668	Replaced by com.sap.mobile.lib.parser.IParser#parseODataSchema(InputStream,IODataServiceDocument).
public ISDMODataServiceDocument	*parseSDMODataServiceDocumentXML(String)* on page 1669	Replaced by com.sap.mobile.lib.parser.IParser#parseODataServiceDocument(String).
public ISDMODataServiceDocument	*parseSDMODataServiceDocumentXML(InputStream)* on page 1669	Replaced by com.sap.mobile.lib.parser.IParser#parseODataServiceDocument(InputStream).
public ISDMParserDocument	*parseXML(InputStream)* on page 1670	Replaced by com.sap.mobile.lib.parser.IParser#parse(InputStream).
public ISDMParserDocument	*parseXML(String)* on page 1670	Replaced by com.sap.mobile.lib.parser.IParser#parse(String).

Modifier and Type	Method	Description
protected synchronized void	*readNameMap()* on page 1671	
protected void	*writeNameMap(int)* on page 1671	

SDMParser(ISDMPreferences, ISDMLogger) constructor

Syntax

```
public SDMParser (
    ISDMPreferences preferences,
    ISDMLogger logger
) throws SDMParserException
```

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

Remarks
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

Remarks
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 SDMParserException
```

Parameters

- **entry –** The SDMODataEntry 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

Remarks
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 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

Remarks

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

Remarks
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

Remarks

Parses SAPData XML structure that represent either a single SDMOData Entry or an SDMOData Feed with several SDMOData entries

parseSDMODataEntriesXML(InputStream, String, ISDMODataSchema) method

Replaced by com.sap.mobile.lib.parser.IParser#parseODataEntries(InputStream , String , IODataSchema).

Syntax

```
public List< ISDMODataEntry > parseSDMODataEntriesXML (
    InputStream stream,
    String collectionId,
    ISDMODataSchema schema
) throws SDMParserException,IllegalArgumentException
```

Parameters

- **stream –** The stream that holds 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

Remarks

Parses SAPData XML structure from stream that represent either a single SDMOData Entry or an SDMOData Feed of several SDMOData entries

parseSDMODataErrorXML(String) method

Replaced by com.sap.mobile.lib.parser.IParser#parseODataError(String).

Syntax

```
public ISDMODataError parseSDMODataErrorXML (String errorXML)
throws SDMParserException
```

Parameters

- **errorXML –** The SDMOData Error XML

Returns
The SDMOData Error document

Exceptions

- **SDMParserException class –** If the XML source is invalid
- **IllegalArgumentException –** If the argument is null

Remarks
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 SDMParserException
```

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

Remarks
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 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

Remarks
Parses the SDMOData Open Search Description XML

parseSDMODataOpenSearchDescriptionXML(InputStream, String, ISDMODataServiceDocument) method
Replaced by com.sap.mobile.lib.parser.IParser#parseODataOpenSearchDescription(InputStream , String , IODataServiceDocument).

Syntax

```
public ISDMODataOpenSearchDescription
parseSDMODataOpenSearchDescriptionXML (
    InputStream stream,
    String collectionId,
    ISDMODataServiceDocument serviceDocument
) throws SDMParserException,IllegalArgumentException
```

Parameters

- **stream –** The stream that holds the SDMOData Open Search Description XML.

Returns
SDMOData Open Search Description document

Exceptions

- **SDMParserException class –** If the stream source is invalid.
- **IllegalArgumentException –** If the argument is null.

Remarks
Parses the SDMOData 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

Remarks
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

Remarks
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

Remarks
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

Remarks
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

Remarks
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

- **SDMParserException class –** If the XML source is invalid
- **IllegalArgumentException –** If the argument is null

Remarks
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
```

logger variable

Syntax

```
protected ISDMLogger logger
```

logLevel variable

Syntax

```
protected int logLevel
```

NAMEMAP_FILENAME variable

Syntax

```
protected static final String NAMEMAP_FILENAME
```

parser variable

Syntax

```
protected SAXParser parser
```

preferences variable

Syntax

```
protected ISDMPreferences preferences
```

SDMParserDocument class

Deprecated. since 3.0, Use ParserDocument

Package

```
com.sap.mobile.lib.sdmparser
```

Syntax

```
public class SDMParserDocument implements ISDMParserDocument
```

Implemented interfaces

- *ISDMParserDocument* on page 1063

Derived classes

- *SDMODataAssociation* on page 1195
- *SDMODataAssociationEnd* on page 1210
- *SDMODataCollection* on page 1241
- *SDMODataComplexType* on page 1263
- *SDMODataEntitySet* on page 1277
- *SDMODataEntityType* on page 1293
- *SDMODataEntry* on page 1313
- *SDMODataError* on page 1349
- *SDMODataFunctionImport* on page 1364
- *SDMODataIcon* on page 1383
- *SDMODataLink* on page 1399
- *SDMODataNavigationProperty* on page 1419

- *SDMODataOpenSearchDescription* on page 1435
- *SDMODataParameter* on page 1451
- *SDMODataProperty* on page 1466
- *SDMODataSchema* on page 1552
- *SDMODataServiceDocument* on page 1572
- *SDMODataURL* on page 1625
- *SDMODataWorkspace* on page 1642

Members

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

Modifier and Type	Variable	Description
protected int[]	routes	
protected String[]	strings	
protected Map< String, String >	extensions	
protected static final String	URL_PROTOCOL_PREFIX	

Constructors

Modifier and Type	Constructor	Description
protected	*SDMParserDocument(int[], String[])* on page 1681	
public	*SDMParserDocument(SDMParserDocument)* on page 1681	
public	*SDMParserDocument(String)* on page 1681	
protected	*SDMParserDocument(String, boolean)* on page 1681	

Methods

Modifier and Type	Method	Description
public SDMParserDocument	*clone()* on page 1681	Creates a copy of this object.
public String	*getAttribute(String...)* on page 1682	Returns the value of the first attribute with the given route.
public List< String >	*getAttributes(String...)* on page 1682	Returns all the values of attributes with the given route.

Modifier and Type	Method	Description
protected int	*getAttributesEndPosition(int[], int, int)* on page 1682	
public Map< String, String >	*getChildAttributeMap(String...)* on page 1683	Returns all the name-value pairs of attributes contained by the element with the given route.
public List< String >	*getChildAttributes(String...)* on page 1683	Returns all the values of attributes contained by the element with the given route.
public List< ISDMParserDocument >	*getChildDocuments(String...)* on page 1683	Returns the elements contained by the element with the given route.
public List< ISDMParserDocument >	*getChildDocumentsWithAttribute(String, String, String...)* on page 1684	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public List< ISDMParserDocument >	*getChildDocumentsWithAttribute(String, String, boolean, String...)* on page 1684	Returns the elements contained by the element with the given route and having the given attribute with the given value.
public SDMParserDocument	*getDocument(String...)* on page 1685	Returns the first element with the given route.
protected List< int[]>	*getDocumentPositions(String[], int, boolean, boolean)* on page 1685	
public List< ISDMParserDocument >	*getDocuments(String...)* on page 1686	Returns all the elements with the given route.
public List< ISDMParserDocument >	*getDocumentsWithAttribute(String, String, String...)* on page 1686	Returns the elements with the given route that contains the given attribute with the given value.
public List< ISDMParserDocument >	*getDocumentsWithAttribute(String, String, boolean, String...)* on page 1687	Returns the elements with the given route that contains the given attribute with the given value.

Modifier and Type	Method	Description
public ISDMParserDocument	*getDocumentWithAttribute(String, String, String...)* on page 1687	Returns the first element with the given route that contains the given attribute with the given value.
public ISDMParserDocument	*getDocumentWithAttribute(String, String, boolean, String...)* on page 1688	Returns the first element with the given route that contains the given attribute with the given value.
public String	*getElementName()* on page 1688	Returns The name of the root element of this document.
public String	*getExtension(String)* on page 1689	
public String	*getFunctionImportComplexPropertyValue(String...)* on page 1689	
public static List< String >	*getNameMap()* on page 1689	
public static String	*getPrefix(String)* on page 1689	
public String	*getPrefixForUri(String)* on page 1689	Returns the appropriate name-space prefix for the given XML name-space URI.
public static Map< String, String >	*getPrefixMapping()* on page 1689	
protected List< Integer >	*getStringPositions(String[], int, boolean, boolean)* on page 1690	
public String[]	*getStrings()* on page 1690	Returns all the string values contained by this document.
public String	*getValue(String...)* on page 1690	Returns the value of the first element with the given route.
public List< String >	*getValues(String...)* on page 1690	Returns all the values of elements with the given route.
protected int[]	*insertRoutePositions(int[], int, int[])* on page 1691	

Modifier and Type	Method	Description
protected void	*insertRoutesPositions(int, int[])* on page 1691	
protected void	*insertStringsPositions(int, String[])* on page 1691	
protected String[]	*insertStringsPositions(String[], int, String[])* on page 1691	
protected boolean	*isMatched(String, String)* on page 1692	
public void	*putAttribute(String, String...)* on page 1692	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	*putDocument(ISDMParserDocument, String...)* on page 1692	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	*putExtension(String, String)* on page 1693	
protected void	*putString(int, String, int, String...)* on page 1693	
public void	*putValue(String, String...)* on page 1693	Sets the value of the first element with the given route.
public void	*read(BufferedReader)* on page 1693	
public static void	*readNameMap(BufferedReader)* on page 1694	
public boolean	*removeAttribute(String...)* on page 1694	Removes first element with the given route.
public boolean	*removeAttributes(String...)* on page 1694	Removes all the attribute with the given route.

Modifier and Type	Method	Description
public boolean	*removeDocument(String...)* on page 1695	Removes first element with the given route For removing multiple element use setDocuemtns with null arguments.
public void	*removeExtension(String)* on page 1695	
protected void	*removeRoutesPositions(int, int)* on page 1695	
protected int[]	*removeRoutesPositions(int[], int, int)* on page 1695	
protected boolean	*removeString(String...)* on page 1695	
protected boolean	*removeStrings(String...)* on page 1696	
protected void	*removeStringsPositions(int, int)* on page 1696	
protected String[]	*removeStringsPositions(String[], int, int)* on page 1696	
protected int	*replaceRoutesPositions(int, int, int[])* on page 1696	
protected int[]	*replaceRoutesPositions(int[], int, int, int[])* on page 1696	
protected int	*replaceStringsPositions(int, int, String[])* on page 1697	
protected String[]	*replaceStringsPositions(String[], int, int, String[])* on page 1697	
public static String	*resolveUrl(String, String)* on page 1697	
public void	*setAttribute(String, String...)* on page 1697	

Modifier and Type	Method	Description
public void	*setAttributes(List< String >, String...)* on page 1697	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	*setDocument(ISDMParserDocument, String...)* on page 1698	
public void	*setDocuments(List< ISDMParserDocument >, String...)* on page 1698	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	*setElementName(String, String...)* on page 1698	Sets the name of the root element with the given route Use empty route for setting root name of this document.
public static void	*setNameMap(List< String >)* on page 1699	
public static void	*setPrefixMapping(Map< String, String >)* on page 1699	
protected void	*setString(String, String...)* on page 1699	
protected void	*setStrings(List< String >, String...)* on page 1699	
public void	*setValue(String, String...)* on page 1699	

Modifier and Type	Method	Description
public void	*setValues(List< String >, String...)* on page 1700	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 String	*toXMLString()* on page 1700	Returns the XML string representation of this object.
public void	*write(BufferedWriter)* on page 1700	
public static void	*writeNameMap(BufferedWriter)* on page 1701	

Inherited members from ISDMParserDocument

Modifier and Type	Member	Description
public static final String	*ATTRIBUTE_ETAG* on page 1082	Name of the appropriate SDMOData element.
public static final String	*ATTRIBUTE_VALUEPREFIX_EDMTYPE* on page 1082	Value prefix for EDM Type type values.
public static Map< String, String >	*DEFAULT_PREFIXMAPPING* on page 1082	The default XML Namespace-to-Prefix mapping used for building XMLS.
public static final String[]	*EDMDATETIME_PATTERNS* on page 1082	Possible EDM DateTime patterns Note: Some pattern are not supported by OData specification but still widely used.
public static final String[]	*EDMDATETIMEOFFSET_PATTERNS* on page 1082	Possible EDM TimeOffset patterns Note: Some pattern are not supported by OData specification but still widely used.
public static final String	*EDMTIME_PATTERN* on page 1082	EDM Time pattern.

Modifier and Type	Member	Description
public static String	*ELEMENT_FEED* on page 1083	Name of the appropriate SDMOData element.
public static final String	*ELEMENT_ID* on page 1083	Name of the appropriate SDMOData element.
public static final String	*ROOT_DOCUMENT_NAME* on page 1083	The default root element name for a new document.
public static final String	*XMLNS_APPLICATION_URI* on page 1083	Constant for XMLNS URI: http://schemas.microsoft.com/ado/2007/08/dataservices.
public static final String	*XMLNS_ATOM_URI* on page 1083	Constant for XMLNS URI: http://www.w3.org/2005/Atom.
public static final String	*XMLNS_DATASERVICES_URI* on page 1083	Constant for XMLNS URI: http://schemas.microsoft.com/ado/2007/08/dataservices.
public static final String	*XMLNS_EDM_URI* on page 1083	Constant for XMLNS URI: http://schemas.microsoft.com/ado/2007/05/edm.
public static final String	*XMLNS_EDMX_URI* on page 1084	Constant for XMLNS URI: http://schemas.microsoft.com/ado/2007/06/edmx.
public static final String	*XMLNS_GENERICPLAYER_URI* on page 1084	Constant for XMLNS URI: http://www.sap.com/Protocols/SAPData/GenericPlayer.
public static final String	*XMLNS_METADATA_URI* on page 1084	Constant for XMLNS URI: http://schemas.microsoft.com/ado/2007/08/dataservices/metadata.
public static final String	*XMLNS_SAP_URI* on page 1084	Constant for XMLNS URI: http://www.sap.com/Protocols/SAPData.

Inherited members from ISDMPersistable

Modifier and Type	Member	Description
public void	*read(BufferedReader)* on page 1085	
public void	*write(BufferedWriter)* on page 1085	

SDMParserDocument(int[], String[]) constructor

Syntax

```
protected SDMParserDocument (
    int[] routes,
    String[] values
)
```

SDMParserDocument(SDMParserDocument) constructor

Syntax

```
public SDMParserDocument (SDMParserDocument document)
```

SDMParserDocument(String) constructor

Syntax

```
public SDMParserDocument (String name)
```

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)
```

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(ISDMParserDocument, 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 (
    ISDMParserDocument 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
```

extensions variable

Syntax

```
protected Map< String, String > extensions
```

routes variable

Syntax

```
protected int[] routes
```

strings variable

Syntax

```
protected String[] strings
```

URL_PROTOCOL_PREFIX variable

Syntax

```
protected static final String URL_PROTOCOL_PREFIX
```

SDMParserException class

Deprecated. since 3.0, Use ParserException Main exception throwable by SDMParser or SDMOdata documents.

Package

```
com.sap.mobile.lib.sdmparser
```

Syntax

```
public class SDMParserException
```

Members

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

Modifier and Type	Constructor	Description
public	*SDMParserException()* on page 1702	Constructor.

Modifier and Type	Constructor	Description
public	*SDMParserException(int, String)* on page 1702	
public	*SDMParserException(int, String, Throwable)* on page 1702	
public	*SDMParserException(String)* on page 1703	Constructor.
public	*SDMParserException(String, Throwable)* on page 1703	Constructor.
public	*SDMParserException(Throwable)* on page 1703	Constructor.

Methods

Modifier and Type	Method	Description
public int	*getErrorCode()* on page 1703	

SDMParserException() constructor

Constructor.

Syntax

```
public SDMParserException ()
```

SDMParserException(int, String) constructor

Syntax

```
public SDMParserException (
    int iErrorCode,
    String detailMessage
)
```

SDMParserException(int, String, Throwable) constructor

Syntax

```
public SDMParserException (
    int iErrorCode,
    String detailMessage,
    Throwable throwable
)
```

SDMParserException(String) constructor
Constructor.

Syntax

```
public SDMParserException (String detailMessage)
```

Parameters

- **detailMessage –** Error message

SDMParserException(String, Throwable) constructor
Constructor.

Syntax

```
public SDMParserException (
    String detailMessage,
    Throwable throwable
)
```

Parameters

- **detailMessage –** Error message
- **throwable –** Route exception

SDMParserException(Throwable) constructor
Constructor.

Syntax

```
public SDMParserException (Throwable throwable)
```

Parameters

- **throwable –** Route exception

getErrorCode() method

Syntax

```
public int getErrorCode ()
```

SDMParserHandler class
Deprecated. since 3.0, Use ParserHandler

Package

```
com.sap.mobile.lib.sdmparser
```

Syntax

```
public class SDMParserHandler
```

Members

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

Modifier and Type	Variable	Description
protected List< Integer >	routes	
protected List< String >	values	
protected StringBuffer	buffer	

Methods

Modifier and Type	Method	Description
protected void	*addValue()* on page 1704	
public void	*characters(char[], int, int)* on page 1705	
public void	*endElement(String, String, String)* on page 1705	
public SDMParserDocument	*getDocument()* on page 1705	
protected String	*resolveAttributeName(Attributes, int)* on page 1705	
protected String	*resolveName(String, String, String)* on page 1705	
public void	*startDocument()* on page 1705	
public void	*startElement(String, String, String, Attributes)* on page 1706	
public void	*startPrefixMapping(String, String)* on page 1706	

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
```

SDMPersistenceException class

Deprecated. since 3.0, Use com.sap.mobile.lib.persistence.PersistenceException

Package

```
com.sap.mobile.lib.sdmpersistence
```

Syntax

```
public class SDMPersistenceException
```

Members

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

Modifier and Type	Constructor	Description
public	*SDMPersistenceException()* on page 1707	
public	*SDMPersistenceException(int, String)* on page 1707	
public	*SDMPersistenceException(int, String, Throwable)* on page 1708	
public	*SDMPersistenceException(String)* on page 1708	
public	*SDMPersistenceException(String, Throwable)* on page 1708	
public	*SDMPersistenceException(Throwable)* on page 1708	

Methods

Modifier and Type	Method	Description
public int	*getErrorCode()* on page 1708	

SDMPersistenceException() constructor

Syntax

```
public SDMPersistenceException ()
```

SDMPersistenceException(int, String) constructor

Syntax

```
public SDMPersistenceException (
    int iErrorCode,
    String detailMessage
)
```

SDMPersistenceException(int, String, Throwable) constructor

Syntax

```
public SDMPersistenceException (
    int iErrorCode,
    String detailMessage,
    Throwable throwable
)
```

SDMPersistenceException(String) constructor

Syntax

```
public SDMPersistenceException (String detailMessage)
```

SDMPersistenceException(String, Throwable) constructor

Syntax

```
public SDMPersistenceException (
    String detailMessage,
    Throwable throwable
)
```

SDMPersistenceException(Throwable) constructor

Syntax

```
public SDMPersistenceException (Throwable throwable)
```

getErrorCode() method

Syntax

```
public int getErrorCode ()
```

SDMPreferences class
Deprecated. since 3.0, Use com.sap.mobile.lib.configuration.Preferences

Package

```
com.sap.mobile.lib.sdmconfiguration
```

Syntax

```
public class SDMPreferences implements ISDMPreferences,
SDMConstants
```

Implemented interfaces

- *ISDMPreferences* on page 1094
- *SDMConstants* on page 1160

Members

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

Modifier and Type	Variable	Description
protected static final String	SDMPREFERENCES	
public static String	DEFAULT_PERSIS-TENCE_STRING_SUBFOLD-ER_NAME	Default subfolder for SDMPer-sistence.
public static String	DEFAULT_PARS-ER_STRING_SUBFOLD-ER_NAME	Default subfolder for SDMPars-er.
protected Hashtable< String, Set< ISDMPreferenceChange-Listener > >	preferenceChangeListeners	Listeners for Preference changes.
protected Hashtable< String, Object >	defaultPreferences	Store for default Preferences.
protected ISDMLogger	logger	
protected int	logLevel	

Constructors

Modifier and Type	Constructor	Description
public	*SDMPreferences(Context, ISDMLogger)* on page 1715	Public constructor.

Methods

Modifier and Type	Method	Description
protected void	*addDefaultPreferences()* on page 1715	Can be used to add application specific default preferences.
protected Object	*confirmPreference(String)* on page 1715	Validates changed preference if it can be changed.

Modifier and Type	Method	Description
public boolean	*containsPreference(String)* on page 1716	Checks the existence of the given preference.
public Boolean	*getBooleanPreference(String)* on page 1716	Returns the value of the given preference or null if there is no preference with the given key.
public Float	*getFloatPreference(String)* on page 1716	Returns the value of the given preference or null if there is no preference with the given key.
public Integer	*getIntPreference(String)* on page 1717	Returns the value of the given preference or null if there is no preference with the given key.
public Long	*getLongPreference(String)* on page 1717	Returns the value of the given preference or null if there is no preference with the given key.
public String	*getStringPreference(String)* on page 1718	Returns the value of the given preference or null if there is no preference with the given key.
public void	*onSharedPreference-Changed(SharedPreferences, final String)* on page 1718	
public synchronized void	*registerPreferenceChangeListener(String, ISDMPreference-ChangeListener)* on page 1718	You can register a class implementing the ISDMPreference-ChangeListener interface for the change of a preference with the given key.
public void	*removePreference(String)* on page 1719	Removes the preferences with the given key.
public void	*resetPreference(String)* on page 1719	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	*setBooleanPreference(String, boolean)* on page 1719	Sets and validates and persists the value of the preferences with the given type.

Modifier and Type	Method	Description
public void	*setFloatPreference(String, float)* on page 1720	Sets and validates and persists the value of the preferences with the given type.
public void	*setIntPreference(String, int)* on page 1720	Sets and validates and persists the value of the preferences with the given type.
public void	*setLongPreference(String, long)* on page 1721	Sets and validates and persists the value of the preferences with the given type.
public void	*setStringPreference(String, String)* on page 1721	Sets and validates and persists the value of the preferences with the given type.
public synchronized void	*unRegisterPreferenceChangeListener(String, ISDMPreferenceChangeListener)* on page 1722	You can unregister a change listener.

Inherited members from ISDMPreferences

Modifier and Type	Member	Description
public static final String	*BUSINESSTRANSACTION_ENABLED* on page 1104	Preference for the indicator to decide if SAP passport should be enabled or not.
public static final String	*BYPASS_PROXY* on page 1104	Preference for the indicator to decide which URLs need the proxy bypassed.
public static final String	*SAP_APPLICATIONID_HEADER_VALUE* on page 1105	Preference for application ID (used in request headers)
public static final String	*SAPPASSPORT_ENABLED* on page 1105	Preference for the indicator to decide if SAP passport should be enabled or not.
public static final String	*SDM_CACHE_CAPACITY* on page 1105	Preference for the maximum number of documents can be stored in cache.

Modifier and Type	Member	Description
public static final String	*SDM_CACHE_MAX_SEARCH_RESULTS* on page 1105	Preference for the maximum entries that can be returned as a result of a search.
public static final String	*SDM_CACHE_PARSER_SEARCH_ATTRIBUTE* on page 1105	Preference for the name of the XML attribute that should be used to decide if a property is searchable.
public static final String	*SDM_CACHE_SEARCH_ATTRIBUTE_XMLNS* on page 1105	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	*SDM_CONNECTIVITY_CONNTIMEOUT* on page 1106	Preference for connection time out.
public static final String	*SDM_CONNECTIVITY_HANDLER_CLASS_NAME* on page 1106	Preference for full name (including package) of the class that should be initialized as connectivity handler.
public static final String	*SDM_CONNECTIVITY_HTTP_PORT* on page 1106	Preference for default HTTP port.
public static final String	*SDM_CONNECTIVITY_HTTPS_PORT* on page 1106	Preference for default HTTPS port.
public static final String	*SDM_CONNECTIVITY_PROXY_HOST* on page 1106	Preference for proxy host if there is a proxy should be used.
public static final String	*SDM_CONNECTIVITY_PROXY_PORT* on page 1106	Preference for proxy post if there is a proxy should be used.
public static final String	*SDM_CONNECTIVITY_SCONNTIMEOUT* on page 1106	Preference for socket connection time out.
public static final String	*SDM_LOG_LEVEL* on page 1107	Preference for the current log severity.

Modifier and Type	Member	Description
public static final String	*SDM_PARSER_FOLDER_PATH* on page 1107	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	*SDM_PERSISTENCE_BYTE_BUFFER_SIZE* on page 1107	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	*SDM_PERSISTENCE_CIPHER_TRANSFORMATION* on page 1107	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	*SDM_PERSISTENCE_FOLDER_PATH* on page 1107	Preference for the default folder where data should be persisted.
public static final String	*SDM_PERSISTENCE_SECUREMODE* on page 1107	Preference for indicator if persisted data should be encrypted.

Inherited members from SDMConstants

Modifier and Type	Member	Description
public static final boolean	*DEFAULT_BUSINESTRANSACTION_ENABLED* on page 1162	SAP Business Transaction XML enablement default setting.
public static final String	*DEFAULT_CIPHER_TRANSFORMATION* on page 1162	Default cipher transformation.
public static final int	*DEFAULT_CONNECTION_TIMEOUT* on page 1162	Default connection timeout.
public static final String	*DEFAULT_HANDLER_CLASS_NAME* on page 1162	Default handler class.

Modifier and Type	Member	Description
public static final int	*DEFAULT_HTTP_PORT* on page 1163	Default HTTP port.
public static final int	*DEFAULT_HTTPS_PORT* on page 1163	Default HTTPS port.
public static final int	*DEFAULT_LOG_LEVEL* on page 1163	Default log level.
public static final boolean	*DEFAULT_PERSISTENCE_BOOLEAN_SECUREMODE* on page 1163	Default security mode.
public static final int	*DEFAULT_PERSISTENCE_BYTE_BUFFER_SIZE* on page 1163	Default buffer size.
public static final String	*DEFAULT_PROXY_HOST* on page 1163	Default proxy host.
public static final int	*DEFAULT_PROXY_PORT* on page 1163	Default proxy port.
public static final String	*DEFAULT_SAP_APPLICATIONID_HEADER_VALUE* on page 1164	Default application ID.
public static final boolean	*DEFAULT_SAPPASSPORT_ENABLED* on page 1164	SAP Passport enablement default setting.
public static final int	*DEFAULT_SEARCH_LIMIT* on page 1164	Default for maximum search results retrieved from cache.
public static final int	*DEFAULT_SOCKET_CONNECTION_TIMEOUT* on page 1164	Default socket connection timeout.
public static final int	*DEFAULT_STORE_CAPACITY* on page 1164	Default cache capacity.
public static final int	*MAX_PERSISTENCE_BYTE_BUFFER_SIZE* on page 1164	Maximum buffer size.
public static final int	*MAXIMUM_STORE_CAPACITY* on page 1164	Maximum cache capacity.

Modifier and Type	Member	Description
public static final int	*MIN_PERSISTENCE_BYTE_BUFFER_SIZE* on page 1165	Minimum buffer size.
public static final String	*SDM_HTTP_HANDLER_CLASS* on page 1165	Socket Connection handler class.
public static final String	*SDM_IMO_HANDLER_CLASS* on page 1165	IMO Connection handler class.
public static final String	*SDM_SHARED_PREFERENCES* on page 1165	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
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

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.

Remarks
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 exists or it can not be removed(e.g. an SDM preference)

resetPreference(String) method
Resets the preference's value to it's 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.

Remarks
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

Package

```
com.sap.mobile.lib.sdmconfiguration
```

Syntax

```
public class SDMPreferencesException
```

Members
All members of SDMPreferencesException, including inherited members. **Constructors**

Modifier and Type	Constructor	Description
public	*SDMPreferencesException()* on page 1724	
public	*SDMPreferencesException(int, String)* on page 1724	
public	*SDMPreferencesException(int, String, Throwable)* on page 1724	
public	*SDMPreferencesException(String)* on page 1724	

Modifier and Type	Constructor	Description
public	*SDMPreferencesException(String, Throwable)* on page 1725	
public	*SDMPreferencesException(Throwable)* on page 1725	

Methods

Modifier and Type	Method	Description
public int	*getErrorCode()* on page 1725	

SDMPreferencesException() constructor

Syntax

```
public SDMPreferencesException ()
```

SDMPreferencesException(int, String) constructor

Syntax

```
public SDMPreferencesException (
    int iErrorCode,
    String detailMessage
)
```

SDMPreferencesException(int, String, Throwable) constructor

Syntax

```
public SDMPreferencesException (
    int iErrorCode,
    String detailMessage,
    Throwable throwable
)
```

SDMPreferencesException(String) constructor

Syntax

```
public SDMPreferencesException (String detailMessage)
```

SDMPreferencesException(String, Throwable) constructor

Syntax

```
public SDMPreferencesException (
    String detailMessage,
    Throwable throwable
)
```

SDMPreferencesException(Throwable) constructor

Syntax

```
public SDMPreferencesException (Throwable throwable)
```

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.

Package

```
com.sap.mobile.lib.sdmconnectivity
```

Syntax

```
public class SDMPushRequest implements ISDMRequest
```

Implemented interfaces

- *ISDMRequest* on page 1108

Members

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

Modifier and Type	Method	Description
public byte[]	*getData()* on page 1728	If the request method is POST, this method is called from the network library.

Modifier and Type	Method	Description
public InputStream	*getDataStream()* on page 1728	If the request method is POST, this method is called from the network library.
public Request	*getE2eRequest()* on page 1729	Get the iRequest object from the ISDMRequest.
public Map< String, String >	*getHeaders()* on page 1729	Returns the request headers set.
public ISDMNetListener	*getListener()* on page 1729	Returns the listener to be used by the connectivity library to notify the registered listener about a successful or failed request operation.
public String	*getPassport()* on page 1729	
public int	*getPriority()* on page 1729	Returns the priority of the request.
public int	*getRequestMethod()* on page 1730	Returns the request method.
public String	*getRequestUrl()* on page 1730	Returns the URL where the request must be done.
public String	*getTransId()* on page 1730	
public boolean	*isStreamEnabled()* on page 1730	
public void	*setData(byte[])* on page 1730	Set the request data in case of POST request.
public void	*setDataStream(InputStream)* on page 1731	Set the request data stream in case of POST request.
public void	*setE2eRequest(Object)* on page 1731	Set the iRequest object into the ISDMRequest.
public void	*setHeaders(Map< String, String >)* on page 1731	Set the request headers.
public void	*setListener(ISDMNetListener)* on page 1731	
public void	*setPassport(String)* on page 1731	

Modifier and Type	Method	Description
public void	*setPriority(int)* on page 1731	
public void	*setRequestMethod(int)* on page 1732	
public void	*setRequestUrl(String)* on page 1732	
public void	*setStreamEnabled(boolean)* on page 1732	Used to enable streaming of data when the size of the data to be fetched is greater than 200KB.
public void	*setTransId(String)* on page 1732	
public boolean	*useCookies()* on page 1732	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	*ETAG_IF_MATCH* on page 1116	etag "if-match"
public static final int	*ETAG_IF_NONE_MATCH* on page 1116	etag "if-none-match"
public static final int	*ETAG_IF_RANGE* on page 1116	etag "if-range"
public static final int	*PRIORITY_HIGH* on page 1116	High priority.
public static final int	*PRIORITY_NORMAL* on page 1116	Normal priority.
public static final int	*REQUEST_METHOD_DELETE* on page 1117	HTTP DELETE method.
public static final int	*REQUEST_METHOD_GET* on page 1117	HTTP GET method.
public static final int	*REQUEST_METHOD_POST* on page 1117	HTTP POST method.

Modifier and Type	Member	Description
public static final int	*REQUEST_METHOD_PUT* on page 1117	HTTP PUT method.
public void	*setListener(final ISDMNetListener)* on page 1114	Client can register listeners to be used by the connectivity layer to notify the implementation about the result of the request.
public void	*setPriority(final int)* on page 1114	Sets the priority of the request.
public void	*setRequestMethod(final int)* on page 1115	Sets the request method.
public void	*setRequestUrl(final String)* on page 1115	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.

Remarks
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.

Remarks
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 ()
```

Remarks
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.

Remarks
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.

Remarks

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

Package

```
com.sap.mobile.lib.sdmconnectivity
```

Syntax

```
public class SDMRequestManager implements ISDMRequestManager,
ISDMPreferenceChangeListener
```

Implemented interfaces

- *ISDMRequestManager* on page 1117
- *ISDMPreferenceChangeListener* on page 1094

Members
All members of SDMRequestManager, including inherited members. **Variables**

Modifier and Type	Variable	Description
public static final int	MAX_THREADS	
public static Authentication-ChallengeListener	authenticationListener	
protected static final String	TAG	
protected ISDMConnection-Handler[]	mMainHandler	
protected Vector< Object >	mQueue	
protected Vector< ISDMRe-quest >	mHQueue	
protected ISDMLogger	mLogger	
protected String	mMainHandlerClassName	
protected boolean	mPassportEnabled	
protected SuccessThread	successNotifier	Success notification worker in-stance.

Constructors

Modifier and Type	Constructor	Description
public	*SDMRequestManager(ISDMLogger, ISDMPreferences, ISDMConnectivitiyParameters, int)* on page 1735	Instantiates the SDMRequestManager.

Methods

Modifier and Type	Method	Description
public void	*addPassport(ISDMRequest)* on page 1736	
public synchronized Vector< ISDMRequest >	*getAllRequests()* on page 1736	Returns all requests from the connectivity component which are in the queue.
public ISDMConnectivitiyParameters	*getConnectivityParameters()* on page 1736	Returns the ConnectivityParameters object containing the settings used by the library.
public ISDMLogger	*getLogger()* on page 1736	
public synchronized PassportAndCorrId	*getNetPassport(ISDMRequest)* on page 1736	
public ISDMPreferences	*getPreferences()* on page 1737	
public int	*getQueueSize()* on page 1737	Returns the number of requests from the connectivity component which are in the queue.
public synchronized Object	*getRequest()* on page 1737	Returns an ISDMRequest from the queue(s)
public synchronized boolean	*hasRequests()* on page 1737	Returns a boolean indicating the queue has requests or doesn't.
public void	*makeRequest(final ISDMRequest)* on page 1737	Put a request object into the SDMRequestManager.
public void	*makeRequest(final ISDMBundleRequest)* on page 1738	
public void	*onPreferenceChanged(String, Object)* on page 1738	Callback method for preference change event.
public void	*sendLog(final String)* on page 1738	

Modifier and Type	Method	Description
public void	*sendOnSuccess(final ISDMNetListener, final ISDMRequest, final ISDMResponse)* on page 1738	Used to notify the ISDMNetListener implementation about successful request, without blocking ISDMConnectivity threads and reducing the concurrency on the application.
public static void	*setAuthenticationChallengeListener(IAuthenticationChallengeListner)* on page 1739	
public final void	*setMainHandlerClassName(final String)* on page 1739	Sets the name (w.
public void	*setMutualSSLChallengeListener(IMutualSSLChallengeListener)* on page 1739	
public void	*setSSLChallengeListener(ISSLChallengeListener)* on page 1739	Error notification worker.
public synchronized void	*terminate()* on page 1739	Terminates all the requests in the queue.

SDMRequestManager(ISDMLogger, ISDMPreferences, ISDMConnectivitiyParameters, int) constructor

Instantiates the SDMRequestManager.

Syntax

```
public SDMRequestManager (
    ISDMLogger aLogger,
    ISDMPreferences aPreferences,
    ISDMConnectivitiyParameters aParameters,
    int aThreads
)
```

Parameters

- **aLogger –** an ISDMLogger implementation
- **aPreferences –** an ISDMPreferences implementation
- **aParameters –** the ConnectivityParameters.
- **aThreads –** the number of parallel threads.

Remarks
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 ISDMConnectivitiyParameters 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 dowsn'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(IAuthenticationChallengeListner) method

Syntax

```
public static void setAuthenticationChallengeListener
(IAuthenticationChallengeListner olistener)
```

setMainHandlerClassName(final String) method
Sets the name (w.

Syntax

```
public final void setMainHandlerClassName (final String
mainHandlerClassName)
```

Parameters

- **mainHandlerClassName –** the mMainHandlerClassName to set

Remarks
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
olistener)
```

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
```

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

Package

```
com.sap.mobile.lib.sdmconnectivity.SDMRequestManager
```

Syntax

```
public class AuthenticationChallengeListener implements
IAuthenticationChallengeListner
```

Implemented interfaces

- *IAuthenticationChallengeListner* on page 1169

Members
All members of AuthenticationChallengeListener, including inherited members. **Methods**

Modifier and Type	Method	Description
public ICredential	*OnAuthenticationFailed(Authenticationschema, HttpResponse)* on page 1741	

OnAuthenticationFailed(Authenticationschema, HttpResponse) method

Syntax

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

SDMRequestManager.MutualSSLChallengeListener class
Deprecated. since 3.0, Use com.sap.mobile.lib.request.RequestManager.MutualSSLChallengeListener

Package

```
com.sap.mobile.lib.sdmconnectivity.SDMRequestManager
```

Syntax

```
public class MutualSSLChallengeListener
```

Members
All members of MutualSSLChallengeListener, including inherited members. **Methods**

Modifier and Type	Method	Description
public HttpsClientCertInfo	*getClientCertificate(String)* on page 1742	

getClientCertificate(String) method

Syntax

```
public HttpsClientCertInfo getClientCertificate (String certAlias)
```

SDMRequestManager.SSLChallengeListener class
Deprecated. since 3.0, Use com.sap.mobile.lib.request.RequestManager.SSLChallengeListener

Package

```
com.sap.mobile.lib.sdmconnectivity.SDMRequestManager
```

Syntax

```
public class SSLChallengeListener
```

Members
All members of SSLChallengeListener, including inherited members. **Methods**

Modifier and Type	Method	Description
public boolean	*checkServerTrusted(X509Certificate[])* on page 1743	

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.

Package

```
com.sap.mobile.lib.sdmconnectivity.SDMRequestManager
```

Syntax

```
protected class SuccessThread
```

Members

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

Modifier and Type	Method	Description
public void	*die()* on page 1743	Stops the thread;.
public void	*notify(final SuccessObject)* on page 1743	
public void	*run()* on page 1743	

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.

Package

```
com.sap.mobile.lib.sdmconnectivity
```

Syntax

```
public class SDMRequestStateElement implements
ISDMRequestStateElement
```

Implemented interfaces

- *ISDMRequestStateElement* on page 1121

Members

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

Modifier and Type	Variable	Description
protected int	mErrorCode	Stores the error type.
protected int	mHttpStatus	Stores the HTTP status if available.
protected HttpResponse	mResponse	
protected Exception	mException	Stores the exception if available.

Constructors

Modifier and Type	Constructor	Description
public	*SDMRequestStateElement()* on page 1746	
public	*SDMRequestStateElement(final int)* on page 1746	
public	*SDMRequestStateElement(final int, final Exception)* on page 1746	
public	*SDMRequestStateElement(final int, final int)* on page 1747	

Modifier and Type	Constructor	Description
public	*SDMRequestStateElement(final int, final int, final Exception)* on page 1747	
public	*SDMRequestStateElement(final int, HttpResponse)* on page 1747	
public	*SDMRequestStateElement(final int, HttpResponse, Exception)* on page 1747	

Methods

Modifier and Type	Method	Description
public int	*getErrorCode()* on page 1747	Returns the error code.
public Exception	*getException()* on page 1748	Returns the Exception if it was set.
public HttpResponse	*getHttpResponse()* on page 1748	Returns the HttpResponse.
public int	*getHttpStatusCode()* on page 1748	Returns the HTTP status if it was set.
public void	*setErrorCode(final int)* on page 1748	Sets the error code.
public void	*setException(final Exception)* on page 1749	Sets the Exception.
public void	*setHttpResponse(HttpResponse)* on page 1749	Sets the HttpResponse.
public void	*setHttpStatusCode(int)* on page 1749	

Inherited members from ISDMRequestStateElement

Modifier and Type	Member	Description
public static final int	*AUTHENTICATION_ERROR* on page 1124	Authentication error.

Modifier and Type	Member	Description
public static final int	*CLIENT_ERROR* on page 1124	Client error.
public static final int	*HTTP_ERROR* on page 1124	Server response status > 302.
public static final int	*NETWORK_ERROR* on page 1124	There was a network error during a read/write to/from stream.
public static final int	*NO_ERROR* on page 1125	
public static final int	*PARSE_ERROR* on page 1125	Problem with parsing the response xml.
public static final int	*REQUEST_ERROR* on page 1125	Problem with parsing the request.
public abstract void	*setHttpStatusCode(final int)* on page 1124	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, final Exception) constructor

Syntax

```
public SDMRequestStateElement (
    final int errorCode,
    final 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, 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
)
```

getErrorCode() method
Returns the error code.

Syntax

```
public int getErrorCode ()
```

Remarks
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.

Remarks
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.

Remarks
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 HttpResponse mResponse
```

SDMResponseImpl class
Deprecated. since 3.0, Use com.sap.mobile.lib.request.ResponseImpl

Package
```
com.sap.mobile.lib.sdmconnectivity
```

Syntax
```
public class SDMResponseImpl implements ISDMResponse
```

Implemented interfaces

- *ISDMResponse* on page 1125

Members
All members of SDMResponseImpl, including inherited members. **Constructors**

Modifier and Type	Constructor	Description
public	*SDMResponseImpl(BasicStatusLine)* on page 1751	

Methods

Modifier and Type	Method	Description
public String	*getCookie()* on page 1751	
public String	*getCorelationId()* on page 1751	
public int	*getCurrentOffset()* on page 1751	

Modifier and Type	Method	Description
public int	*getDataStream(byte[], int)* on page 1751	Used to obtain the data in stream.
public int	*getDataStream(byte[], int, int, String)* on page 1752	
public Map< String, String >	*getHeadersMap()* on page 1752	
public boolean	*isDataAvailable()* on page 1752	To check whether the response object is available or it needs to be streamed in chunks.
public void	*setCorelationId(String)* on page 1752	

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 –**

Remarks
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)
```

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.

Package

```
com.sap.mobile.lib.sdmparser
```

Syntax

```
public class SDMSemantics
```

Members

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

Modifier and Type	Variable	Description
public static final String	DELIMITER_PARAMETER	
public static final String	DELIMITER_VALUE	
public static final String	DELIMITER_GROUPING	
public static final String	PROPERTY_SEMANTIC_SAP_EXTENSION_ACTION	
public static final String	PROPERTY_PARAMETER_ENCODING	
public static final String	PARAMETER_ENCODING_DEFAULT	
public static final String	PARAMETER_ENCODING_7BIT	
public static final String	PARAMETER_ENCODING_8BIT	
public static final String	PARAMETER_ENCODING_QUOTED_PRINTABLE	
public static final String	PARAMETER_ENCODING_BASE64	
public static final String	PROPERTY_PARAMETER_CHARSET	
public static final String	PARAMETER_CHARSET_DEFAULT	
public static final String	PROPERTY_PARAMETER_LANGUAGE	
public static final String	PARAMETER_LANGUAGE_DEFAULT	

Modifier and Type	Variable	Description
public static final String	PROPERTY_PARAMETER_VALUELOCATION	
public static final String	PARAMETER_VALUELOCATION_DEFAULT	
public static final String	PARAMETER_VALUELOCATION_URL	
public static final String	PARAMETER_VALUELOCATION_CONTENT_ID	
public static final String	PROPERTY_PARAMETER_TYPE	
public static final String	PROPERTY_SEMANTIC_NAME	
public static final String	PROPERTY_SEMANTIC_FORMATTED_NAME	
public static final String	PROPERTY_SEMANTIC_NICKNAME	
public static final String	PROPERTY_SEMANTIC_PHOTO	
public static final String	PROPERTY_SEMANTIC_PHOTO_TYPE_GIF	
public static final String	PROPERTY_SEMANTIC_PHOTO_TYPE_CGM	
public static final String	PROPERTY_SEMANTIC_PHOTO_TYPE_WMF	
public static final String	PROPERTY_SEMANTIC_PHOTO_TYPE_BMP	
public static final String	PROPERTY_SEMANTIC_PHOTO_TYPE_MET	
public static final String	PROPERTY_SEMANTIC_PHOTO_TYPE_DIB	
public static final String	PROPERTY_SEMANTIC_PHOTO_TYPE_PICT	

Modifier and Type	Variable	Description
public static final String	PROPERTY_SEMANTIC_PHOTO_TYPE_TIFF	
public static final String	PROPERTY_SEMANTIC_PHOTO_TYPE_PS	
public static final String	PROPERTY_SEMANTIC_PHOTO_TYPE_PDF	
public static final String	PROPERTY_SEMANTIC_PHOTO_TYPE_JPEG	
public static final String	PROPERTY_SEMANTIC_PHOTO_TYPE_MPEG	
public static final String	PROPERTY_SEMANTIC_PHOTO_TYPE_MPEG2	
public static final String	PROPERTY_SEMANTIC_PHOTO_TYPE_AVI	
public static final String	PROPERTY_SEMANTIC_PHOTO_TYPE_QTIME	
public static final String	PROPERTY_SEMANTIC_BIRTHDAY	
public static final String	PROPERTY_SEMANTIC_ADDRESS	
public static final String	PROPERTY_SEMANTIC_ADDRESS_TYPE_DOMESTIC	
public static final String	PROPERTY_SEMANTIC_ADDRESS_TYPE_INTERNATIONAL	Default.
public static final String	PROPERTY_SEMANTIC_ADDRESS_TYPE_POSTAL	Default.
public static final String	PROPERTY_SEMANTIC_ADDRESS_TYPE_PARCEL	Default.

Modifier and Type	Variable	Description
public static final String	PROPERTY_SEMANTIC_ADDRESS_TYPE_HOME	
public static final String	PROPERTY_SEMANTIC_ADDRESS_TYPE_WORK	Default.
public static final String	PROPERTY_SEMANTIC_LABEL	
public static final String	PROPERTY_SEMANTIC_LABEL_TYPE_DOMESTIC	
public static final String	PROPERTY_SEMANTIC_LABEL_TYPE_INTERNATIONAL	Default.
public static final String	PROPERTY_SEMANTIC_LABEL_TYPE_POSTAL	Default.
public static final String	PROPERTY_SEMANTIC_LABEL_TYPE_PARCEL	Default.
public static final String	PROPERTY_SEMANTIC_TYPE_HOME	
public static final String	PROPERTY_SEMANTIC_TYPE_WORK	Default.
public static final String	PROPERTY_SEMANTIC_TEL	
public static final String	PROPERTY_SEMANTIC_TEL_TYPE_PREF	
public static final String	PROPERTY_SEMANTIC_TEL_TYPE_WORK	
public static final String	PROPERTY_SEMANTIC_TEL_TYPE_HOME	
public static final String	PROPERTY_SEMANTIC_TEL_TYPE_VOICE	Default.
public static final String	PROPERTY_SEMANTIC_TEL_TYPE_FAX	

Modifier and Type	Variable	Description
public static final String	PROPERTY_SEMANTIC_TEL_TYPE_MSG	
public static final String	PROPERTY_SEMANTIC_TEL_TYPE_CELL	
public static final String	PROPERTY_SEMANTIC_TEL_TYPE_PAGER	
public static final String	PROPERTY_SEMANTIC_TEL_TYPE_BBS	
public static final String	PROPERTY_SEMANTIC_TEL_TYPE_MODEM	
public static final String	PROPERTY_SEMANTIC_TEL_TYPE_CAR	
public static final String	PROPERTY_SEMANTIC_TEL_TYPE_ISDN	
public static final String	PROPERTY_SEMANTIC_TEL_TYPE_VIDEO	
public static final String	PROPERTY_SEMANTIC_EMAIL	
public static final String	PROPERTY_SEMANTIC_EMAIL_TYPE_AOL	
public static final String	PROPERTY_SEMANTIC_EMAIL_TYPE_APPLELINK	
public static final String	PROPERTY_SEMANTIC_EMAIL_TYPE_ATTMAIL	
public static final String	PROPERTY_SEMANTIC_EMAIL_TYPE_CIS	
public static final String	PROPERTY_SEMANTIC_EMAIL_TYPE_EWORLD	
public static final String	PROPERTY_SEMANTIC_EMAIL_TYPE_INTERNET	Default.

Modifier and Type	Variable	Description
public static final String	PROPERTY_SEMANTIC_EMAIL_TYPE_IBMMAIL	
public static final String	PROPERTY_SEMANTIC_EMAIL_TYPE_MCIMAIL	
public static final String	PROPERTY_SEMANTIC_EMAIL_TYPE_POWERSHARE	
public static final String	PROPERTY_SEMANTIC_EMAIL_TYPE_PRODIGY	
public static final String	PROPERTY_SEMANTIC_EMAIL_TYPE_TLX	
public static final String	PROPERTY_SEMANTIC_EMAIL_TYPE_X400	
public static final String	PROPERTY_SEMANTIC_MAILER	
public static final String	PROPERTY_SEMANTIC_TIMEZONE	
public static final String	PROPERTY_SEMANTIC_GEOLOCATION	
public static final String	PROPERTY_SEMANTIC_TITLE	
public static final String	PROPERTY_SEMANTIC_ROLE	
public static final String	PROPERTY_SEMANTIC_LOGO	
public static final String	PROPERTY_SEMANTIC_LOGO_TYPE_GIF	
public static final String	PROPERTY_SEMANTIC_LOGO_TYPE_CGM	
public static final String	PROPERTY_SEMANTIC_LOGO_TYPE_WMF	

Modifier and Type	Variable	Description
public static final String	PROPERTY_SEMANTIC_LOGO_TYPE_BMP	
public static final String	PROPERTY_SEMANTIC_LOGO_TYPE_MET	
public static final String	PROPERTY_SEMANTIC_LOGO_TYPE_DIB	
public static final String	PROPERTY_SEMANTIC_LOGO_TYPE_PICT	
public static final String	PROPERTY_SEMANTIC_LOGO_TYPE_TIFF	
public static final String	PROPERTY_SEMANTIC_LOGO_TYPE_PS	
public static final String	PROPERTY_SEMANTIC_LOGO_TYPE_PDF	
public static final String	PROPERTY_SEMANTIC_LOGO_TYPE_JPEG	
public static final String	PROPERTY_SEMANTIC_LOGO_TYPE_MPEG	
public static final String	PROPERTY_SEMANTIC_LOGO_TYPE_MPEG2	
public static final String	PROPERTY_SEMANTIC_LOGO_TYPE_AVI	
public static final String	PROPERTY_SEMANTIC_LOGO_TYPE_QTIME	
public static final String	PROPERTY_SEMANTIC_AGENT	
public static final String	PROPERTY_SEMANTIC_ORG	
public static final String	PROPERTY_SEMANTIC_NOTE	
public static final String	PROPERTY_SEMANTIC_REVISION	

Modifier and Type	Variable	Description
public static final String	PROPERTY_SEMANTIC_SOUND	
public static final String	PROPERTY_SEMANTIC_SOUND_TYPE_WAVE	
public static final String	PROPERTY_SEMANTIC_SOUND_TYPE_PCM	
public static final String	PROPERTY_SEMANTIC_SOUND_TYPE_AIFF	
public static final String	PROPERTY_SEMANTIC_URL	
public static final String	PROPERTY_SEMANTIC_UID	
public static final String	PROPERTY_SEMANTIC_VERSION	
public static final String	PROPERTY_SEMANTIC_KEY	
public static final String	PROPERTY_SEMANTIC_KEY_TYPE_X509	
public static final String	PROPERTY_SEMANTIC_KEY_TYPE_PGP	

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
```

SUPRoute class

Deprecated. since 3.0, Use com.sap.mobile.lib.request.SUPRoute

Package

```
com.sap.mobile.lib.sdmconnectivity
```

Syntax

```
public class SUPRoute
```

Members

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

Modifier and Type	Variable	Description
public Map< String, Object >	supRoute	
public CookieJar	cookieJar	

Constructors

Modifier and Type	Constructor	Description
public	*SUPRoute()* on page 1776	

Methods

Modifier and Type	Method	Description
public void	*removeHeader(String)* on page 1776	
public void	*setheaders(String, String)* on page 1776	
public void	*storeCookie(List< Cookie >)* on page 1776	

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

Package

```
com.sap.mobile.lib.sdmconnectivity
```

Syntax

```
public class TrustSAPSSLSocketFactory
```

Members

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

Modifier and Type	Variable	Description
public static final String	TLS_SSL_CONTEXT	

Constructors

Modifier and Type	Constructor	Description
public	*TrustSAPSSLSocketFactory(KeyStore, String, final ISDMRequestManager)* on page 1777	

Methods

Modifier and Type	Method	Description
public Socket	*createSocket()* on page 1778	
public Socket	*createSocket(Socket, String, int, boolean)* on page 1778	
public Socket	*createSocket(InetAddress, int, InetAddress, int)* on page 1778	
public Socket	*createSocket(InetAddress, int)* on page 1778	
public Socket	*createSocket(String, int, InetAddress, int)* on page 1778	
public Socket	*createSocket(String, int)* on page 1779	
public String[]	*getDefaultCipherSuites()* on page 1779	
public String[]	*getSupportedCipherSuites()* on page 1779	

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 ()
```

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:

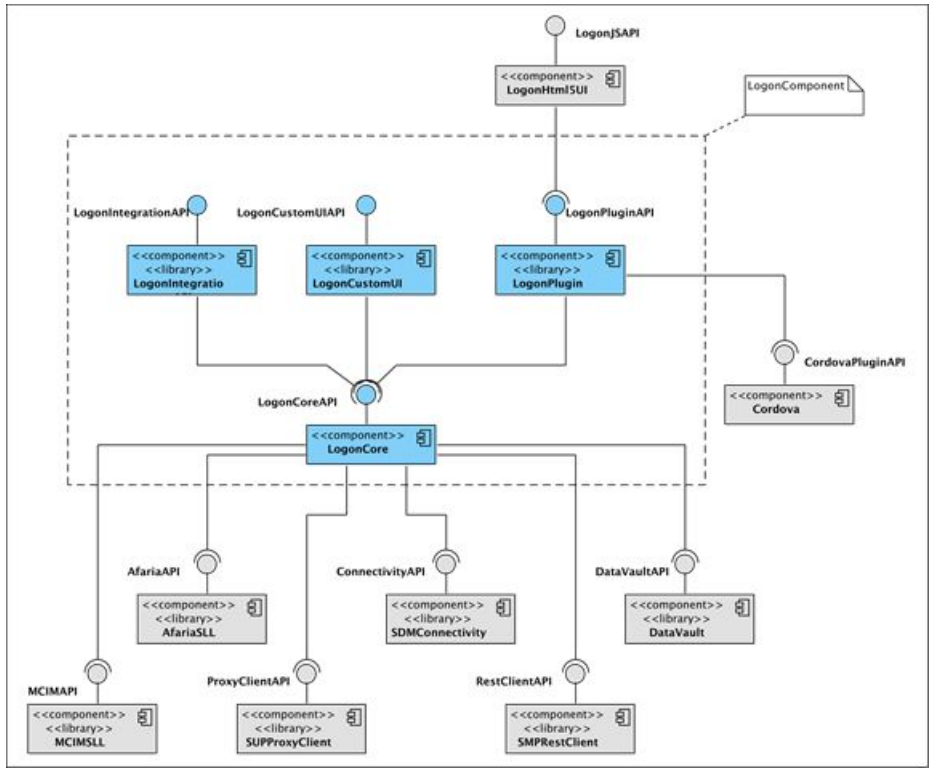
- Create user-initiated registration requests to a specified security infrastructure.
- Lock and unlock the secure store to protect sensitive information.
- Change secure store and back-end passwords to enhance security in an enterprise environment.
- Implement various customization options.

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.

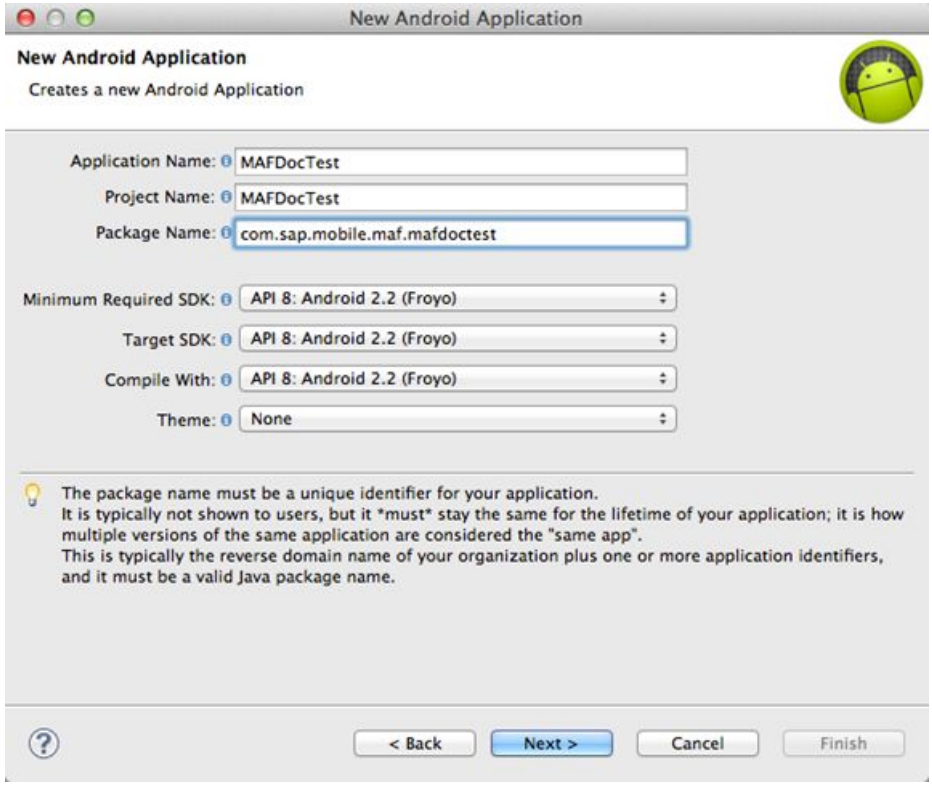
MAF Logon Task Flow

Create a new project or check if your existing project is configured correctly.

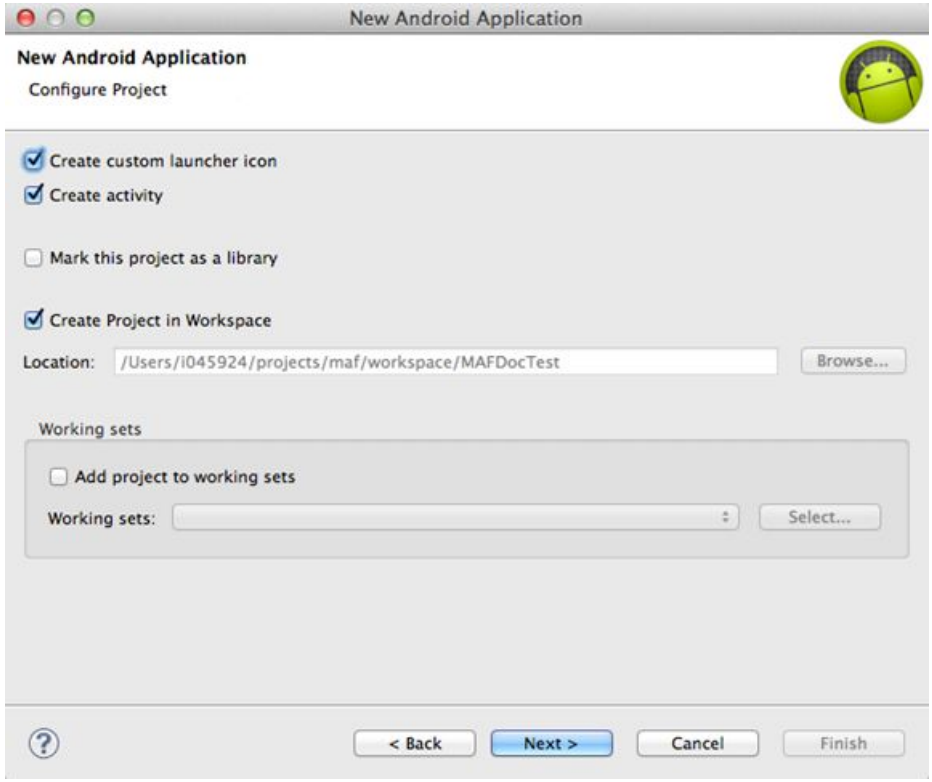
Creating Android Starter Project

Create a new project.

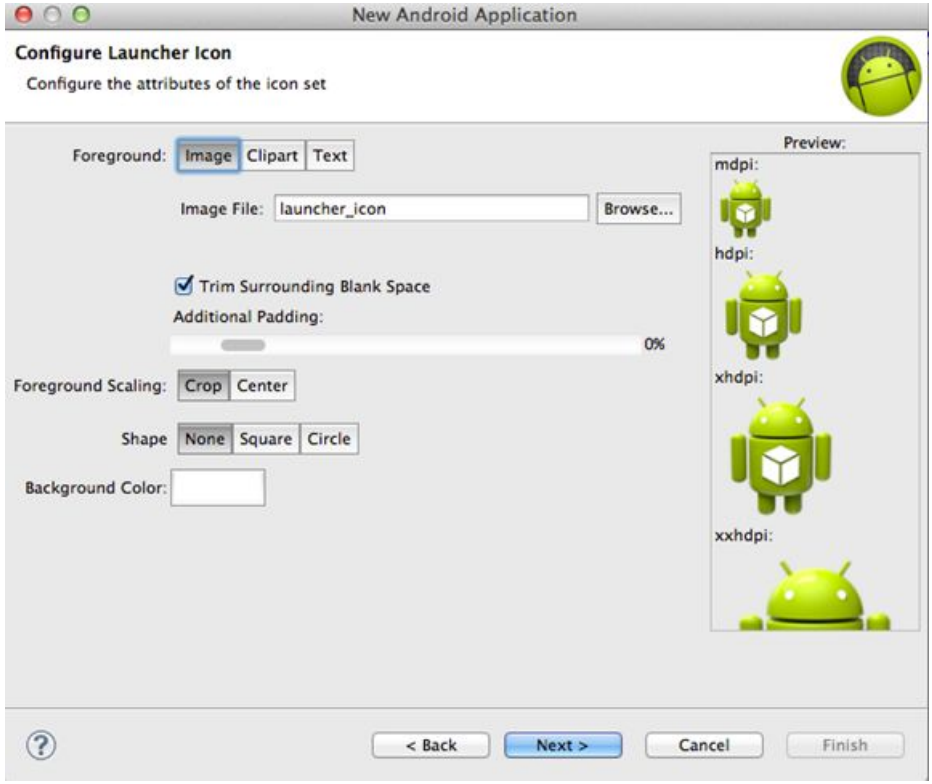
1. Install Eclipse. See *SAP Note 1890477* for verison information.
2. Install Google Eclipse plug-ins (Android, ADB, DDMS).
3. Install Google Android SDK.
4. Create an Android emulator (API level 8 or later).
5. Create a new project by selecting **File > New > Project**.
6. Select **Android Application > Android Project**.
7. Fill in the appropriate fields of the new project wizard:



8. Click **Next**.
9. Configure the project, and click **Next**:



10. Configure the launcher icon, and click **Next**:



11. Select the **Create Activitiy**, 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:

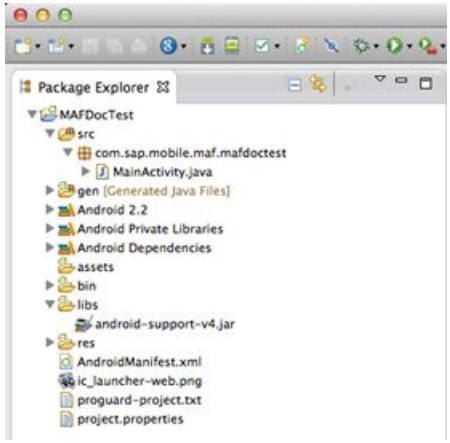
Integrating MAF Logon
Integrate MAF logon with your application.

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.

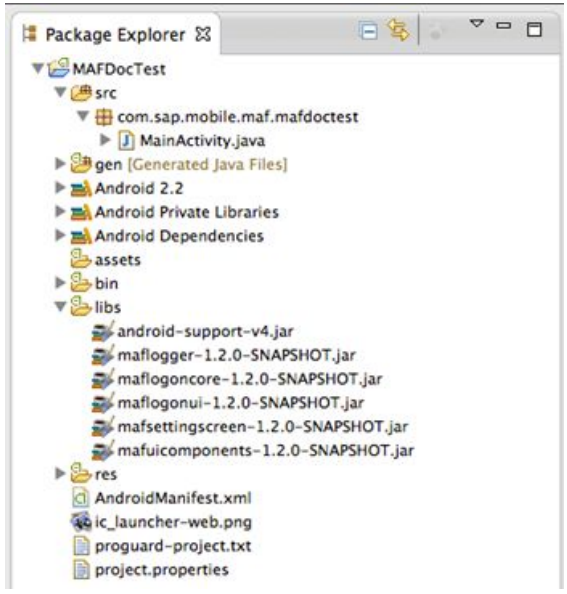
If you have followed the Create Android Starter Project Task Flow, you should have similar project structure:



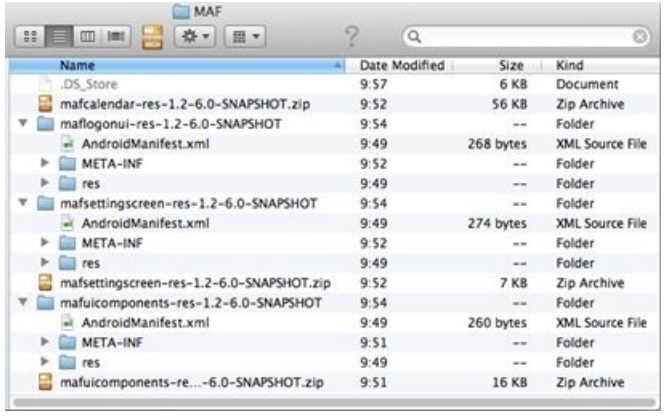
Setting Up Dependencies

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 mafsettingscreeen.jar
     - mafuicomponents.jar

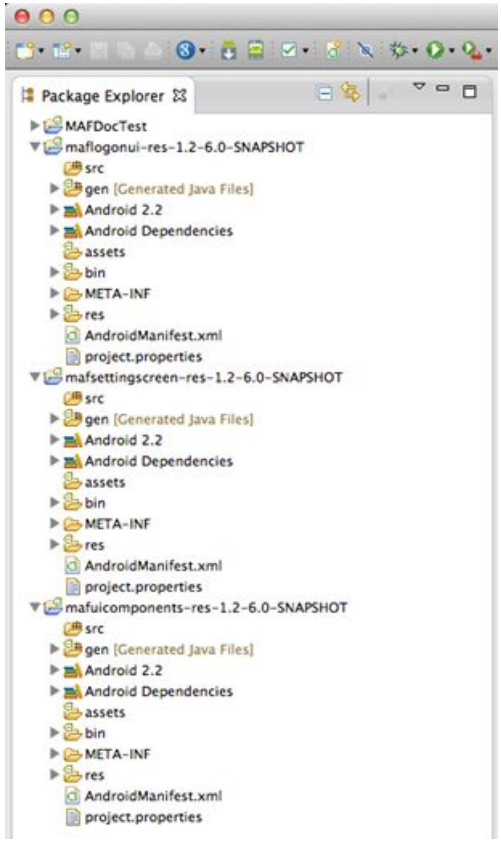


3. Locate MAF resources, which are installed, by default, in the SAP Mobile Platform installation folder:
   - maflogonui.akplib
   - mafsettingscreen.apklib
   - mafuicomponents.apklib
4. Change the extension of the apklib archives to ".zip". Unzip the files, which contain Android apklib Eclipse projects:
   - 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 `AfariaSLL.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 `ClientHubSLL.jar` to your Android project build path in the `libs` folder.

Implementing MAF Logon Code

Implement MAF Logon Code.

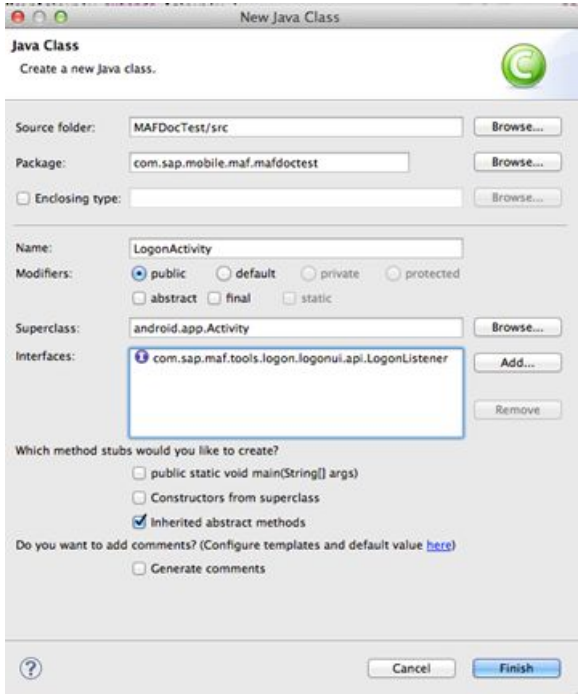
1. Set required permissions in your Android manifest file. MAF Logon uses these Android device functions:

- 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.lgoonui.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"
android:configChanges="keyboardHidden|orientation|screenSize">
</activity>
```

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 LogonUIFacede
    logonUIFacade.init(this, ctx, APPLICATIONID);
    //ask LogonUIFacede 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 Acvitity.
    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 Acvitity.
    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.setUserPassword(lgContext.getEndPointPassword());
            reqMan = new RequestManager(logger, pref, param, 1);
            MySSlChallangeListener mscl = new
MySSlChallangeListener();
            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 MySSlChallangeListener 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);
MySSlChallangeListener mscl = new MySSlChallangeListener();

if(lgcCtx.getUserCreationPolicy().equals(UserCreationPolicy.certifi
cate)){
    HttpsClientCertInfo 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 MySSlChallangeListener 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

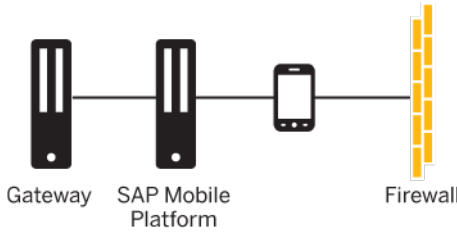
The MAF logon manager supports multiple onboarding scenarios, based on the most common infrastructure setups supported by enterprise mobile applications.

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.



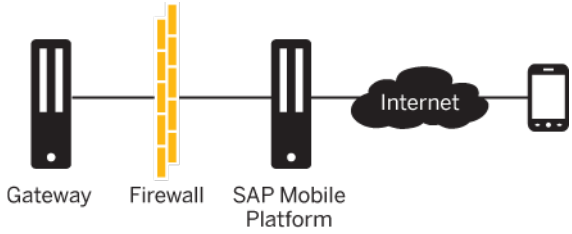
This table shows the information that users must provide, in the MAF logon UI, to use this type of connection. The parameter values depend on the configuration the administrators set.

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.



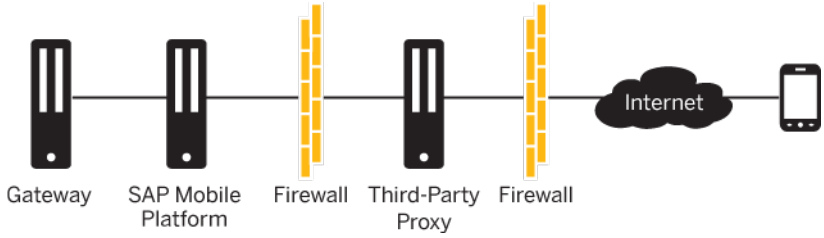
This table shows the information that users must provide, in the MAF logon UI, to use this type of connection. The parameter values depend on the configuration the administrators set.

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.



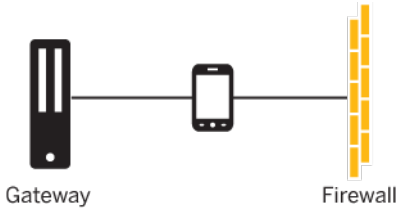
This table shows the information that users must provide, in the MAF logon UI, to use this type of connection. The parameter values depend on the configuration the administrators set.

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.



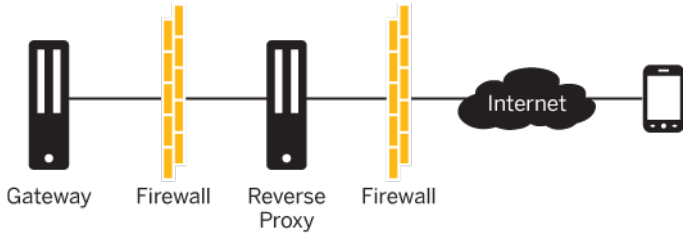
This table shows the information that users must provide, in the MAF logon UI, to use this type of connection. The parameter values depend on the configuration the administrators set.

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*.

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*.

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 rootsytle. 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 becoms 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>
            ……
</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.addDefaultAction(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 .addContextAction(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="#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 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	The shadow attributes of the MAFButton: • Bg_Bottom_Shadow – background bottom shadow color. • Bg_Dark_Bottom_Shadow – background bottom dark shadow color. • Bg_Top_Shadow – background top shadow color.

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" />
```

```
                              <!-- checkmark lo color -->

                        </VisualState>

                              <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>
                    <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" />
                              <!-- checkmark lo color -->

                        </VisualState>
                  <VisualState Name="Checked_Unfocused_Disabled">

                        …
                  </VisualState>
                  <VisualState Name="Checked_Focused_Disabled">

                        …
                  </VisualState>
                  <VisualState Name="Unchecked_Focused_Disabled">

                        …
                  </VisualState>
                  <VisualState Name="Checked_Focused_Enabled">

                        …
                  </VisualState>
                  <VisualState Name="Unchecked_Focused_Enabled">

                        …
                  </VisualState>
                  <VisualState Name="Checked_Pressed">

                        …
                  </VisualState>
                  <VisualState Name="Unchecked_Pressed">
```

```
                    …
                </VisualState>
              <VisualState 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="#ffffffff" />
                 <!-- dialog background color -->
                 <Setter Property="Foreground" Value="#ff000000" />
                 <!-- 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" />
```

```
                              <!-- 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 -->
                          </VisualState>
                  </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="#ffffffff" />
```

```
                <!-- 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:

```
File externalFilesDir = getExternalFilesDir(null);
File dir = (externalFilesDir!=null) ? externalFilesDir :
getFilesDir();
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. Add INTERNET_PERMISSION to the manifest file, as pictures are downloaded via the network.

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
        getListView().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 MAFProgressBar’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="#FFEBEBEB" />
                             <!-- 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="#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 MAFProgressDialog programmatically. To create a normal-sized 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 MAFProgressDialog'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 : • Bg_Bottom_Shadow – background bottom shadow color. • Bg_Dark_Bottom_Shadow – background bottom dark shadow color. • Bg_Top_Shadow – background top shadow color.

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 -->
```

```
                                <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 >
```

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="#ff999999" />

        <!-- 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 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>
```

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 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.

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"
        />
```

```
        <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);
    }


}
```

Skinning 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

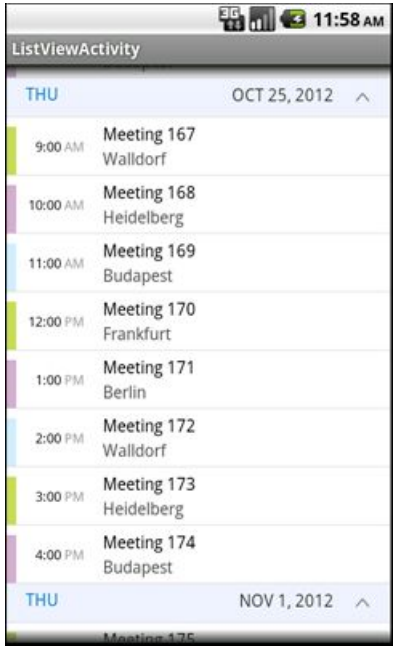
There are six different views defined for the MAF Calendar component to present, select, and handle appointments.

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.setOnSelectionListener(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"
/>
```

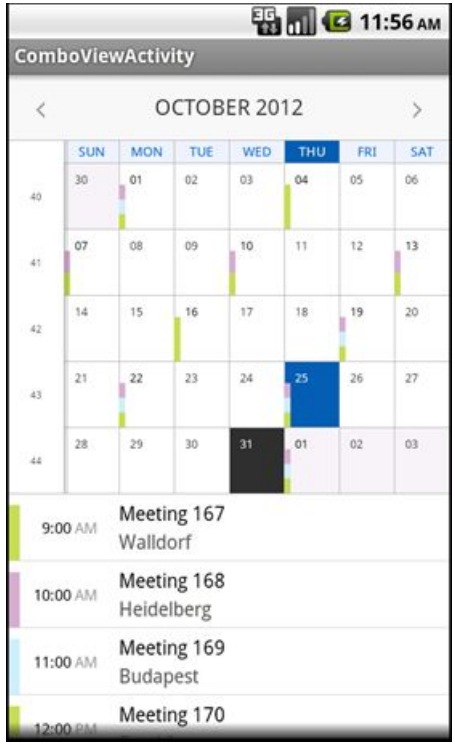
To get notifications about user interaction, implement the IMAFCalendarMonthViewSelectionListener interface.

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.MAFCalendarMonthComboVie
w
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.

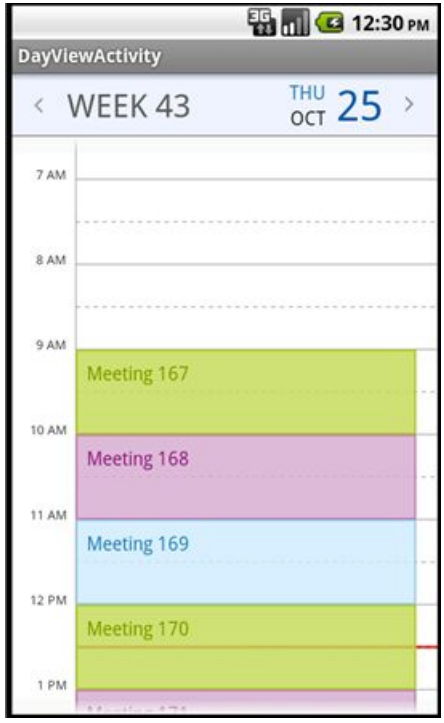
Day View

The MAFAppointmentView displays appointments scheduled in a day in a panel style. Each appointment appears as a colored panel (MAFAppointmentView), 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 backgorund color.

Month Tablet View

The MAFCalendarMonthTabletView 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 MAFCalendarMonthTabletView, use:

```
MAFCalendarMonthView mv = new MAFCalendarMonthView(context,
dataProvider, viewProvider,
null, weekSelectable, true)
```

To create an MAFCalendarMonthTabletView 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 MAFCalendarMonthTabletView 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 MAFCalendarMonthTabletView’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.

Skinning 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 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 IMAFCalendarMonthViewProvider 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, implment the IMAFCalendarListViewProvider and IMAFCalendarDayViewProvider interfaces, and extend the MAFCaelndarListCellView/MAFCalendarListHeaderView, MAFAppointmentView classes to define your own, custom appereance.

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.

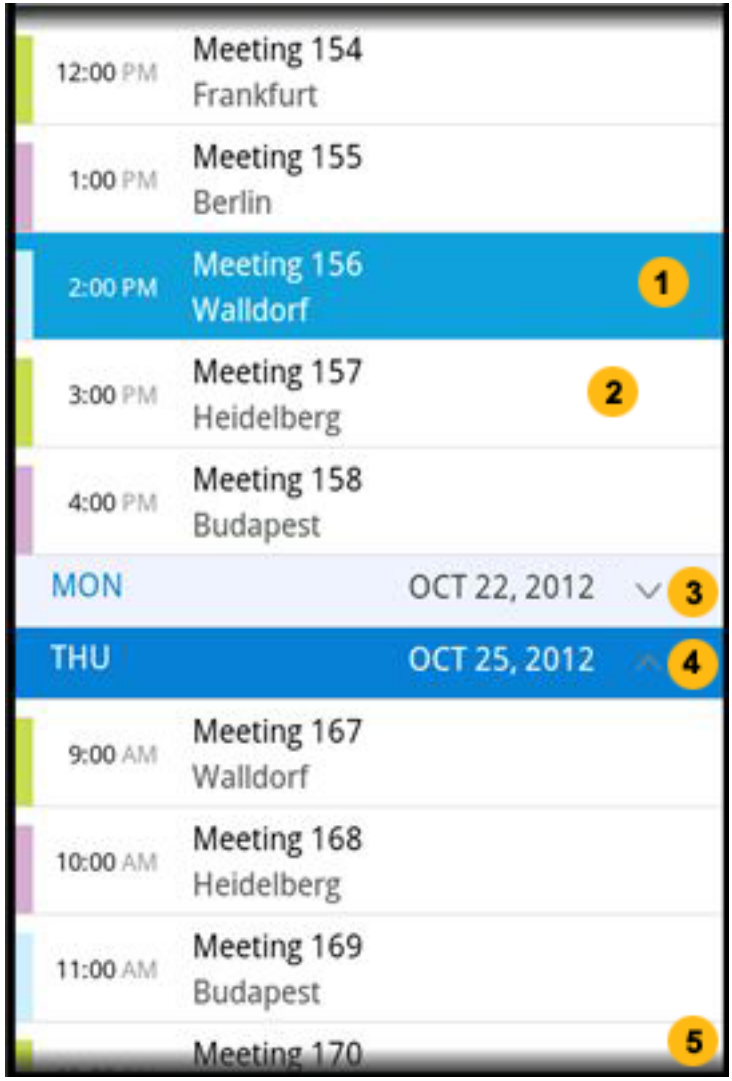
You can skin UI elements and their subviews (for example, list cells) with MAFSkinManager/MAFColorPalette facilities based on a list of accessible parameters.

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)

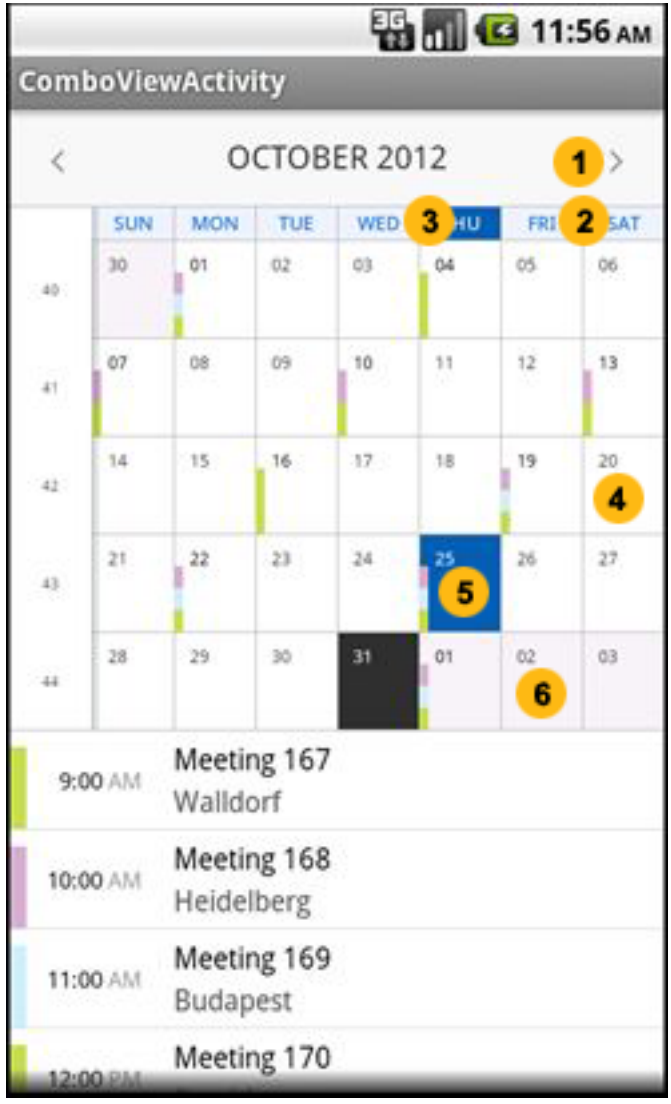
Header_Date_Label_Color	Header cell (day)
Header_Expander_Color	Header cell (day)
HeaderCurrentDay_Background	Header cell (current day)
HeaderCurrentDay_Day_Label_Color	Header cell (current day)
HeaderCurrentDay_Date_Label_Color	Header cell (current day)
HeaderCurrentDay_Expander_Color	Header cell (current 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>
        <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 MAFAdressFormatter, 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 addNewItem(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);
```

Skinning 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 currenncy 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">
```

```
                              <Setter Property="Background"
Value="#ff999999" />
                              <!-- base line color -->

                              <Setter Property="SolidColorBrush"
Value="#ff666666" />
                              <!-- triangle color -->

                              <Setter Property="Foreground"
Value="#ff333333" />
                              <!-- 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 MAFUITextView 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 patters, 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:

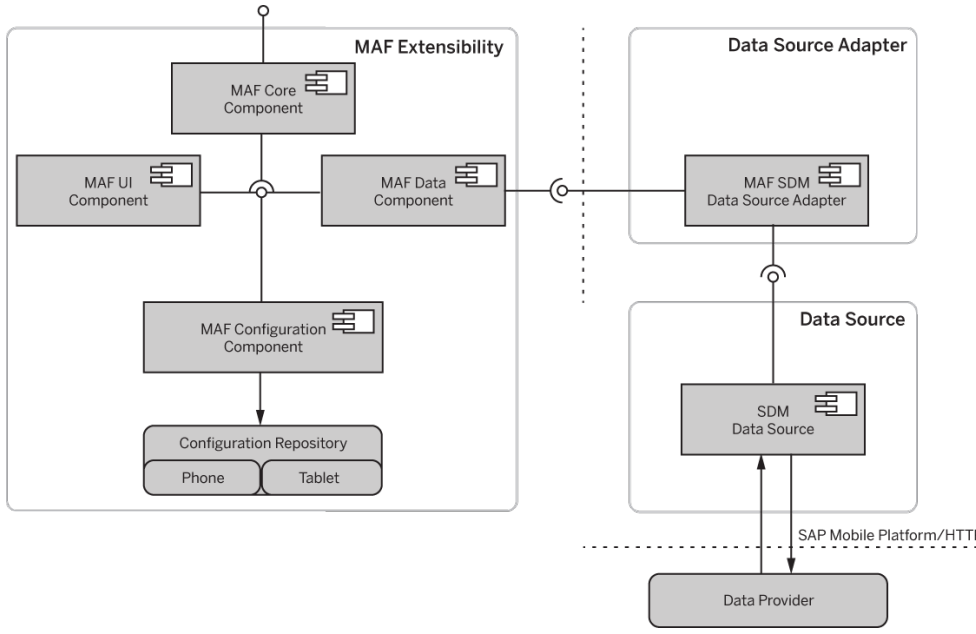
- **Declarative structural extensibility –** define the UI layout, navigation patterns, data bindings, event handling, context passing, value formatting, undo behavior, and so on via configuration.
- **Adaptive data management –** the framework is independent of the data model, because the data is abstracted. 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:

- **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).
- **MAFUI 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 verison 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.

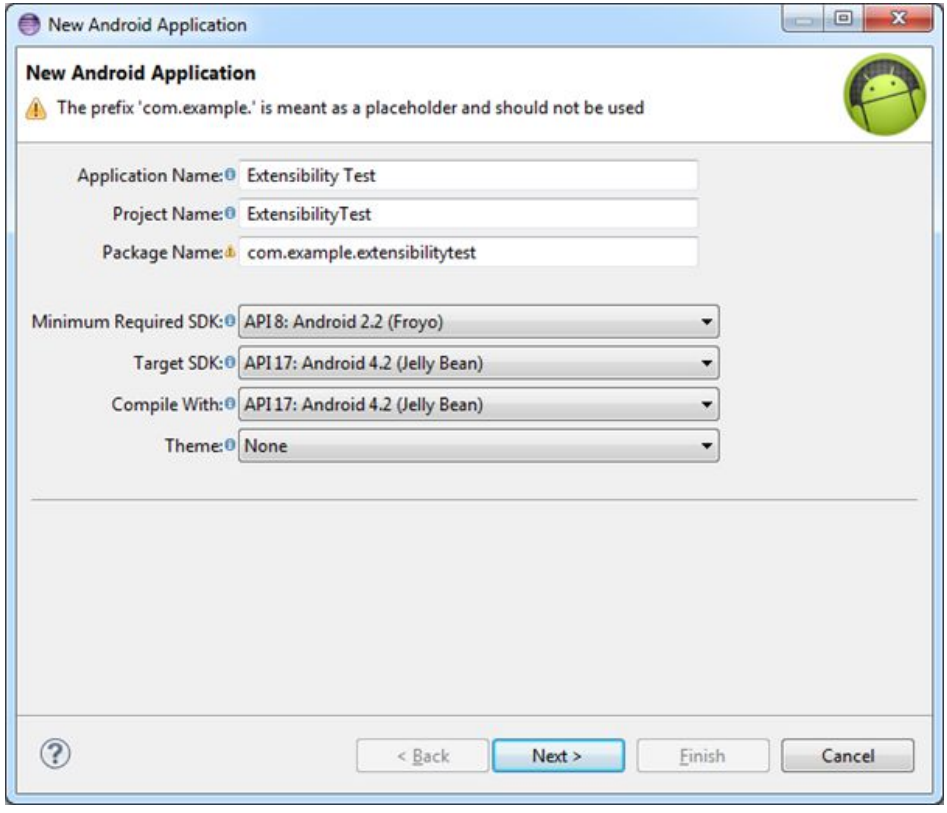
Sample Application	Description
CustomAppWithExtensibility	A simple version of the mixing coded and metadata-driven tiles. This demo is a starting point and reference application when you are creating a custom-code application with custom data support that uses Extensibility-generated tiles.
LeaveRequestDemo	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 *Extensibility Configuration XSD*, *The Data Source Adapter* and *Feeding the Tile with Custom Data*.
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 *Formatters*.
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.

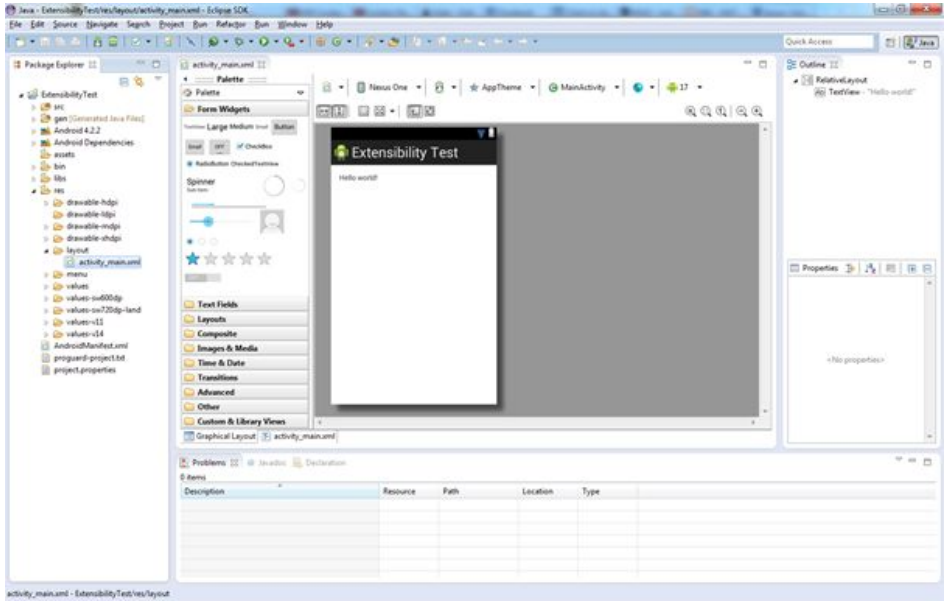
Creating a New Project

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 -->
        <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>
                <!-- 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 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

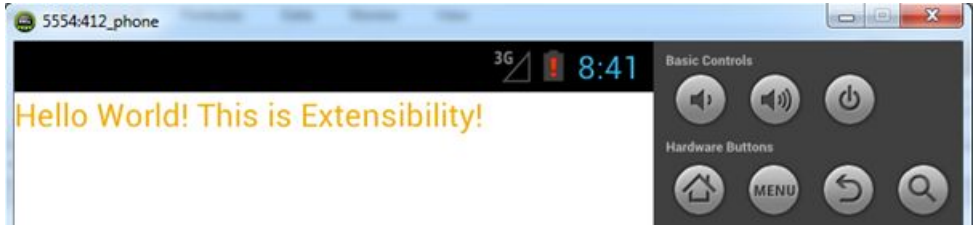
The UI you have now automatically applies the default style that is defined in the `styles_def.xml` file, shich is located in the `res/raw` folder. You can override this with custom settings in the `styles_def.xml`.

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

    - 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
MAFSDMDataSourceAdapter(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.

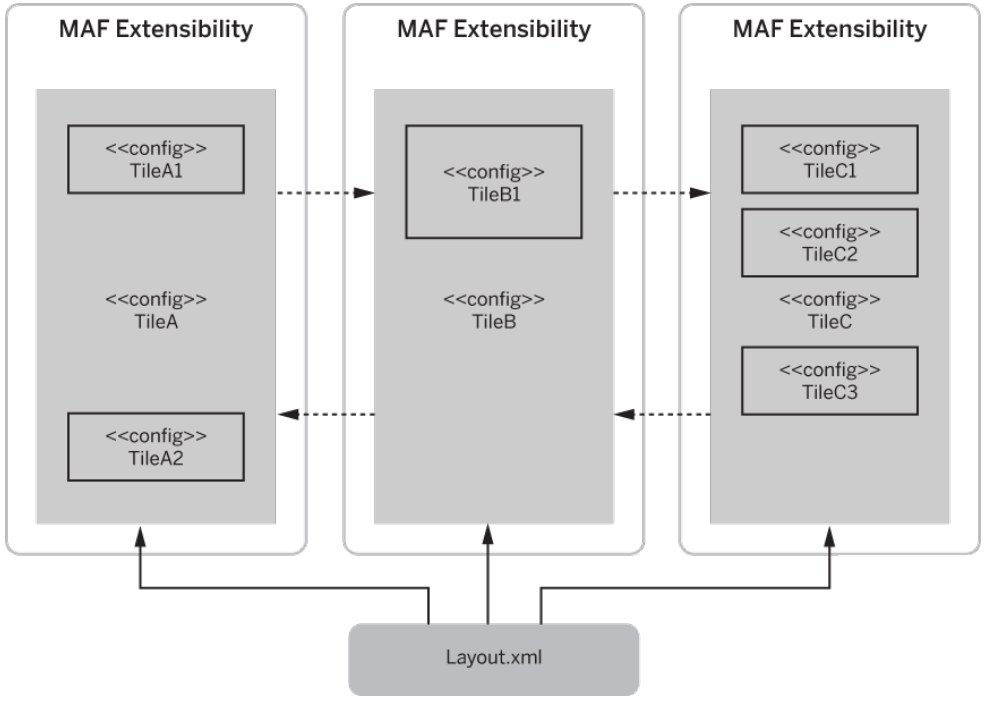
```
public class MAFExtensibilityBlockUISampleActivity extends
MAFTileActivity {

    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.hasValidDefaultConfiguration()) {
```

```
        // 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.

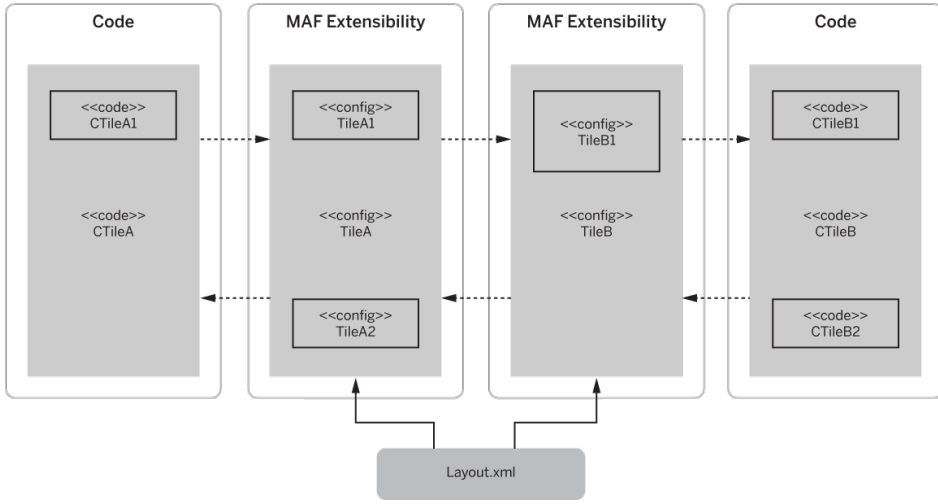


After you set up the layout XML and build the MAF Core, the app is ready to display static data. To use dynamic data in your application, set up a data provider and data source.

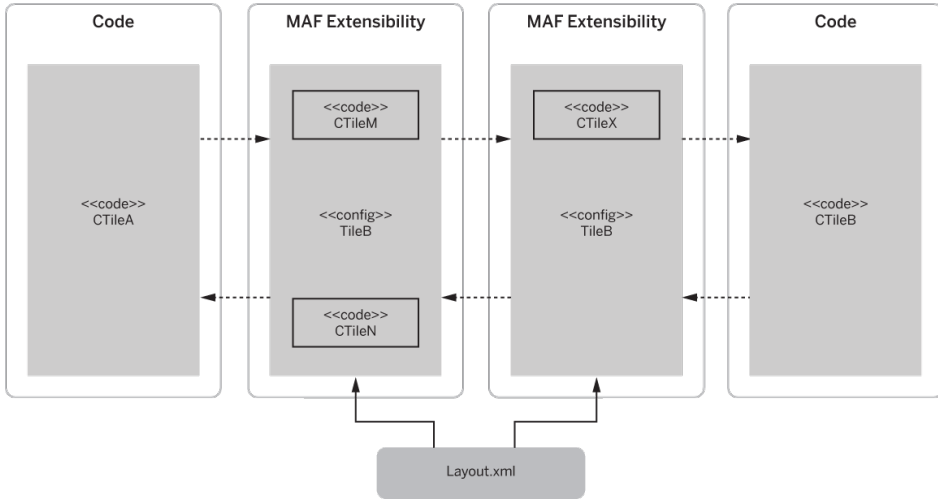
Mixing Coded and Metadata-Driven Tiles

With the Extensibility Framework, you can freely combine metadata-driven tiles and native iOS view controllers (also views and controls).

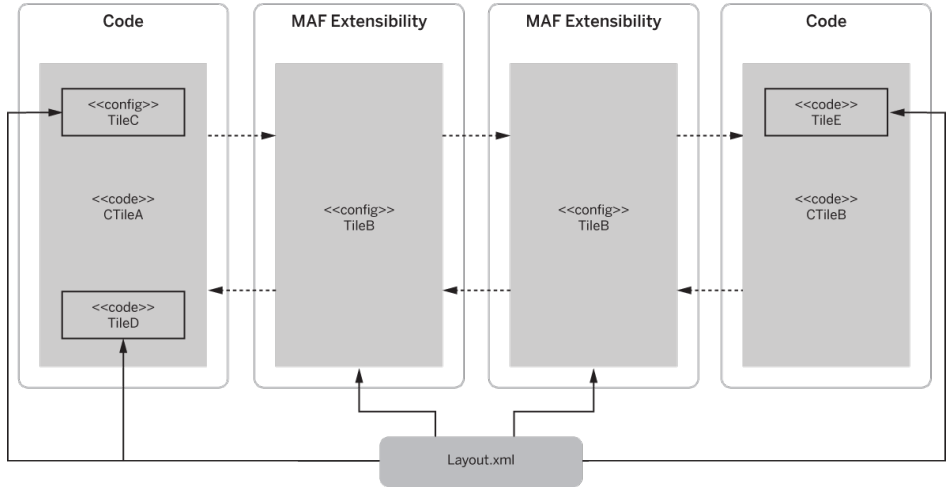
- You can insert coded UIs, and UIs from the layout XML, in the same navigation chain. The root tile itself (the app's initial UI) can also be metadata driven.



- 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 metohods 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 predefiend 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 SDMODataEntries 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
MyGBOListener());

…

    private class MyGBOListener 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) {
           //Will be never invoked as beforeCreateTile return false
always
            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) {
            //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 resturn 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.

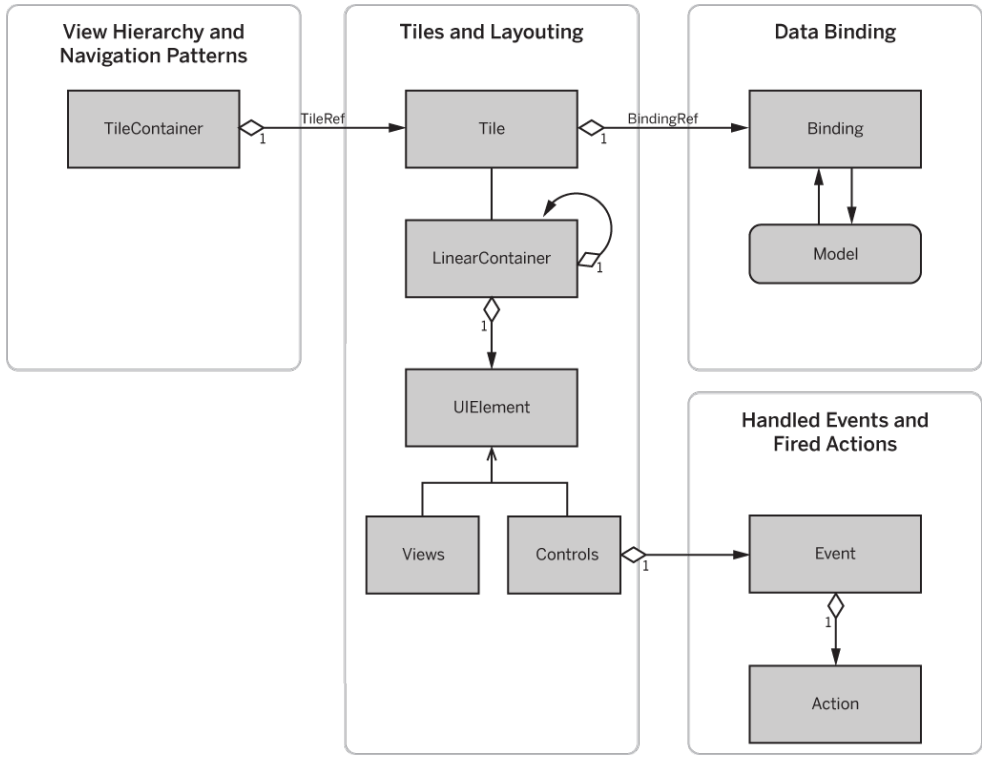
The `MAFSDMDataSourceAdapter` defines the OData-specific `MAFSDMBO` class, which inherits from the `MAFGenericBO`. If you implement a custom datasource adapter, you must also implement a custom `MAFGenericBO` specialization, and convert the data model to the generic object format.

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" />
        <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:

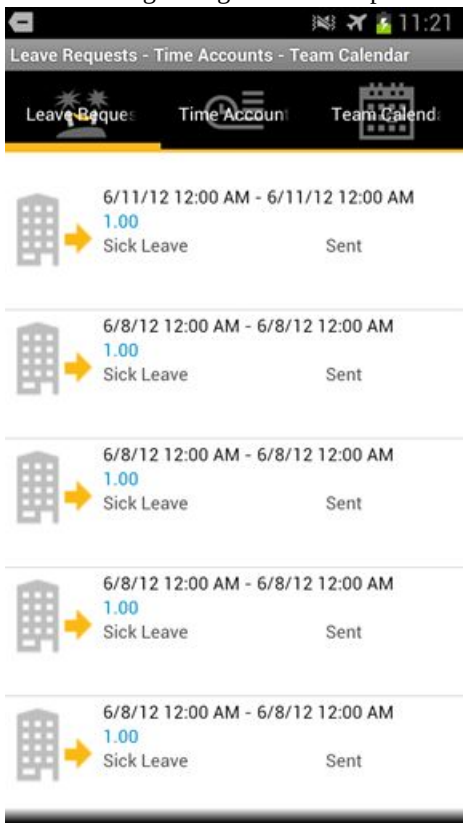
```
<?xml version="1.0" encoding="UTF-8"?>
<MAF xmlns="http://schemas.sap.com/maf/2012/cfg">
    <!-- Define a TileContainer (Container View Controller)
     * Here we define a navigation based container (translates to
UINavigationController)
     * Currently possible values are "nav", "tab"
(UITabBarcontroller) 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="{$_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.

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" />
```

```
          <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" />
```

```
     <!—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)

- `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 contex.
- `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>
```

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	
`$_concat(param1, ...) : string`	Converts and concatenates all parameters to a single string: `$_concat("StartDate: ", $LeaveRequests.StartDate, " - EndDate: ", $LeaveRequests.EndDate)` You must provide at least one parameter. If you provide only one parameter, it is converted to a string and returned by the function.
`$_now() : date`	Returns the current date and time as `dateTime`.

Function	

$_format.date(date value, format option) : string	Returns the formatted string of a date value. Parameters include:
	• date value – date typed value.
	• format option – valid values are: short, medium, long
	Examples:
	`//returns for example "1 January 2012" if the date is 2012-01-01 and format option is long`
	`$_format.date($LeaveRequests.StartDate, long)`
	`//returns for example "1 Jan 2012" if the date is 2012-01-01 and format option is medium`
	`$_format.date($LeaveReuqests.StarDate, medium)`
	The phone's region setting is used to format the date.

$_format.datetime(date value, format option) : string	Returns the formatted string of a date and time value and supports these parameters:
	• date value – date typed value.
	• format option – valid values are: short, medium, long.
	Example:
	`//long format of today's date and time, result: "1 January 2012 11:55"`
	`$_format.datetime($_now(), long)`
	The phone's region setting is used to format the date and time

$_date(year, month, day) : date	Creates a date typed value from parameters and supports these parameters: • year – year value as int or float. • month – month value as int or float. • day – day value as int or float. Example: `//returns "Since 1 January 2012" (UK locale was set on the phone) $_concat("Since", $_format.date($_date($_year($_now(), 1, 1)), long))`

$_count(binding_id) : int	Returns the number of entries in a collection:
	`//returns Leave Requests (6)`
	`$_concat("Leave Requests (", $_count($LeaveRequests), ")")`

Function	
$_isNull(value) : int	Checks whether the parameter is a null value or nonexistent. Returns false or true.
$_isNotNull(value) : int	Checks whether the parameter value is null. Returns true if the parameter value is not a null value, or false otherwise.
$_isEmpty(value) : int	The function returns true if: • Its parameter is a null value. • The referred variable or data field of a BO in its parameter does not exist. • 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. Otherwise, this function returns false.
$_isNotEmpty(value) : int	Returns true for values for which $_isEmpty returns false.
$_isExisting(value) : int	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.
$_isNotExisting(value) : int	Returns true for values for which `$_isExisting` returns false).

$_year(date value) : int	Returns the year as an int from a date value:
	`//Returns the current year`
	`$_year($_now())`

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
`META-INF`	Contains versioning-related metadata in a manifest file: • `MANIFEST.MF` – the manifest file required by SAP Mobile Platform Server

Folder	Contents
tiles	Contains the extensibility-related configurations: • `layout_phone.xml` – extensibility configuration file for iPhone and iPod Touch. • `layout_tablet.xml` – extensibility configuration file for iPad. For the internal structure of these files, see *Extensibility Layout XML*.
styles	contains the style configuration file: • `style.xml` – the styling configuration file. You can find the styling `XSD` documentation at the SAP Help Portal.*https://community.wdf.sap.corp/sbs/docs/DOC-149382*

img	Contains the static images used by the application, organized by platform.
	• `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, `<filename>.png` for low-resolution images, and `<filename>@2x.png` for hi-resolution images.
	• `Android` – contains images specific to the Android platform. The top-level folder contains images common to all Android devices. Subfolders include:
	  • `Ldpi` – contains images specific to low-density Android devices.
	  • `Mdpi` – contains images specific to medium-density Android devices.
	  • `Hdpi` – contains images specific to high-density Android devices.
	  • `Xhdpi` – contains images specific to extra high-density Android devices.

strings	Contains localized text strings, one file per locale. File names follow this format: `localization.<language code>.xml`. See also *Adding and Accessing Localized Texts*.
ext	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.
Demo	Contains offline data used by the application in demo mode: • `Ios` – platform-specific offline XML files; see *Demo Data Provisioned via ACP*. • `Android` – platform-specific offline data.

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 feautres.

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.

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**.

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.

Note: This is a generic procedure of installing applications to your device without using Google Play or SAP App store.

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*.

Upload the applications to your enterprise app (internal) store.

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.

iOS Apps

Develop, run, test, debug, and deploy iOS apps.

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.

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.

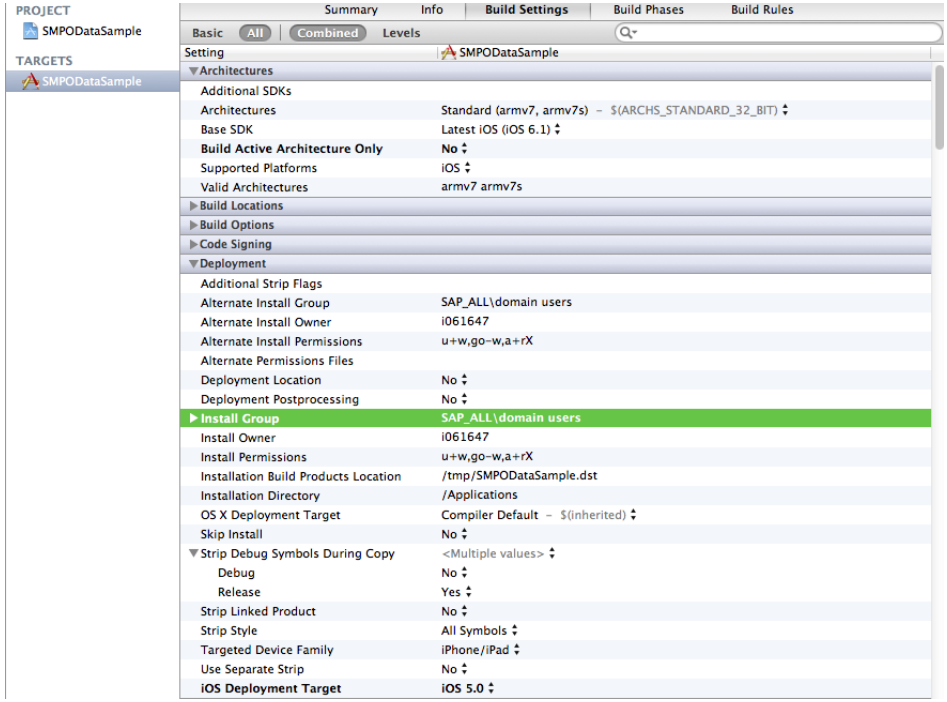
Note: For more information on Xcode, refer to the Apple Developer Connection: *https://developer.apple.com/technologies/tools/*.

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 `AfariaSLL.a` to provision configuration data and certificates for your SAP Mobile Platform client application, ensure to remove `libcrypto.a` and `libssl.a`, as AfariaSLL 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
    - libicucore.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 `SMPClientConnection` class, which is part of the `Core Services` library. The `SMPClientConnection` 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 `SMPClientConnection` 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 `SMPClientConnection` class.

```
SMPClientConnection* clientConn = [SMPClientConnection
initializeWithAppID:@"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
initializeWithConnection: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
initializeWithAppID:@"NewFlight" domain:@"default"
secConfiguration:@"NetworkEdge"];

    [l_clientconn setConnectionProfileWithUrl:@<SiteminderURL>];


[SMPUserManagersetAuthChallengeSelector:@selector(authenticationNee
dedForRequest:)];

    userManager = [SMPUserManager
initializeWithConnection: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:@"defau
lt"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));
       CFDictionaryRef 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 RegistrationSucessful = [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
initializeWithConnection: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 2320.

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 startAsyncronous 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:@"%@/$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"];

 NSMutableData* 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 startAsyncronous 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 *schema1 =
ParseODataSchemaXML(metadata,serviceDocument);

//Parse the entries
NSData *entriesData = [entriesRequest responseData];
//Get the array of objects of type ODataEntry
NSMutableArray *entriesArray = ParseODataEntriesXML(entriesData,
schema1,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 instate 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 deleted 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 actuall 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 actuall 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 forUrlKey: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
initializeWithConnection:l_clientconn userName:UserName
password:Password];
    NSDictionary *dct=[l_appsettingsObj
getConfigPropertyMapWithError:&error];
NSLog(@"Properties - %@",dct);

//Update settings

 SMPAppSettings  *l_appsettingsObj = [SMPAppSettings
initializeWithConnection: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 Serverusing the following example code:

```
NSError* _errorWhileFetchingID = nil;
SMPAppSettings *appSettings = [SMPAppSettings
initializeWithConnection: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>
```

Base class

- *Request* on page 2065

Members
All members of BatchRequest, including inherited members. **Methods**

Method	Description
*- (void) addRequestToChangeset: (id< Requesting >) request withError: (NSError **) error* on page 1959	Adds a modifying request such as POST/PUT/DELETE to the BatchRequest class.
*- (void) addRetrieveRequestToBatch: (id< Requesting >) request withError: (NSError **) error* on page 1960	Adds a retrieve request to the BatchRequest class.
- (void) closeExistingChangeSet on page 1961	Closes a changeSet and adds requests to new changeSet.
*- (id) initWithURL: (NSURL *) url* on page 1961	Initializes the BatchRequest object.

Inherited members from Request

Member	Description
*- (void) addBasicAuthenticationHeaderWithUsername: (NSString *) theUsername andPassword: (NSString *) thePassword* on page 2070	Constructs a basic authentication header from the user name and password supplied, and adds it to the request headers.
*- (void) addRequestHeader: (NSString *) header value: (NSString *) value* on page 2071	Adds a custom header to the request object.
*- (void) appendPostData: (NSData *) data* on page 2071	Adds data to the POST body.
*- (void) appendPostDataFromFile: (NSString *) file* on page 2071	Adds data to the post body from a file.
- (void) applyAuthorizationHeader on page 2071	Applies authorization header to a request before it is sent, when shouldPresentCredentialsBeforeChallenge is set to YES.
- (void) applyCookieHeader on page 2072	Creates a cookie header from request cookies and the global store.
+ (unsigned long) averageBandwidthUsedPerSecond on page 2072	Returns a rough average (for the last 5 seconds) of how much bandwidth is being used, in bytes.
*+ (NSString *) base64forData: (NSData *) theData* on page 2072	Base64 encodes the provided NSData*.
- (void) buildPostBody on page 2072	Creates the POST body.
- (void) buildRequestHeaders on page 2072	Populates the request headers dictionary.
- (void) cancelAuthentication on page 2073	Should be called by delegates when they wish to cancel authentication and stop.
+ (void) clearSession on page 2073	
+ (const NSDataWritingOptions) dataWritingOptions on page 2073	Returns a mask which determines whether the data should be stored in encrypted form.
*+ (NSDate *) dateFromRFC1123String: (NSString *) string* on page 2073	Returns a date from a string in RFC1123 format.
*+ (NSString *) decodeBase64: (NSString *) string_in* on page 2073	Decodes a base64 encoded string.
+ (id< CacheDelegate >) defaultCache on page 2073	Returns the default download cache or NIL if none set at class level.

Member	Description
- (void) enableTracing: (BOOL) value_in on page 2074	Switches traceability status.
+ (void) enableXCSRF: (BOOL) enable on page 2074	Enables XSRF support.
*- (void) failWithError: (NSError *) theError* on page 2074	Called when a request fails, and lets the delegate know via didFailSelector.
*+ (NSDictionary *) fileProtectionAttributes* on page 2074	Returns an attributes dictionary used for encrypted file storage or NIL if file protection has been explicitly disabled.
+ (NSInteger) getMaxConcurrentHTTPRequestCount on page 2075	Returns the maximum number of request threads that can be executed in parallel.
- (void) handleNetworkEvent: (CFStreamEventType) type on page 2075	Handles network events as they occur.
*- (Request *) HEADRequest* on page 2075	Creates a HEAD request appropriate for this request with the same headers.
+ (void) hideNetworkActivityIndicator on page 2075	Hides the network activity spinner.
+ (void) incrementBandwidthUsedInLastSecond: (unsigned long) bytes on page 2075	Used internally to record bandwidth use, and by InputStreams when uploading. It's probably best if you don't mess with this.
- (void) incrementDownloadSizeBy: (long long) length on page 2076	Called when we get a content-length header and shouldResetDownloadProgress is set to TRUE.
- (void) incrementUploadSizeBy: (long long) length on page 2076	Called when a request starts and shouldResetUploadProgress is set to TRUE.
+ (BOOL) isBandwidthThrottled on page 2076	Returns YES is bandwidth throttling is currently in use.
+ (BOOL) isNetworkInUse on page 2076	Indicates whether there are running requests.
+ (BOOL) isNetworkReachableViaWWAN on page 2077	Returns YES when an iPhone OS device is connected via WWAN, false when connected via WIFI or not connected.
- (BOOL) isResponseCompressed on page 2077	Returns TRUE if the response is gzip compressed.
- (BOOL) isTracingEnabled on page 2077	Returns tracing status.

Member	Description
+ (unsigned long) maxBandwidthPerSecond on page 2077	The maximum number of bytes ALL requests can send or receive in a second.
+ (unsigned long) maxUploadReadLength on page 2078	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 2078	
*+ (void) performSelector: (SEL) selector onTarget: (id *) target withObject: (id) object amount: (void *) amount* on page 2078	Helper method used for performing invocations on the main thread (used for progress).
- (void) performThrottling on page 2078	Performs bandwidth throttling.
*+ (void) removeCredentialsForHost: (NSString *) host port: (int) port protocol: (NSString *) protocol realm: (NSString *) realm* on page 2078	Deletes host credentials from the keychain.
*+ (void) removeCredentialsForProxy: (NSString *) host port: (int) port realm: (NSString *) realm* on page 2078	Deletes proxy credentials from the keychain.
- (void) removeUploadProgressSoFar on page 2079	Called when authorization is required, as we only find out we do not have some permissions when the upload is complete.
*+ (id) requestWithURL: (NSURL *) newURL* on page 2079	Creates a Request object with the specified HTTP or HTTPS URL.
*+ (id) requestWithURL: (NSURL *) newURL usingCache: (id< CacheDelegate >) cache* on page 2079	Creates a Request object with the specified HTTP or HTTPS URL and cache.
*+ (id) requestWithURL: (NSURL *) newURL usingCache: (id< CacheDelegate >) cache andCachePolicy: (ECachePolicy) policy* on page 2080	Creates a Request object with the specified HTTP or HTTPS URL and cache with predefined cache policy.
*- (NSData *) responseData* on page 2080	Returns the response as NSData, that is automatically uncompressed where appropriate.
*- (NSString *) responseString* on page 2080	Returns the contents of the result as an NSString.

Member	Description
- (void) retryUsingSuppliedCredentials on page 2080	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 2081	Saves host credentials to the keychain.
*+ (void) saveCredentials: (NSURLCredential *) credentials forProxy: (NSString *) host port: (int) port realm: (NSString *) realm* on page 2081	Saves proxy credentials to the keychain.
*- (void) saveCredentialsToKeychain: (NSDictionary *) newCredentials* on page 2081	Saves credentials for this request to the keychain.
*+ (NSURLCredential *) savedCredentialsForHost: (NSString *) host port: (int) port protocol: (NSString *) protocol realm: (NSString *) realm* on page 2081	Returns host credentials from the keychain.
*+ (NSURLCredential *) savedCredentialsForProxy: (NSString *) host port: (int) port protocol: (NSString *) protocol realm: (NSString *) realm* on page 2081	Returns proxy credentials from the keychain.
*- (void) sendE2ETraceXML: (NSURL *) toBaseURL* on page 2082	Posts the SAP E2E Trace XML to the specified Solution Manager URL.
- (void) setClientCertificateIdentity: (SecIdentityRef) anIdentity on page 2082	Sets the identity reference (X.509 certificate + private key) for this request; used for secure connections.
+ (void) setDefaultCache: (id< CacheDelegate >) cache on page 2082	Configures a default download cache for all requests.
*- (void) setEtag: (NSString *) etag withMatchType: (EtagType) matchType* on page 2082	Adds an etag header.
+ (void) setMaxBandwidthPerSecond: (unsigned long) bytes on page 2083	Sets the maximum number of bytes ALL requests can send / receive in a second.
+ (void) setMaxConcurrentHTTPRequestCount: (const unsigned char) cnt on page 2083	Sets the maximum number of request threads that can be executed simultaneously.
+ (void) setProtectionEnabled: (BOOL) flag_in on page 2083	Controls whether the download cache should store files using protection.

Member	Description
+ (void) setShouldThrottleBandwidthForWWAN: (BOOL) throttle on page 2083	Requests can automatically turn throttling on and off, as the connection type changes between WWAN and WiFi.
+ (void) setShouldUpdateNetworkActivityIndicator: (BOOL) shouldUpdate on page 2084	Controls whether the request should take over updating the network activity indicator.
*+ (NSOperationQueue *) sharedQueue* on page 2084	Returns the shared queue.
+ (void) showNetworkActivityIndicator on page 2084	Shows the network activity spinner.
- (void) startAsynchronous on page 2084	Executes the request in the background.
- (void) startSynchronous on page 2084	Executes a request synchronously and returns control, when the request completes or fails.
+ (void) throttleBandwidthForWWANUsingLimit: (unsigned long) limit on page 2085	Turns on throttling automatically when WWAN is connected using a custom limit, and turns it off automatically when it isn't.
- (void) updateDownloadProgress on page 2085	Updates download progress and notifies the queue and/or downloadProgressDelegate of this request.
*+ (void) updateProgressIndicator: (id *) indicator withProgress: (unsigned long long) progress ofTotal: (unsigned long long) total* on page 2085	Helper method for interacting with progress indicators to abstract the details of different APIs (NSProgressIndicator and UIProgressView).
- (void) updateProgressIndicators on page 2085	Updates the progress delegates.
- (void) updateUploadProgress on page 2085	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

Adds a modifying request such as POST/PUT/DELETE to the BatchRequest class.

Syntax

```
- (void) addRequestToChangeset :(id< Requesting >) request
withError :(NSError **) error
```

Parameters

- **request –** Object of Request class. NSError *error = nil;

```
[RequestBuilder enableXCSRF:YES];
id<Requesting> postRequest = [RequestBuilder requestWithURL:
[[NSURL alloc] initWithString:"TravelagencyCollection"]];
[postRequest setRequestMethod:@"POST"];
[postRequest addRequestHeader:@"Content-Type"
value:@"application/atom+xml"];
[postRequest addRequestHeader:@"Content-Length" value:@"1005"];
[postRequest setPostBody:data];
BatchRequest *batch = [[BatchRequest alloc] initWithURL:[[NSURL
alloc] initWithString:[NSString stringWithFormat:"%
$batch",applicationEndpoint]]];
[batch addRequestToChangeset:postRequest withError:&error];
[batch setUsername:user];
[batch setPassword:pass];
[batch startSynchronous];
```

addRetrieveRequestToBatch:withError: method
Adds a retrieve request to the BatchRequest class.

Syntax
`- (void) addRetrieveRequestToBatch :(id< Requesting >)` **request** `withError :(NSError **)` **error**

Parameters

- **request –** Object of Request class.
- **error –** Object of NSError class.

```
NSError *error = nil;
[RequestBuilder enableXCSRF:YES];
id<Requesting> request = [RequestBuilder requestWithURL:[[NSURL
alloc] initWithString:"TravelagencyCollection"]];
[request setRequestMethod:@"GET"];
BatchRequest *batch = [[BatchRequest alloc] initWithURL:[[NSURL
alloc] initWithString:[NSString stringWithFormat:@"%
$batch",applicationEndpoint]]];
[batch setUsername:user];
[batch setPassword:pass];
[batch addRetrieveRequestToBatch:request withError:&error];
if(!error){
[batch startSynchronous];
}
```

closeExistingChangeSet method
Closes a changeSet and adds requests to new changeSet.

Syntax
```
- (void) closeExistingChangeSet
```

Parameters

- **None –**

```
BatchRequest *batch = [[BatchRequest alloc] initWithURL:[[NSURL
alloc] initWithString:[NSString stringWithFormat:"%
$batch",applicationEndpoint]]];
[batch addRequestToChangeset:postRequest1];
[batch closeExistingChangeSet];
[batch addRequestToChangeset:postRequest2];
[batch setUsername:user];
[batch setPassword:pass];
[batch startSynchronous];
```

initWithURL: method
Initializes the BatchRequest object.

Syntax
```
- (id) initWithURL :(NSURL *) url
```

Parameters

- **url –** Object of NSURL class.

Returns
Returns the instance of the BatchRequest class.

```
 BatchRequest *batch = [[BatchRequest alloc] initWithURL:[[NSURL
alloc] initWithString:[NSString stringWithFormat:"%
$batch",applicationEndpoint]]];
```

Cache class
The class consists of method implementation for caching parsed OData entries.

Syntax
```
@interface  Cache  :  NSObject <Caching>
```

Base protocols

- *Caching* on page 1973

Members

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

Method	Description
*- (NSString *) addEntry: (ODataEntry *) entry withError: (NSError **) error* on page 1963	Adds a new entry cache.
*- (void) addNotificationDelegate: (id) delegate withListener: (SEL) listener forUrlKey: (NSString *) urlKey* on page 1964	Registers for notifications in case of change in the cached data when the merge is performed.
*- (BOOL) clearCacheForUrlKey: (NSString *) urlKey withError: (NSError **) error* on page 1964	Clears the cache for the URL key passed from all the caches, including the delta token and document cache.
*- (BOOL) clearLocalEntryForEntryId: (NSString *) entryId withError: (NSError **) error* on page 1965	Clears the local entry present in the local cache based on the entry ID passed.
*- (BOOL) deleteEntryForEntryId: (NSString *) entryId withError: (NSError **) error* on page 1965	Marks an entry from cache for deletion.
*- (NSString *) getDeltaLinkForUrlKey: (NSString *) urlKey withError: (NSError **) error* on page 1966	Returns the delta token or delta link for the URL key passed.
*- (BOOL) initializeCacheWithError: (NSError **) error* on page 1966	Retrieves all the initialized cache metadata.
*- (BOOL) mergeEntries: (ODataFeed *) feed forUrlKey: (NSString *) urlKey withError: (NSError **) error withCompletionBlock: (NSNotification *) block* on page 1967	Deprecated. Use 'mergeEntriesFromFeed' instead. This will be removed in the next drop
*- (BOOL) mergeEntriesFromFeed: (ODataFeed *) feed forUrlKey: (NSString *) urlKey withError: (NSError **) error withCompletionBlock: (NSNotification *notification) block* on page 1967	Merges the entries from the passed feed with the current set of entries (server version only) in the cache.
*- (id) readDocumentForUrlKey: (NSString *) urlKey forDocType: (DocType) type withError: (NSError **) error* on page 1968	Reads the service document or the meta data document for further reuse since they are the base on which data parsing can be performed.

Method	Description
*- (NSArray *) readEntriesForUrlKey: (NSString *) urlKey withError: (NSError **) error* on page 1968	Returns an array of ODataEntry* objects stored for the specified URL key.
*- (NSArray *) readEntriesLocalForEntryId: (NSString *) entryId forEntityType: (NSString *) entityType withError: (NSError **) error* on page 1969	Returns an array of ODataEntry* objects stored for the specified entity type and entry ID.
*- (BOOL) storeDocument: (id) document for-DocType: (DocType) type forUrlKey: (NSString *) urlKey withError: (NSError **) error* on page 1969	Stores the service document or the meta data document for further reuse since they are the base on which data parsing can be performed.
*- (BOOL) updateEntry: (ODataEntry *) entry withError: (NSError **) error* on page 1970	This method call is associated with a HTTP PUT request, that is, a modification on the existing resource of a collection.

Usage

The current implementation uses SQLite Database as the persistence with SQLCipher as the encryption library. It also supports access to the persistence via core data. 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

Adds a new entry cache.

Syntax

```
- (NSString *) addEntry :(ODataEntry *) entry withError :
(NSError **) error
```

Parameters

- **entry –** locally created entry used to invoke a POST request to the backend.
- **error –** uninitialized error object filled in case of error scenarios.

Returns

string that indicates a temporary entry ID assigned to the locally created entry in cache.

```
id<Caching> cacheLocal = [[Cache alloc] init];
NSError* error = nil;
```

```
 NSString* tempEntryId = [cacheLocal addEntry:entry
withError:&error];
 if (error) {
     NSLog("Add Entry Error : %@", error);
     return;
 }
```

addNotificationDelegate:withListener:forUrlKey: method
Registers for notifications in case of change in the cached data when the merge is performed.

Syntax
`- (void) addNotificationDelegate :(id)` **delegate** `withListener :(SEL)` **listener** `forUrlKey :(NSString *)` **urlKey**

Parameters

- **delegate –** class object that implements the notification listener method.
- **listener –** name of the listener method.
- **urlKey –** URL string against which the application chooses to listen to notifications.

```
 id<Caching> cacheLocal = [[Cache alloc] init];
 [cacheLocal addNotificationDelegate:self withListener:
(notifListener:) forUrlKey:urlKey];
```

clearCacheForUrlKey:withError: method
Clears the cache for the URL key passed from all the caches, including the delta token and document cache.

Syntax
`- (BOOL) clearCacheForUrlKey :(NSString *)` **urlKey** `withError :(NSError **)` **error**

Parameters

- **urlKey –** URL string against which the entries are cached.
- **error –** uninitialized error object filled in case of error scenarios.

Returns
Boolean to indicate the outcome of the operation.

```
id<Caching> cacheLocal = [[Cache alloc] init];
NSError* error = nil;
if ([cacheLocal clearCacheForUrlKey:urlKey withError:&error]) {
    NSLog("Clear Cache Error : %@", error);
    return;
}
```

clearLocalEntryForEntryId:withError: method
Clears the local entry present in the local cache based on the entry ID passed.

Syntax
```
- (BOOL) clearLocalEntryForEntryId :(NSString *) entryId
withError :(NSError **) error
```

Parameters

- **entryID –** ID for which the entry should be removed from the local cache.
- **error –** uninitialized error object filled in case of error scenarios.

Returns
Boolean to indicate the outcome of the operation.

```
 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;
 }
```

deleteEntryForEntryId:withError: method
Marks an entry from cache for deletion.

Syntax
```
- (BOOL) deleteEntryForEntryId :(NSString *) entryId withError
:(NSError **) error
```

Parameters

- **entryId –** ID of the entry to be deleted using HTTP DELETE request.
- **error –** uninitialized error object filled in case of error scenarios.

Returns
Boolean to indicate the outcome of the operation.

```
 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;
 }
```

getDeltaLinkForUrlKey:withError: method
Returns the delta token or delta link for the URL key passed.

Syntax
```
- (NSString *) getDeltaLinkForUrlKey :(NSString *) urlKey
withError :(NSError **) error
```

Parameters

- **urlKey –** URL string against which the entries are cached.
- **error –** uninitialized error object filled in case of error scenarios.

Returns
delta token or delta link as a string.

```
id<Caching> cacheLocal = [[Cache alloc] init];
NSError* error = nil;
NSString* deltaLink = [cacheLocal getDeltaLinkForUrlKey:urlKey
withError:&error]
if (error) {
    NSLog("Delta Token Error : %@", error);
    return;
}
```

initializeCacheWithError: method
Retrieves all the initialized cache metadata.

Syntax
```
- (BOOL) initializeCacheWithError :(NSError **) error
```

Parameters

- **error –** uninitialized error object filled in case of error scenarios.

Returns
Boolean to indicate the outcome of the operation.

```
id<Caching> cacheLocal = [[Cache alloc] init];
NSError* error = nil;
if (![cacheLocal initializeCacheWithError:&error])
{
    NSLog("Initialize Error : %@", error);
    return;
}
```

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
```

Remarks
DeprecatedUse 'mergeEntriesFromFeed' instead. This will be removed in the next drop

mergeEntriesFromFeed:forUrlKey:withError:withCompletionBlock: method
Merges the entries from the passed feed with the current set of entries (server version only) in the cache.

Syntax
```
- (BOOL) mergeEntriesFromFeed :(ODataFeed *)feed forUrlKey :
(NSString *)urlKey withError :(NSError **)error
withCompletionBlock :(NSNotification *notification)block
```

Parameters

- **feed –** feed object containing the array of ODataEntry* objects to be merged into the server version of the cache.
- **urlKey –** URL string which used to get the data from the backend.
- **error –** uninitialized error object which filled in case of error scenarios.

Returns
Boolean to indicate the outcome of the operation.

```
 id<Caching> cacheLocal = [[Cache alloc] init];
 NSError* error = nil;
 ODataDataParser* parser = [[ODataDataParser alloc]
initWithEntitySchema:entitySchema andServiceDocument:serviceDoc];
 [parser parse:responseData];
 [cacheLocal mergeEntriesFromFeed:[parser getFeed] forUrlKey:urlKey
withError:&error withCompletionBlock:^(NSNotification *notification)
{
     NSLog("%", notification);
 }];
 if(error)
 {
     NSLog("Merge Error: %@", error);
     return;
 }
```

readDocumentForUrlKey:forDocType:withError: method
Reads the service document or the meta data document for further reuse since they are the base on which data parsing can be performed.

Syntax
```
- (id) readDocumentForUrlKey :(NSString *)urlKey forDocType
:(DocType)type withError :(NSError **)error
```

Parameters

- **urlKey –** URL string that refers to the base URL of the documents.
- **type –** type of the document to be stored. Refer to the Enum DocType.
- **error –** uninitialized error object filled in case of error scenarios.

Returns
document object that is cached.

```
 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;
 }
```

readEntriesForUrlKey:withError: method
Returns an array of ODataEntry* objects stored for the specified URL key.

Syntax
```
- (NSArray *) readEntriesForUrlKey :(NSString *)urlKey
withError :(NSError **)error
```

Parameters

- **urlKey –** URL that was originally used to retrieve the entries from the backend and cache it.
- **error –** uninitialized error object filled in case of error scenarios.

Returns
array of ODataEntry* objects that were cached.

```
 id<Caching> cacheLocal = [[Cache alloc] init];
 NSError* error = nil;
 NSArray* cachedEntries = [cacheLocal readEntriesForUrlKey:urlKey
withError:&error];
```

```
if (error)
{
    NSLog("Read Error : %@", error);
    return;
}
```

readEntriesLocalForEntryId:forEntityType:withError: method
Returns an array of ODataEntry* objects stored for the specified entity type and entry ID.

Syntax
`- (NSArray *) readEntriesLocalForEntryId :(NSString *)` **entryId** `forEntityType :(NSString *)` **entityType** `withError :(NSError **)` **error**

Parameters

- **entityType –** entity-set to which the entry belongs to. This might mostly be the name of the Collection of the entries. If passed as NIL to the method, it is ignored while querying the cache for entries.
- **entryId –** ID of the entry modified. If passed as NIL to the method, it is ignored while querying the cache for entries.
- **error –** uninitialized error object filled in case of error scenarios.

Returns
array of ODataEntry* objects that were cached.

```
id<Caching> cacheLocal = [[Cache alloc] init];
NSError* error = nil;
NSArray* localEntries = [cacheLocal readEntriesLocalForEntryId:nil
forEntityType:nil withError:&error];
if (error)
{
    NSLog("Read Local Entry Error: %@", error);
    return;
}
```

storeDocument:forDocType:forUrlKey:withError: method
Stores the service document or the meta data document for further reuse since they are the base on which data parsing can be performed.

Syntax
`- (BOOL) storeDocument :(id)` **document** `forDocType :(DocType)` **type** `forUrlKey :(NSString *)` **urlKey** `withError :(NSError **)` **error**

Parameters

- **document –** document object to be cached.
- **type –** type of the document to be stored. Refer to the Enum DocType.
- **urlKey –** URL string that refers to the base URL of the documents.
- **error –** uninitialized error objectfilled in case of error scenarios.

Returns
Boolean to indicate the outcome of the operation.

```
 id<Caching> cacheLocal = [[Cache alloc] init];
 NSError* error = nil;
 if ([cacheLocal storeDocument:servDoc
forDocType:ServiceDocumentType forUrlKey:urlKey withError:&error]) {
     NSLog("Store Document Error : %@", error);
     return;
 }
```

updateEntry:withError: method
This method call is associated with a HTTP PUT request, that is, a modification on the existing resource of a collection.

Syntax
`- (BOOL) updateEntry :(ODataEntry *)` **entry** `withError :(NSError **)` **error**

Parameters

- **entry –** locally modified entry used to invoke a PUT request to the backend.
- **error –** uninitialized error object filled in case of error scenarios.

Returns
Boolean to indicate the outcome of the operation.

```
id<Caching> cacheLocal = [[Cache alloc] init];
NSError* error = nil;
ODataEntry* updateEntry = updateEntryWithChangedValues();
if ([cacheLocal updateEntry:updateEntry withError:&error]) {
    NSLog("Update Entry Error : %@", error);
    return;
}
```

CacheDelegate protocol
Defines default DownloadCache delegate methods.

Syntax
`@protocol CacheDelegate`

Derived classes

- *DownloadCache* on page 1982

Members

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

Method	Description
*- (NSDictionary *) cachedHeadersForRequest: (id< Requesting >) request* on page 1971	
*- (NSData *) cachedResponseDataForRequest: (id< Requesting >) request* on page 1972	
- (void) clearCachedResponsesForStoragePolicy: (ECacheStoragePolicy) cachePolicy on page 1972	
- (ECachePolicy) defaultCachePolicy on page 1972	Returns the cache policy to be used when requests have their cache policy set to DefaultCachePolicy.
- (BOOL) isCachedDataCurrentForRequest: (id< Requesting >) request on page 1972	
*- (NSString *) pathToCachedResponseDataForRequest: (id< Requesting >) request* on page 1972	
- (void) removeCachedDataForRequest: (id< Requesting >) request on page 1972	
- (void) storeResponseForRequest: (id< Requesting >) request maxAge: (NSTimeInterval) maxAge on page 1972	

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

The protocol consists of method definitions for caching parsed OData entries.

Syntax

```
@protocol   Caching
```

Derived classes

- *Cache* on page 1961

Members

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

Method	Description
*- (NSString *) addEntry: (ODataEntry *) entry withError: (NSError **) error* on page 1974	Adds a new entry cache.
*- (void) addNotificationDelegate: (id) delegate withListener: (SEL) listener forUrlKey: (NSString *) urlKey* on page 1975	Registers for notifications in case of change in the cached data when the merge is performed.
*- (BOOL) clearCacheForUrlKey: (NSString *) urlKey withError: (NSError **) error* on page 1975	Clears the cache for the URL key passed from all the caches, including the delta token and document cache.
*- (BOOL) clearLocalEntryForEntryId: (NSString *) entryId withError: (NSError **) error* on page 1976	Clears the local entry present in the local cache based on the entry ID passed.
*- (BOOL) deleteEntryForEntryId: (NSString *) entryId withError: (NSError **) error* on page 1976	Marks an entry from cache for deletion.
*- (NSString *) getDeltaLinkForUrlKey: (NSString *) urlKey withError: (NSError **) error* on page 1977	Returns the delta token or delta link for the URL key passed.
*- (BOOL) initializeCacheWithError: (NSError **) error* on page 1977	Retrieves all the initialized cache metadata.
*- (BOOL) mergeEntries: (ODataFeed *) feed forUrlKey: (NSString *) urlKey withError: (NSError **) error withCompletionBlock: (NSNotification *) block* on page 1978	Deprecated. Use 'mergeEntriesFromFeed' instead. This will be removed in the next drop

Method	Description
*- (BOOL) mergeEntriesFromFeed: (ODataFeed *) feed forUrlKey: (NSString *) urlKey withError: (NSError **) error withCompletionBlock: (NSNotification *notification) block* on page 1978	Merges the entries from the passed feed with the current set of entries (server version only) in the cache.
*- (id) readDocumentForUrlKey: (NSString *) urlKey forDocType: (DocType) type withError: (NSError **) error* on page 1979	Reads the service document or the meta data document for further reuse since they are the base on which data parsing can be performed.
*- (NSArray *) readEntriesForUrlKey: (NSString *) urlKey withError: (NSError **) error* on page 1979	Returns an array of ODataEntry* objects stored for the specified URL key.
*- (NSArray *) readEntriesLocalForEntryId: (NSString *) entryId forEntityType: (NSString *) entityType withError: (NSError **) error* on page 1980	Returns an array of ODataEntry* objects stored for the specified entity type and entry ID.
*- (BOOL) storeDocument: (id) document forDocType: (DocType) type forUrlKey: (NSString *) urlKey withError: (NSError **) error* on page 1981	Stores the service document or the meta data document for further reuse since they are the base on which data parsing can be performed.
*- (BOOL) updateEntry: (ODataEntry *) entry withError: (NSError **) error* on page 1981	This method call is associated with a HTTP PUT request, that is, a modification on the existing resource of a collection.

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

Adds a new entry cache.

Syntax

```
- (NSString *) addEntry :(ODataEntry *) entry withError :
(NSError **) error
```

Parameters

- **entry –** locally created entry used to invoke a POST request to the backend.
- **error –** uninitialized error object filled in case of error scenarios.

Returns
string that indicates a temporary entry ID assigned to the locally created entry in cache.

```
 id<Caching> cacheLocal = [[Cache alloc] init];
 NSError* error = nil;
 NSString* tempEntryId = [cacheLocal addEntry:entry
withError:&error];
 if (error) {
     NSLog("Add Entry Error : %@", error);
     return;
 }
```

addNotificationDelegate:withListener:forUrlKey: method
Registers for notifications in case of change in the cached data when the merge is performed.

Syntax
`- (void) addNotificationDelegate :(id)` **delegate** `withListener :(SEL)` **listener** `forUrlKey :(NSString *)` **urlKey**

Parameters

- **delegate –** class object that implements the notification listener method.
- **listener –** name of the listener method.
- **urlKey –** URL string against which the application chooses to listen to notifications.

```
 id<Caching> cacheLocal = [[Cache alloc] init];
 [cacheLocal addNotificationDelegate:self withListener:
(notifListener:) forUrlKey:urlKey];
```

clearCacheForUrlKey:withError: method
Clears the cache for the URL key passed from all the caches, including the delta token and document cache.

Syntax
`- (BOOL) clearCacheForUrlKey :(NSString *)` **urlKey** `withError :(NSError **)` **error**

Parameters

- **urlKey –** URL string against which the entries are cached.
- **error –** uninitialized error object filled in case of error scenarios.

Returns
Boolean to indicate the outcome of the operation.

```
id<Caching> cacheLocal = [[Cache alloc] init];
NSError* error = nil;
if ([cacheLocal clearCacheForUrlKey:urlKey withError:&error]) {
    NSLog("Clear Cache Error : %@", error);
    return;
}
```

clearLocalEntryForEntryId:withError: method
Clears the local entry present in the local cache based on the entry ID passed.

Syntax
`- (BOOL) clearLocalEntryForEntryId :(NSString *)` **entryId** `withError :(NSError **)` **error**

Parameters

- **entryID –** ID for which the entry should be removed from the local cache.
- **error –** uninitialized error object filled in case of error scenarios.

Returns
Boolean to indicate the outcome of the operation.

```
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;
}
```

deleteEntryForEntryId:withError: method
Marks an entry from cache for deletion.

Syntax
`- (BOOL) deleteEntryForEntryId :(NSString *)` **entryId** `withError :(NSError **)` **error**

Parameters

- **entryId –** ID of the entry to be deleted using HTTP DELETE request.
- **error –** uninitialized error object filled in case of error scenarios.

Returns
Boolean to indicate the outcome of the operation.

```
 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;
 }
```

getDeltaLinkForUrlKey:withError: method
Returns the delta token or delta link for the URL key passed.

Syntax
`- (NSString *) getDeltaLinkForUrlKey :(NSString *)` **urlKey**
`withError :(NSError **)` **error**

Parameters

- **urlKey –** URL string against which the entries are cached.
- **error –** uninitialized error object filled in case of error scenarios.

Returns
delta token or delta link as a string.

```
 id<Caching> cacheLocal = [[Cache alloc] init];
 NSError* error = nil;
 NSString* deltaLink = [cacheLocal getDeltaLinkForUrlKey:urlKey
withError:&error]
 if (error) {
     NSLog("Delta Token Error : %@", error);
     return;
 }
```

initializeCacheWithError: method
Retrieves all the initialized cache metadata.

Syntax
`- (BOOL) initializeCacheWithError :(NSError **)` **error**

Parameters

- **error –** uninitialized error object filled in case of error scenarios.

Returns
Boolean to indicate the outcome of the operation.

```
id<Caching> cacheLocal = [[Cache alloc] init];
NSError* error = nil;
if (![cacheLocal initializeCacheWithError:&error])
{
    NSLog("Initialize Error : %@", error);
    return;
}
```

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
```

Remarks
DeprecatedDeprecatedUse 'mergeEntriesFromFeed' instead. This will be removed in the next drop

mergeEntriesFromFeed:forUrlKey:withError:withCompletionBlock: method
Merges the entries from the passed feed with the current set of entries (server version only) in the cache.

Syntax
```
- (BOOL) mergeEntriesFromFeed :(ODataFeed *)feed forUrlKey :
(NSString *)urlKey withError :(NSError **)error
withCompletionBlock :(NSNotification *notification)block
```

Parameters
- **feed –** feed object containing the array of ODataEntry* objects to be merged into the server version of the cache.
- **urlKey –** URL string which used to get the data from the backend.
- **error –** uninitialized error object which filled in case of error scenarios.

Returns
Boolean to indicate the outcome of the operation.

```
id<Caching> cacheLocal = [[Cache alloc] init];
NSError* error = nil;
ODataDataParser* parser = [[ODataDataParser alloc]
initWithEntitySchema:entitySchema andServiceDocument:serviceDoc];
[parser parse:responseData];
[cacheLocal mergeEntriesFromFeed:[parser getFeed] forUrlKey:urlKey
withError:&error withCompletionBlock:^(NSNotification *notification)
{
```

```
    NSLog("%", notification);
}];
if(error)
{
    NSLog("Merge Error: %@", error);
    return;
}
```

readDocumentForUrlKey:forDocType:withError: method

Reads the service document or the meta data document for further reuse since they are the base on which data parsing can be performed.

Syntax

```
- (id) readDocumentForUrlKey :(NSString *)urlKey forDocType
:(DocType)type withError :(NSError **)error
```

Parameters

- **urlKey –** URL string that refers to the base URL of the documents.
- **type –** type of the document to be stored. Refer to the Enum DocType.
- **error –** uninitialized error object filled in case of error scenarios.

Returns

document object that is cached.

```
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;
}
```

readEntriesForUrlKey:withError: method

Returns an array of ODataEntry* objects stored for the specified URL key.

Syntax

```
- (NSArray *) readEntriesForUrlKey :(NSString *)urlKey
withError :(NSError **)error
```

Parameters

- **urlKey –** URL that was originally used to retrieve the entries from the backend and cache it.
- **error –** uninitialized error object filled in case of error scenarios.

Returns
array of ODataEntry* objects that were cached.

```
 id<Caching> cacheLocal = [[Cache alloc] init];
 NSError* error = nil;
 NSArray* cachedEntries = [cacheLocal readEntriesForUrlKey:urlKey
withError:&error];
 if (error)
 {
     NSLog("Read Error : %@", error);
     return;
 }
```

readEntriesLocalForEntryId:forEntityType:withError: method
Returns an array of ODataEntry* objects stored for the specified entity type and entry ID.

Syntax
`- (NSArray *) readEntriesLocalForEntryId :(NSString *)` **entryId** `forEntityType :(NSString *)` **entityType** `withError :(NSError **)` **error**

Parameters

- **entityType –** entity-set to which the entry belongs to. This might mostly be the name of the Collection of the entries. If passed as NIL to the method, it is ignored while querying the cache for entries.
- **entryId –** ID of the entry modified. If passed as NIL to the method, it is ignored while querying the cache for entries.
- **error –** uninitialized error object filled in case of error scenarios.

Returns
array of ODataEntry* objects that were cached.

```
 id<Caching> cacheLocal = [[Cache alloc] init];
 NSError* error = nil;
 NSArray* localEntries = [cacheLocal readEntriesLocalForEntryId:nil
forEntityType:nil withError:&error];
 if (error)
 {
     NSLog("Read Local Entry Error: %@", error);
     return;
 }
```

storeDocument:forDocType:forUrlKey:withError: method

Stores the service document or the meta data document for further reuse since they are the base on which data parsing can be performed.

Syntax

```
- (BOOL) storeDocument :(id) document forDocType :(DocType) type forUrlKey :(NSString *) urlKey withError :(NSError **) error
```

Parameters

- **document –** document object to be cached.
- **type –** type of the document to be stored. Refer to the Enum DocType.
- **urlKey –** URL string that refers to the base URL of the documents.
- **error –** uninitialized error objectfilled in case of error scenarios.

Returns

Boolean to indicate the outcome of the operation.

```
 id<Caching> cacheLocal = [[Cache alloc] init];
 NSError* error = nil;
 if ([cacheLocal storeDocument:servDoc
forDocType:ServiceDocumentType forUrlKey:urlKey withError:&error]) {
     NSLog("Store Document Error : %@", error);
     return;
 }
```

updateEntry:withError: method

This method call is associated with a HTTP PUT request, that is, a modification on the existing resource of a collection.

Syntax

```
- (BOOL) updateEntry :(ODataEntry *) entry withError :(NSError **) error
```

Parameters

- **entry –** locally modified entry used to invoke a PUT request to the backend.
- **error –** uninitialized error object filled in case of error scenarios.

Returns

Boolean to indicate the outcome of the operation.

```
 id<Caching> cacheLocal = [[Cache alloc] init];
 NSError* error = nil;
 ODataEntry* updateEntry = updateEntryWithChangedValues();
```

```
if ([cacheLocal updateEntry:updateEntry withError:&error]) {
    NSLog("Update Entry Error : %@", error);
    return;
}
```

ConnectivityException class
Exception propagated from the library.

Syntax
```
@interface  ConnectivityException  :  NSException
```

Members
All members of ConnectivityException, including inherited members. **Methods**

Method	Description
- (id) init on page 1982	
*- (id) initWithError: (NSString *) error_in detailedError: (NSString *) details_in statusCode: (NSInteger) statusCode_in* on page 1982	

init method

Syntax
```
- (id) init
```

initWithError:detailedError:statusCode: method

Syntax
```
- (id) initWithError :(NSString *) error_in detailedError :(
NSString *) details_in statusCode :(NSInteger) statusCode_in
```

DownloadCache class
Download cache to store HTTP responses.

Syntax
```
@interface  DownloadCache  :  NSObject <CacheDelegate>
```

Base protocols

- *CacheDelegate* on page 1970

Members
All members of DownloadCache, including inherited members. **Methods**

Method	Description
+ (id) instance on page 1984	Returns a static DownloadCache instance.
*+ (NSDateFormatter *) rfc1123DateFormatter* on page 1984	A date formatter to be used to construct an RFC 1123 date.
*+ (BOOL) serverAllowsResponseCachingFor-Request: (Request *) request* on page 1984	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 1971	
*- (NSData *) cachedResponseDataForRequest: (id< Requesting >) request* on page 1972	
- (void) clearCachedResponsesForStoragePoli-cy: (ECacheStoragePolicy) cachePolicy on page 1972	
- (ECachePolicy) defaultCachePolicy on page 1972	Returns the cache policy to be used when requests have their cache policy set to DefaultCachePoli-cy.
- (BOOL) isCachedDataCurrentForRequest: (id< Requesting >) request on page 1972	
*- (NSString *) pathToCachedResponseDataFor-Request: (id< Requesting >) request* on page 1972	
- (void) removeCachedDataForRequest: (id< Re-questing >) request on page 1972	
- (void) storeResponseForRequest: (id< Request-ing >) request maxAge: (NSTimeInterval) max-Age on page 1972	

Usage

Note that the download cache does not work with ODPRequest via SAP Mobile Platform.

instance method
Returns a static DownloadCache instance.

Syntax
```
+ (id) instance
```

Remarks
```
Used as a global cache. To make HTTPRequests use it automatically,
use [HTTPRequest setDefaultCache:[DownloadCache sharedCache]];
// assign the download cache to the request
[m_AsynchRequest setDownloadCache:[DownloadCache instance]];
// fine-tune cache settings
[m_AsynchRequest
setCacheStoragePolicy:CachePermanently_CacheStoragePolicy];
Slightly more advanced technique
// check for network reachability
int reachabilityStatus = [[Reachability
reachabilityForInternetConnection] currentReachabilityStatus];
// use cached content if no network
if (reachabilityStatus == NotReachable) {
    [[DownloadCache instance]
setDefaultCachePolicy:UseCacheIfLoadFails_CachePolicy];
}
else {
    [[DownloadCache instance]
setDefaultCachePolicy:OnlyLoadIfNotCached_CachePolicy];
}
```

rfc1123DateFormatter method
A date formatter to be used to construct an RFC 1123 date.

Syntax
```
+ (NSDateFormatter *) rfc1123DateFormatter
```

Remarks
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
*+ (BOOL) clearEncryptionKeyWithError: (NSError **) error* on page 1985	A static method to clear/nullify the key along with the database i.e.
*+ (NSString *) encryptionKey* on page 1986	This method should not be used by the application developer or the MAF as this is only intended for internal usage.
*+ (NSString *) getEncryptionKey: (NSError **) error* on page 1986	A static method to provide the unique 128-bit encryption key.
*+ (NSString *) resetEncryptionKey* on page 1987	A static method to regenerate the key along with the database i.e.
*+ (void) setEncryptionKey: (NSString *) key* on page 1987	Deprecated.
*+ (void) setEncryptionKey: (NSString *) key withError: (NSError **) error* on page 1987	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.

clearEncryptionKeyWithError: method

A static method to clear/nullify the key along with the database i.e.

Syntax

```
+ (BOOL) clearEncryptionKeyWithError :(NSError **) error
```

Parameters

- **_error –** NSError* object to capture any error if occured during the execution of the method.

```
Usage

NSError* error = nil;
BOOL isCleared = [EncryptionKeyManager
clearEncryptionKeyWithError:&error];
if (!isCleared) NSLog("%", error);    // Printing the error to con
```

Returns
BOOL Indication if the reset was successful

Remarks
by calling this method the DB that exists on the mobile client will be removed. Application/ MAF will have to call getEncryptionKey again to generate a new key

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
```

Remarks
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 occured during the execution of the method.

Returns
Returns NSString* a unique 128-bit key to be used for the subsequent operation on DB.

```
Usage
```

Remarks
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
```

Remarks
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
```

Remarks
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 eariler 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 occured during the execution of the method.

  ```
  Usage
  ```

Remarks

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>
```

Base class

- *Request* on page 2065

Members

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

Method	Description
*- (void) addData: (NSData *) data forKey: (NSString *) key* on page 1994	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 1994	Adds the contents of an NSData object to the request.
*- (void) addFile: (NSString *) filePath forKey: (NSString *) key* on page 1994	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 1994	Adds the contents of a local file to the request.
*- (void) addPostValue: (id< NSObject >) value forKey: (NSString *) key* on page 1995	Adds a POST variable to the request.
*- (NSString *) encodeURL: (NSString *) string* on page 1995	
*- (void) setData: (NSData *) data forKey: (NSString *) key* on page 1995	Adds the contents of an NSData object to the request, clearing any others with the same key.

Method	Description
*- (void) setData: (id) data withFileName: (NSString *) fileName andContentType: (NSString *) contentType forKey: (NSString *) key* on page 1995	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 1995	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 1996	Adds the contents of a local file to the request, clearing any others with the same key.
*- (void) setPostValue: (id< NSObject >) value forKey: (NSString *) key* on page 1996	Sets a POST variable for this request, clearing any others with the same key.

Inherited members from Request

Member	Description
*- (void) addBasicAuthenticationHeaderWithUsername: (NSString *) theUsername andPassword: (NSString *) thePassword* on page 2070	Constructs a basic authentication header from the user name and password supplied, and adds it to the request headers.
*- (void) addRequestHeader: (NSString *) header value: (NSString *) value* on page 2071	Adds a custom header to the request object.
*- (void) appendPostData: (NSData *) data* on page 2071	Adds data to the POST body.
*- (void) appendPostDataFromFile: (NSString *) file* on page 2071	Adds data to the post body from a file.
- (void) applyAuthorizationHeader on page 2071	Applies authorization header to a request before it is sent, when shouldPresentCredentialsBeforeChallenge is set to YES.
- (void) applyCookieHeader on page 2072	Creates a cookie header from request cookies and the global store.
+ (unsigned long) averageBandwidthUsedPerSecond on page 2072	Returns a rough average (for the last 5 seconds) of how much bandwidth is being used, in bytes.
*+ (NSString *) base64forData: (NSData *) theData* on page 2072	Base64 encodes the provided NSData*.
- (void) buildPostBody on page 2072	Creates the POST body.

Member	Description
- (void) buildRequestHeaders on page 2072	Populates the request headers dictionary.
- (void) cancelAuthentication on page 2073	Should be called by delegates when they wish to cancel authentication and stop.
+ (void) clearSession on page 2073	
+ (const NSDataWritingOptions) dataWritingOptions on page 2073	Returns a mask which determines whether the data should be stored in encrypted form.
*+ (NSDate *) dateFromRFC1123String: (NSString *) string* on page 2073	Returns a date from a string in RFC1123 format.
*+ (NSString *) decodeBase64: (NSString *) string_in* on page 2073	Decodes a base64 encoded string.
+ (id< CacheDelegate >) defaultCache on page 2073	Returns the default download cache or NIL if none set at class level.
- (void) enableTracing: (BOOL) value_in on page 2074	Switches traceability status.
+ (void) enableXCSRF: (BOOL) enable on page 2074	Enables XSRF support.
*- (void) failWithError: (NSError *) theError* on page 2074	Called when a request fails, and lets the delegate know via didFailSelector.
*+ (NSDictionary *) fileProtectionAttributes* on page 2074	Returns an attributes dictionary used for encrypted file storage or NIL if file protection has been explicitly disabled.
+ (NSInteger) getMaxConcurrentHTTPRequestCount on page 2075	Returns the maximum number of request threads that can be executed in parallel.
- (void) handleNetworkEvent: (CFStreamEventType) type on page 2075	Handles network events as they occur.
*- (Request *) HEADRequest* on page 2075	Creates a HEAD request appropriate for this request with the same headers.
+ (void) hideNetworkActivityIndicator on page 2075	Hides the network activity spinner.
+ (void) incrementBandwidthUsedInLastSecond: (unsigned long) bytes on page 2075	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 2076	Called when we get a content-length header and shouldResetDownloadProgress is set to TRUE.
- (void) incrementUploadSizeBy: (long long) length on page 2076	Called when a request starts and shouldResetUploadProgress is set to TRUE.
*- (id) initWithURL: (NSURL *) newURL* on page 2076	Initialize the Request object with a HTTP or HTTPS url.
+ (BOOL) isBandwidthThrottled on page 2076	Returns YES is bandwidth throttling is currently in use.
+ (BOOL) isNetworkInUse on page 2076	Indicates whether there are running requests.
+ (BOOL) isNetworkReachableViaWWAN on page 2077	Returns YES when an iPhone OS device is connected via WWAN, false when connected via WIFI or not connected.
- (BOOL) isResponseCompressed on page 2077	Returns TRUE if the response is gzip compressed.
- (BOOL) isTracingEnabled on page 2077	Returns tracing status.
+ (unsigned long) maxBandwidthPerSecond on page 2077	The maximum number of bytes ALL requests can send or receive in a second.
+ (unsigned long) maxUploadReadLength on page 2078	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 2078	
*+ (void) performSelector: (SEL) selector onTarget: (id *) target withObject: (id) object amount: (void *) amount* on page 2078	Helper method used for performing invocations on the main thread (used for progress).
- (void) performThrottling on page 2078	Performs bandwidth throttling.
*+ (void) removeCredentialsForHost: (NSString *) host port: (int) port protocol: (NSString *) protocol realm: (NSString *) realm* on page 2078	Deletes host credentials from the keychain.
*+ (void) removeCredentialsForProxy: (NSString *) host port: (int) port realm: (NSString *) realm* on page 2078	Deletes proxy credentials from the keychain.

Member	Description
- (void) removeUploadProgressSoFar on page 2079	Called when authorization is required, as we only find out we do not have some permissions when the upload is complete.
*+ (id) requestWithURL: (NSURL *) newURL* on page 2079	Creates a Request object with the specified HTTP or HTTPS URL.
*+ (id) requestWithURL: (NSURL *) newURL usingCache: (id< CacheDelegate >) cache* on page 2079	Creates a Request object with the specified HTTP or HTTPS URL and cache.
*+ (id) requestWithURL: (NSURL *) newURL usingCache: (id< CacheDelegate >) cache andCachePolicy: (ECachePolicy) policy* on page 2080	Creates a Request object with the specified HTTP or HTTPS URL and cache with predefined cache policy.
*- (NSData *) responseData* on page 2080	Returns the response as NSData, that is automatically uncompressed where appropriate.
*- (NSString *) responseString* on page 2080	Returns the contents of the result as an NSString.
- (void) retryUsingSuppliedCredentials on page 2080	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 2081	Saves host credentials to the keychain.
*+ (void) saveCredentials: (NSURLCredential *) credentials forProxy: (NSString *) host port: (int) port realm: (NSString *) realm* on page 2081	Saves proxy credentials to the keychain.
*- (void) saveCredentialsToKeychain: (NSDictionary *) newCredentials* on page 2081	Saves credentials for this request to the keychain.
*+ (NSURLCredential *) savedCredentialsForHost: (NSString *) host port: (int) port protocol: (NSString *) protocol realm: (NSString *) realm* on page 2081	Returns host credentials from the keychain.
*+ (NSURLCredential *) savedCredentialsForProxy: (NSString *) host port: (int) port protocol: (NSString *) protocol realm: (NSString *) realm* on page 2081	Returns proxy credentials from the keychain.

Member	Description
*- (void) sendE2ETraceXML: (NSURL *) toBaseURL* on page 2082	Posts the SAP E2E Trace XML to the specified Solution Manager URL.
- (void) setClientCertificateIdentity: (SecIdentityRef) anIdentity on page 2082	Sets the identity reference (X.509 certificate + private key) for this request; used for secure connections.
+ (void) setDefaultCache: (id< CacheDelegate >) cache on page 2082	Configures a default download cache for all requests.
*- (void) setEtag: (NSString *) etag withMatchType: (EtagType) matchType* on page 2082	Adds an etag header.
+ (void) setMaxBandwidthPerSecond: (unsigned long) bytes on page 2083	Sets the maximum number of bytes ALL requests can send / receive in a second.
+ (void) setMaxConcurrentHTTPRequestCount: (const unsigned char) cnt on page 2083	Sets the maximum number of request threads that can be executed simultaneously.
+ (void) setProtectionEnabled: (BOOL) flag_in on page 2083	Controls whether the download cache should store files using protection.
+ (void) setShouldThrottleBandwidthForWWAN: (BOOL) throttle on page 2083	Requests can automatically turn throttling on and off, as the connection type changes between WWAN and WiFi.
+ (void) setShouldUpdateNetworkActivityIndicator: (BOOL) shouldUpdate on page 2084	Controls whether the request should take over updating the network activity indicator.
*+ (NSOperationQueue *) sharedQueue* on page 2084	Returns the shared queue.
+ (void) showNetworkActivityIndicator on page 2084	Shows the network activity spinner.
- (void) startAsynchronous on page 2084	Executes the request in the background.
- (void) startSynchronous on page 2084	Executes a request synchronously and returns control, when the request completes or fails.
+ (void) throttleBandwidthForWWANUsingLimit: (unsigned long) limit on page 2085	Turns on throttling automatically when WWAN is connected using a custom limit, and turns it off automatically when it isn't.
- (void) updateDownloadProgress on page 2085	Updates download progress and notifies the queue and/or downloadProgressDelegate of this request.

Member	Description
*+ (void) updateProgressIndicator: (id *) indicator withProgress: (unsigned long long) progress of-Total: (unsigned long long) total* on page 2085	Helper method for interacting with progress indicators to abstract the details of different APIs (NSProgressIndicator and UIProgressView).
- (void) updateProgressIndicators on page 2085	Updates the progress delegates.
- (void) updateUploadProgress on page 2085	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
```

Remarks
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
```

Remarks
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
```

Remarks
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
```

Remarks
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
Manages multiple Request objects.

Syntax
```
@interface NetworkQueue : NSOperationQueue
<ProgressDelegate> <RequestDelegate> <NSCopying>
```

Base protocols

- *ProgressDelegate* on page 2059
- *RequestDelegate* on page 2093

Members
All members of NetworkQueue, including inherited members. **Methods**

Method	Description
+ (id) queue on page 1998	Convenience constructor.
- (void) reset on page 1998	Resets the queue; it cancels all operations, clears delegates, and suspends operations.

Method	Description
- (void) startBatch on page 1998	Starts the queue.

Inherited members from ProgressDelegate

Member	Description
- (void) request: (id< Requesting >) request didReceiveBytes: (long long) bytes on page 2060	Delegate method called when the request receives data.
- (void) request: (id< Requesting >) request didSendBytes: (long long) bytes on page 2060	Delegate method called when the request sends data.
- (void) request: (id< Requesting >) request incrementDownloadSizeBy: (long long) newLength on page 2060	Delegate method called when the request needs to change the download content size.
- (void) request: (id< Requesting >) request incrementUploadSizeBy: (long long) newLength on page 2061	Delegate method called when the request needs to change the length of the content to be uploaded.
- (void) setProgress: (float) newProgress on page 2061	Delegate method called to update UIProgressViews.

Inherited members from RequestDelegate

Member	Description
*- (void) authenticationNeededForRequest: (Request *) request* on page 2094	Default delegate method called when credentials must be supplied for authentication.
*- (void) proxyAuthenticationNeededForRequest: (Request *) request* on page 2094	Default delegate method called when the proxy requires credentials for authentication.
*- (void) request: (Request *) request didReceiveData: (const NSData *const) data_in* on page 2094	Default delegate method invoked when incoming data is available.
*- (void) requestFailed: (Request *) request* on page 2094	Default delegate method called when the request fails.
*- (void) requestFinished: (Request *) request* on page 2095	Default delegate method called when the request is completed.
*- (void) requestRedirected: (Request *) request* on page 2095	Default delegate method called when the request gets redirected.

Member	Description
*- (void) requestStarted: (Request *) request* on page 2095	Default delegate method called when the request starts.

Usage
Manages batched HTTP requests, to track their overall progress, cancel them, and so on.

queue method
Convenience constructor.

Syntax
```
+ (id) queue
```

Parameters
- **None –**

Returns
Returns the instance of the NetworkQueue class.

```
NetworkQueue* networkQueue = [NetworkQueue queue];
```

reset method
Resets the queue; it cancels all operations, clears delegates, and suspends operations.

Syntax
```
- (void) reset
```

Parameters
- **None –**

```
NetworkQueue* networkQueue = [NetworkQueue queue];
[networkQueue reset];
```

startBatch method
Starts the queue.

Syntax
```
- (void) startBatch
```

Parameters
- **None –**

```
// instantiate the shared network queue
```

```
NetworkQueue* networkQueue = [NetworkQueue queue];
// set various delegates and selectors
// subscribe for download progress notifications
[networkQueue setDownloadProgressDelegate:self];
// for accurate progress tracking
[networkQueue setShowAccurateProgress:YES];
// register ourselves as delegate
[networkQueue setDelegate:self];
[networkQueue setRequestDidFailSelector:(downloadFailed:)];
[networkQueue setRequestDidFinishSelector:(downloadFinished:)];
[networkQueue setQueueDidFinishSelector:(queueFinished:)];     //
there is no queueFailed selector: the queue is always finished
even if some or all the belonging requests fail
// create and add the requests (internally an NSOperationQueue is
used to store and concurrently handle the requests)
// Request#1
Request* request = [Request requestWithUrl:[NSURL
URLWithString:"http://www.yahoo.com"]];
[networkQueue addOperation:request];
```

Remarks

```
// start the queue (all operations are on hold when added)
[networkQueue startBatch];
```

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
```

Base class

- *ODataLink* on page 2020

Members

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

Method	Description
*- (NSString *) createActionLinkURL: (NSDictionary *) parameters* on page 2000	Creates the final action link URL that can be used in an HTTP request to execute the action in the backend.
*- (NSDictionary *) getParameters* on page 2000	Gets the action link parameters whose values should be set by the user.

Inherited members from ODataLink

Member	Description
*- (id) initWithHRef: (NSString *const) newHRef* on page 2020	
*- (id) initWithHRef: (NSString *const) newHRef andLinkRel: (NSString *const) newRel* on page 2021	
*- (id) initWithHRef: (NSString *const) newHRef andLinkRel: (NSString *const) newRel andLinkType: (NSString *const) newType* on page 2021	
*- (id) initWithHRef: (NSString *const) newHRef andLinkRel: (NSString *const) newRel andLinkType: (NSString *const) newType andLinkTitle: (NSString *const) newTitle* on page 2021	
*- (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 2021	

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

Remarks

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
```

Remarks

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 2002	
*- (BOOL) addLink: (const ODataLink *const) newLink* on page 2002	
- (BOOL) doesRequireFilter on page 2002	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.)
*- (ODataLink *) getSubscriptionLink* on page 2002	if the collection supports subscription, then the returned object will be an ODataLink, otherwise nil.
- (BOOL) hasMedia on page 2002	Queries if a collection has media links or not.
*- (id) initWithName: (NSString *const) newName* on page 2002	
- (BOOL) isCreatable on page 2003	Queries if a acollection allows creating new entries or not.
- (BOOL) isDeletable on page 2003	Queries if a collection allows deleting its entries.
- (BOOL) isSearchable on page 2003	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) isTopLevel* on page 2003	Queries if a collection should appear on the main screen as a starting/root collection.
- *(BOOL) isUpdatable* on page 2003	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 acollection 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 2004	
*- (id) initWithEntitySchema: (const ODataEntitySchema *const) newEntitySchema andServiceDocument: (const ODataServiceDocument *const) newServiceDocument* on page 2004	
*- (void) parse: (NSData *const) content* on page 2004	

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) init* on page 2005	
- *(BOOL) isDaysFieldPresent* on page 2005	
- *(BOOL) isHoursFieldPresent* on page 2005	
- *(BOOL) isMinutesFieldPresent* on page 2006	
- *(BOOL) isMonthsFieldPresent* on page 2006	
- *(BOOL) isNegative* on page 2006	
- *(BOOL) isSecondsFieldPresent* on page 2006	
- *(BOOL) isYearsFieldPresent* on page 2006	
- *(void) setSign: (const BOOL) negativeDuration* on page 2006	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
```

Remarks

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) getVisibleInDetailPathsInOrder* on page 2007	Gets the property paths of those properties that are visible on detail screens.
*- (NSArray *const) getVisibleInListPathsInOrder* on page 2007	Gets the property paths of those properties that are visible on list screens.
- (id) init on page 2007	

getVisibleInDetailPathsInOrder method
Gets the property paths of those properties that are visible on detail screens.

Syntax
```
- (NSArray *const) getVisibleInDetailPathsInOrder
```

Remarks
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
```

Remarks
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 2009	
*- (void) addLink: (const ODataLink *const) link* on page 2009	
*- (NSArray *const) getActionLinks* on page 2009	Returns an array of ODataActionLink objects.
*- (NSArray *const) getInlinedRelatedEntriesForRelatedLink: (NSString *const) relatedUrl* on page 2009	Gets an inlined related list of entries for a related link.
*- (NSArray *) getMediaLinksForEditing* on page 2009	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 2009	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) getPropertyValueByPath: (NSString *const) path* on page 2010	Returns a pointer to a writable property value object by path>> example: items\description \lang_code.
*- (const ODataRelatedLink *const) getRelatedLinkByNavigationPropertyName: (NSString *const) navigationPropertyName* on page 2010	Returns a related link that matches the given navigation property name or nil, if link is not found.
*- (NSArray *const) getRelatedLinks* on page 2010	Returns an array of ODataRelatedLink objects.
*- (ODataLink *) getSubscriptionLink* on page 2010	if the entry supports subscription, then the returned object will be an ODataLink, otherwise nil.
*- (NSDate *) getUpdated* on page 2010	Returns the date when the entry was updated.
*- (NSArray *const) getVisibleDetailPropertiesInOrder* on page 2011	Gets the visible property value objects in details ordered by the display order attribute value.
*- (NSArray *const) getVisibleListPropertiesInOrder* on page 2011	Gets the visible property value objects in lists ordered by the display order attribute value.
*- (id) initWithEntitySchema: (const ODataEntitySchema *const) newEntitySchema* on page 2011	

Method	Description
- *(BOOL) isValid* on page 2011	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
```

Remarks

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
```

Remarks
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
```

Remarks
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) init* on page 2012	

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
- *(id) init* on page 2012	

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
- *(id) init* on page 2013	

init method

Syntax

```
- (id) init
```

ODataFeed class

Syntax

```
@interface ODataFeed : NSObject <NSCoding>
```

Members

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

Method	Description
*- (ODataLink *) getDeltaLink* on page 2013	

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
*- (NSString *) generateFunctionImportUrl: (NSString *const) baseUrl parameters: (NSDictionary *const) parameters* on page 2014	Generates the URL that is required to execute the backend functionality that is mapped to the function import.
*- (NSMutableDictionary *) getWritableParameters* on page 2014	Creates a dictionary of property values (ODataPropertyValue...) that can be used as function import parameters.
*- (id) initWithName: (NSString *const) newName* on page 2014	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
```

Remarks
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 (ODataPropertyValue...) that can be used as function import parameters.

Syntax
```
- (NSMutableDictionary *) getWritableParameters
```

Remarks
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 2015	

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 ODataFunctionImport *const) newFunctionImport* on page 2015	

initWithFunctionImport: method

Syntax

```
- (id) initWithFunctionImport :(const ODataFunctionImport
*const )
```

newFunctionImport

ODataGenericParser class

Syntax

```
@interface ODataGenericParser : NSObject
<NSXMLParserDelegate> <ODataParserDelegate>
```

Derived classes

- *ODataDataParser* on page 2003
- *ODataErrorXMLParser* on page 2012
- *ODataFunctionImportResultParser* on page 2015

- *ODataMetaDocumentParser* on page 2022
- *ODataServiceDocumentParser* on page 2048
- *OpenSearchDescriptionXMLParser* on page 2052

Members

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

Method	Description
- (void) abortParsing on page 2017	
*- (void) characters: (NSString *const) string* on page 2017	
- (void) endDocument on page 2017	
*- (void) endElement: (NSString *const) elementName namespaceURI: (NSString *const) namespaceURI* on page 2017	
- (id) init on page 2017	
*- (void) parse: (NSData *const) content* on page 2017	Parses the passed data as XML.
*- (void) parseContentsOfURL: (NSURL *const) url* on page 2018	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 2018	
*- (void) parser: (NSXMLParser *) parser didStartElement: (NSString *) elementName namespaceURI: (NSString *) namespaceURI qualifiedName: (NSString *) qualifiedName attributes: (NSDictionary *) attributeDict* on page 2018	
*- (void) parser: (NSXMLParser *) parser foundCharacters: (NSString *) string* on page 2018	
*- (void) parserDidEndDocument: (NSXMLParser *) parser* on page 2018	
*- (void) parserDidStartDocument: (NSXMLParser *) parser* on page 2018	

Method	Description
- (void) setDoProcessPrefixes: (BOOL) processPrefixes on page 2018	
- (void) startDocument on page 2019	
*- (void) startElement: (NSString *const) elementName namespaceURI: (NSString *const) namespaceURI attributes: (NSDictionary *const) attributes* on page 2019	

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 2019	
*- (id) initWithUrl: (NSString *const) newUrl andWidth: (const size_t) newWidth andHeight: (const size_t) newHeight* on page 2019	

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 1999
- *ODataMediaResourceLink* on page 2021
- *ODataRelatedLink* on page 2044

Members
All members of ODataLink, including inherited members. **Methods**

Method	Description
*- (id) initWithHRef: (NSString *const) newHRef* on page 2020	
*- (id) initWithHRef: (NSString *const) newHRef andLinkRel: (NSString *const) newRel* on page 2021	
*- (id) initWithHRef: (NSString *const) newHRef andLinkRel: (NSString *const) newRel andLinkType: (NSString *const) newType* on page 2021	
*- (id) initWithHRef: (NSString *const) newHRef andLinkRel: (NSString *const) newRel andLinkType: (NSString *const) newType andLinkTitle: (NSString *const) newTitle* on page 2021	
*- (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 2021	

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
```

Base class

- *ODataLink* on page 2020

Members

All members of ODataMediaResourceLink, including inherited members. **Inherited members from ODataLink**

Member	Description
*- (id) initWithHRef: (NSString *const) newHRef* on page 2020	
*- (id) initWithHRef: (NSString *const) newHRef andLinkRel: (NSString *const) newRel* on page 2021	
*- (id) initWithHRef: (NSString *const) newHRef andLinkRel: (NSString *const) newRel andLinkType: (NSString *const) newType* on page 2021	
*- (id) initWithHRef: (NSString *const) newHRef andLinkRel: (NSString *const) newRel andLinkType: (NSString *const) newType andLinkTitle: (NSString *const) newTitle* on page 2021	
*- (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 2021	

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 2023	

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 2015

Members

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

Method	Description
*- (void) characters: (NSString *const) string* on page 2023	
- (void) endDocument on page 2024	
*- (void) endElement: (NSString *const) elementName namespaceURI: (NSString *const) namespaceURI* on page 2024	
- (void) startDocument on page 2024	
*- (void) startElement: (NSString *const) elementName namespaceURI: (NSString *const) namespaceURI attributes: (NSDictionary *const) attributes* on page 2024	

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 : NSException
```

Members

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

Method	Description
- (id) init on page 2025	
*- (id) initWithError: (NSString *) error_in detailedError: (NSString *) details_in* on page 2025	
*- (id) initWithError: (NSString *) error_in detailedError: (NSString *) details_in statusCode: (NSInteger) statusCode_in* on page 2025	

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) addChildPropertyInfo: (const ODataPropertyInfo *const) child* on page 2026	
*- (ODataPropertyInfo *const) getPropertyInfoByPath: (NSString *const) path* on page 2026	Returns a pointer to a writable property info by path example path: "items\description \lang_code".
*- (id) initWithName: (NSString *const) propName andPropEdmType: (const enum TEN_EDM_TYPES) propEdmType* on page 2026	
- (BOOL) isCreatable on page 2026	
- (BOOL) isFilterable on page 2026	
- (BOOL) isKey on page 2027	

Method	Description
- *(BOOL) isNullable* on page 2027	
- *(BOOL) isSearchable* on page 2027	
- *(BOOL) isServerGenerated* on page 2027	
- *(BOOL) isUpdatable* on page 2027	
- *(BOOL) isVisibleInDetail* on page 2027	
- *(BOOL) isVisibleInList* on page 2027	

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
```

Base class

- *ODataPropertyValueObject* on page 2039

Members

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

Method	Description
*- (NSMutableData *) getBinaryData* on page 2028	Decodes the stored base64 string and returns the decoded data (mutable)
*- (void) setBinaryData: (NSData *) newValue* on page 2028	Base64 encodes the passed data and stores the result as string.

Inherited members from ODataPropertyValueObject

Member	Description
*- (NSString *const) getDefaultValue* on page 2040	Returns the default value of the given EDM type.
*- (NSString *const) getHTMLEncodedValue* on page 2040	Returns the HTML encoded value of the stored value.
*- (id) initWithPropertyInfo: (const ODataPropertyInfo *const) propInfo* on page 2040	
*- (id) initWithPropertyInfo: (const ODataPropertyInfo *const) propInfo andValue: (NSString *const) initialValue* on page 2041	
- (BOOL) isValid on page 2041	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
```

Base class

- *ODataPropertyValueObject* on page 2039

Members

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

Method	Description
*- (NSNumber *) getBooleanValue* on page 2029	Since OData can define a nullable bool property that means the return type BOOL would not be sufficient.
*- (void) setBooleanValue: (NSNumber *) newValue* on page 2030	

Inherited members from ODataPropertyValueObject

Member	Description
*- (NSString *const) getDefaultValue* on page 2040	Returns the default value of the given EDM type.
*- (NSString *const) getHTMLEncodedValue* on page 2040	Returns the HTML encoded value of the stored value.
*- (id) initWithPropertyInfo: (const ODataPropertyInfo *const) propInfo* on page 2040	
*- (id) initWithPropertyInfo: (const ODataPropertyInfo *const) propInfo andValue: (NSString *const) initialValue* on page 2041	
- (BOOL) isValid on page 2041	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
```

Remarks
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
```

Base class

- *ODataPropertyValueObject* on page 2039

Members
All members of ODataPropertyValueComplex, including inherited members. **Methods**

Method	Description
*- (NSString *const) getDefaultValue* on page 2031	Returns the default value of the given EDM type.
*- (NSString *const) getHTMLEncodedValue* on page 2031	Returns the HTML encoded value of the stored value.

Inherited members from ODataPropertyValueObject

Member	Description
*- (id) initWithPropertyInfo: (const ODataPropertyInfo *const) propInfo* on page 2040	
*- (id) initWithPropertyInfo: (const ODataPropertyInfo *const) propInfo andValue: (NSString *const) initialValue* on page 2041	
- (BOOL) isValid on page 2041	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
```

Remarks
Required by the XML serializer.

ODataPropertyValueDateTime class
DateTime.

Syntax
```
@interface ODataPropertyValueDateTime :
ODataPropertyValueObject
```

Base class

- *ODataPropertyValueObject* on page 2039

Derived classes

- *ODataPropertyValueDateTimeOffset* on page 2032

Members
All members of ODataPropertyValueDateTime, including inherited members. **Methods**

Method	Description
*- (NSDate *) getDateValue* on page 2032	
*- (void) setDateValue: (NSDate *) newValue* on page 2032	

Inherited members from ODataPropertyValueObject

Member	Description
*- (NSString *const) getDefaultValue* on page 2040	Returns the default value of the given EDM type.
*- (NSString *const) getHTMLEncodedValue* on page 2040	Returns the HTML encoded value of the stored value.
*- (id) initWithPropertyInfo: (const ODataPropertyInfo *const) propInfo* on page 2040	
*- (id) initWithPropertyInfo: (const ODataPropertyInfo *const) propInfo andValue: (NSString *const) initialValue* on page 2041	
- (BOOL) isValid on page 2041	Checks if the object stores a valid value.

getDateValue method

Syntax

```
- (NSDate *) getDateValue
```

setDateValue: method

Syntax

```
- (void) setDateValue :(NSDate *) newValue
```

ODataPropertyValueDateTimeOffset class

Edm.DateTimeOffset.

Syntax

```
@interface ODataPropertyValueDateTimeOffset :
ODataPropertyValueDateTime
```

Base class

- *ODataPropertyValueDateTime* on page 2031

Members

All members of ODataPropertyValueDateTimeOffset, including inherited members.

Inherited members from ODataPropertyValueDateTime

Member	Description
*- (NSDate *) getDateValue* on page 2032	

Member	Description
*- (void) setDateValue: (NSDate *) newValue* on page 2032	

Inherited members from ODataPropertyValueObject

Member	Description
*- (NSString *const) getDefaultValue* on page 2040	Returns the default value of the given EDM type.
*- (NSString *const) getHTMLEncodedValue* on page 2040	Returns the HTML encoded value of the stored value.
*- (id) initWithPropertyInfo: (const ODataPropertyInfo *const) propInfo* on page 2040	
*- (id) initWithPropertyInfo: (const ODataPropertyInfo *const) propInfo andValue: (NSString *const) initialValue* on page 2041	
- (BOOL) isValid on page 2041	Checks if the object stores a valid value.

ODataPropertyValueDecimal 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 XMLSCHEME2: 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^exponent where mantissa is a decimal integer up to 38 digits long, and exponent is an integer from –128 through 127.

Syntax

```
@interface  ODataPropertyValueDecimal  :
ODataPropertyValueObject
```

Base class

- *ODataPropertyValueObject* on page 2039

Members

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

Method	Description
*- (NSDecimalNumber *) getDecimalValue* on page 2034	
*- (void) setDecimalValue: (NSDecimalNumber *) newValue* on page 2034	

Inherited members from ODataPropertyValueObject

Member	Description
*- (NSString *const) getDefaultValue* on page 2040	Returns the default value of the given EDM type.
*- (NSString *const) getHTMLEncodedValue* on page 2040	Returns the HTML encoded value of the stored value.
*- (id) initWithPropertyInfo: (const ODataPropertyInfo *const) propInfo* on page 2040	
*- (id) initWithPropertyInfo: (const ODataPropertyInfo *const) propInfo andValue: (NSString *const) initialValue* on page 2041	
- (BOOL) isValid on page 2041	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
```

Base class

- *ODataPropertyValueObject* on page 2039

Members

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

Method	Description
*- (NSNumber *) getDoubleValue* on page 2035	Since OData can define a nullable double property that means the return type double would not be sufficient.
*- (void) setDoubleValue: (NSNumber *) newValue* on page 2036	

Inherited members from ODataPropertyValueObject

Member	Description
*- (NSString *const) getDefaultValue* on page 2040	Returns the default value of the given EDM type.
*- (NSString *const) getHTMLEncodedValue* on page 2040	Returns the HTML encoded value of the stored value.
*- (id) initWithPropertyInfo: (const ODataPropertyInfo *const) propInfo* on page 2040	
*- (id) initWithPropertyInfo: (const ODataPropertyInfo *const) propInfo andValue: (NSString *const) initialValue* on page 2041	
- (BOOL) isValid on page 2041	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
```

Remarks
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 2036	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
```

Remarks
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
```

Base class

- *ODataPropertyValueObject* on page 2039

Members
All members of ODataPropertyValueGuid, including inherited members. **Inherited members from ODataPropertyValueObject**

Member	Description
*- (NSString *const) getDefaultValue* on page 2040	Returns the default value of the given EDM type.
*- (NSString *const) getHTMLEncodedValue* on page 2040	Returns the HTML encoded value of the stored value.
*- (id) initWithPropertyInfo: (const ODataPropertyInfo *const) propInfo* on page 2040	
*- (id) initWithPropertyInfo: (const ODataPropertyInfo *const) propInfo andValue: (NSString *const) initialValue* on page 2041	
- (BOOL) isValid on page 2041	Checks if the object stores a valid value.

ODataPropertyValueInt class
Int field value (Byte, SByte, Int16, Int32, Int64)

Syntax
```
@interface  ODataPropertyValueInt  :
ODataPropertyValueObject
```

Base class

- *ODataPropertyValueObject* on page 2039

Members

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

Method	Description
*- (NSString *const) getHTMLEncodedValue* on page 2038	Returns the HTML encoded value of the stored value.
*- (NSNumber *) getIntValue* on page 2038	
*- (id) initWithPropertyInfo: (const ODataPropertyInfo *const) propInfo* on page 2039	
*- (id) initWithPropertyInfo: (const ODataPropertyInfo *const) propInfo andValue: (NSString *const) initialValue* on page 2039	
*- (void) setIntValue: (NSNumber *) newValue* on page 2039	
*- (void) setValue: (NSString *) newValue* on page 2039	

Inherited members from ODataPropertyValueObject

Member	Description
*- (NSString *const) getDefaultValue* on page 2040	Returns the default value of the given EDM type.
- (BOOL) isValid on page 2041	Checks if the object stores a valid value.

getHTMLEncodedValue method

Returns the HTML encoded value of the stored value.

Syntax

```
- (NSString *const) getHTMLEncodedValue
```

Remarks

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 2027
- *ODataPropertyValueBoolean* on page 2029
- *ODataPropertyValueComplex* on page 2030
- *ODataPropertyValueDateTime* on page 2031
- *ODataPropertyValueDecimal* on page 2033
- *ODataPropertyValueDouble* on page 2035
- *ODataPropertyValueGuid* on page 2037
- *ODataPropertyValueInt* on page 2037
- *ODataPropertyValueSingle* on page 2041
- *ODataPropertyValueString* on page 2042
- *ODataPropertyValueTime* on page 2043

Members

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

Method	Description
*- (NSString *const) getDefaultValue* on page 2040	Returns the default value of the given EDM type.
*- (NSString *const) getHTMLEncodedValue* on page 2040	Returns the HTML encoded value of the stored value.
*- (id) initWithPropertyInfo: (const ODataPropertyInfo *const) propInfo* on page 2040	
*- (id) initWithPropertyInfo: (const ODataPropertyInfo *const) propInfo andValue: (NSString *const) initialValue* on page 2041	
- (BOOL) isValid on page 2041	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
```

Remarks

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
```

Remarks

: When validation is disabled, the return value is always YES!

ODataPropertyValueSingle class

Single.

Syntax

```
@interface ODataPropertyValueSingle :
ODataPropertyValueObject
```

Base class

- *ODataPropertyValueObject* on page 2039

Members

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

Method	Description
*- (NSNumber *) getSingleValue* on page 2042	Since OData can define a nullable single property that means the return type float would not be sufficient.
*- (void) setSingleValue: (NSNumber *) newValue* on page 2042	

Inherited members from ODataPropertyValueObject

Member	Description
*- (NSString *const) getDefaultValue* on page 2040	Returns the default value of the given EDM type.

Member	Description
*- (NSString *const) getHTMLEncodedValue* on page 2040	Returns the HTML encoded value of the stored value.
*- (id) initWithPropertyInfo: (const ODataPropertyInfo *const) propInfo* on page 2040	
*- (id) initWithPropertyInfo: (const ODataPropertyInfo *const) propInfo andValue: (NSString *const) initialValue* on page 2041	
- (BOOL) isValid on page 2041	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
```

Remarks

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
```

Base class

- *ODataPropertyValueObject* on page 2039

Members

All members of ODataPropertyValueString, including inherited members. **Inherited members from ODataPropertyValueObject**

Member	Description
*- (NSString *const) getDefaultValue* on page 2040	Returns the default value of the given EDM type.
*- (NSString *const) getHTMLEncodedValue* on page 2040	Returns the HTML encoded value of the stored value.
*- (id) initWithPropertyInfo: (const ODataPropertyInfo *const) propInfo* on page 2040	
*- (id) initWithPropertyInfo: (const ODataPropertyInfo *const) propInfo andValue: (NSString *const) initialValue* on page 2041	
- (BOOL) isValid on page 2041	Checks if the object stores a valid value.

ODataPropertyValueTime class

Edm.Time.

Syntax

```
@interface  ODataPropertyValueTime  :
ODataPropertyValueObject
```

Base class

- *ODataPropertyValueObject* on page 2039

Members

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

Method	Description
*- (ODataDuration *) getTimeValue* on page 2044	Gets the time duration value.
*- (void) setTimeValue: (const ODataDuration *) newValue* on page 2044	Sets the time duration value using ODataDuration.

Inherited members from ODataPropertyValueObject

Member	Description
*- (NSString *const) getDefaultValue* on page 2040	Returns the default value of the given EDM type.
*- (NSString *const) getHTMLEncodedValue* on page 2040	Returns the HTML encoded value of the stored value.

Member	Description
*- (id) initWithPropertyInfo: (const ODataPropertyInfo *const) propInfo* on page 2040	
*- (id) initWithPropertyInfo: (const ODataPropertyInfo *const) propInfo andValue: (NSString *const) initialValue* on page 2041	
- (BOOL) isValid on page 2041	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
```

Base class

- *ODataLink* on page 2020

Members
All members of ODataRelatedLink, including inherited members. **Methods**

Method	Description
*- (id) initWithHRef: (NSString *const) newHRef andLinkRel: (NSString *const) newRel* on page 2045	

Method	Description
*- (id) initWithHRef: (NSString *const) newHRef andLinkRel: (NSString *const) newRel andLinkType: (NSString *const) newType* on page 2045	
*- (id) initWithHRef: (NSString *const) newHRef andLinkRel: (NSString *const) newRel andLinkType: (NSString *const) newType andLinkTitle: (NSString *const) newTitle* on page 2045	
*- (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 2046	

Inherited members from ODataLink

Member	Description
*- (id) initWithHRef: (NSString *const) newHRef* on page 2020	

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) addWorkspace: (const ODataWorkspace *const) newWorkspace* on page 2047	
*- (ODataCollection *) getCollectionByName: (NSString *const) collectionName* on page 2047	returns a collection by name (href)
*- (ODataCollection *) getCollectionByName: (NSString *const) collectionName workspaceOfCollection: (ODataWorkspace **) workspaceOfCollection* on page 2047	returns a collection by name (href) and its workspace, if required.
*- (NSArray *) getWorkspacesBySemantic: (const enum TEN_WORKSPACE_SEMANTICS) workspaceSemantic* on page 2047	returns an array of workspaces (ODataWorkspace instances) by semantic, if available, returns nil otherwise
- (id) init on page 2047	
*- (void) setOpenSearchDescriptionForCollection: (NSString *const) collectionName openSearchDescription: (const OpenSearchDescription *const) openSearchDescription* on page 2048	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**

Remarks

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 2048	

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 2049	

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 2049	subscribe to a collection
*-(id) initWithCollection: (const ODataCollection *const) newCollection andEntry: (const ODataEntry *const) newEntry* on page 2049	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) init on page 2050	

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 2050	
- (id) init on page 2050	

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 2051	
- (id) init on page 2051	

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 *) createUrlWithParameters: (NSDictionary *) parameters* on page 2052	Creates an URL from the template URL assigning values to the parameters that appear in the template.

Method	Description
*- (id) initWithUrlTemplate: (NSString *const) newUrlTemplate andType: (NSString *const) newType* on page 2052	

createUrlWithParameters: method
Creates an URL from the template URL assigning values to the parameters that appear in the template.

Syntax
```
- (NSString *) createUrlWithParameters :(NSDictionary *) parameters
```

Remarks
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
- (id) init on page 2053	

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
- (void) disablePerformanceCounter on page 2054	
- (void) enablePerformanceCounter on page 2054	
*- (NSData *) getHalfFile: (NSString *) file fileSize: (long) fileSize* on page 2054	
*- (PerformanceCounter *) getInterval: (NSString *) type* on page 2054	
*- (NSString *) getIntervalDataAsString: (NSString *) type* on page 2054	
*- (NSString *) getIntervalDescriptionAsString: (NSString *) type* on page 2055	
*- (NSString *) getMeasuredDataAsString* on page 2055	
*- (NSString *) getMeasuredDataAsStringDescription* on page 2055	
*- (void) saveEntryToFile: (NSString *) entry* on page 2055	

Method	Description
*- (void) startInteractionStep: (NSString *) name* on page 2055	Starts Interaction Step with specified Interactions name.
*- (void) startInterval: (NSString *) type* on page 2055	Starts specified Interval.
- (void) stopInteractionStep on page 2056	Stops Interaction Step with specified Interactions name.
*- (void) stopInterval: (NSString *) type* on page 2056	Stops specified Interval.
- (void) writeToConsole: (BOOL) writeToConsole on page 2056	Activate console logging.
- (void) writeToFile: (BOOL) writeToFile fileSize: (int) fileSize on page 2056	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 *) getCounterValue: (NSString *) kpiName* on page 2057	
*- (NSString *) getCurrentTime* on page 2057	
*- (NSString *) getIntervalDataAsString* on page 2057	
*- (NSString *) getIntervalDescriptionAsString* on page 2058	
*- (NSString *) getUserReadableResult* on page 2058	
*- (void) setCounterValue: (NSString *) kpiName kpiValue: (NSString *) kpiValue* on page 2058	
*- (void) startMeasurement: (NSString *) step* on page 2058	
- (void) stopMeasurement on page 2058	

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 2059	
+ (BOOL) isParserPerfLogEnabled on page 2059	

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 1996

Members

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

Method	Description
- (void) request: (id< Requesting >) request didReceiveBytes: (long long) bytes on page 2060	Delegate method called when the request receives data.
- (void) request: (id< Requesting >) request didSendBytes: (long long) bytes on page 2060	Delegate method called when the request sends data.
- (void) request: (id< Requesting >) request incrementDownloadSizeBy: (long long) newLength on page 2060	Delegate method called when the request needs to change the download content size.
- (void) request: (id< Requesting >) request incrementUploadSizeBy: (long long) newLength on page 2061	Delegate method called when the request needs to change the length of the content to be uploaded.
- (void) setProgress: (float) newProgress on page 2061	Delegate method called to update UIProgressViews.

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
```

Remarks
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**

Method	Description
- *(BOOL) connectionRequired* on page 2062	
- *(NetworkStatus) currentReachabilityStatus* on page 2062	
- *(Reachability *) initWithReachabilityRef: (SCNetworkReachabilityRef) ref* on page 2063	
- *(BOOL) isConnectionOnDemand* on page 2063	

Method	Description
- (BOOL) isConnectionRequired on page 2063	
*- (BOOL) isEqual: (Reachability *) r* on page 2063	
- (BOOL) isInterventionRequired on page 2063	
- (BOOL) isReachable on page 2063	
- (BOOL) isReachableViaWiFi on page 2063	
- (BOOL) isReachableViaWWAN on page 2063	
- (SCNetworkReachabilityFlags) reachabilityFlags on page 2064	
*+ (Reachability *) reachabilityForInternetConnection* on page 2064	
*+ (Reachability *) reachabilityForLocalWiFi* on page 2064	
*+ (Reachability *) reachabilityWithAddress: (const struct sockaddr_in *) hostAddress* on page 2064	
*+ (Reachability *) reachabilityWithHostName: (NSString *) hostName* on page 2064	
- (BOOL) startNotifier on page 2064	
- (void) stopNotifier on page 2064	

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>
```

Base protocols

- *Requesting* on page 2095

Derived classes

- *BatchRequest* on page 1954
- *FormDataRequest* on page 1988

Members

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

Method	Description
*- (void) addBasicAuthenticationHeaderWithUsername: (NSString *) theUsername andPassword: (NSString *) thePassword* on page 2070	Constructs a basic authentication header from the user name and password supplied, and adds it to the request headers.
*- (void) addRequestHeader: (NSString *) header value: (NSString *) value* on page 2071	Adds a custom header to the request object.
*- (void) appendPostData: (NSData *) data* on page 2071	Adds data to the POST body.
*- (void) appendPostDataFromFile: (NSString *) file* on page 2071	Adds data to the post body from a file.
- (void) applyAuthorizationHeader on page 2071	Applies authorization header to a request before it is sent, when shouldPresentCredentialsBeforeChallenge is set to YES.
- (void) applyCookieHeader on page 2072	Creates a cookie header from request cookies and the global store.
+ (unsigned long) averageBandwidthUsedPerSecond on page 2072	Returns a rough average (for the last 5 seconds) of how much bandwidth is being used, in bytes.
*+ (NSString *) base64forData: (NSData *) theData* on page 2072	Base64 encodes the provided NSData*.
- (void) buildPostBody on page 2072	Creates the POST body.

Method	Description
- (void) buildRequestHeaders on page 2072	Populates the request headers dictionary.
- (void) cancelAuthentication on page 2073	Should be called by delegates when they wish to cancel authentication and stop.
+ (void) clearSession on page 2073	
+ (const NSDataWritingOptions) dataWritingOptions on page 2073	Returns a mask which determines whether the data should be stored in encrypted form.
*+ (NSDate *) dateFromRFC1123String: (NSString *) string* on page 2073	Returns a date from a string in RFC1123 format.
*+ (NSString *) decodeBase64: (NSString *) string_in* on page 2073	Decodes a base64 encoded string.
+ (id< CacheDelegate >) defaultCache on page 2073	Returns the default download cache or NIL if none set at class level.
- (void) enableTracing: (BOOL) value_in on page 2074	Switches traceability status.
+ (void) enableXCSRF: (BOOL) enable on page 2074	Enables XSRF support.
*- (void) failWithError: (NSError *) theError* on page 2074	Called when a request fails, and lets the delegate know via didFailSelector.
*+ (NSDictionary *) fileProtectionAttributes* on page 2074	Returns an attributes dictionary used for encrypted file storage or NIL if file protection has been explicitly disabled.
+ (NSInteger) getMaxConcurrentHTTPRequestCount on page 2075	Returns the maximum number of request threads that can be executed in parallel.
- (void) handleNetworkEvent: (CFStreamEventType) type on page 2075	Handles network events as they occur.
*- (Request *) HEADRequest* on page 2075	Creates a HEAD request appropriate for this request with the same headers.
+ (void) hideNetworkActivityIndicator on page 2075	Hides the network activity spinner.
+ (void) incrementBandwidthUsedInLastSecond: (unsigned long) bytes on page 2075	Used internally to record bandwidth use, and by InputStreams when uploading. It's probably best if you don't mess with this.

Method	Description
- (void) incrementDownloadSizeBy: (long long) length on page 2076	Called when we get a content-length header and shouldResetDownloadProgress is set to TRUE.
- (void) incrementUploadSizeBy: (long long) length on page 2076	Called when a request starts and shouldResetUploadProgress is set to TRUE.
*- (id) initWithURL: (NSURL *) newURL* on page 2076	Initialize the Request object with a HTTP or HTTPS url.
+ (BOOL) isBandwidthThrottled on page 2076	Returns YES is bandwidth throttling is currently in use.
+ (BOOL) isNetworkInUse on page 2076	Indicates whether there are running requests.
+ (BOOL) isNetworkReachableViaWWAN on page 2077	Returns YES when an iPhone OS device is connected via WWAN, false when connected via WIFI or not connected.
- (BOOL) isResponseCompressed on page 2077	Returns TRUE if the response is gzip compressed.
- (BOOL) isTracingEnabled on page 2077	Returns tracing status.
+ (unsigned long) maxBandwidthPerSecond on page 2077	The maximum number of bytes ALL requests can send or receive in a second.
+ (unsigned long) maxUploadReadLength on page 2078	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 2078	
*+ (void) performSelector: (SEL) selector onTarget: (id *) target withObject: (id) object amount: (void *) amount* on page 2078	Helper method used for performing invocations on the main thread (used for progress).
- (void) performThrottling on page 2078	Performs bandwidth throttling.
*+ (void) removeCredentialsForHost: (NSString *) host port: (int) port protocol: (NSString *) protocol realm: (NSString *) realm* on page 2078	Deletes host credentials from the keychain.
*+ (void) removeCredentialsForProxy: (NSString *) host port: (int) port realm: (NSString *) realm* on page 2078	Deletes proxy credentials from the keychain.

Method	Description
- (void) removeUploadProgressSoFar on page 2079	Called when authorization is required, as we only find out we do not have some permissions when the upload is complete.
*+ (id) requestWithURL: (NSURL *) newURL* on page 2079	Creates a Request object with the specified HTTP or HTTPS URL.
*+ (id) requestWithURL: (NSURL *) newURL usingCache: (id< CacheDelegate >) cache* on page 2079	Creates a Request object with the specified HTTP or HTTPS URL and cache.
*+ (id) requestWithURL: (NSURL *) newURL usingCache: (id< CacheDelegate >) cache andCachePolicy: (ECachePolicy) policy* on page 2080	Creates a Request object with the specified HTTP or HTTPS URL and cache with predefined cache policy.
*- (NSData *) responseData* on page 2080	Returns the response as NSData, that is automatically uncompressed where appropriate.
*- (NSString *) responseString* on page 2080	Returns the contents of the result as an NSString.
- (void) retryUsingSuppliedCredentials on page 2080	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 2081	Saves host credentials to the keychain.
*+ (void) saveCredentials: (NSURLCredential *) credentials forProxy: (NSString *) host port: (int) port realm: (NSString *) realm* on page 2081	Saves proxy credentials to the keychain.
*- (void) saveCredentialsToKeychain: (NSDictionary *) newCredentials* on page 2081	Saves credentials for this request to the keychain.
*+ (NSURLCredential *) savedCredentialsForHost: (NSString *) host port: (int) port protocol: (NSString *) protocol realm: (NSString *) realm* on page 2081	Returns host credentials from the keychain.
*+ (NSURLCredential *) savedCredentialsForProxy: (NSString *) host port: (int) port protocol: (NSString *) protocol realm: (NSString *) realm* on page 2081	Returns proxy credentials from the keychain.

Method	Description
*- (void) sendE2ETraceXML: (NSURL *) toBaseURL* on page 2082	Posts the SAP E2E Trace XML to the specified Solution Manager URL.
- (void) setClientCertificateIdentity: (SecIdentityRef) anIdentity on page 2082	Sets the identity reference (X.509 certificate + private key) for this request; used for secure connections.
+ (void) setDefaultCache: (id< CacheDelegate >) cache on page 2082	Configures a default download cache for all requests.
*- (void) setEtag: (NSString *) etag withMatchType: (EtagType) matchType* on page 2082	Adds an etag header.
+ (void) setMaxBandwidthPerSecond: (unsigned long) bytes on page 2083	Sets the maximum number of bytes ALL requests can send / receive in a second.
+ (void) setMaxConcurrentHTTPRequestCount: (const unsigned char) cnt on page 2083	Sets the maximum number of request threads that can be executed simultaneously.
+ (void) setProtectionEnabled: (BOOL) flag_in on page 2083	Controls whether the download cache should store files using protection.
+ (void) setShouldThrottleBandwidthForWWAN: (BOOL) throttle on page 2083	Requests can automatically turn throttling on and off, as the connection type changes between WWAN and WiFi.
+ (void) setShouldUpdateNetworkActivityIndicator: (BOOL) shouldUpdate on page 2084	Controls whether the request should take over updating the network activity indicator.
*+ (NSOperationQueue *) sharedQueue* on page 2084	Returns the shared queue.
+ (void) showNetworkActivityIndicator on page 2084	Shows the network activity spinner.
- (void) startAsynchronous on page 2084	Executes the request in the background.
- (void) startSynchronous on page 2084	Executes a request synchronously and returns control, when the request completes or fails.
+ (void) throttleBandwidthForWWANUsingLimit: (unsigned long) limit on page 2085	Turns on throttling automatically when WWAN is connected using a custom limit, and turns it off automatically when it isn't.
- (void) updateDownloadProgress on page 2085	Updates download progress and notifies the queue and/or downloadProgressDelegate of this request.

Method	Description
*+ (void) updateProgressIndicator: (id *) indicator withProgress: (unsigned long long) progress of-Total: (unsigned long long) total* on page 2085	Helper method for interacting with progress indicators to abstract the details of different APIs (NSProgressIndicator and UIProgressView).
- (void) updateProgressIndicators on page 2085	Updates the progress delegates.
- (void) updateUploadProgress on page 2085	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
```

Remarks

It is used when shouldPresentCredentialsBeforeChallenge is set to YES.

addRequestHeader:value: method
Adds a custom header to the request object.

Syntax
```
- (void) addRequestHeader :(NSString *) header value :
(NSString *) value
```

Parameters

- **header –** name of the header.
- **value –** value of the header.

```
 [request addRequestHeader:"X-Requested-With"
value:@"XmlHttpRequest"];
```

appendPostData: method
Adds data to the POST body.

Syntax
```
- (void) appendPostData :(NSData *) data
```

Parameters

- **data –** object of NSData class.

```
[request appendPostData:data];
```

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
Applies authorization header to a request before it is sent, when shouldPresentCredentialsBeforeChallenge is set to YES.

Syntax
```
- (void) applyAuthorizationHeader
```

Remarks

```
[request applyAuthorizationHeader];
```

applyCookieHeader method

Creates a cookie header from request cookies and the global store.

Syntax

```
- (void) applyCookieHeader
```

Remarks

```
It is called during buildRequestHeaders and after a redirect.
[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
```

Remarks

```
[request buildPostBody];
```

buildRequestHeaders method

Populates the request headers dictionary.

Syntax

```
- (void) buildRequestHeaders
```

Remarks

```
It is called before a request is started, or by a HEAD request that
needs to use them.
[request buildRequestHeaders];
```

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
```

Remarks

Data is stored in an encrypted form by 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< CacheDelegate >) defaultCache
```

Returns
object implementing CacheDelegate protocol.

```
[Request defaultCache];
```

enableTracing: method
Switches traceability status.

Syntax
```
- (void) enableTracing :(BOOL) value_in
```

Parameters

- **value_in –** BOOL value.

```
[request enableTracing:YES];
```

enableXCSRF: method
Enables XSRF support.

Syntax
```
+ (void) enableXCSRF :(BOOL) enable
```

Parameters

- **enable –** BOOL value.

```
[Request enableXCSRF:YES];
```

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
```

Returns
integer.

```
NSInteger *count = [Request getMaxConcurrentHTTPRequestCount];
```

handleNetworkEvent: method
Handles network events as they occur.

Syntax
```
- (void) handleNetworkEvent :(CFStreamEventType) type
```

Remarks
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
```

Remarks
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
```

Remarks
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
Returns TRUE if the response is gzip compressed.

Syntax
```
- (BOOL) isResponseCompressed
```

Returns
BOOL value.

```
if([request isResponseCompressed])
{
}
```

isTracingEnabled method
Returns tracing status.

Syntax
```
- (BOOL) isTracingEnabled
```

Remarks
```
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
```

Remarks
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
Creates a Request object with the specified HTTP or HTTPS URL.

Syntax
```
+ (id) requestWithURL :(NSURL *) newURL
```

Parameters

- **newURL –** object of NSURL class.

Returns
instance of the Request class.

```
 Request *request = [Request requestWithURL:[[NSURL alloc]
initWithString:applicationEndpoint]];
```

requestWithURL:usingCache: method
Creates a Request object with the specified HTTP or HTTPS URL and cache.

Syntax
```
+ (id) requestWithURL :(NSURL *) newURL usingCache :(id<
CacheDelegate >) cache
```

Parameters

- **newURL –** object of NSURL class.
- **cache –** object implementing CacheDelegate protocol.

Returns
instance of the Request class.

```
 Request *request = [Request requestWithURL:[[NSURL alloc]
initWithString:applicationEndpoint] usingCache:self];
```

requestWithURL:usingCache:andCachePolicy: method
Creates a Request object with the specified HTTP or HTTPS URL and cache with predefined cache policy.

Syntax
```
+ (id) requestWithURL :(NSURL *) newURL usingCache :(id<
CacheDelegate >) cache andCachePolicy :(ECachePolicy) policy
```

Parameters

- **newURL –** object of NSURL class.
- **cache –** object implementing CacheDelegate protocol.
- **policy –** ECachePolicy enum value.

Returns
instance of the Request class.

```
 Request *request = [Request requestWithURL:[[NSURL alloc]
initWithString:applicationEndpoint] usingCache:self
andCachePolicy:Default_CachePolicy];
```

responseData method
Returns the response as NSData, that is automatically uncompressed where appropriate.

Syntax
```
- (NSData *) responseData
```

Returns
object of NSData class.

responseString method
Returns the contents of the result as an NSString.

Syntax
```
- (NSString *) responseString
```

Returns
object of NSString class.

retryUsingSuppliedCredentials method
Unlocks the request thread so it can resume the request.

Syntax
```
- (void) retryUsingSuppliedCredentials
```

Remarks
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 Solution Manager URL.

Syntax
```
- (void) sendE2ETraceXML :(NSURL *) toBaseURL
```

Parameters

- **toBaseURL –** Object of NSURL class.

```
 [request sendE2ETraceXML:[[NSURL alloc]
initWithString:solmanUrl]];
```

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 for all requests.

Syntax
```
+ (void) setDefaultCache :(id< CacheDelegate >) cache
```

Parameters

- **cache –** object implementing CacheDelegate protocol.

setEtag:withMatchType: method
Adds an etag header.

Syntax
```
- (void) setEtag :(NSString *) etag withMatchType :
(EtagType) matchType
```

Parameters

- **etag –** value of the etag header
- **matchType –** EtagType enum value.

```
 [request setEtag:etag withMatchType:IfMatch];
```

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 that can be executed simultaneously.

Syntax
```
+ (void) setMaxConcurrentHTTPRequestCount :(const unsigned char) cnt
```

Parameters

- **cnt –** integer

```
[Request setMaxConcurrentHTTPRequestCount:4];
```

Exceptions

- **ConnectivityException 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
```

Remarks
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
```

Remarks
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

Remarks
enabled by default

sharedQueue method
Returns the shared queue.

Syntax
```
+ (NSOperationQueue *) sharedQueue
```

showNetworkActivityIndicator method
Shows the network activity spinner.

Syntax
```
+ (void) showNetworkActivityIndicator
```

startAsynchronous method
Executes the request in the background.

Syntax
```
- (void) startAsynchronous
```

Remarks
```
The client should register callback selector to get notified about
various events such as failure, completion, and so on.
[request startAsynchronous];
```

startSynchronous method
Executes a request synchronously and returns control, when the request completes or fails.

Syntax
```
- (void) startSynchronous
```

Remarks
```
[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 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
```

Remarks
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 ODPRequest.

Syntax
```
@interface  RequestBuilder  :  NSObject
```

Members
All members of RequestBuilder, including inherited members. **Methods**

Method	Description
+ (void) cancelAllRequestsInQueue on page 2087	This is an API to help clear the Queue of all queued requests.
*+ (void) clearPendingRequestsWithError: (NSError *) error* on page 2088	Clears all requests in the persistent queue.
+ (void) enablePerformanceLogging: (BOOL) enable on page 2088	Enable performance logging support.
+ (void) enableTracing: (BOOL) value_in on page 2088	Switches traceability status, the default is NO.
+ (void) enableXCSRF: (BOOL) enable on page 2088	Enable XCSRF support.
+ (id) getDelegate on page 2089	Returns the delegate to be invoked in Offline mode.
+ (SEL) getDidFailSelector on page 2089	Returns the selector registered for Offline mode.
+ (SEL) getDidFinishSelector on page 2089	Returns the selector registered for Offline mode.
+ (int) getTraceLevel on page 2089	Returns the trace level set.
+ (BOOL) isOfflineEnabled on page 2090	Returns a BOOL value indicating if Offline mode is enabled.
+ (BOOL) isPerformanceLoggingEnabled on page 2090	Returns performance logging status (default is NO).
+ (BOOL) isTracingEnabled on page 2090	Returns tracing status (default is NO).
*+ (id< Requesting >) requestWithURL: (NSURL *) newURL* on page 2090	Factory method which returns a request object.
*+ (id< Requesting >) requestWithURL: (NSURL *) newURL usingCache: (id< CacheDelegate >) cache* on page 2091	Factory method which returns a request object created using url and cache.

Method	Description
*+ (id< Requesting >) requestWithURL: (NSURL *) newURL usingCache: (id< CacheDelegate >) cache andCachePolicy: (ECachePolicy) policy* on page 2091	Factory method which returns a request object created using url, cache and a cache policy.
+ (enum ERequestType) retrieveRequestType on page 2091	Helper method to retrieve the request type to be instantiated from NSUserDefaults.
+ (void) setDelegate: (id) delegate on page 2092	Clients need to register their custom selectors to be invoked in Offline mode.
+ (void) setDidFailSelector: (SEL) selector on page 2092	Clients need to register their custom selectors to be invoked in Offline mode.
+ (void) setDidFinishSelector: (SEL) selector on page 2092	Clients need to register their custom selectors to be invoked in Offline mode.
+ (void) setRequestType: (const enum ERequestType) type_in on page 2092	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.
+ (void) setTraceLevel: (TraceLevel) value_in on page 2093	Set the trace level, default is MEDIUM.

Usage

The provided factory methods can return a valid Request, but we cannot guarantee this for ODPRequest. 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
```

Remarks

```
[RequestBuilder cancelAllRequestsInQueue];
```

clearPendingRequestsWithError: method
Clears all requests in the persistent queue.

Syntax
```
+ (void) clearPendingRequestsWithError :(NSError *) error
```

Remarks
```
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
```

Remarks
```
If tracing is enabled, "SAP-PASSPORT" and "X-CorrelationID" headers
are set and filled with values to enable SAP Passport functionality.
// set the request type
[RequestBuilder setRequestType:HTTPRequestType];
// enable tracing before instantiating the request
[RequestBuilder enableTracing:YES];
// instantiate the request
self.request = [RequestBuilder requestWithURL:demoUrl];
```

enableXCSRF: method
Enable XCSRF support.

Syntax
```
+ (void) enableXCSRF :(BOOL) enable
```

Remarks

```
It is disabled by default.
// enable xcsrf before instantiating the request
[RequestBuilder enableXCSRF:YES];
// instantiate the request
self.request = [RequestBuilder requestWithURL:demoUrl];
```

getDelegate method

Returns the delegate to be invoked in Offline mode.

Syntax

```
+ (id) getDelegate
```

Remarks

```
// 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
```

Remarks
```
if([RequestBuilder isOfflineEnabled])
{}
```

isPerformanceLoggingEnabled method
Returns performance logging status (default is NO).

Syntax
```
+ (BOOL) isPerformanceLoggingEnabled
```

Remarks
```
if([RequestBuilder isPerformanceLoggingEnabled])
{}
```

isTracingEnabled method
Returns tracing status (default is NO).

Syntax
```
+ (BOOL) isTracingEnabled
```

Remarks
```
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
```

Remarks
```
// 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
```

Remarks
```
This selector is invoked when request execution failed.
// register the client as delegate for this request
[RequestBuilder setDelegate:self];
[RequestBuilder setDidFailSelector:(offlineRequestFailed:)];
```

setDidFinishSelector: method
Clients need to register their custom selectors to be invoked in Offline mode.

Syntax
```
+ (void) setDidFinishSelector :(SEL) selector
```

Remarks
```
This selector is invoked when request execution is successfully
complete.
// register the client as delegate for this request
[RequestBuilder setDelegate:self];
[RequestBuilder setDidFinishSelector:(offlineRequestFinished:)];
```

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
```

Remarks
```
If tracing is enabled, "SAP-PASSPORT" and "X-CorrelationID" headers
are set and filled with values to enable SAP Passport functionality.
// enable tracing before instantiating the request
[RequestBuilder enableTracing:YES];
// set the trace level
[RequestBuilder setTraceLevel:High];
// instantiate the request
self.request = [RequestBuilder requestWithURL:demoUrl];
```

RequestDelegate protocol
Defines default delegate methods for request status related housekeeping.

Syntax
```
@protocol  RequestDelegate
```

Derived classes

- *NetworkQueue* on page 1996

Members
All members of RequestDelegate, including inherited members. **Methods**

Method	Description
*- (void) authenticationNeededForRequest: (Request *) request* on page 2094	Default delegate method called when credentials must be supplied for authentication.
*- (void) proxyAuthenticationNeededForRequest: (Request *) request* on page 2094	Default delegate method called when the proxy requires credentials for authentication.
*- (void) request: (Request *) request didReceiveData: (const NSData *const) data_in* on page 2094	Default delegate method invoked when incoming data is available.
*- (void) requestFailed: (Request *) request* on page 2094	Default delegate method called when the request fails.

Method	Description
*- (void) requestFinished: (Request *) request* on page 2095	Default delegate method called when the request is completed.
*- (void) requestRedirected: (Request *) request* on page 2095	Default delegate method called when the request gets redirected.
*- (void) requestStarted: (Request *) request* on page 2095	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
```

Remarks

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
```

Remarks
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 2065

Members
All members of Requesting, including inherited members. **Methods**

Method	Description
*- (void) addBasicAuthenticationHeaderWithUsername: (NSString *) theUsername andPassword: (NSString *) thePassword* on page 2100	Constructs a basic authentication header from the username and password provided, and adds it to the request headers.
*- (void) addRequestHeader: (NSString *) header value: (NSString *) value* on page 2101	Adds a custom header to the request.

Method	Description
*- (void) appendPostData: (NSData *) data* on page 2101	Adds data to the post body.
*- (void) appendPostDataFromFile: (NSString *) file* on page 2101	Adds data to the post body from a file.
- (void) applyAuthorizationHeader on page 2101	Used to apply authorization header to a request before it is sent (when shouldPresentCredentials-BeforeChallenge is YES).
- (void) applyCookieHeader on page 2101	Called during buildRequestHeaders and after a redirect to create a cookie header from request cookies and the global store.
+ (unsigned long) averageBandwidthUsedPer-Second on page 2102	Returns a rough average (for the last 5 seconds) of how much bandwidth is being used, in bytes.
*+ (NSString *) base64forData: (NSData *) the-Data* on page 2102	Base64 encodes the provided NSData*.
- (void) buildPostBody on page 2102	Creates the post body.
- (void) buildRequestHeaders on page 2102	Populates the request headers dictionary.
- (void) cancelAuthentication on page 2102	Should be called by delegates to cancel authentication and stop.
+ (void) clearSession on page 2102	
+ (const NSDataWritingOptions) dataWritin-gOptions on page 2103	Returns a mask that determines whether the data should be stored in an encrypted form.
*+ (NSDate *) dateFromRFC1123String: (NSString *) string* on page 2103	Returns a date from a string in RFC1123 format.
*+ (NSString *) decodeBase64: (NSString *) string_in* on page 2103	Decodes a base64 encoded string.
+ (id< CacheDelegate >) defaultCache on page 2103	Returns the default download cache or nil if none is set at class level.
- (void) enableTracing: (BOOL) value_in on page 2103	Switches traceability status.
+ (void) enableXCSRF: (BOOL) enable on page 2103	Enable XSRF support for the session of the application.

Method	Description
*- (void) failWithError: (NSError *) theError* on page 2104	Called when a request fails, and lets the delegate know via didFailSelector.
*+ (NSDictionary *) fileProtectionAttributes* on page 2104	Returns a attributes dictionary used for encrypted file storage or nil if file protection has been explicitely disabled.
+ (NSInteger) getMaxConcurrentHTTPRequestCount on page 2104	Returns the maximum number of request threads that can be executed in parallel.
- (void) handleNetworkEvent: (CFStreamEventType) type on page 2104	Handles network events as they occur.
- (id< Requesting >) HEADRequest on page 2104	Convenience constructor with URL and cache.
+ (void) hideNetworkActivityIndicator on page 2105	Hides the network activity spinner.
+ (void) incrementBandwidthUsedInLastSecond: (unsigned long) bytes on page 2105	Used internally to record bandwidth use, and by InputStreams when uploading. It's probably best if you don't mess with this.
- (void) incrementDownloadSizeBy: (long long) length on page 2105	Called when we get a content-length header and shouldResetDownloadProgress is true.
- (void) incrementUploadSizeBy: (long long) length on page 2105	Called when a request starts and shouldResetUploadProgress is true.
*- (id) initWithURL: (NSURL *) newURL* on page 2105	Should be an HTTP or HTTPS URL.
+ (BOOL) isBandwidthThrottled on page 2106	Returns YES is bandwidth throttling is currently in use.
+ (BOOL) isNetworkInUse on page 2106	Indicates whether there are running requests.
+ (BOOL) isNetworkReachableViaWWAN on page 2106	Returns YES when an iPhone OS device is connected via WWAN, false when connected via WIFI or not connected.
- (BOOL) isResponseCompressed on page 2106	
- (BOOL) isTracingEnabled on page 2106	Returns tracing status.
+ (unsigned long) maxBandwidthPerSecond on page 2106	The maximum number of bytes all requests can send or receive in a second.

Method	Description
+ (unsigned long) maxUploadReadLength on page 2107	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 *) mimeTypeForFileAtPath: (NSString *) path* on page 2107	
*+ (void) performSelector: (SEL) selector onTarget: (id *) target withObject: (id) object amount: (void *) amount* on page 2107	Helper method used for performing invocations on the main thread (used for progress).
- (void) performThrottling on page 2107	Perform bandwidth throttling.
*+ (void) removeCredentialsForHost: (NSString *) host port: (int) port protocol: (NSString *) protocol realm: (NSString *) realm* on page 2107	Deletes host credentials from the keychain.
*+ (void) removeCredentialsForProxy: (NSString *) host port: (int) port realm: (NSString *) realm* on page 2107	Deletes proxy credentials from the keychain.
- (void) removeUploadProgressSoFar on page 2108	Called when authorization is needed, as you can only find out that you do not have permission, when the upload is complete.
*+ (id) requestWithURL: (NSURL *) newURL* on page 2108	Convenience constructor with URL.
*+ (id) requestWithURL: (NSURL *) newURL usingCache: (id< CacheDelegate >) cache* on page 2108	Convenience constructor with url and cache.
*+ (id) requestWithURL: (NSURL *) newURL usingCache: (id< CacheDelegate >) cache andCachePolicy: (ECachePolicy) policy* on page 2108	Convenience constructor with url, cache and cache policy.
*- (NSData *) responseData* on page 2108	
*- (NSString *) responseString* on page 2108	
- (void) retryUsingSuppliedCredentials on page 2108	Wakes up (unlocks) the request thread so it can resume the request.

Method	Description
*+ (void) saveCredentials: (NSURLCredential *) credentials forHost: (NSString *) host port: (int) port protocol: (NSString *) protocol realm: (NSString *) realm* on page 2109	Saves host credentials to the keychain.
*+ (void) saveCredentials: (NSURLCredential *) credentials forProxy: (NSString *) host port: (int) port realm: (NSString *) realm* on page 2109	Saves proxy credentials to the keychain.
*- (void) saveCredentialsToKeychain: (NSDictionary *) newCredentials* on page 2109	Saves credentials for this request to the keychain.
*+ (NSURLCredential *) savedCredentialsForHost: (NSString *) host port: (int) port protocol: (NSString *) protocol realm: (NSString *) realm* on page 2109	Returns host credentials from the keychain.
*+ (NSURLCredential *) savedCredentialsForProxy: (NSString *) host port: (int) port protocol: (NSString *) protocol realm: (NSString *) realm* on page 2109	Returns proxy credentials from the keychain.
*- (void) sendE2ETraceXML: (NSURL *) toBaseURL* on page 2110	Posts the SAP E2E Trace XML to the specified URL.
- (void) setClientCertificateIdentity: (SecIdentityRef) anIdentity on page 2110	Sets the identity reference (X.509 certificate + private key) for this request; used for secure connections.
+ (void) setDefaultCache: (id< CacheDelegate >) cache on page 2110	Configures a default download cache that applies for all requests.
*- (void) setEtag: (NSString *) etag withMatchType: (EtagType) matchType* on page 2110	Add If-Match or If-None-Match or If-Range header.
+ (void) setMaxBandwidthPerSecond: (unsigned long) bytes on page 2110	Sets the maximum number of bytes ALL requests can send / receive in a second.
+ (void) setMaxConcurrentHTTPRequestCount: (const unsigned char) cnt on page 2110	Sets the maximum number of Request threads which can run at once.
+ (void) setProtectionEnabled: (BOOL) flag_in on page 2111	Controls whether the download cache should store files using protection.
+ (void) setShouldThrottleBandwidthForWWAN: (BOOL) throttle on page 2111	Request can automatically turn throttling on and off, as the connection type changes between WWAN and WiFi.

Method	Description
+ (void) setShouldUpdateNetworkActivityIndicator: (BOOL) shouldUpdate on page 2111	Controls whether the request should take over updating the network activity indicator.
*+ (NSOperationQueue *) sharedQueue* on page 2111	Returns the shared queue.
+ (void) showNetworkActivityIndicator on page 2111	Shows the network activity spinner.
- (void) startAsynchronous on page 2112	
- (void) startSynchronous on page 2112	
+ (void) throttleBandwidthForWWANUsingLimit: (unsigned long) limit on page 2112	Turns on throttling automatically when WWAN is connected using a custom limit, and turns it off automatically when it is not connected.
- (void) updateDownloadProgress on page 2112	Updates download progress (notifies the queue and/or downloadProgressDelegate of this request).
*+ (void) updateProgressIndicator: (id *) indicator withProgress: (unsigned long long) progress ofTotal: (unsigned long long) total* on page 2112	Helper method for interacting with progress indicators to abstract the details of different APIS (NSProgressIndicator and UIProgressView).
- (void) updateProgressIndicators on page 2112	Updates the progress delegates.
- (void) updateUploadProgress on page 2113	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
```

Remarks

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
```

Remarks
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
```

Remarks
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
```

Remarks
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
```

Remarks
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
```

Remarks
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 explicitely 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
```

Remarks
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
```

Remarks
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
```

Remarks
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
```

Remarks
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
```

Remarks
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
```

Remarks
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
```

Remarks
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
```

Remarks
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
```

Remarks
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
```

Remarks

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
```

SAP_ExtendedPassport class
comment the following lines out if you do not have the required exception classes

Syntax
```
@interface SAP_ExtendedPassport : NSObject
```

Members
All members of SAP_ExtendedPassport, including inherited members. **Methods**

Method	Description
*- (NSString *) correlationIdHttpHeader* on page 2114	Retrieves the @“X-CorrelationID“ header value.
*+ (SAP_ExtendedPassport *) createPassport* on page 2114	Factory method Returns an autoreleased SAPExtendedPassport instance initialized with defaults (medium trace level and auto generated UID)
*+ (SAP_ExtendedPassport *) createPassportWithRootId: (NSData *) rootId_in andTraceLevel: (TraceLevel) traceLevel_in* on page 2114	Factory method Returns an autoreleased SAPExtendedPassport instance.
*+ (NSData *) getuuidAsData* on page 2114	Factory method Returns an autoreleased UUID instance.
*+ (NSString *) getuuidAsString* on page 2114	Factory method Returns an autoreleased UUID instance as HEXASCII-String.
*- (id) initWithRootId: (NSData *) RootId andTraceLevel: (TraceLevel) traceLevel_in* on page 2115	Initializes a Passport object.
*- (id) initWithRootId: (NSData *) rootId_in andTraceLevel: (TraceLevel) traceLevel_in andTransportId: (NSData *) transportId_in andTerminalId: (NSData *) terminalId_in* on page 2115	Initializes a Passport object.
*- (NSString *) passportHttpHeader* on page 2115	Retrieves the @“SAP-PASSPORT“ header value.

Usage

```
Class leveraging SAPPassport functionality

SAP_ExtendedPassport* passport = [SAP_ExtendedPassport
createPassport];

[m_HTTPRequest addRequestHeader:@"SAP-PASSPORT" value:[passport
passportHttpHeader]];
[m_HTTPRequest addRequestHeader:@"X-CorrelationID" value:[passport
corrrelationIdHttpHeader]];
```

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

```
+ ( SAP_ExtendedPassport * ) createPassport
```

createPassportWithRootId:andTraceLevel: method
Factory method Returns an autoreleased SAPExtendedPassport instance.

Syntax

```
+ ( SAP_ExtendedPassport * ) 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>
```

Base protocols

- *SDMLogging* on page 2122

Members
All members of SDMLogger, including inherited members. **Methods**

Method	Description
+ (void) disableLogging on page 2117	Disables logging of non-critical messages Call this API to disable logging of low prio messages if you previously enabled them via +enableLogging API.

Method	Description
- (void) displayLogsWithLevel: (LoggingLevels) level_in on page 2117	Deprecated. This method will be deprecated soon. Please use the method provided by MAF Displays all log entries with the given Logging Level.
- (void) displayLogsWithLevel: (LoggingLevels) level_in forQueryOperation: (QueryOperations) queryOperation_in on page 2118	Deprecated. This method will be deprecated soon. Please use the method provided by MAF Displays all log entries which match the provided Logging Level and query operation.
- (void) displayLogsWithLevel: (LoggingLevels) level_in forQueryOperation: (QueryOperations) queryOperation_in withSkinType: (LogSkinType) skinType_in on page 2118	Deprecated. This method will be deprecated soon. Please use the method provided by MAF Displays all log entries which match the provided Logging Level and query operation.
- (void) displayLogsWithLevel: (LoggingLevels) level_in withSkinType: (LogSkinType) skinType_in on page 2118	Deprecated. This method will be deprecated soon. Please use the method provided by MAF Displays all log entries with the given Logging Level and Skin Type.
+ (void) enableLogging on page 2118	Logging is enabled.
+ (id) instance on page 2119	Static Persistence instance.
+ (BOOL) isLoggingEnabled on page 2119	Returns whether non-critical logs are currently enabled.
*- (void) logAlert: (NSString *) message_in withInfo: (NSString *) info_in* on page 2119	Alert level logger API.
*- (void) logCritical: (NSString *) message_in withInfo: (NSString *) info_in* on page 2119	Critical level logger API.
*- (void) logDebug: (NSString *) message_in withInfo: (NSString *) info_in* on page 2119	Debug level logger API.
*- (void) logEmergency: (NSString *) message_in withInfo: (NSString *) info_in* on page 2120	Highest (Emergency) level logger API.
*- (void) logError: (NSString *) message_in withInfo: (NSString *) info_in* on page 2120	Error level logger API.
*- (void) logInfo: (NSString *) message_in withInfo: (NSString *) info_in* on page 2120	Information level logger API.

Method	Description
*- (void) logMessage: (NSString *) message_in withLevel: (LoggingLevels) level_in andInfo: (NSString *) info_in* on page 2120	Generic logger API.
*- (void) logNotice: (NSString *) message_in withInfo: (NSString *) info_in* on page 2121	Notice level logger API.
*- (void) logWarning: (NSString *) message_in withInfo: (NSString *) info_in* on page 2121	Warning level logger API.
*- (NSArray *) retrieveLogsWithLevel: (LoggingLevels) level_in* on page 2121	Returns all log entries with the given Logging Level.
*- (NSArray *) retrieveLogsWithLevel: (LoggingLevels) level_in forQueryOperation: (QueryOperations) queryOperation* on page 2121	Returns all log entries with match the provided Logging Level and query operation.
+ (void) setDeviceLogEntries: (unsigned int) noOfLogs on page 2121	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
```

Remarks

Logging is disabled by default for non-critical logging levels; WarningLoggingLevel, NoticeLoggingLevel, InfoLoggingLevel and DebugLoggingLevel messages won't be logged - unless you call +emableLogging API explicitely. Note: NSLog counts as a WarningLoggingLevel log message Critical log messages are always logged: EmergencyLoggingLevel, AlertLoggingLevel, CriticalLoggingLevel and ErrorLoggingLevel

displayLogsWithLevel: method [deprecated]

Deprecated. This method will be deprecated soon. Please use the method provided by MAF Displays all log entries with the given Logging Level.

Syntax

```
- (void) displayLogsWithLevel :(LoggingLevels) level_in
```

displayLogsWithLevel:forQueryOperation: method [deprecated]
Deprecated. This method will be deprecated soon. Please use the method provided by MAF 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 [deprecated]
Deprecated. This method will be deprecated soon. Please use the method provided by MAF 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 [deprecated]
Deprecated. This method will be deprecated soon. Please use the method provided by MAF 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
```

Remarks
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 explicitely. 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
```

Remarks
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 +emableLogging API explicitely.

SDMLogging protocol
Declares the logger APIs Protocol to be adapted by Logger classes.

Syntax
```
@protocol   SDMLogging
```

Derived classes

- *SDMLogger* on page 2115

Members
All members of SDMLogging, including inherited members. **Methods**

Method	Description
*- (void) logAlert: (NSString *) message_in with-Info: (NSString *) info_in* on page 2123	Alert level logger API.
*- (void) logCritical: (NSString *) message_in withInfo: (NSString *) info_in* on page 2123	Critical level logger API.
*- (void) logDebug: (NSString *) message_in withInfo: (NSString *) info_in* on page 2123	Debug level logger API.
*- (void) logEmergency: (NSString *) message_in withInfo: (NSString *) info_in* on page 2124	Highest (Emergency) level logger API.
*- (void) logError: (NSString *) message_in with-Info: (NSString *) info_in* on page 2124	Error level logger API.
*- (void) logInfo: (NSString *) message_in with-Info: (NSString *) info_in* on page 2124	Information level logger API.
*- (void) logMessage: (NSString *) message_in withLevel: (LoggingLevels) level_in andInfo: (NSString *) info_in* on page 2124	Generic logger API.
*- (void) logNotice: (NSString *) message_in withInfo: (NSString *) info_in* on page 2125	Notice level logger API.
*- (void) logWarning: (NSString *) message_in withInfo: (NSString *) info_in* on page 2125	Warning level logger API.

Method	Description
*- (NSArray *) retrieveLogsWithLevel: (LoggingLevels) level_in* on page 2125	Should return all log entries with the given Logging Level.
*- (NSArray *) retrieveLogsWithLevel: (LoggingLevels) level_in forQueryOperation: (QueryOperations) queryOperation* on page 2125	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
```

SDMNetworkQueue class

Syntax

```
@interface SDMNetworkQueue : NSOperationQueue
<SDMProgressDelegate> <SDMHttpRequestDelegate> <NSCopying>
```

Base protocols

- *SDMProgressDelegate* on page 2292
- *SDMHttpRequestDelegate* on page 2228

Members

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

Method	Description
+ (id) queue on page 2127	Convenience constructor.
- (void) reset on page 2127	Resets the queue; it cancels all operations, clears delegates, and suspends operations.
- (void) startBatch on page 2127	Starts the queue.

Inherited members from SDMProgressDelegate

Member	Description
- (void) request: (id< SDMRequesting >) request didReceiveBytes: (long long) bytes on page 2293	Delegate method called when the request receives data.
- (void) request: (id< SDMRequesting >) request didSendBytes: (long long) bytes on page 2293	Delegate method called when the request sends data.
- (void) request: (id< SDMRequesting >) request incrementDownloadSizeBy: (long long) newLength on page 2293	Delegate method called when the request needs to change the download content size.
- (void) request: (id< SDMRequesting >) request incrementUploadSizeBy: (long long) newLength on page 2293	Delegate method called when the request needs to change the length of the content to upload.
- (void) setProgress: (float) newProgress on page 2294	Delegate method called to update UIProgressViews.

Inherited members from SDMHttpRequestDelegate

Member	Description
*- (void) authenticationNeededForRequest: (SDMHttpRequest *) request* on page 2229	Default delegate method called when credentials must be supplied for authentication.
*- (void) proxyAuthenticationNeededForRequest: (SDMHttpRequest *) request* on page 2229	Default delegate method called when the proxy requires credentials for authentication.
*- (void) request: (SDMHttpRequest *) request didReceiveData: (const NSData *const) data_in* on page 2229	Default delegate method invoked when incoming data is available.
*- (void) requestFailed: (SDMHttpRequest *) request* on page 2229	Default delegate method called when the request fails.
*- (void) requestFinished: (SDMHttpRequest *) request* on page 2230	Default delegate method called when the request completes.
*- (void) requestRedirected: (SDMHttpRequest *) request* on page 2230	Default delegate method called when the request gets redirected.
*- (void) requestStarted: (SDMHttpRequest *) request* on page 2230	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
```

Remarks

SDMNetworkQueues are paused when created so that total size can be calculated before the queue starts

SDMPerfTimer class

High Precision Timer Class.

Syntax

```
@interface  SDMPerfTimer  :  NSObject
```

Members

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

Method	Description
- *(uint64_t) getTimeElapsedInMillisec* on page 2128	Retrieves the time elapsed after calling startTimer, resetTimer or between two consecutive getTimeElapsedInMillisec calls.
- *(void) reset* on page 2129	Resets the timer.
- *(void) start* on page 2129	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] init];
[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
```

SeedDataAPI class

Syntax
```
@interface SeedDataAPI : NSObject
```

Members
All members of SeedDataAPI, including inherited members. **Methods**

Method	Description
- (BOOL) areSettingsConfigured on page 2129	
- (void) clearSettings on page 2130	
*- (void) handleUrl: (NSURL *) url* on page 2130	
*- (SeedDataAPI *) initWithURLScheme: (NSString *) urlScheme andDelegate: (id< SeedDataDelegate >) delegate* on page 2130	
- (void) retrieveSeedData on page 2130	
- (void) updateSeedData on page 2130	
- (void) updateSettings on page 2130	
*- (void) uploadFile: (NSString *) filePath* on page 2130	

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) didFailWithError: (NSError *) error* on page 2131	
- (void) didNotNeedUpdate on page 2131	
*- (void) didRetrieveSeedData: (NSString *) seedFile* on page 2131	
*- (void) didUploadFile: (NSString *) filePath* on page 2131	

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 2133	
+ (void) clearSettings on page 2133	
*+ (NSInteger) getAfariaServerSettingsForUrl-Scheme: (NSString *) urlScheme* on page 2134	
*+ (NSInteger) initializeLibrary: (NSURL *) url inUrlScheme: (NSString *) inurlscheme* on page 2134	
*+ (NSInteger) retrieveCertificateWithPrivate-Key: (SecKeyRef) privateKey andPublicKey: (SecKeyRef) publicKey andCommonName: (NSString *) commonName andChallenge: (NSString *) challengeCode forUrlScheme: (NSString *) urlScheme inCertificate: (SecCer-tificateRef *) certificate* on page 2134	
*+ (NSInteger) retrieveCertificateWithPrivate-Key: (SecKeyRef) privateKey andPublicKey: (SecKeyRef) publicKey andUserName: (NSString *) useName andPassword: (NSString *) password andCommonName: (NSString *) commonName andChallenge: (NSString *) chal-lengeCode forUrlScheme: (NSString *) url-Scheme inCertificate: (SecCertificateRef *) cer-tificate* on page 2134	
*+ (NSInteger) retrieveCertificateWithUrl: (NSURL *) url andPrivateKey: (SecKeyRef) pri-vateKey andPublicKey: (SecKeyRef) publicKey andCommonName: (NSString *) commonName andChallenge: (NSString *) challengeCode in-Certificate: (SecCertificateRef *) certificate* on page 2134	
*+ (NSInteger) retrieveCertificateWithUrl: (NSURL *) url andPrivateKey: (SecKeyRef) pri-vateKey andPublicKey: (SecKeyRef) publicKey andUserName: (NSString *) useName andPass-word: (NSString *) password andCommon-Name: (NSString *) commonName andChal-lenge: (NSString *) challengeCode inCertificate: (SecCertificateRef *) certificate* on page 2135	

Method	Description
*+ (NSInteger) retrieveSeedData: (NSString *) urlScheme InFile: (NSMutableString *) seedFile withCredentials: (NSURLCredential *) credentials* on page 2135	
*+ (NSInteger) retrieveSeedDataWithUrl: (NSURL *) url InFile: (NSMutableString *) seedFile withCredentials: (NSURLCredential *) credentials* on page 2135	
*+ (NSInteger) retrieveUserCertificate: (SecKeyRef) privateKey andPublicKey: (SecKeyRef) publicKey andUserName: (NSString *) userName andPassword: (NSString *) password andChallenge: (NSString *) challengeCode outCertificate: (SecCertificateRef *) userCertificate* on page 2135	
*+ (NSInteger) setAfariaServerSettings: (NSURL *) url* on page 2135	
*+ (NSInteger) updateSeedData: (NSString *) urlScheme InFile: (NSMutableString *) seedFile withCredentials: (NSURLCredential *) credentials* on page 2136	
*+ (NSInteger) updateSeedDataWithUrl: (NSURL *) url InFile: (NSMutableString *) seedFile withCredentials: (NSURLCredential *) credentials* on page 2136	

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 *) useName 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 *) useName
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
```

setAfariaServerSettings: method

Syntax

```
+ (NSInteger) setAfariaServerSettings :(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 *) getApplicationEndpointWithError: (NSError **) error* on page 2137	Retrieves the application end-point with which the application can access business data.
*- (NSString *) getConfigProperty: (NSString *) configKey error: (NSError **) error* on page 2138	Retrieves the Configuration Property by providing key.
*- (NSDictionary *) getConfigPropertyMapWithError: (NSError **) error* on page 2138	Returns all the settings in Key-Value pair.
*- (NSData *) getCustomizationResourceBundleWithCustomizationResource: (NSString *) customizationResource error: (NSError **) error* on page 2139	Returns or downloads Customization Resources as binary data.
*- (DataVaultPasswordPolicy *) getPasswordPolicy: (NSError **) error* on page 2139	Retrieves the password policy set by the administrator in SCC for the application.
*- (NSString *) getPushEndpointWithError: (NSError **) error* on page 2140	Retrieves the push end-point which the enterprise back-end can use to push data to the ODP client via the server.

Method	Description
*+ (SMPAppSettings *) initializeWithConnection: (SMPClientConnection *) clientConn userName: (NSString *) userName password: (NSString *) password* on page 2140	Gets the singleton instance/object of the AppSettings class.
*- (void) releaseStoredCredentialsWithError: (NSError **) error* on page 2141	Releases the username and password provided while initializing app settings class.
*- (BOOL) setConfigProperty: (NSDictionary *) settingsList error: (NSError **) error* on page 2141	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
initializeWithConnection: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
initializeWithConnection: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
initializeWithConnection: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
initializeWithConnection:clientConn userName:"username"
password:@"password"];
NSError* error = nil;
NSData* customResourceBundleData = [appSettings
getCustomizationResourceBundleWithCustomizationResource:customizati
onResource 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
initializeWithConnection:clientConn userName:"username"
password:@"password"];
 NSError *error=nil;
 NSString *pushEndpoint = [appSettings
getPushEndpointWithError:&error];
 if(!error){
  NSLog("pushEndpoint : %",pushEndpoint);
 }
```

initializeWithConnection:userName:password: method
Gets the singleton instance/object of the AppSettings class.

Syntax
```
+ (SMPAppSettings *) initializeWithConnection :
(SMPClientConnection *) clientConn userName :(NSString *)
userName password :(NSString *) password
```

Parameters

- **clientConn –** Object of SMPClientConnection 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
initializeWithConnection: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
initializeWithConnection: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
initializeWithConnection:clientConn userName:"username"
password:@"password"];
NSDictionary props = [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
*- (NSString *) didReceiveCaptchaChallenge: (NSString *) base64ImageString* on page 2142	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 ahdhere 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

Remarks

This is supported in case of SAP Mobile Platform, enterprise edition, cloud version onboarding only.

```
-(IBAction)buttonsPressed:(UIButton*)button{
[SMPUserManager setCaptchaChallengeDelegate:self];
SMPUserManager* userManager = [SMPUserManager
initializeWithConnection:clientConn];


}

-(NSString*)didReceiveCaptchaChallenge:base64ImageString
{
```

```
    // Return text String input from user.
}
```

SMPClientConnection class

Syntax

```
@interface  SMPClientConnection  :  NSObject
```

Members

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

Method	Description
*+ (SMPClientConnection *) initializeWithAppID: (NSString *) applicationID domain: (NSString *) domain secConfiguration: (NSString *) secConfig* on page 2144	Gets the instance/object of the client connection class.
*- (void) setApplicationConnectionID: (NSString *) appConnectionID* on page 2144	Sets the application Connection ID to ClientConnection.
- (void) setClientIdentityCertificate: (SecIdentityRef) secIdenref on page 2145	Sets the identity reference (X.509 certificate + private key) for this request; used for secure connections.
*- (BOOL) setConnectionProfileWithHost: (NSString *) hostName port: (NSString *) portNumber farm: (NSString *) farmId relayServerUrlTemplate: (NSString *) urlSuffix enableHTTP: (BOOL) enableHttp* on page 2145	Provides connection properties to the connection class before registration.
*- (BOOL) setConnectionProfileWithUrl: (NSString *) hostPort* on page 2146	Provides connection properties to the connection class before registration.
- (void) setTraceLevel: (E2ELevel) value_in on page 2146	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) startTrace on page 2147	Enables the tracing and starts generating Business Transaction XML.
- (void) stopTrace on page 2147	Disables the tracing and stops generating BTX.
*- (void) uploadTraceWithUserName: (NSString *) username passWord: (NSString *) password error: (NSError **) error* on page 2148	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

```
+ (SMPClientConnection *) 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 SMPClientConnection

```
SMPClientConnection* clientConn = [SMPClientConnection
initializeWithAppID:"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

```
SMPClientConnection* clientConn = [SMPClientConnection
initializeWithAppID:"application ID" domain:@"domain"
secConfiguration:@"secconfig"];
[clientConneciton 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)

```
SMPClientConnection* clientConn = [SMPClientConnection
initializeWithAppID:"application ID" domain:@"domain"
secConfiguration:@"secconfig"];
[clientConn setClientIdentityCertificate:@"secIdenref"];
[clientConniton 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
initializeWithAppID:"application ID" domain:@"domain"
secConfiguration:@"secconfig"];
[clientConniton setConnectionProfileWithHost:@"supServerHost"
port:@"supServerPort" farm:nil relayServerUrlTemplate:nil
enableHTTP:YES];


In case of relay server
```

```
[clientConneciton
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
initializeWithAppID:"application ID" domain:@"domain"
secConfiguration:@"secconfig"];
[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"];
    [clientConneciton 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"];
    [clientConneciton 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"];
    [clientConneciton 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"];
    [clientConneciton 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 2150	Static Method which deletes the application connection/user with which the application has established a connection.

Method	Description
+ (SEL) getAuthChallengeSelector on page 2150	Getter for Authentication Challenge Selector.
+ (id< SMPCaptchaChallengeDelegate >) getCaptchaChallengeDelegate on page 2151	Getter for the Captcha Challenge Listener.
+ (id< SMPUserManagerDelegate >) getDelegate on page 2151	Getter for the user manager listener.This is a class method to fetch the user manager listener object.
*+ (SMPUserManager *) initializeWithConnection: (SMPClientConnection *) clientConn* on page 2151	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 2152	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 2152	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 2153	Setter For the Authentication Challenge.
+ (void) setCaptchaChallengeDelegate: (id< SMPCaptchaChallengeDelegate >) delegate on page 2154	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 2154	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
initializeWithConnection: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
initializeWithConnection: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
```

Remarks

Clients can chose to register their custom selectors to be invoked.

```
// 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
{
 //
}
```

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
initializeWithConnection: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) userRegistrationFailed: (SMPUserManager *) userManager* on page 2155	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) userRegistrationSuccessful: (SMPUserManager *) userManager* on page 2156	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 ahdhere 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

Remarks

This is true in case of asynchronous user registration only.

```
-(IBAction)buttonsPressed:(UIButton*)button{
[SMPUserManager setDelegate:self];
SMPUserManager* userManager = [SMPUserManager
initializeWithConnection:clientConn];


}

-(void)userRegistrationFailed:userManager
{
```

```
    // Error handling using the error object
}
```

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

Remarks

This is true in case of asynchronous user registration only.

```
-(IBAction)buttonsPressed:(UIButton*)button{
[SMPUserManager setDelegate:self];
SMPUserManager* userManager = [SMPUserManager
initializeWithConnection:clientConn];


}

-(void)userRegistrationSuccessful:userManager
{
    // Successful post-processing
}
```

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 2158	
- *(SUPE2ETraceStep *) createStep* on page 2158	starts a new step with an associated Requestlist container.
- *(SUPE2ETraceTransaction *) createTransaction* on page 2158	returns a TraceController singleton reference.

Method	Description
*- (SUPE2ETraceTransaction *) createTransactionWithName: (NSString *) transactionName withClientHost: (NSString *) clientHost* on page 2159	returns a TraceController singleton reference.
*- (Boolean) endRequest: (SUPE2ETraceRequest *) theRequest* on page 2159	
*- (Boolean) endStep: (SUPE2ETraceStep *) theStep* on page 2159	ends step with an associated Requestlist container.
- (Boolean) endTransaction on page 2159	
*- (NSDictionary *) getStepAndRequestByPassportHeader: (NSString *) Passport_in* on page 2159	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 2160	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 2160	returns a dictionary containing references to Step and SUPE2ETraceRequest object for a given searchvalue within an SUPE2ETraceRequest object.
*- (NSString *) getXML* on page 2160	returns generated Business Transaction XML.
*- (NSUInteger) sendXML: (NSURL *) toBaseURL* on page 2160	Uploads the generated BTX to provided server URL and returns the response status code.
*- (Boolean) setSearchKeyForRequest: (SUPE2ETraceRequest *) theRequest_in WithValue: (NSString *) Value_in* on page 2161	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.
- (void) setTraceLevel: (NSUInteger) trcLvl on page 2161	sets the E2E Tracelevel with the TraceController
*+ (SUPE2ETraceController *) sharedController* on page 2161	returns a TraceController singleton reference.
*- (Boolean) updateRequestElementsInRequest: (SUPE2ETraceRequest *) theRequest withDictionary: (NSDictionary *) withDictionary* on page 2162	Updates the data for each request and step to form transaction step xml and append it to the business transaction xml.

Method	Description
*- (Boolean) updateRequestElementWithValue: (SUPE2ETraceRequest *) theRequest : (NSString *) Value : (NSString *) forKey* on page 2162	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
```

Remarks
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
```
- (NSUInteger) 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**

Remarks
Code Example:

...

setTraceLevel: method
sets the E2E Tracelevel with the TraceController

Syntax
`- (void) setTraceLevel :(NSUInteger)` **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
- *(NSString *) CorrelationIdHttpHeader* on page 2163	Retrieves the @“X-CorrelationID“ header value.

Method	Description
*+ (SUPE2ETraceRequest *) createRequest: (NSString *) WithId* on page 2163	Standard initialization.
- (Boolean) endRequest on page 2164	At the end when response is received.
*- (NSString *) getXML* on page 2164	
- (void) markReceived on page 2164	When all data from the response have been received call this.
- (void) markReceiving on page 2165	When the first data is being received.
- (void) markSending on page 2165	Should be called before the request is sent out.
- (void) markSent on page 2165	Should be called as soon as the data is being sent.
*- (NSString *) PassportHttpHeader* on page 2166	Retrieves the @“SAP-PASSPORT“ header value.
*- (Boolean) updateRequestElementsWithDictionary: (NSDictionary *) withDictionary* on page 2166	
*- (Boolean) updateRequestWithValue: (NSString *) withValue : (NSString *) forKey* on page 2166	

CorrelationIdHttpHeader method

Retrieves the @“X-CorrelationID“ header value.

Syntax

```
- (NSString *) CorrelationIdHttpHeader
```

Remarks

```
Usage

[m_HTTPRequest addRequestHeader:@"X-CorrelationID" value:[theRequest
CorrelationIdHttpHeader]];
```

createRequest: method

Standard initialization.

Syntax

```
+ (SUPE2ETraceRequest *) createRequest :(NSString *) WithId
```

Remarks
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
```

Remarks
```
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) incrementRequest* on page 2167	

Method	Description
- (void) incrementStep on page 2167	
- (void) resetRequest on page 2167	
- (void) resetStep on page 2167	
- (void) setTraceFlags: (Byte) Byte0 : (Byte) Byte1 on page 2167	
*+ (SUPE2ETraceSettings *) sharedManager* on page 2168	
*- (NSData *) TraceFlags* on page 2168	
*- (NSString *) TraceFlagsAsString* on page 2168	

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) addUIAction on page 2168	
*+ (SUPE2ETraceStep *) createStep* on page 2168	
- (Boolean) endStep on page 2169	
*- (NSString *) getXML* on page 2169	

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 2169	
*+ (SUPE2ETraceTransaction *) createTransactionWithName: (NSString *) transactionName withClientHost: (NSString *) clientHost* on page 2169	
- (Boolean) endTransaction on page 2170	
*- (NSString *) getXML* on page 2170	

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
```

buildSubscriptionXML method

Creates the xml representation of a SubscriptionInfo instance.

Syntax

```
- (ODataSubscriptionXML *) buildSubscriptionXML :(const ODataSubscriptionInfo *const) info
```

enablePatchSupport method

Set the Incremental Update and Incremental Update Minimal opreation http method to PATCH based on the specification of OData 3.0.

Syntax

```
- (void) enablePatchSupport :(const BOOL) enable
```

sdmBuildODataEntryJSON method

Syntax

```
- (SDMODataEntryJSON *) sdmBuildODataEntryJSON :(const SDMODataEntry *const) entry :(const enum TEN_ENTRY_OPERATIONS) operation
```

sdmBuildODataEntryXML method [deprecated]

Deprecated. Returns the xml representation of an entry depending on the operation and the HTTP method that must be used when the xml is sent to the SAP server in an HTTP request Sample usage: Creating an xml from an entry that can be sent to the server to create or update the data in the backend defined by the key values. The collection must have the sap:creatable or sap:updatable attribute set to true to succeed (depending on the operation). SDMODataEntryXML* entryAsXmlAndHttpMethod = sdmBuildODataEntryXML(entry, ENTRY_OPERATION_UPDATE_FULL, serviceDocument, NO);

Syntax

```
- (SDMODataEntryXML *) sdmBuildODataEntryXML :(const
SDMODataEntry *const) entry :(const enum
TEN_ENTRY_OPERATIONS) operation :(const
SDMODataServiceDocument *const) serviceDocument :(const BOOL)
serializeInlinedEntries
```

Parameters

- **entry –**

  ```
  The entry from which the function creates its xml representation (
  ```

- **operation –**

  ```
  The operation that should be executed on the server side. Possible
  values are:

  ENTRY_OPERATION_CREATE: the xml contains the data of a new entry
  that should be created in the backend
  ENTRY_OPERATION_UPDATE_FULL: the xml contains the data of an
  existing entry in the backend. All the updatable fields will be
  updated in the backend.
  If an updatable field does not appear in the xml, the value in the
  backend that is assigned to the missing field will be overwritten
  with its default value. The entry to
  be updated is identified by the key fields of the xml.
  ENTRY_OPERATION_UPDATE_INCREMENTAL: the xml contains the data of
  an existing entry in the backend. Only those properties are
  updated in the backend that are
  indicated in the xml and leaves anything untouched in the backend.
  ENTRY_OPERATION_ARCHIVE: Used when an entry should be saved as an
  xml file and is not sent to the server. This causes the builder to
  add the links and icon url (if present) too to the xml.
  ```

- **serviceDocument –**

  ```
  The service document instance. See
  ```

- **serializeInlinedEntries –**

  ```
  If the parameter value is YES, all inline entries and/or feeds
  will be serialized that belong to the entry being serialized.
  ```

Returns

```
Returns the xml representation of an entry for the given operation
and the HTTP method that must be used when sending the entry to a SAP
server in an HTTP request.
```

sdmBuildODataFeedXML method

Returns the xml representation of a list of entries.

Syntax

```
- (SDMODataFeedXML *) sdmBuildODataFeedXML :(NSArray
*const)entries :(const enum TEN_ENTRY_OPERATIONS)operation :(
const SDMODataServiceDocument *const)serviceDocument :(const
BOOL)serializeInlinedEntries
```

sdmBuildSubscriptionXML method

Creates the xml representation of a SubscriptionInfo instance.

Syntax

```
- (SDMSubscriptionXML *) sdmBuildSubscriptionXML :(const
SDMSubscriptionInfo *const)info
```

Deprecated API List

Starting with SAP Mobile Platform 3.0, the following protocols, classes, and methods are officially deprecated. SAP recommends you update the APIs to the newly refactored APIs listed in the section SAP Mobile Platform SDK > Developer > Migration > Migrating Native OData Applications. The deprecated SDM APIs are supported for backward compatibility in SAP Mobile Platform 3.0.

Deprecated Protocols

- *SDMCacheDelegate* on page 2182
- *SDMCaching* on page 2185
- *SDMHttpRequestDelegate* on page 2228
- *SDMParserDelegate* on page 2281
- *SDMPersisting* on page 2288
- *SDMProgressDelegate* on page 2292
- *SDMRequesting* on page 2298

Deprecated Classes

- *SDMCache* on page 2174
- *SDMCacheException* on page 2184
- *SDMConnectivityException* on page 2191

- *SDMDownloadCache* on page 2192
- *SDMDuration* on page 2194
- *SDMFormDataRequest* on page 2196
- *SDMFunctionImportResultParser* on page 2205
- *SDMGenericParser* on page 2206
- *SDMHttpRequest* on page 2210
- *SDMODataActionLink* on page 2230
- *SDMODataCollection* on page 2232
- *SDMODataDataParser* on page 2234
- *SDMODataEntitySchema* on page 2237
- *SDMODataEntry* on page 2238
- *SDMODataEntryJSON* on page 2242
- *SDMODataEntryXML* on page 2242
- *SDMODataError* on page 2242
- *SDMODataErrorXMLParser* on page 2243
- *SDMODataFunctionImport* on page 2245
- *SDMODataFunctionImportParameter* on page 2246
- *SDMODataIconInfo* on page 2246
- *SDMODataLink* on page 2247
- *SDMODataMediaResourceLink* on page 2249
- *SDMODataMetaDocumentParser* on page 2250
- *SDMODataPropertyInfo* on page 2252
- *SDMODataPropertyValueBinary* on page 2254
- *SDMODataPropertyValueBoolean* on page 2255
- *SDMODataPropertyValueComplex* on page 2257
- *SDMODataPropertyValueDateTime* on page 2258
- *SDMODataPropertyValueDateTimeOffset* on page 2259
- *SDMODataPropertyValueDecimal* on page 2260
- *SDMODataPropertyValueDouble* on page 2261
- *SDMODataPropertyValueFactory* on page 2262
- *SDMODataPropertyValueGuid* on page 2263
- *SDMODataPropertyValueInt* on page 2264
- *SDMODataPropertyValueObject* on page 2266
- *SDMODataPropertyValueSingle* on page 2268
- *SDMODataPropertyValueString* on page 2269
- *SDMODataPropertyValueTime* on page 2270
- *SDMODataRelatedLink* on page 2271
- *SDMODataSchema* on page 2272
- *SDMODataServiceDocument* on page 2274

- *SDMODataServiceDocumentParser* on page 2275
- *SDMODataWorkspace* on page 2277
- *SDMOpenSearchDescription* on page 2277
- *SDMOpenSearchDescriptionURLTemplate* on page 2278
- *SDMOpenSearchDescriptionXMLParser* on page 2279
- *SDMParserException* on page 2282
- *SDMPerformanceUtil* on page 2283
- *SDMPersistence* on page 2283
- *SDMRequestBuilder* on page 2294
- *SDMSubscriptionInfo* on page 2317
- *SDMSubscriptionXML* on page 2318

SDMCache class

Deprecated. In-memory cache, providing additional features like data filtering and serialization Usage // 1. Initalize Cache

Syntax

```
@interface  SDMCache  :  NSObject <SDMCaching> <NSCoding>
```

Base protocols

- *SDMCaching* on page 2185

Members

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

Method	Description
*+ (id) cacheWithServiceDoc: (SDMODataServiceDocument *) serviceDoc_in* on page 2177	Static Factory method.
- (void) clear on page 2177	Should wipe out all cached content.
*- (NSArray *) filterEntriesOfCollection: (NSString *) collectionName_in forSearchText: (NSString *) searchText_in* on page 2177	Filters cached entries with searchable properties according to the search term.
*- (NSArray *) getAllWorkspaces* on page 2178	Retrieves all workspaces belonging to the stored SDMODataServiceDocument.
*- (const SDMODataCollection *) getCollectionByName: (NSString *) collectionName_in* on page 2178	Retrieves a collection based on it's name.

Method	Description
*- (NSArray *) getCollectionsByWorkspace: (SDMODataWorkspace *) workspace_in* on page 2178	Retrieves all collections for a given workspace.
*- (NSMutableArray *) getODataEntriesByCollection: (NSString *) collectionName_in* on page 2179	Retrieves an array of SDMODataEntry instance pointers.
*- (const SDMODataEntry *) getODataEntryByCollection: (NSString *) collectionName_in andEntryId: (NSString *) entryId_in* on page 2179	Retrieves the SDMODataServiceDocument.
*- (NSArray *) getWorkspacesBySemantic: (enum TEN_WORKSPACE_SEMANTICS) semantic_in* on page 2179	Retrieves the workspace based on the provided semantics.
*- (id) initWithServiceDocument: (SDMODataServiceDocument *) serviceDoc_in* on page 2180	Inits the SDMCache instance.
*- (BOOL) removeODataEntriesForCollection: (NSString *) collectionName_in* on page 2180	Removes all SDMODataEntry entries from the cache which belong to the given collection.
*- (BOOL) removeODataEntry: (const SDMODataEntry *) entry_in forCollection: (NSString *) collectionName_in* on page 2180	Removes an SDMODataEntry from the cache.
- (BOOL) removeODataServiceDocument on page 2180	Removes the cached SDMODataServiceDocument which acts as a root of the metadata tree.
*- (void) setODataEntries: (NSArray *) entries_in byCollection: (NSString *) collectionName_in* on page 2181	Stores an array of SDMODataEntry instance pointers.
*- (void) setODataEntry: (const SDMODataEntry *) entry_in byCollection: (NSString *) collectionName_in* on page 2181	Sets a valid metadata tree with a SDMODataServiceDocument as root, which will be kept in memory.
+ (void) setShouldAutoSaveOnMemoryWarning: (BOOL) flag_in on page 2181	Sets that the cache will be saved automatically if the application receives memory warning.
+ (BOOL) shouldAutoSaveOnMemoryWarning on page 2181	Get that the cache will be saved automatically if the application receives memory warning.

Inherited members from SDMCaching

Member	Description
*- (SDMODataServiceDocument *) getOData-ServiceDocument* on page 2189	Should retrieve the SDMODataServiceDocument.
*- (NSString *) getUid* on page 2189	Returns with the unique id of the cache.
*- (void) setODataServiceDocument: (SDMOData-taServiceDocument *) serviceDocument_in* on page 2191	Should set a valid metadata tree with a SDMO-DataServiceDocument as root, which will be kept in memory.
- (void) setRegexSearchEnabled: (BOOL) flag_in on page 2191	Enables in-cache filtering using regular expressions.

Usage

```
//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 previosly 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
Inits 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 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
```

Remarks
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 2192

Members

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

Method	Description
*- (NSDictionary *) cachedHeadersForRequest: (id< SDMRequesting >) request* on page 2183	Should return an NSDictionary of cached headers for the passed request, if it is stored in the cache.
*- (NSData *) cachedResponseDataForRequest: (id< SDMRequesting >) request* on page 2183	Should return the cached body of a response for the passed request, if it is stored in the cache.
- (void) clearCachedResponsesForStoragePolicy: (CacheStoragePolicy) cachePolicy on page 2183	Clear cached data stored for the passed storage policy.
- (CachePolicy) defaultCachePolicy on page 2183	Should return the cache policy that will be used when requests have their cache policy set to DefaultCachePolicy.
- (BOOL) isCachedDataCurrentForRequest: (id< SDMRequesting >) request on page 2183	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 *) pathToCachedResponseDataForRequest: (id< SDMRequesting >) request* on page 2184	Same as the above, but returns a path to the cached response body instead.
- (void) removeCachedDataForRequest: (id< SDMRequesting >) request on page 2184	Should Remove cached data for a particular request.
- (void) storeResponseForRequest: (id< SDMRequesting >) request maxAge: (NSTimeInterval) maxAge on page 2184	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 : NSException
```

Members
All members of SDMCacheException, including inherited members. **Methods**

Method	Description
- (id) init on page 2185	
*- (id) initWithError: (NSString *) error_in detailedError: (NSString *) details_in* on page 2185	
*- (id) initWithError: (NSString *) error_in detailedError: (NSString *) details_in statusCode: (NSInteger) statusCode_in* on page 2185	

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 2174

Members

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

Method	Description
- (void) clear on page 2187	Should wipe out all cached content.
*- (NSArray *) filterEntriesOfCollection: (NSString *) collectionName_in forSearchText: (NSString *) searchText_in* on page 2187	Filters cached entries with searchable properties according to the search term.
*- (NSArray *) getAllWorkspaces* on page 2187	Should retrieve all workspaces belonging to the stored SDMODataServiceDocument.
*- (const SDMODataCollection *) getCollection-ByName: (NSString *) collectionName_in* on page 2187	Should retrieve a collection based on it's name.

Method	Description
*- (NSArray *) getCollectionsByWorkspace: (SDMODataWorkspace *) workspace_in* on page 2188	Should retrieve all collections for a given workspace.
*- (NSMutableArray *) getODataEntriesByCollection: (NSString *) collectionName_in* on page 2188	Should retrieve an array of SDMODataEntry instance pointers.
*- (const SDMODataEntry *) getODataEntryByCollection: (NSString *) collectionName_in andEntryId: (NSString *) entryId_in* on page 2188	Should retrieve the previously cached data entry (which is the result of data parsing)
*- (SDMODataServiceDocument *) getODataServiceDocument* on page 2189	Should retrieve the SDMODataServiceDocument.
*- (NSString *) getUid* on page 2189	Returns with the unique id of the cache.
*- (NSArray *) getWorkspacesBySemantic: (enum TEN_WORKSPACE_SEMANTICS) semantic_in* on page 2189	Should retrieve the workspace based on the provided semantics.
*- (BOOL) removeODataEntriesForCollection: (NSString *) collectionName_in* on page 2189	Removes all SDMODataEntry entries from the cache which belong to the given collection.
*- (BOOL) removeODataEntry: (const SDMODataEntry *) entry_in forCollection: (NSString *) collectionName_in* on page 2190	Removes an SDMODataEntry from the cache.
- (BOOL) removeODataServiceDocument on page 2190	Removes the cached SDMODataServiceDocument which acts as a root of the metadata tree.
*- (void) setODataEntries: (NSArray *) entries_in byCollection: (NSString *) collectionName_in* on page 2190	Should store an array of SDMODataEntry instance pointers.
*- (void) setODataEntry: (const SDMODataEntry *) entry_in byCollection: (NSString *) collectionName_in* on page 2190	Should store data entry (which is the result of data parsing)
*- (void) setODataServiceDocument: (SDMODataServiceDocument *) serviceDocument_in* on page 2191	Should set a valid metadata tree with a SDMODataServiceDocument as root, which will be kept in memory.
- (void) setRegexSearchEnabled: (BOOL) flag_in on page 2191	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
```

Remarks
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
```

Remarks
supports wildcard based search (* and ?) at the cost of some performance hit

SDMConnectivityException class
Deprecated. Exception propagated from the library

Syntax
```
@interface SDMConnectivityException : NSException
```

Members
All members of SDMConnectivityException, including inherited members. **Methods**

Method	Description
- (id) init on page 2192	
*- (id) initWithError: (NSString *) error_in detailedError: (NSString *) details_in statusCode: (NSInteger) statusCode_in* on page 2192	

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>
```

Base protocols

- *SDMCacheDelegate* on page 2182

Members

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

Method	Description
+ (id) instance on page 2194	Static DownloadCache instance Used as a global cache To make HTTPRequests use it automatically, use [HTTPRequest setDefaultCache: [DownloadCache sharedCache]];.
*+ (NSDateFormatter *) rfc1123DateFormatter* on page 2194	
*+ (BOOL) serverAllowsResponseCachingForRequest: (SDMHttpRequest *) request* on page 2194	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
*- (NSDictionary *) cachedHeadersForRequest: (id< SDMRequesting >) request* on page 2183	Should return an NSDictionary of cached headers for the passed request, if it is stored in the cache.
*- (NSData *) cachedResponseDataForRequest: (id< SDMRequesting >) request* on page 2183	Should return the cached body of a response for the passed request, if it is stored in the cache.
- (void) clearCachedResponsesForStoragePolicy: (CacheStoragePolicy) cachePolicy on page 2183	Clear cached data stored for the passed storage policy.
- (CachePolicy) defaultCachePolicy on page 2183	Should return the cache policy that will be used when requests have their cache policy set to DefaultCachePolicy.
- (BOOL) isCachedDataCurrentForRequest: (id< SDMRequesting >) request on page 2183	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 *) pathToCachedResponseDataForRequest: (id< SDMRequesting >) request* on page 2184	Same as the above, but returns a path to the cached response body instead.
- (void) removeCachedDataForRequest: (id< SDMRequesting >) request on page 2184	Should Remove cached data for a particular request.
- (void) storeResponseForRequest: (id< SDMRequesting >) request maxAge: (NSTimeInterval) maxAge on page 2184	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 2195	
- *(BOOL) isDaysFieldPresent* on page 2195	
- *(BOOL) isHoursFieldPresent* on page 2195	
- *(BOOL) isMinutesFieldPresent* on page 2195	
- *(BOOL) isMonthsFieldPresent* on page 2195	

Method	Description
- (BOOL) isNegative on page 2195	
- (BOOL) isSecondsFieldPresent on page 2195	
- (BOOL) isYearsFieldPresent on page 2196	
- (void) setSign: (const BOOL) negativeDuration on page 2196	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
```

Remarks

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>
```

Base class

- *SDMHttpRequest* on page 2210

Members

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

Method	Description
*- (void) addData: (NSData *) data forKey: (NSString *) key* on page 2202	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 2203	Same as above, but you can specify the content-type and file name.
*- (void) addFile: (NSString *) filePath forKey: (NSString *) key* on page 2203	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 2203	Adds the contents of a local file to the request.

Method	Description
*- (void) addPostValue: (id< NSObject >) value forKey: (NSString *) key* on page 2203	Adds a POST variable to the request.
*- (NSString *) encodeURL: (NSString *) string* on page 2203	
*- (void) setData: (NSData *) data forKey: (NSString *) key* on page 2204	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 2204	Same as above, but you can specify the content-type and file name.
*- (void) setFile: (NSString *) filePath forKey: (NSString *) key* on page 2204	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 2204	Adds the contents of a local file to the request, clearing any others with the same key.
*- (void) setPostValue: (id< NSObject >) value forKey: (NSString *) key* on page 2204	Sets a POST variable for this request, clearing any others with the same key.

Inherited members from SDMHttpRequest

Member	Description
*- (void) addBasicAuthenticationHeaderWithUsername: (NSString *) theUsername andPassword: (NSString *) thePassword* on page 2215	Constructs a basic authentication header from the username and password supplied, and adds it to the request headers Used when shouldPresentCredentialsBeforeChallenge is YES.
*- (void) addRequestHeader: (NSString *) header value: (NSString *) value* on page 2216	Adds a custom header to the request.
*- (void) appendPostData: (NSData *) data* on page 2216	Adds data to the post body.
*- (void) appendPostDataFromFile: (NSString *) file* on page 2216	Adds data to the post body from a file.
- (void) applyAuthorizationHeader on page 2216	

Member	Description
- (void) applyCookieHeader on page 2216	Called during buildRequestHeaders and after a redirect to create a cookie header from request cookies and the global store.
+ (unsigned long) averageBandwidthUsedPerSecond on page 2217	Returns a rough average (for the last 5 seconds) of how much bandwidth is being used, in bytes.
*+ (NSString *) base64forData: (NSData *) theData* on page 2217	Base64 encodes the provided NSData*.
- (void) buildPostBody on page 2217	Creates the post body.
- (void) buildRequestHeaders on page 2217	Populates the request headers dictionary.
- (void) cancelAuthentication on page 2217	Should be called by delegates when they wish to cancel authentication and stop.
+ (void) clearSession on page 2217	
+ (const NSDataWritingOptions) dataWritingOptions on page 2218	Returns a mask which determines whether the data should be stored in encrypted form.
*+ (NSDate *) dateFromRFC1123String: (NSString *) string* on page 2218	Returns a date from a string in RFC1123 format.
*+ (NSString *) decodeBase64: (NSString *) string_in* on page 2218	Decodes a base64 encoded string.
+ (id< SDMCacheDelegate >) defaultCache on page 2218	Returns the default download cache or nil if none set at class level.
- (void) enableTracing: (BOOL) value_in on page 2218	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) enableXCSRF: (BOOL) enable on page 2218	Enable XSRF support.
*- (void) failWithError: (NSError *) theError* on page 2219	Called when a request fails, and lets the delegate know via didFailSelector.
*+ (NSDictionary *) fileProtectionAttributes* on page 2219	Returns a attributes dictionary used for encrypted file storage or nil is file protection has been explicitely disabled.

Member	Description
+ (NSInteger) getMaxConcurrentHTTPRequestCount on page 2219	Returns the maximum number of SDMHTTPRequest threads which can be executed in parallel.
- (void) handleNetworkEvent: (CFStreamEventType) type on page 2219	Handles network events as they occur.
*- (SDMHttpRequest *) HEADRequest* on page 2219	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 2220	Hides the network activity spinner.
+ (void) incrementBandwidthUsedInLastSecond: (unsigned long) bytes on page 2220	Used internally to record bandwidth use, and by InputStreams when uploading. It's probably best if you don't mess with this.
- (void) incrementDownloadSizeBy: (long long) length on page 2220	Called when we get a content-length header and shouldResetDownloadProgress is true.
- (void) incrementUploadSizeBy: (long long) length on page 2220	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 2220	Should be an HTTP or HTTPS url, may include username and password if appropriate.
+ (BOOL) isBandwidthThrottled on page 2220	Returns YES is bandwidth throttling is currently in use.
+ (BOOL) isNetworkInUse on page 2221	Indicates whether there are running requests.
+ (BOOL) isNetworkReachableViaWWAN on page 2221	Returns YES when an iPhone OS device is connected via WWAN, false when connected via WIFI or not connected.
- (BOOL) isResponseCompressed on page 2221	Returns true if the response was gzip compressed.
- (BOOL) isTracingEnabled on page 2221	Returns tracing status (default is NO)
+ (unsigned long) maxBandwidthPerSecond on page 2221	The maximum number of bytes ALL requests can send / receive in a second This is a rough figure.
+ (unsigned long) maxUploadReadLength on page 2222	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.

Member	Description
*+ (NSString *) mimeTypeForFileAtPath: (NSString *) path* on page 2222	
*+ (void) performSelector: (SEL) selector onTarget: (id *) target withObject: (id) object amount: (void *) amount* on page 2222	Helper method used for performing invocations on the main thread (used for progress)
- (void) performThrottling on page 2222	Perform bandwidth throttling.
*+ (void) removeCredentialsForHost: (NSString *) host port: (int) port protocol: (NSString *) protocol realm: (NSString *) realm* on page 2222	Deletes host credentials from the keychain.
*+ (void) removeCredentialsForProxy: (NSString *) host port: (int) port realm: (NSString *) realm* on page 2222	Deletes proxy credentials from the keychain.
- (void) removeUploadProgressSoFar on page 2223	Called when authorization is needed, as we only find out we don't have permission to something when the upload is complete.
*+ (id) requestWithURL: (NSURL *) newURL* on page 2223	Convenience constructor with url.
*+ (id) requestWithURL: (NSURL *) newURL usingCache: (id< SDMCacheDelegate >) cache* on page 2223	Convenience constructor with url and cache.
*+ (id) requestWithURL: (NSURL *) newURL usingCache: (id< SDMCacheDelegate >) cache andCachePolicy: (CachePolicy) policy* on page 2223	Convenience constructor with url, cache and cache policy.
*- (NSData *) responseData* on page 2223	Response data, automatically uncompressed where appropriate see responseString.
*- (NSString *) responseString* on page 2223	Returns the contents of the result as an NSString (not appropriate for binary data - used responseData instead)
- (void) retryUsingSuppliedCredentials on page 2224	Wakes up (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 2224	Saves host credentials to the keychain.
*+ (void) saveCredentials: (NSURLCredential *) credentials forProxy: (NSString *) host port: (int) port realm: (NSString *) realm* on page 2224	Saves proxy credentials to the keychain.
*- (void) saveCredentialsToKeychain: (NSDictionary *) newCredentials* on page 2224	Saves credentials for this request to the keychain.
*+ (NSURLCredential *) savedCredentialsForHost: (NSString *) host port: (int) port protocol: (NSString *) protocol realm: (NSString *) realm* on page 2224	Returns host credentials from the keychain.
*+ (NSURLCredential *) savedCredentialsForProxy: (NSString *) host port: (int) port protocol: (NSString *) protocol realm: (NSString *) realm* on page 2225	Returns proxy credentials from the keychain.
*- (void) sendE2ETraceXML: (NSURL *) toBaseURL* on page 2225	Posts the SAP E2E Trace XML to the given url.
- (void) setClientCertificateIdentity: (SecIdentityRef) anIdentity on page 2225	Sets the identity reference (X.509 certificate + private key) for this request; used for secure connections.
+ (void) setDefaultCache: (id< SDMCacheDelegate >) cache on page 2225	Configures a default download cache which applies for all requests.
*- (void) setEtag: (NSString *) etag withMatchType: (EtagMatchType) matchType* on page 2225	Add etag header.
+ (void) setMaxBandwidthPerSecond: (unsigned long) bytes on page 2225	Sets the maximum number of bytes ALL requests can send / receive in a second.
+ (void) setMaxConcurrentHTTPRequestCount: (const unsigned char) cnt on page 2226	Sets the maximum number of SDMHTTPRequest threads which can run at once.
+ (void) setProtectionEnabled: (BOOL) flag_in on page 2226	Controls whether the download cache should store files using protection.

Member	Description
+ (void) setShouldThrottleBandwidthForWWAN: (BOOL) throttle on page 2226	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 2226	Controls whether the request should take over updating the network activity indicator.
*+ (NSOperationQueue *) sharedQueue* on page 2226	Returns the shared queue.
+ (void) showNetworkActivityIndicator on page 2227	Shows the network activity spinner.
- (void) startAsynchronous on page 2227	Runs request in the background The client should register callback selector in order to get notified about various events (failure, completion, etc.)
- (void) startSynchronous on page 2227	Runs a request synchronously, and returns control when the request completes or fails.
+ (void) throttleBandwidthForWWANUsingLimit: (unsigned long) limit on page 2227	Turns on throttling automatically when WWAN is connected using a custom limit, and turns it off automatically when it isn't.
- (void) updateDownloadProgress on page 2227	Updates download progress (notifies the queue and/or downloadProgressDelegate of this request)
*+ (void) updateProgressIndicator: (id *) indicator withProgress: (unsigned long long) progress ofTotal: (unsigned long long) total* on page 2227	Helper method for interacting with progress indicators to abstract the details of different APIS (NSProgressIndicator and UIProgressView)
- (void) updateProgressIndicators on page 2228	Updates the progress delegates.
- (void) updateUploadProgress on page 2228	Updates upload progress (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
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
```

Remarks
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
```

Remarks
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
```

Base class

- *SDMGenericParser* on page 2206

Members

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

Method	Description
*- (id) initWithFunctionImport: (const SDMODataFunctionImport *const) newFunctionImport* on page 2206	

Inherited members from SDMGenericParser

Member	Description
- (void) abortParsing on page 2208	
*- (void) characters: (NSString *const) string* on page 2208	
- (void) endDocument on page 2208	
*- (void) endElement: (NSString *const) elementName namespaceURI: (NSString *const) namespaceURI* on page 2208	
- (id) init on page 2208	
*- (void) parse: (NSData *const) content* on page 2208	Parses the passed data as XML.
*- (void) parseContentsOfURL: (NSURL *const) url* on page 2209	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 2209	

Member	Description
*- (void) parser: (NSXMLParser *) parser didStartElement: (NSString *) elementName namespaceURI: (NSString *) namespaceURI qualifiedName: (NSString *) qualifiedName attributes: (NSDictionary *) attributeDict* on page 2209	
*- (void) parser: (NSXMLParser *) parser foundCharacters: (NSString *) string* on page 2209	
*- (void) parserDidEndDocument: (NSXMLParser *) parser* on page 2209	
*- (void) parserDidStartDocument: (NSXMLParser *) parser* on page 2209	
- (void) setDoProcessPrefixes: (BOOL) processPrefixes on page 2209	
- (void) startDocument on page 2210	
*- (void) startElement: (NSString *const) elementName namespaceURI: (NSString *const) namespaceURI attributes: (NSDictionary *const) attributes* on page 2210	

initWithFunctionImport: method

Syntax

```
- (id) initWithFunctionImport :(const
SDMODataFunctionImport *const) newFunctionImport
```

SDMGenericParser class

Deprecated.

Syntax

```
@interface SDMGenericParser : NSObject
<NSXMLParserDelegate> <SDMParserDelegate>
```

Base protocols

- *SDMParserDelegate* on page 2281

Derived classes

- *SDMFunctionImportResultParser* on page 2205

- *SDMODataDataParser* on page 2234
- *SDMODataErrorXMLParser* on page 2243
- *SDMODataMetaDocumentParser* on page 2250
- *SDMODataServiceDocumentParser* on page 2275
- *SDMOpenSearchDescriptionXMLParser* on page 2279

Members

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

Method	Description
- (void) abortParsing on page 2208	
*- (void) characters: (NSString *const) string* on page 2208	
- (void) endDocument on page 2208	
*- (void) endElement: (NSString *const) elementName namespaceURI: (NSString *const) namespaceURI* on page 2208	
- (id) init on page 2208	
*- (void) parse: (NSData *const) content* on page 2208	Parses the passed data as XML.
*- (void) parseContentsOfURL: (NSURL *const) url* on page 2209	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 2209	
*- (void) parser: (NSXMLParser *) parser didStartElement: (NSString *) elementName namespaceURI: (NSString *) namespaceURI qualifiedName: (NSString *) qualifiedName attributes: (NSDictionary *) attributeDict* on page 2209	
*- (void) parser: (NSXMLParser *) parser foundCharacters: (NSString *) string* on page 2209	
*- (void) parserDidEndDocument: (NSXMLParser *) parser* on page 2209	
*- (void) parserDidStartDocument: (NSXMLParser *) parser* on page 2209	

Method	Description
- (void) setDoProcessPrefixes: (BOOL) processPrefixes on page 2209	
- (void) startDocument on page 2210	
*- (void) startElement: (NSString *const) elementName namespaceURI: (NSString *const) namespaceURI attributes: (NSDictionary *const) attributes* on page 2210	

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>
```

Base protocols

- *SDMRequesting* on page 2298

Derived classes

- *SDMFormDataRequest* on page 2196

Members

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

Method	Description
*- (void) addBasicAuthenticationHeaderWithUsername: (NSString *) theUsername andPassword: (NSString *) thePassword* on page 2215	Constructs a basic authentication header from the username and password supplied, and adds it to the request headers Used when shouldPresentCredentialsBeforeChallenge is YES.
*- (void) addRequestHeader: (NSString *) header value: (NSString *) value* on page 2216	Adds a custom header to the request.
*- (void) appendPostData: (NSData *) data* on page 2216	Adds data to the post body.
*- (void) appendPostDataFromFile: (NSString *) file* on page 2216	Adds data to the post body from a file.

Method	Description
- (void) applyAuthorizationHeader on page 2216	
- (void) applyCookieHeader on page 2216	Called during buildRequestHeaders and after a redirect to create a cookie header from request cookies and the global store.
+ (unsigned long) averageBandwidthUsedPerSecond on page 2217	Returns a rough average (for the last 5 seconds) of how much bandwidth is being used, in bytes.
*+ (NSString *) base64forData: (NSData *) theData* on page 2217	Base64 encodes the provided NSData*.
- (void) buildPostBody on page 2217	Creates the post body.
- (void) buildRequestHeaders on page 2217	Populates the request headers dictionary.
- (void) cancelAuthentication on page 2217	Should be called by delegates when they wish to cancel authentication and stop.
+ (void) clearSession on page 2217	
+ (const NSDataWritingOptions) dataWritingOptions on page 2218	Returns a mask which determines whether the data should be stored in encrypted form.
*+ (NSDate *) dateFromRFC1123String: (NSString *) string* on page 2218	Returns a date from a string in RFC1123 format.
*+ (NSString *) decodeBase64: (NSString *) string_in* on page 2218	Decodes a base64 encoded string.
+ (id< SDMCacheDelegate >) defaultCache on page 2218	Returns the default download cache or nil if none set at class level.
- (void) enableTracing: (BOOL) value_in on page 2218	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) enableXCSRF: (BOOL) enable on page 2218	Enable XSRF support.
*- (void) failWithError: (NSError *) theError* on page 2219	Called when a request fails, and lets the delegate know via didFailSelector.

Method	Description
*+ (NSDictionary *) fileProtectionAttributes* on page 2219	Returns a attributes dictionary used for encrypted file storage or nil is file protection has been explicitely disabled.
+ (NSInteger) getMaxConcurrentHTTPRequestCount on page 2219	Returns the maximum number of SDMHTTPRequest threads which can be executed in parallel.
- (void) handleNetworkEvent: (CFStreamEventType) type on page 2219	Handles network events as they occur.
*- (SDMHttpRequest *) HEADRequest* on page 2219	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 2220	Hides the network activity spinner.
+ (void) incrementBandwidthUsedInLastSecond: (unsigned long) bytes on page 2220	Used internally to record bandwidth use, and by InputStreams when uploading. It's probably best if you don't mess with this.
- (void) incrementDownloadSizeBy: (long long) length on page 2220	Called when we get a content-length header and shouldResetDownloadProgress is true.
- (void) incrementUploadSizeBy: (long long) length on page 2220	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 2220	Should be an HTTP or HTTPS url, may include username and password if appropriate.
+ (BOOL) isBandwidthThrottled on page 2220	Returns YES is bandwidth throttling is currently in use.
+ (BOOL) isNetworkInUse on page 2221	Indicates whether there are running requests.
+ (BOOL) isNetworkReachableViaWWAN on page 2221	Returns YES when an iPhone OS device is connected via WWAN, false when connected via WIFI or not connected.
- (BOOL) isResponseCompressed on page 2221	Returns true if the response was gzip compressed.
- (BOOL) isTracingEnabled on page 2221	Returns tracing status (default is NO)
+ (unsigned long) maxBandwidthPerSecond on page 2221	The maximum number of bytes ALL requests can send / receive in a second This is a rough figure.

Method	Description
+ (unsigned long) maxUploadReadLength on page 2222	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 2222	
*+ (void) performSelector: (SEL) selector onTarget: (id *) target withObject: (id) object amount: (void *) amount* on page 2222	Helper method used for performing invocations on the main thread (used for progress)
- (void) performThrottling on page 2222	Perform bandwidth throttling.
*+ (void) removeCredentialsForHost: (NSString *) host port: (int) port protocol: (NSString *) protocol realm: (NSString *) realm* on page 2222	Deletes host credentials from the keychain.
*+ (void) removeCredentialsForProxy: (NSString *) host port: (int) port realm: (NSString *) realm* on page 2222	Deletes proxy credentials from the keychain.
- (void) removeUploadProgressSoFar on page 2223	Called when authorization is needed, as we only find out we don't have permission to something when the upload is complete.
*+ (id) requestWithURL: (NSURL *) newURL* on page 2223	Convenience constructor with url.
*+ (id) requestWithURL: (NSURL *) newURL usingCache: (id< SDMCacheDelegate >) cache* on page 2223	Convenience constructor with url and cache.
*+ (id) requestWithURL: (NSURL *) newURL usingCache: (id< SDMCacheDelegate >) cache andCachePolicy: (CachePolicy) policy* on page 2223	Convenience constructor with url, cache and cache policy.
*- (NSData *) responseData* on page 2223	Response data, automatically uncompressed where appropriate see responseString.
*- (NSString *) responseString* on page 2223	Returns the contents of the result as an NSString (not appropriate for binary data - used responseData instead)
- (void) retryUsingSuppliedCredentials on page 2224	Wakes up (unlocks) the request thread so it can resume the request.

Method	Description
*+ (void) saveCredentials: (NSURLCredential *) credentials forHost: (NSString *) host port: (int) port protocol: (NSString *) protocol realm: (NSString *) realm* on page 2224	Saves host credentials to the keychain.
*+ (void) saveCredentials: (NSURLCredential *) credentials forProxy: (NSString *) host port: (int) port realm: (NSString *) realm* on page 2224	Saves proxy credentials to the keychain.
*- (void) saveCredentialsToKeychain: (NSDictionary *) newCredentials* on page 2224	Saves credentials for this request to the keychain.
*+ (NSURLCredential *) savedCredentialsForHost: (NSString *) host port: (int) port protocol: (NSString *) protocol realm: (NSString *) realm* on page 2224	Returns host credentials from the keychain.
*+ (NSURLCredential *) savedCredentialsForProxy: (NSString *) host port: (int) port protocol: (NSString *) protocol realm: (NSString *) realm* on page 2225	Returns proxy credentials from the keychain.
*- (void) sendE2ETraceXML: (NSURL *) toBaseURL* on page 2225	Posts the SAP E2E Trace XML to the given url.
- (void) setClientCertificateIdentity: (SecIdentityRef) anIdentity on page 2225	Sets the identity reference (X.509 certificate + private key) for this request; used for secure connections.
+ (void) setDefaultCache: (id< SDMCacheDelegate >) cache on page 2225	Configures a default download cache which applies for all requests.
*- (void) setEtag: (NSString *) etag withMatchType: (EtagMatchType) matchType* on page 2225	Add etag header.
+ (void) setMaxBandwidthPerSecond: (unsigned long) bytes on page 2225	Sets the maximum number of bytes ALL requests can send / receive in a second.
+ (void) setMaxConcurrentHTTPRequestCount: (const unsigned char) cnt on page 2226	Sets the maximum number of SDMHTTPRequest threads which can run at once.
+ (void) setProtectionEnabled: (BOOL) flag_in on page 2226	Controls whether the download cache should store files using protection.

Method	Description
+ (void) setShouldThrottleBandwidthForWWAN: (BOOL) throttle on page 2226	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 2226	Controls whether the request should take over updating the network activity indicator.
*+ (NSOperationQueue *) sharedQueue* on page 2226	Returns the shared queue.
+ (void) showNetworkActivityIndicator on page 2227	Shows the network activity spinner.
- (void) startAsynchronous on page 2227	Runs request in the background The client should register callback selector in order to get notified about various events (failure, completion, etc.)
- (void) startSynchronous on page 2227	Runs a request synchronously, and returns control when the request completes or fails.
+ (void) throttleBandwidthForWWANUsingLimit: (unsigned long) limit on page 2227	Turns on throttling automatically when WWAN is connected using a custom limit, and turns it off automatically when it isn't.
- (void) updateDownloadProgress on page 2227	Updates download progress (notifies the queue and/or downloadProgressDelegate of this request)
*+ (void) updateProgressIndicator: (id *) indicator withProgress: (unsigned long long) progress ofTotal: (unsigned long long) total* on page 2227	Helper method for interacting with progress indicators to abstract the details of different APIS (NSProgressIndicator and UIProgressView)
- (void) updateProgressIndicators on page 2228	Updates the progress delegates.
- (void) updateUploadProgress on page 2228	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
```

Remarks
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
```

Remarks
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
```

Remarks
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
```

Remarks
Data will be stored in encrypted form by 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
```

Remarks
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 explicitely 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
```

Remarks
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
```

Remarks
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
```

Remarks
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 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
```

Remarks
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
```

Remarks
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
```

Remarks
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 housekeepig 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 2126

Members
All members of SDMHttpRequestDelegate, including inherited members. **Methods**

Method	Description
*- (void) authenticationNeededForRequest: (SDMHttpRequest *) request* on page 2229	Default delegate method called when credentials must be supplied for authentication.
*- (void) proxyAuthenticationNeededForRequest: (SDMHttpRequest *) request* on page 2229	Default delegate method called when the proxy requires credentials for authentication.
*- (void) request: (SDMHttpRequest *) request didReceiveData: (const NSData *const) data_in* on page 2229	Default delegate method invoked when incoming data is available.
*- (void) requestFailed: (SDMHttpRequest *) request* on page 2229	Default delegate method called when the request fails.

Method	Description
*- (void) requestFinished: (SDMHttpRequest *) request* on page 2230	Default delegate method called when the request completes.
*- (void) requestRedirected: (SDMHttpRequest *) request* on page 2230	Default delegate method called when the request gets redirected.
*- (void) requestStarted: (SDMHttpRequest *) request* on page 2230	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
```

Remarks
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
```

Remarks
implement it to get informed when the request starts You can override this default delegate by setting SDMHttpRequest didStartSelector

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
```

Base class
- *SDMODataLink* on page 2247

Members
All members of SDMODataActionLink, including inherited members. **Methods**

Method	Description
*- (NSString *) createActionLinkURL: (NSDictionary *) parameters* on page 2231	Creates the final action link URL that can be used in an HTTP request to execute the action in the backend.
*- (NSDictionary *) getParameters* on page 2231	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 2248	
*- (id) initWithHRef: (NSString *const) newHRef andLinkRel: (NSString *const) newRel* on page 2248	
*- (id) initWithHRef: (NSString *const) newHRef andLinkRel: (NSString *const) newRel andLinkType: (NSString *const) newType* on page 2248	
*- (id) initWithHRef: (NSString *const) newHRef andLinkRel: (NSString *const) newRel andLinkType: (NSString *const) newType andLinkTitle: (NSString *const) newTitle* on page 2248	
*- (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 2249	

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

Remarks

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
```

Remarks

The dictionary contains SDMODataPropertyValue... 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 SDMODataPropertyValueString. Use SDMODataPropertyValueObject provides generic, but only string based access to values for reading and writing.

SDMODataCollection class

Deprecated. Collection information

Syntax

```
@interface  SDMODataCollection  :  NSObject <NSCoding>
```

Members

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

Method	Description
*- (BOOL) addIcon: (const SDMODataIconInfo *const) newIcon* on page 2233	
*- (BOOL) addLink: (const SDMODataLink *const) newLink* on page 2233	
- (BOOL) doesRequireFilter on page 2233	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.)
*- (SDMODataLink *) getSubscriptionLink* on page 2233	if the collection supports subscription, then the returned object will be an SDMODataLink, otherwise nil.
- (BOOL) hasMedia on page 2233	Queries if a collection has media links or not.
*- (id) initWithName: (NSString *const) newName* on page 2233	
- (BOOL) isCreatable on page 2234	Queries if a acollection allows creating new entries or not.
- (BOOL) isDeletable on page 2234	Queries if a collection allows deleting its entries.
- (BOOL) isSearchable on page 2234	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) isTopLevel* on page 2234	Queries if a collection should appear on the main screen as a starting/root collection.
- *(BOOL) isUpdatable* on page 2234	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 acollection 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. 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; { SDMODataDataParser* dataParser = [[[SDMODataDataParser alloc] initWithEntitySchema: entitySchema andServiceDocument: serviceDocument] autorelease]; [dataParser parse: content_in]; entries = [dataParser.entries retain]; (SDMParserException* e) { //error handling... }

Syntax

```
@interface  SDMODataDataParser  :  SDMGenericParser
```

Base class

- *SDMGenericParser* on page 2206

Members

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

Method	Description
*- (id) initWithEntitySchema: (const SDMODataEntitySchema *const) newEntitySchema* on page 2236	
*- (id) initWithEntitySchema: (const SDMODataEntitySchema *const) newEntitySchema andServiceDocument: (const SDMODataServiceDocument *const) newServiceDocument* on page 2236	
*- (void) parse: (NSData *const) content* on page 2237	Parses the passed data as XML.

Inherited members from SDMGenericParser

Member	Description
- (void) abortParsing on page 2208	
*- (void) characters: (NSString *const) string* on page 2208	
- (void) endDocument on page 2208	
*- (void) endElement: (NSString *const) elementName namespaceURI: (NSString *const) namespaceURI* on page 2208	
- (id) init on page 2208	
*- (void) parseContentsOfURL: (NSURL *const) url* on page 2209	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 2209	
*- (void) parser: (NSXMLParser *) parser didStartElement: (NSString *) elementName namespaceURI: (NSString *) namespaceURI qualifiedName: (NSString *) qualifiedName attributes: (NSDictionary *) attributeDict* on page 2209	
*- (void) parser: (NSXMLParser *) parser foundCharacters: (NSString *) string* on page 2209	
*- (void) parserDidEndDocument: (NSXMLParser *) parser* on page 2209	
*- (void) parserDidStartDocument: (NSXMLParser *) parser* on page 2209	
- (void) setDoProcessPrefixes: (BOOL) processPrefixes on page 2209	
- (void) startDocument on page 2210	
*- (void) startElement: (NSString *const) elementName namespaceURI: (NSString *const) namespaceURI attributes: (NSDictionary *const) attributes* on page 2210	

initWithEntitySchema: method

Syntax

```
- (id) initWithEntitySchema :(const SDMODataEntitySchema *const) newEntitySchema
```

initWithEntitySchema:andServiceDocument: method

Syntax

```
- (id) initWithEntitySchema :(const SDMODataEntitySchema *const) newEntitySchema andServiceDocument :(const SDMODataServiceDocument *const) newServiceDocument
```

parse: method
Parses the passed data as XML.

Syntax
```
- (void) parse :(NSData *const) content
```

SDMODataEntitySchema class
Deprecated.

Syntax
```
@interface SDMODataEntitySchema : NSObject <NSCoding>
```

Members
All members of SDMODataEntitySchema, including inherited members. **Methods**

Method	Description
*- (NSArray *const) getVisibleInDetailPathsInOrder* on page 2237	Gets the property paths of those properties that are visible on detail screens.
*- (NSArray *const) getVisibleInListPathsInOrder* on page 2237	Gets the property paths of those properties that are visible on list screens.
- (id) init on page 2238	

getVisibleInDetailPathsInOrder method
Gets the property paths of those properties that are visible on detail screens.

Syntax
```
- (NSArray *const) getVisibleInDetailPathsInOrder
```

Remarks
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
```

Remarks
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 2239	
*- (void) addLink: (const SDMODataLink *const) link* on page 2239	
*- (NSArray *const) getActionLinks* on page 2239	Returns an array of SDMODataActionLink objects.
*- (NSArray *const) getInlinedRelatedEntriesForRelatedLink: (NSString *const) relatedUrl* on page 2239	Gets an inlined related list of entries for a related link.
*- (NSArray *) getMediaLinksForEditing* on page 2240	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 2240	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 2240	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 2240	Returns a related link that matches the given navigation property name or nil, if link is not found.

Method	Description
*- (NSArray *const) getRelatedLinks* on page 2240	Returns an array of SDMODataRelatedLink objects.
*- (SDMODataLink *) getSubscriptionLink* on page 2241	if the entry supports subscription, then the returned object will be an SDMODataLink, otherwise nil.
*- (NSDate *) getUpdated* on page 2241	Returns the date when the entry was updated.
*- (NSArray *const) getVisibleDetailPropertiesInOrder* on page 2241	Gets the visible property value objects in details ordered by the display order attribute value.
*- (NSArray *const) getVisibleListPropertiesInOrder* on page 2241	Gets the visible property value objects in lists ordered by the display order attribute value.
*- (id) initWithEntitySchema: (const SDMODataEntitySchema *const) newEntitySchema* on page 2241	
- (BOOL) isValid on page 2241	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) relatedUrl
```

Remarks
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
```
- (SDMODataPropertyValueObject *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 SDMODataRelatedLink *const)
getRelatedLinkByNavigationPropertyName :(NSString *const)
navigationPropertyName
```

getRelatedLinks method
Returns an array of SDMODataRelatedLink objects.

Syntax
```
- (NSArray *const) getRelatedLinks
```

Remarks
The links are absolute links and the targetCollection property of the SDMODataRelatedLink 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
```

Remarks
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
- *(id) init* on page 2242	

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
- *(id) init* on page 2242	

init method

Syntax

```
- (id) init
```

SDMODataError class

Deprecated. Stores the parsed data fields of OData error payloads. 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"

Syntax

```
@interface  SDMODataError  :  NSObject
```

Members

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

Method	Description
- *(id) init* on page 2243	

init method

Syntax

```
-  ( id )  init
```

SDMODataErrorXMLParser class

Deprecated. Parses an OData error payload and returns an SDMODataError instance with the parsed values. 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>

Syntax

```
@interface  SDMODataErrorXMLParser  :  SDMGenericParser
```

Base class

- *SDMGenericParser* on page 2206

Members

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

Method	Description
- *(id) init* on page 2244	

Inherited members from SDMGenericParser

Member	Description
- *(void) abortParsing* on page 2208	
- *(void) characters: (NSString *const) string* on page 2208	

Member	Description
- (void) endDocument on page 2208	
*- (void) endElement: (NSString *const) elementName namespaceURI: (NSString *const) namespaceURI* on page 2208	
*- (void) parse: (NSData *const) content* on page 2208	Parses the passed data as XML.
*- (void) parseContentsOfURL: (NSURL *const) url* on page 2209	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 2209	
*- (void) parser: (NSXMLParser *) parser didStartElement: (NSString *) elementName namespaceURI: (NSString *) namespaceURI qualifiedName: (NSString *) qualifiedName attributes: (NSDictionary *) attributeDict* on page 2209	
*- (void) parser: (NSXMLParser *) parser foundCharacters: (NSString *) string* on page 2209	
*- (void) parserDidEndDocument: (NSXMLParser *) parser* on page 2209	
*- (void) parserDidStartDocument: (NSXMLParser *) parser* on page 2209	
- (void) setDoProcessPrefixes: (BOOL) processPrefixes on page 2209	
- (void) startDocument on page 2210	
*- (void) startElement: (NSString *const) elementName namespaceURI: (NSString *const) namespaceURI attributes: (NSDictionary *const) attributes* on page 2210	

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
*- (NSString *) generateFunctionImportUrl: (NSString *const) baseUrl parameters: (NSDictionary *const) parameters* on page 2245	Generates the URL that is required to execute the backend functionality that is mapped to the function import.
*- (NSMutableDictionary *) getWritableParameters* on page 2245	Creates a dictionary of property values (SDMODataPropertyValue...) that can be used as function import parameters.
*- (id) initWithName: (NSString *const) newName* on page 2246	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**

Remarks

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
```

Remarks
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 SDMODataPropertyValue.... The name of the SDMODataPropertyValue... instance will be the name of the parameter.

initWithName: method
Creates a function import with the name specified.

Syntax
```
- (id) initWithName :(NSString *const) newName
```

SDMODataFunctionImportParameter class
Deprecated. OData Function Import Parameter class

Syntax
```
@interface SDMODataFunctionImportParameter : NSObject
<NSCoding>
```

Members
All members of SDMODataFunctionImportParameter, including inherited members.
Methods

Method	Description
*- (id) initWithMetaInfo: (const SDMODataPropertyInfo *) newMetaInfo* on page 2246	

initWithMetaInfo: method

Syntax
```
- (id) initWithMetaInfo :(const SDMODataPropertyInfo *)
```
newMetaInfo

SDMODataIconInfo class
Deprecated. icon information

Syntax
```
@interface SDMODataIconInfo : NSObject <NSCoding>
```

Members
All members of SDMODataIconInfo, including inherited members. **Methods**

Method	Description
*- (id) initWithUrl: (NSString *const) newUrl* on page 2247	
*- (id) initWithUrl: (NSString *const) newUrl andWidth: (const size_t) newWidth andHeight: (const size_t) newHeight* on page 2247	

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 2230
- *SDMODataMediaResourceLink* on page 2249
- *SDMODataRelatedLink* on page 2271

Members

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

Method	Description
*- (id) initWithHRef: (NSString *const) newHRef* on page 2248	
*- (id) initWithHRef: (NSString *const) newHRef andLinkRel: (NSString *const) newRel* on page 2248	

Method	Description
*- (id) initWithHRef: (NSString *const) newHRef andLinkRel: (NSString *const) newRel andLinkType: (NSString *const) newType* on page 2248	
*- (id) initWithHRef: (NSString *const) newHRef andLinkRel: (NSString *const) newRel andLinkType: (NSString *const) newType andLinkTitle: (NSString *const) newTitle* on page 2248	
*- (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 2249	

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
```

Base class

- *SDMODataLink* on page 2247

Members

All members of SDMODataMediaResourceLink, including inherited members. **Inherited members from SDMODataLink**

Member	Description
*- (id) initWithHRef: (NSString *const) newHRef* on page 2248	
*- (id) initWithHRef: (NSString *const) newHRef andLinkRel: (NSString *const) newRel* on page 2248	
*- (id) initWithHRef: (NSString *const) newHRef andLinkRel: (NSString *const) newRel andLink-Type: (NSString *const) newType* on page 2248	
*- (id) initWithHRef: (NSString *const) newHRef andLinkRel: (NSString *const) newRel andLink-Type: (NSString *const) newType andLinkTitle: (NSString *const) newTitle* on page 2248	

Member	Description
*- (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 2249	

SDMODataMetaDocumentParser class

Deprecated. Parses and matches the schema with the service document and its collections. 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... }

Syntax

```
@interface  SDMODataMetaDocumentParser  :
SDMGenericParser
```

Base class

- *SDMGenericParser* on page 2206

Members

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

Method	Description
*- (id) initWithServiceDocument: (SDMODataServiceDocument *const) newServiceDocument* on page 2251	

Inherited members from SDMGenericParser

Member	Description
- (void) abortParsing on page 2208	
*- (void) characters: (NSString *const) string* on page 2208	
- (void) endDocument on page 2208	
*- (void) endElement: (NSString *const) elementName namespaceURI: (NSString *const) namespaceURI* on page 2208	

Member	Description
- (id) init on page 2208	
*- (void) parse: (NSData *const) content* on page 2208	Parses the passed data as XML.
*- (void) parseContentsOfURL: (NSURL *const) url* on page 2209	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 2209	
*- (void) parser: (NSXMLParser *) parser didStartElement: (NSString *) elementName namespaceURI: (NSString *) namespaceURI qualifiedName: (NSString *) qualifiedName attributes: (NSDictionary *) attributeDict* on page 2209	
*- (void) parser: (NSXMLParser *) parser foundCharacters: (NSString *) string* on page 2209	
*- (void) parserDidEndDocument: (NSXMLParser *) parser* on page 2209	
*- (void) parserDidStartDocument: (NSXMLParser *) parser* on page 2209	
- (void) setDoProcessPrefixes: (BOOL) processPrefixes on page 2209	
- (void) startDocument on page 2210	
*- (void) startElement: (NSString *const) elementName namespaceURI: (NSString *const) namespaceURI attributes: (NSDictionary *const) attributes* on page 2210	

initWithServiceDocument: method

Syntax

```
- (id) initWithServiceDocument :(SDMODataServiceDocument *const) newServiceDocument
```

SDMODataPropertyInfo class

Deprecated. Property information list of attributes: 7.1.5 OData Metadata Document + 3.1.9 Properties

Syntax

```
@interface  SDMODataPropertyInfo  :  NSObject <NSCoding>
```

Members

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

Method	Description
*- (void) addChildPropertyInfo: (const SDMODataPropertyInfo *const) child* on page 2252	
*- (SDMODataPropertyInfo *const) getPropertyInfoByPath: (NSString *const) path* on page 2253	Returns a pointer to a writable property info by path example path: "items\description \lang_code".
*- (id) initWithName: (NSString *const) propName andPropEdmType: (const enum TEN_EDM_TYPES) propEdmType* on page 2253	
- (BOOL) isCreatable on page 2253	
- (BOOL) isFilterable on page 2253	
- (BOOL) isKey on page 2253	
- (BOOL) isNullable on page 2253	
- (BOOL) isSearchable on page 2253	
- (BOOL) isServerGenerated on page 2254	
- (BOOL) isUpdatable on page 2254	
- (BOOL) isVisibleInDetail on page 2254	
- (BOOL) isVisibleInList on page 2254	

addChildPropertyInfo: method

Syntax

```
- ( void ) addChildPropertyInfo : ( const SDMODataPropertyInfo *const ) child
```

getPropertyInfoByPath: method
Returns a pointer to a writable property info by path example path: "items\description \lang_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
```

SDMODataPropertyValueBinary class
Deprecated. Binary

Syntax
```
@interface SDMODataPropertyValueBinary : SDMODataPropertyValueObject
```

Base class

- *SDMODataPropertyValueObject* on page 2266

Members
All members of SDMODataPropertyValueBinary, including inherited members. **Methods**

Method	Description
*- (NSMutableData *) getBinaryData* on page 2255	Decodes the stored base64 string and returns the decoded data (mutable)
*- (void) setBinaryData: (NSData *) newValue* on page 2255	Base64 encodes the passed data and stores the result as string.

Inherited members from SDMODataPropertyValueObject

Member	Description
*- (NSString *const) getDefaultValue* on page 2267	Returns the default value of the given EDM type.
*- (NSString *const) getHTMLEncodedValue* on page 2267	Returns the HTML encoded value of the stored value.
*- (id) initWithPropertyInfo: (const SDMODataPropertyInfo *const) propInfo* on page 2267	
*- (id) initWithPropertyInfo: (const SDMODataPropertyInfo *const) propInfo andValue: (NSString *const) initialValue* on page 2267	
- (BOOL) isValid on page 2267	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
```

Base class

- *SDMODataPropertyValueObject* on page 2266

Members

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

Method	Description
*- (NSNumber *) getBooleanValue* on page 2256	Since OData can define a nullable bool property that means the return type BOOL would not be sufficient.
*- (void) setBooleanValue: (NSNumber *) newValue* on page 2256	

Inherited members from SDMODataPropertyValueObject

Member	Description
*- (NSString *const) getDefaultValue* on page 2267	Returns the default value of the given EDM type.
*- (NSString *const) getHTMLEncodedValue* on page 2267	Returns the HTML encoded value of the stored value.
*- (id) initWithPropertyInfo: (const SDMODataPropertyInfo *const) propInfo* on page 2267	
*- (id) initWithPropertyInfo: (const SDMODataPropertyInfo *const) propInfo andValue: (NSString *const) initialValue* on page 2267	
- (BOOL) isValid on page 2267	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
```

Remarks

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
```

Base class

- *SDMODataPropertyValueObject* on page 2266

Members

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

Method	Description
*- (NSString *const) getDefaultValue* on page 2257	Returns the default value of the given EDM type.
*- (NSString *const) getHTMLEncodedValue* on page 2257	Returns the HTML encoded value of the stored value.

Inherited members from SDMODataPropertyValueObject

Member	Description
*- (id) initWithPropertyInfo: (const SDMODataPropertyInfo *const) propInfo* on page 2267	
*- (id) initWithPropertyInfo: (const SDMODataPropertyInfo *const) propInfo andValue: (NSString *const) initialValue* on page 2267	
- (BOOL) isValid on page 2267	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
```

Remarks
Required by the XML serializer.

SDMODataPropertyValueDateTime class
Deprecated. DateTime

Syntax
```
@interface SDMODataPropertyValueDateTime : SDMODataPropertyValueObject
```

Base class

- *SDMODataPropertyValueObject* on page 2266

Derived classes

- *SDMODataPropertyValueDateTimeOffset* on page 2259

Members
All members of SDMODataPropertyValueDateTime, including inherited members. **Methods**

Method	Description
*- (NSDate *) getDateValue* on page 2259	
*- (void) setDateValue: (NSDate *) newValue* on page 2259	

Inherited members from SDMODataPropertyValueObject

Member	Description
*- (NSString *const) getDefaultValue* on page 2267	Returns the default value of the given EDM type.
*- (NSString *const) getHTMLEncodedValue* on page 2267	Returns the HTML encoded value of the stored value.
*- (id) initWithPropertyInfo: (const SDMODataPropertyInfo *const) propInfo* on page 2267	
*- (id) initWithPropertyInfo: (const SDMODataPropertyInfo *const) propInfo andValue: (NSString *const) initialValue* on page 2267	
- (BOOL) isValid on page 2267	Checks if the object stores a valid value.

getDateValue method

Syntax

```
- (NSDate *) getDateValue
```

setDateValue: method

Syntax

```
- (void) setDateValue :(NSDate *) newValue
```

SDMODataPropertyValueDateTimeOffset class

Deprecated. Edm.DateTimeOffset

Syntax

```
@interface SDMODataPropertyValueDateTimeOffset :
SDMODataPropertyValueDateTime
```

Base class

- *SDMODataPropertyValueDateTime* on page 2258

Members

All members of SDMODataPropertyValueDateTimeOffset, including inherited members.

Inherited members from SDMODataPropertyValueDateTime

Member	Description
*- (NSDate *) getDateValue* on page 2259	
*- (void) setDateValue: (NSDate *) newValue* on page 2259	

Inherited members from SDMODataPropertyValueObject

Member	Description
*- (NSString *const) getDefaultValue* on page 2267	Returns the default value of the given EDM type.
*- (NSString *const) getHTMLEncodedValue* on page 2267	Returns the HTML encoded value of the stored value.
*- (id) initWithPropertyInfo: (const SDMODataPropertyInfo *const) propInfo* on page 2267	

Member	Description
*- (id) initWithPropertyInfo: (const SDMODataPropertyInfo *const) propInfo andValue: (NSString *const) initialValue* on page 2267	
- (BOOL) isValid on page 2267	Checks if the object stores a valid value.

SDMODataPropertyValueDecimal 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 XMLSCHEME2: 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^exponent where mantissa is a decimal integer up to 38 digits long, and exponent is an integer from –128 through 127. 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.

Syntax

```
@interface SDMODataPropertyValueDecimal :
SDMODataPropertyValueObject
```

Base class

- *SDMODataPropertyValueObject* on page 2266

Members

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

Method	Description
*- (NSDecimalNumber *) getDecimalValue* on page 2261	
*- (void) setDecimalValue: (NSDecimalNumber *) newValue* on page 2261	

Inherited members from SDMODataPropertyValueObject

Member	Description
*- (NSString *const) getDefaultValue* on page 2267	Returns the default value of the given EDM type.

Member	Description
*- (NSString *const) getHTMLEncodedValue* on page 2267	Returns the HTML encoded value of the stored value.
*- (id) initWithPropertyInfo: (const SDMODataPropertyInfo *const) propInfo* on page 2267	
*- (id) initWithPropertyInfo: (const SDMODataPropertyInfo *const) propInfo andValue: (NSString *const) initialValue* on page 2267	
- (BOOL) isValid on page 2267	Checks if the object stores a valid value.

getDecimalValue method

Syntax

```
- ( NSDecimalNumber * ) getDecimalValue
```

setDecimalValue: method

Syntax

```
- ( void ) setDecimalValue : ( NSDecimalNumber * ) newValue
```

SDMODataPropertyValueDouble class

Deprecated. Double

Syntax

```
@interface SDMODataPropertyValueDouble :
SDMODataPropertyValueObject
```

Base class

- *SDMODataPropertyValueObject* on page 2266

Members

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

Method	Description
*- (NSNumber *) getDoubleValue* on page 2262	Since OData can define a nullable double property that means the return type double would not be sufficient.
*- (void) setDoubleValue: (NSNumber *) newValue* on page 2262	

Inherited members from SDMODataPropertyValueObject

Member	Description
*- (NSString *const) getDefaultValue* on page 2267	Returns the default value of the given EDM type.
*- (NSString *const) getHTMLEncodedValue* on page 2267	Returns the HTML encoded value of the stored value.
*- (id) initWithPropertyInfo: (const SDMODataPropertyInfo *const) propInfo* on page 2267	
*- (id) initWithPropertyInfo: (const SDMODataPropertyInfo *const) propInfo andValue: (NSString *const) initialValue* on page 2267	
- (BOOL) isValid on page 2267	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
```

Remarks

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
*+ (SDMODataPropertyValueObject *) createPropertyValueFromPropertyInfoWithValue: (const SDMODataPropertyInfo *const) propInfo initialValue: (NSString *const) initialValue creationFlags: (const uint16_t) creationFlags customFactoryFunction: (PFNCUSTOMPROPERTYVALUEFROMPROPERTYINFOWITHVALUE) customFactoryFunction* on page 2263	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

```
+ (SDMODataPropertyValueObject *)
createPropertyValueFromPropertyInfoWithValue :(const
SDMODataPropertyInfo *const) propInfo initialValue :(NSString
*const) initialValue creationFlags :(const uint16_t) creationFlags
customFactoryFunction :
(PFNCUSTOMPROPERTYVALUEFROMPROPERTYINFOWITHVALUE)
customFactoryFunction
```

Remarks

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
```

Base class

- *SDMODataPropertyValueObject* on page 2266

Members

All members of SDMODataPropertyValueGuid, including inherited members. **Inherited members from SDMODataPropertyValueObject**

Member	Description
*- (NSString *const) getDefaultValue* on page 2267	Returns the default value of the given EDM type.
*- (NSString *const) getHTMLEncodedValue* on page 2267	Returns the HTML encoded value of the stored value.
*- (id) initWithPropertyInfo: (const SDMODataPropertyInfo *const) propInfo* on page 2267	
*- (id) initWithPropertyInfo: (const SDMODataPropertyInfo *const) propInfo andValue: (NSString *const) initialValue* on page 2267	
- (BOOL) isValid on page 2267	Checks if the object stores a valid value.

SDMODataPropertyValueInt class

Deprecated. Int field value (Byte, SByte, Int16, Int32, Int64)

Syntax

```
@interface SDMODataPropertyValueInt :
SDMODataPropertyValueObject
```

Base class

- *SDMODataPropertyValueObject* on page 2266

Members

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

Method	Description
*- (NSString *const) getHTMLEncodedValue* on page 2265	Returns the HTML encoded value of the stored value.
*- (NSNumber *) getIntValue* on page 2265	
*- (id) initWithPropertyInfo: (const SDMODataPropertyInfo *const) propInfo* on page 2265	
*- (id) initWithPropertyInfo: (const SDMODataPropertyInfo *const) propInfo andValue: (NSString *const) initialValue* on page 2265	
*- (void) setIntValue: (NSNumber *) newValue* on page 2265	

Method	Description
*- (void) setValue: (NSString *) newValue* on page 2266	

Inherited members from SDMODataPropertyValueObject

Member	Description
*- (NSString *const) getDefaultValue* on page 2267	Returns the default value of the given EDM type.
- (BOOL) isValid on page 2267	Checks if the object stores a valid value.

getHTMLEncodedValue method
Returns the HTML encoded value of the stored value.

Syntax
```
- ( NSString *const ) getHTMLEncodedValue
```

Remarks
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 2254
- *SDMODataPropertyValueBoolean* on page 2255
- *SDMODataPropertyValueComplex* on page 2257
- *SDMODataPropertyValueDateTime* on page 2258
- *SDMODataPropertyValueDecimal* on page 2260
- *SDMODataPropertyValueDouble* on page 2261
- *SDMODataPropertyValueGuid* on page 2263
- *SDMODataPropertyValueInt* on page 2264
- *SDMODataPropertyValueSingle* on page 2268
- *SDMODataPropertyValueString* on page 2269
- *SDMODataPropertyValueTime* on page 2270

Members

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

Method	Description
*- (NSString *const) getDefaultValue* on page 2267	Returns the default value of the given EDM type.
*- (NSString *const) getHTMLEncodedValue* on page 2267	Returns the HTML encoded value of the stored value.
*- (id) initWithPropertyInfo: (const SDMODataPropertyInfo *const) propInfo* on page 2267	
*- (id) initWithPropertyInfo: (const SDMODataPropertyInfo *const) propInfo andValue: (NSString *const) initialValue* on page 2267	

Method	Description
- *(BOOL) isValid* on page 2267	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
```

Remarks
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
```

Remarks
: When validation is disabled, the return value is always YES!

SDMODataPropertyValueSingle class

Deprecated. Single

Syntax

```
@interface  SDMODataPropertyValueSingle  :
SDMODataPropertyValueObject
```

Base class

- *SDMODataPropertyValueObject* on page 2266

Members

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

Method	Description
*- (NSNumber *) getSingleValue* on page 2268	Since OData can define a nullable single property that means the return type float would not be sufficient.
*- (void) setSingleValue: (NSNumber *) newValue* on page 2269	

Inherited members from SDMODataPropertyValueObject

Member	Description
*- (NSString *const) getDefaultValue* on page 2267	Returns the default value of the given EDM type.
*- (NSString *const) getHTMLEncodedValue* on page 2267	Returns the HTML encoded value of the stored value.
*- (id) initWithPropertyInfo: (const SDMODataPropertyInfo *const) propInfo* on page 2267	
*- (id) initWithPropertyInfo: (const SDMODataPropertyInfo *const) propInfo andValue: (NSString *const) initialValue* on page 2267	
- (BOOL) isValid on page 2267	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
```

Remarks
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
```

Base class

- *SDMODataPropertyValueObject* on page 2266

Members
All members of SDMODataPropertyValueString, including inherited members. **Inherited members from SDMODataPropertyValueObject**

Member	Description
*- (NSString *const) getDefaultValue* on page 2267	Returns the default value of the given EDM type.
*- (NSString *const) getHTMLEncodedValue* on page 2267	Returns the HTML encoded value of the stored value.
*- (id) initWithPropertyInfo: (const SDMODataPropertyInfo *const) propInfo* on page 2267	
*- (id) initWithPropertyInfo: (const SDMODataPropertyInfo *const) propInfo andValue: (NSString *const) initialValue* on page 2267	
- (BOOL) isValid on page 2267	Checks if the object stores a valid value.

SDMODataPropertyValueTime class

Deprecated. Edm.Time

Syntax

```
@interface  SDMODataPropertyValueTime  :
SDMODataPropertyValueObject
```

Base class

- *SDMODataPropertyValueObject* on page 2266

Members

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

Method	Description
*- (SDMDuration *) getTimeValue* on page 2270	Gets the time duration value.
*- (void) setTimeValue: (const SDMDuration *) newValue* on page 2271	Sets the time duration value using SDMDuration.

Inherited members from SDMODataPropertyValueObject

Member	Description
*- (NSString *const) getDefaultValue* on page 2267	Returns the default value of the given EDM type.
*- (NSString *const) getHTMLEncodedValue* on page 2267	Returns the HTML encoded value of the stored value.
*- (id) initWithPropertyInfo: (const SDMODataPropertyInfo *const) propInfo* on page 2267	
*- (id) initWithPropertyInfo: (const SDMODataPropertyInfo *const) propInfo andValue: (NSString *const) initialValue* on page 2267	
- (BOOL) isValid on page 2267	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
```

Base class

- *SDMODataLink* on page 2247

Members
All members of SDMODataRelatedLink, including inherited members. **Methods**

Method	Description
*- (id) initWithHRef: (NSString *const) newHRef andLinkRel: (NSString *const) newRel* on page 2272	
*- (id) initWithHRef: (NSString *const) newHRef andLinkRel: (NSString *const) newRel andLinkType: (NSString *const) newType* on page 2272	
*- (id) initWithHRef: (NSString *const) newHRef andLinkRel: (NSString *const) newRel andLinkType: (NSString *const) newType andLinkTitle: (NSString *const) newTitle* on page 2272	
*- (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 2272	

Inherited members from SDMODataLink

Member	Description
*- (id) initWithHRef: (NSString *const) newHRef* on page 2248	

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) addWorkspace: (const SDMOData-Workspace *const) newWorkspace* on page 2273	
*- (SDMODataCollection *) getCollectionBy-Name: (NSString *const) collectionName* on page 2273	returns a collection by name (href)
*- (SDMODataCollection *) getCollectionBy-Name: (NSString *const) collectionName work-spaceOfCollection: (SDMODataWorkspace **) workspaceOfCollection* on page 2274	returns a collection by name (href) and its work-space, if required.
*- (NSArray *) getWorkspacesBySemantic: (const enum TEN_WORKSPACE_SEMANTICS) workspaceSemantic* on page 2274	returns an array of workspaces (SDMOData-Workspace instances) by semantic, if available, returns nil otherwise
- (id) init on page 2274	
*- (void) setOpenSearchDescriptionForCollec-tion: (NSString *const) collectionName open-SearchDescription: (const SDMOpenSearchDe-scription *const) openSearchDescription* on page 2274	Adds an OpenSearchDescription instance to the collection.

addWorkspace: method

Syntax

```
- (BOOL) addWorkspace :(const SDMODataWorkspace *const)
```
newWorkspace

getCollectionByName: method

returns a collection by name (href)

Syntax

```
- (SDMODataCollection *) 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
```

Remarks
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
- *(id) init* on page 2275	

init method

Syntax

```
- (id) init
```

SDMODataServiceDocumentParser class

Deprecated. Parses the service document xml and converts it to an Obj-C service document object. 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... }

Syntax

```
@interface SDMODataServiceDocumentParser :
SDMGenericParser
```

Base class

- *SDMGenericParser* on page 2206

Members

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

Method	Description
- *(id) init* on page 2276	

Inherited members from SDMGenericParser

Member	Description
- *(void) abortParsing* on page 2208	
- *(void) characters: (NSString *const) string* on page 2208	
- *(void) endDocument* on page 2208	
- *(void) endElement: (NSString *const) elementName namespaceURI: (NSString *const) namespaceURI* on page 2208	

Member	Description
*- (void) parse: (NSData *const) content* on page 2208	Parses the passed data as XML.
*- (void) parseContentsOfURL: (NSURL *const) url* on page 2209	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 2209	
*- (void) parser: (NSXMLParser *) parser didStartElement: (NSString *) elementName namespaceURI: (NSString *) namespaceURI qualifiedName: (NSString *) qualifiedName attributes: (NSDictionary *) attributeDict* on page 2209	
*- (void) parser: (NSXMLParser *) parser foundCharacters: (NSString *) string* on page 2209	
*- (void) parserDidEndDocument: (NSXMLParser *) parser* on page 2209	
*- (void) parserDidStartDocument: (NSXMLParser *) parser* on page 2209	
- (void) setDoProcessPrefixes: (BOOL) processPrefixes on page 2209	
- (void) startDocument on page 2210	
*- (void) startElement: (NSString *const) elementName namespaceURI: (NSString *const) namespaceURI attributes: (NSDictionary *const) attributes* on page 2210	

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 2277	
- (id) init on page 2277	

addCollection: method

Syntax
```
- (BOOL) addCollection :(const SDMODataCollection *const)
```
newCollection

init method

Syntax
```
- (id) init
```

SDMOpenSearchDescription class
Deprecated. 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 2278	
- (id) init on page 2278	

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 2278	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 2279	

createUrlWithParameters: method

Creates an URL from the template URL assigning values to the parameters that appear in the template.

Syntax

```
- (NSString *) createUrlWithParameters :(NSDictionary *)
parameters
```

Remarks

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
```

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. SDMOpenSearchDescription* osd = nil;
{ SDMOpenSearchDescriptionXMLParser* osdParser = [[[SDMOpenSearchDescriptionXMLParser alloc] init] autorelease]; [osdParser parse: content_in]; osd = [osdParser.openSearchDescription retain]; } (SDMParserException* e) { //error handling... }

Syntax

```
@interface SDMOpenSearchDescriptionXMLParser :
SDMGenericParser
```

Base class

- *SDMGenericParser* on page 2206

Members

All members of SDMOpenSearchDescriptionXMLParser, including inherited members.

Methods

Method	Description
- (id) init on page 2280	

Inherited members from SDMGenericParser

Member	Description
- (void) abortParsing on page 2208	
*- (void) characters: (NSString *const) string* on page 2208	
- (void) endDocument on page 2208	
*- (void) endElement: (NSString *const) elementName namespaceURI: (NSString *const) namespaceURI* on page 2208	

Member	Description
*- (void) parse: (NSData *const) content* on page 2208	Parses the passed data as XML.
*- (void) parseContentsOfURL: (NSURL *const) url* on page 2209	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 2209	
*- (void) parser: (NSXMLParser *) parser didStartElement: (NSString *) elementName namespaceURI: (NSString *) namespaceURI qualifiedName: (NSString *) qualifiedName attributes: (NSDictionary *) attributeDict* on page 2209	
*- (void) parser: (NSXMLParser *) parser foundCharacters: (NSString *) string* on page 2209	
*- (void) parserDidEndDocument: (NSXMLParser *) parser* on page 2209	
*- (void) parserDidStartDocument: (NSXMLParser *) parser* on page 2209	
- (void) setDoProcessPrefixes: (BOOL) processPrefixes on page 2209	
- (void) startDocument on page 2210	
*- (void) startElement: (NSString *const) elementName namespaceURI: (NSString *const) namespaceURI attributes: (NSDictionary *const) attributes* on page 2210	

init method

Syntax

```
- (id) init
```

SDMParserDelegate protocol
Deprecated.

Syntax
```
@protocol   SDMParserDelegate
```

Derived classes

- *SDMGenericParser* on page 2206

Members
All members of SDMParserDelegate, including inherited members. **Methods**

Method	Description
*- (void) characters: (NSString *const) string* on page 2281	
- (void) endDocument on page 2281	
*- (void) endElement: (NSString *const) elementName namespaceURI: (NSString *const) namespaceURI* on page 2281	
- (void) startDocument on page 2282	
*- (void) startElement: (NSString *const) elementName namespaceURI: (NSString *const) namespaceURI attributes: (NSDictionary *const) attributes* on page 2282	

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 : NSException
```

Members

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

Method	Description
- (id) init on page 2282	
*- (id) initWithError: (NSString *) error_in detailedError: (NSString *) details_in* on page 2282	
*- (id) initWithError: (NSString *) error_in detailedError: (NSString *) details_in statusCode: (NSInteger) statusCode_in* on page 2283	

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.

Syntax

```
@interface SDMPerformanceUtil : NSObject
```

Members

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

Method	Description
+ (void) enableParserPerformanceLog: (BOOL) value_in on page 2283	
+ (BOOL) isParserPerfLogEnabled on page 2283	

enableParserPerformanceLog: method

Syntax

```
+ ( void ) enableParserPerformanceLog : ( BOOL ) value_in
```

isParserPerfLogEnabled method

Syntax

```
+ ( BOOL ) isParserPerfLogEnabled
```

SDMPersistence class

Deprecated. Use Cache(with implicit persistence) insteadDefault Persistence implementation 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 ... }

Syntax

```
@interface SDMPersistence : NSObject <SDMPersisting>
```

Base protocols

- *SDMPersisting* on page 2288

Members

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

Method	Description
- (void) clear on page 2285	Wipes out all persisted content.
+ (id) instance on page 2285	Static Persistence instance.
*- (id< SDMCaching >) loadCache: (NSString *) uid_in* on page 2285	Loads a previously persisted data based on it's unique identifier.
*- (NSData *) loadData: (NSString *) uid_in* on page 2285	Loads a previously persisted data based on it's unique identifier.
*- (id< NSCoding >) loadSerializable: (NSString *) uid_in* on page 2286	Loads a previously persisted object which adopts the NSCoding protocol based on it's unique identifier The UID is returned upon succesfully 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 2286	Wipes out a persisted cache content.
- (StoragePolicy) storagePolicy on page 2286	Returns the default storage policy For builds targeting iOS4.0+ the default should be FullProtectionStoragePolicy.
*- (NSString *) storeCache: (id< SDMCaching >) cache_in* on page 2286	Stores the data to the app's sandbox, returning a unique identifier.
*- (NSString *) storeData: (NSData *) data_in withId: (NSString *) uid_in* on page 2287	Stores the data to the app's sandbox, returning a unique identifier.
*- (NSString *) storeSerializable: (id< NSCoding >) serializable_in withId: (NSString *) uid_in* on page 2287	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

```
// 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
```

Remarks
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 NSCoding protocol based on it's unique identifier The UID is returned upon succesfully 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< NSCoding >) loadSerializable :(NSString *)uid_in
```

Parameters

- **uid_in –** the unique identifier for the persisted object

Returns
valid object (implementing NSCoding) or nil if none found

removeCacheWithId: method
Wipes out a persisted cache content.

Syntax
```
- (void) removeCacheWithId :(NSString *)uid_in
```

Parameters

- **an –** existing ID to deletet previously stored content

storagePolicy method
Returns the default storage policy For builds targeting iOS4.0+ the default should be FullProtectionStoragePolicy.

Syntax
```
- (StoragePolicy) storagePolicy
```

Remarks
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+, superceeding 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. Use Cache (with implicit persistence) insteadDeclares 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 2283

Members

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

Method	Description
- (void) clear on page 2289	Should wipe out all persisted content.
*- (id< SDMCaching >) loadCache: (NSString *) uid_in* on page 2289	Should load a previously persisted data based on it's unique identifier The UID is returned upon succesfully persisting the data; it has to be managed by the caller in order to retrieve the persisted data or to overwrite it later on.
*- (NSData *) loadData: (NSString *) uid_in* on page 2290	Should load a previously persisted data based on it's unique identifier The UID is returned upon succesfully persisting the data; it has to be managed by the caller in order to retrieve the persisted data.
*- (id< NSCoding >) loadSerializable: (NSString *) uid_in* on page 2290	Should load a previously persisted object which adopts the NSCoding protocol based on it's unique identifier The UID is returned upon succesfully persisting the data; it has to be managed by the caller in order to retrieve the persisted data or to overwrite it later on.
- (StoragePolicy) storagePolicy on page 2290	Should return the default storage policy For builds targeting iOS4.0+ the default should be FullProtectionStoragePolicy.

Method	Description
*- (NSString *) storeCache: (id< SDMCaching >) cache_in* on page 2291	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.
*- (NSString *) storeData: (NSData *) data_in withId: (NSString *) uid_in* on page 2291	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.
*- (NSString *) storeSerializable: (id< NSCoding >) serializable_in withId: (NSString *) uid_in* on page 2291	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.

clear method

Should wipe out all persisted content.

Syntax

```
- (void) clear
```

loadCache: method

Should load a previously persisted data based on it's unique identifier The UID is returned upon succesfully 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 it's unique identifier The UID is returned upon succesfully 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 NSCoding protocol based on it's unique identifier The UID is returned upon succesfully 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< NSCoding >) loadSerializable :(NSString *) uid_in
```

Parameters

- **uid_in –** the unique identifier for the persisted object

Returns
valid object (implementing NSCoding) 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
```

Remarks
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+, superceeding 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 2126

Members

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

Method	Description
- (void) request: (id< SDMRequesting >) request didReceiveBytes: (long long) bytes on page 2293	Delegate method called when the request receives data.
- (void) request: (id< SDMRequesting >) request didSendBytes: (long long) bytes on page 2293	Delegate method called when the request sends data.
- (void) request: (id< SDMRequesting >) request incrementDownloadSizeBy: (long long) newLength on page 2293	Delegate method called when the request needs to change the download content size.
- (void) request: (id< SDMRequesting >) request incrementUploadSizeBy: (long long) newLength on page 2293	Delegate method called when the request needs to change the length of the content to upload.
- (void) setProgress: (float) newProgress on page 2294	Delegate method called to update UIProgressViews.

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
```

Remarks
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
+ (void) cancelAllRequestsInQueue on page 2295	This is an API to help clear the Queue of all queued requests.
+ (void) enableTracing: (BOOL) value_in on page 2295	Switches traceability status, the default is NO.
+ (void) enableXCSRF: (BOOL) enable on page 2296	Enable XCSRF support.
+ (int) getTraceLevel on page 2296	Helper method to retrieve the trace level.
+ (BOOL) isTracingEnabled on page 2296	Returns tracing status (default is NO).
*+ (id< SDMRequesting >) requestWithURL: (NSURL *) newURL* on page 2296	Factory method with url.

Method	Description
*+ (id< SDMRequesting >) requestWithURL: (NSURL *) newURL usingCache: (id< SDMCacheDelegate >) cache* on page 2296	Factory method with url and cache.
*+ (id< SDMRequesting >) requestWithURL: (NSURL *) newURL usingCache: (id< SDMCacheDelegate >) cache andCachePolicy: (CachePolicy) policy* on page 2297	Factory method with url, cache and a cache policy.
+ (enum ERequestType) retrieveRequestType on page 2297	Helper method to retrieve the request type.
+ (void) setRequestType: (const enum ERequestType) type_in on page 2297	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.
+ (void) setTraceLevel: (Level) value_in on page 2298	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
```

Remarks

If tracing is enabled, "SAP-PASSPORT" and "X-CorrelationID" headers are set and filled with values to enable SAP Passport functionality.

```
// set the request type
[SDMRequestBuilder setRequestType:HTTPRequestType];
// enable tracing before instantiating the request
[SDMRequestBuilder enableTracing:YES];
// instantiate the request
self.request = [SDMRequestBuilder requestWithURL:demoUrl];
...
```

enableXCSRF: method
Enable XCSRF support.

Syntax
```
+ (void) enableXCSRF :(BOOL) enable
```

Remarks
It is disabled by default.

```
// enable xcsrf before instantiating the request
[SDMRequestBuilder enableXCSRF:YES];
// instantiate the request
self.request = [SDMRequestBuilder requestWithURL:demoUrl];
...
```

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://host:port/context/
serviceDoc/"]];
```

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://host:port/context/
serviceDoc/"] 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://host:port/context/
serviceDoc/"] 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 2210

Members
All members of SDMRequesting, including inherited members. **Methods**

Method	Description
*- (void) addBasicAuthenticationHeaderWithUsername: (NSString *) theUsername andPassword: (NSString *) thePassword* on page 2304	Constructs a basic authentication header from the username and password supplied, and adds it to the request headers Used when shouldPresentCredentialsBeforeChallenge is YES.
*- (void) addRequestHeader: (NSString *) header value: (NSString *) value* on page 2304	Adds a custom header to the request.
*- (void) appendPostData: (NSData *) data* on page 2304	Adds data to the post body.
*- (void) appendPostDataFromFile: (NSString *) file* on page 2304	Adds data to the post body from a file.

Method	Description
- (void) applyAuthorizationHeader on page 2305	
- (void) applyCookieHeader on page 2305	Called during buildRequestHeaders and after a redirect to create a cookie header from request cookies and the global store.
+ (unsigned long) averageBandwidthUsedPerSecond on page 2305	Returns a rough average (for the last 5 seconds) of how much bandwidth is being used, in bytes.
*+ (NSString *) base64forData: (NSData *) theData* on page 2305	Base64 encodes the provided NSData*.
- (void) buildPostBody on page 2305	Creates the post body.
- (void) buildRequestHeaders on page 2306	Populates the request headers dictionary.
- (void) cancelAuthentication on page 2306	Should be called by delegates when they wish to cancel authentication and stop.
+ (void) clearSession on page 2306	
+ (const NSDataWritingOptions) dataWritingOptions on page 2306	Returns a mask which determines whether the data should be stored in encrypted form.
*+ (NSDate *) dateFromRFC1123String: (NSString *) string* on page 2306	Returns a date from a string in RFC1123 format.
*+ (NSString *) decodeBase64: (NSString *) string_in* on page 2306	Decodes a base64 encoded string.
+ (id< SDMCacheDelegate >) defaultCache on page 2307	Returns the default download cache or nil if none set at class level.
- (void) enableTracing: (BOOL) value_in on page 2307	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) enableXCSRF: (BOOL) enable on page 2307	Enable XSRF support for the session of the application.
*- (void) failWithError: (NSError *) theError* on page 2307	Called when a request fails, and lets the delegate know via didFailSelector.

Method	Description
*+ (NSDictionary *) fileProtectionAttributes* on page 2307	Returns a attributes dictionary used for encrypted file storage or nil is file protection has been explicitely disabled.
+ (NSInteger) getMaxConcurrentHTTPRequestCount on page 2308	Returns the maximum number of SDMHTTPRequest threads which can be executed in parallel.
- (void) handleNetworkEvent: (CFStreamEventType) type on page 2308	Handles network events as they occur.
- (id< SDMRequesting >) HEADRequest on page 2308	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 2308	Hides the network activity spinner.
+ (void) incrementBandwidthUsedInLastSecond: (unsigned long) bytes on page 2308	Used internally to record bandwidth use, and by InputStreams when uploading. It's probably best if you don't mess with this.
- (void) incrementDownloadSizeBy: (long long) length on page 2308	Called when we get a content-length header and shouldResetDownloadProgress is true.
- (void) incrementUploadSizeBy: (long long) length on page 2309	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 2309	Should be an HTTP or HTTPS url, may include username and password if appropriate.
+ (BOOL) isBandwidthThrottled on page 2309	Returns YES is bandwidth throttling is currently in use.
+ (BOOL) isNetworkInUse on page 2309	Indicates whether there are running requests.
+ (BOOL) isNetworkReachableViaWWAN on page 2309	Returns YES when an iPhone OS device is connected via WWAN, false when connected via WIFI or not connected.
- (BOOL) isResponseCompressed on page 2309	Returns true if the response was gzip compressed Usage id<SDMRequesting> m_Request = [SDMRequestBuilder requestWithURL:url]; ...
- (BOOL) isTracingEnabled on page 2310	Returns tracing status (default is NO)

Method	Description
+ (unsigned long) maxBandwidthPerSecond on page 2310	The maximum number of bytes ALL requests can send / receive in a second This is a rough figure.
+ (unsigned long) maxUploadReadLength on page 2310	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 2310	
*+ (void) performSelector: (SEL) selector onTarget: (id *) target withObject: (id) object amount: (void *) amount* on page 2310	Helper method used for performing invocations on the main thread (used for progress)
- (void) performThrottling on page 2311	Perform bandwidth throttling.
*+ (void) removeCredentialsForHost: (NSString *) host port: (int) port protocol: (NSString *) protocol realm: (NSString *) realm* on page 2311	Deletes host credentials from the keychain.
*+ (void) removeCredentialsForProxy: (NSString *) host port: (int) port realm: (NSString *) realm* on page 2311	Deletes proxy credentials from the keychain.
- (void) removeUploadProgressSoFar on page 2311	Called when authorization is needed, as we only find out we don't have permission to something when the upload is complete.
*+ (id) requestWithURL: (NSURL *) newURL* on page 2311	Convenience constructor with url.
*+ (id) requestWithURL: (NSURL *) newURL usingCache: (id< SDMCacheDelegate >) cache* on page 2311	Convenience constructor with url and cache.
*+ (id) requestWithURL: (NSURL *) newURL usingCache: (id< SDMCacheDelegate >) cache andCachePolicy: (CachePolicy) policy* on page 2312	Convenience constructor with url, cache and cache policy.
*- (NSData *) responseData* on page 2312	Response data, automatically uncompressed where appropriate.
*- (NSString *) responseString* on page 2312	Returns the contents of the result as an NSString (not appropriate for binary data - used responseData instead)

Method	Description
- (void) retryUsingSuppliedCredentials on page 2312	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 2312	Saves host credentials to the keychain.
*+ (void) saveCredentials: (NSURLCredential *) credentials forProxy: (NSString *) host port: (int) port realm: (NSString *) realm* on page 2313	Saves proxy credentials to the keychain.
*- (void) saveCredentialsToKeychain: (NSDictionary *) newCredentials* on page 2313	Saves credentials for this request to the keychain.
*+ (NSURLCredential *) savedCredentialsForHost: (NSString *) host port: (int) port protocol: (NSString *) protocol realm: (NSString *) realm* on page 2313	Returns host credentials from the keychain.
*+ (NSURLCredential *) savedCredentialsForProxy: (NSString *) host port: (int) port protocol: (NSString *) protocol realm: (NSString *) realm* on page 2313	Returns proxy credentials from the keychain.
*- (void) sendE2ETraceXML: (NSURL *) toBaseURL* on page 2313	Posts the SAP E2E Trace XML to the given url.
- (void) setClientCertificateIdentity: (SecIdentityRef) anIdentity on page 2314	Sets the identity reference (X.509 certificate + private key) for this request; used for secure connections.
+ (void) setDefaultCache: (id< SDMCacheDelegate >) cache on page 2314	Configures a default download cache which applies for all requests.
*- (void) setEtag: (NSString *) etag withMatchType: (EtagMatchType) matchType* on page 2314	Add If-Match or If-None-Match or If-Range header*.
+ (void) setMaxBandwidthPerSecond: (unsigned long) bytes on page 2314	Sets the maximum number of bytes ALL requests can send / receive in a second.
+ (void) setMaxConcurrentHTTPRequestCount: (const unsigned char) cnt on page 2314	Sets the maximum number of SDMHTTPRequest threads which can run at once.
+ (void) setProtectionEnabled: (BOOL) flag_in on page 2315	Controls whether the download cache should store files using protection.

Method	Description
+ (void) setShouldThrottleBandwidthForWWAN: (BOOL) throttle on page 2315	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 2315	Controls whether the request should take over updating the network activity indicator.
*+ (NSOperationQueue *) sharedQueue* on page 2315	Returns the shared queue.
+ (void) showNetworkActivityIndicator on page 2315	Shows the network activity spinner.
- (void) startAsynchronous on page 2316	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];
- (void) startSynchronous on page 2316	Runs a request synchronously, and returns control when the request completes or fails Usage id<SDMRequesting> m_Request = [SDMRequestBuilder requestWithURL:url]; ...
+ (void) throttleBandwidthForWWANUsingLimit: (unsigned long) limit on page 2316	Turns on throttling automatically when WWAN is connected using a custom limit, and turns it off automatically when it isn't.
- (void) updateDownloadProgress on page 2316	Updates download progress (notifies the queue and/or downloadProgressDelegate of this request)
*+ (void) updateProgressIndicator: (id *) indicator withProgress: (unsigned long long) progress ofTotal: (unsigned long long) total* on page 2316	Helper method for interacting with progress indicators to abstract the details of different APIS (NSProgressIndicator and UIProgressView)
- (void) updateProgressIndicators on page 2317	Updates the progress delegates.

Method	Description
- (void) updateUploadProgress on page 2317	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
```

Remarks
```
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
```

Remarks
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
```

Remarks
```
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
```

Remarks
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
```

Remarks
Data will be stored in encrypted form by 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 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
```

Remarks
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 explicitely 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
```

Remarks
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
```

Remarks
[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
```

Remarks
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
```

Remarks
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
```

Remarks
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
```

Remarks
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
```

Remarks
```
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
```

Remarks
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
```

Remarks
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
```

Remarks
[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
```

Remarks
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
```

SDMSubscriptionInfo class
Deprecated.

Syntax
```
@interface SDMSubscriptionInfo : NSObject
```

Members
All members of SDMSubscriptionInfo, including inherited members. **Methods**

Method	Description
*- (id) initWithCollection: (const SDMODataCollection *const) newCollection* on page 2317	subscribe to a collection
*- (id) initWithCollection: (const SDMODataCollection *const) newCollection andEntry: (const SDMODataEntry *const) newEntry* on page 2318	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
- *(id) init* on page 2318	

init method

Syntax
```
- (id) init
```

Developing with MAF Logon

MAF logon components consist of MAF Logon UI and MAF Logon Manager and support user onboarding.

MAF logon includes:

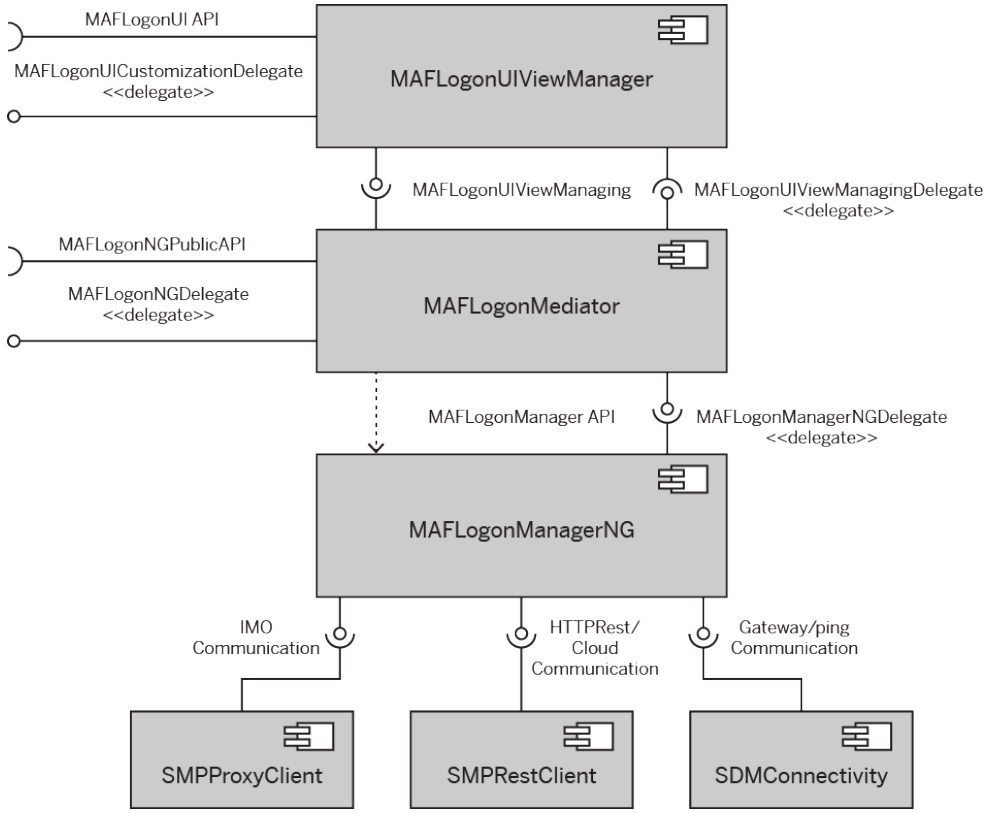
- User-initiated registration requests to a specified security infrastructure
- Locking and unlocking the secure store to protect sensitive information
- Changing secure store and back-end passwords to enhance security in an enterprise environment
- Various customization options

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 MAFLogonUIViewManager. 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

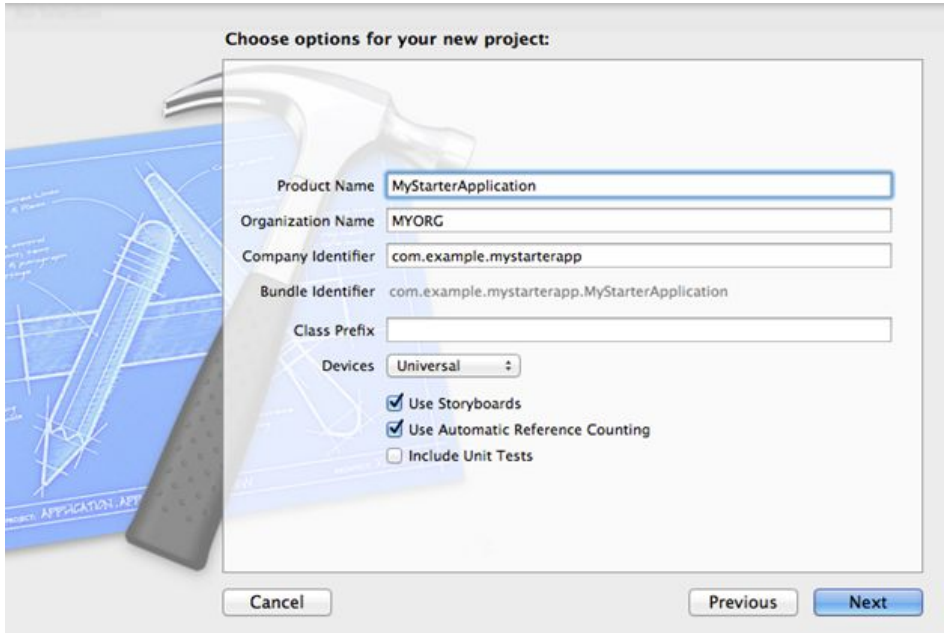
Create a new xcode project. If you already have an existing project, check if it is configured correctly.

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 aplication, then click **Create**.

Xcode opens your empty, view based application project.

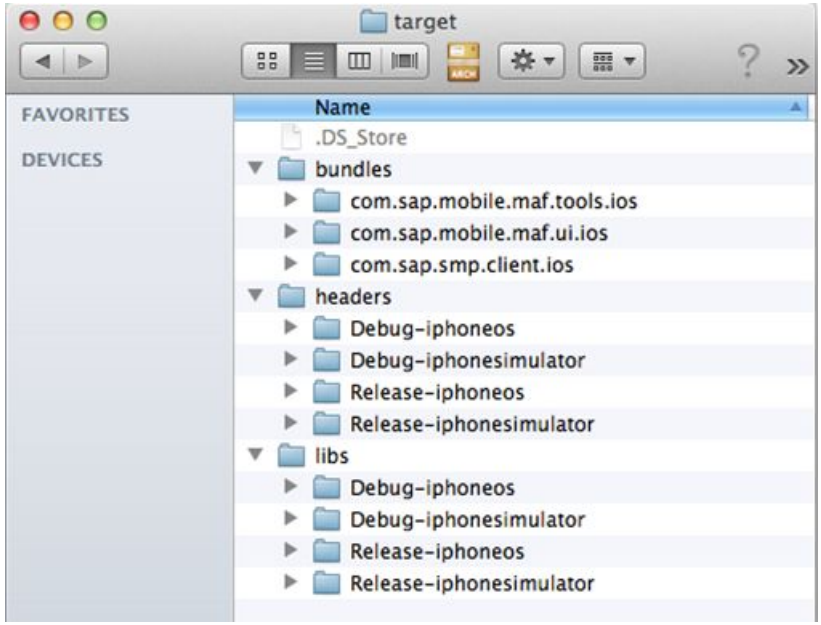
Adding MAF Libraries to the iOS Starter Application

Add MAF libraries to your view based application project.

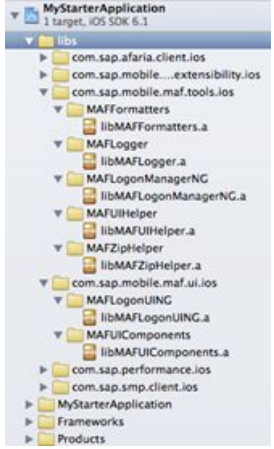
MAF contains statically linked libraries accompanied by resource bundles. The libraries are located in the installation a folder created by the SAP Mobile Platform SDK installer.

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 you Xcode project. There are four distinct versions of the libraries, because they are built for two platforms (iphoneos 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-iphoneos version. Copy all of the client side SAP Mobile Platform libraries into the `dependencies` folder in the root of your peoject. 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:
   - libAfariaSLL.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:
   - MessagUI.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.

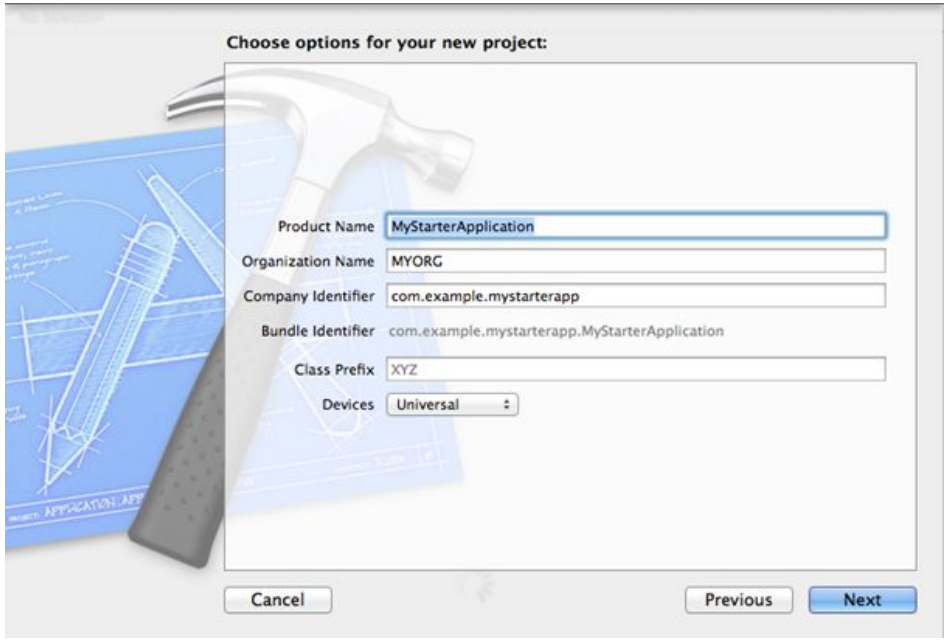
Project Setup

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`
   - `libAfariaSLL.a`
   - `libConnectivity.a`
   - `libCoreServices.a`
   - `libDatavault.a`
   - `libPerformanceLib.a`
   - `libRequest.a`
   - `libE2ETrace.a`
   - `libParser.a`
   - `libLogger.a`
   - `libCache.a`
   - `libClientHubSLL.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`
   - `libAfariaSLL.a`
   - `libConnectivity.a`
   - `libCoreServices.a`
   - `libDatavault.a`
   - `libPerformanceLib.a`
   - `libRequest.a`
   - `libE2ETrace.a`
   - `libParser.a`
   - `libLogger.a`
   - `libCache.a`
   - `libClientHubSLL.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`
- `MessagUI.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 "MAFLogonUIViewManager.h"
#import "MAFLogonNGDelegate.h"

@interface MyLogonHandler : NSObject <MAFLogonNGDelegate>

@property (strong, nonatomic) MAFLogonUIViewManager
*logonUIViewManager;
@property (strong, nonatomic) NSObject<MAFLogonNGPublicAPI>
*logonManager;
```

```
@end
```

This class implements MAFLogonNGDelegate and exposes an instance of MAFLogonUIViewManager.

This is an example implementation (MyLogonHandler.m) of the logon handler:

```
#import "MyLogonHandler.h"

@implementation MyLogonHandler

-(id) init{
    self = [super init];
    if(self){
        self.logonUIViewManager = [[[MAFLogonUIViewManager alloc]
init] autorelease];
        // save reference to LogonManager for code readability
        self.logonManager = self.logonUIViewManager.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 impolementation

-(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 cutomizable 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 MAFLogonUIViewManager 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.logonUIViewManager.parentViewController =
self;

}

@end
```

The view controller (MainViewController.m) is only responsible for setting the self reference as the parentViewController property of the MAFLogonUIViewManager. 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 {
    [logonUIViewManager.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 {
    [logonUIViewManager.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 {
    [logonUIViewManager.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 {
    [logonUIViewManager.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 {
    [logonUIViewManager.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 applicationEnpointURL 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-SchemeForAfa-ria`	String	Changes the default URL Scheme of the Afaria application.	EMPTY
`keyMAFUseAfa-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 resgistratoin 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 username to be used	EMPTY
keyMAFLogonOperationContextPasswordPolicy	Dictionary	The default password policy to apply if no server side policy was provided.	Default password policy

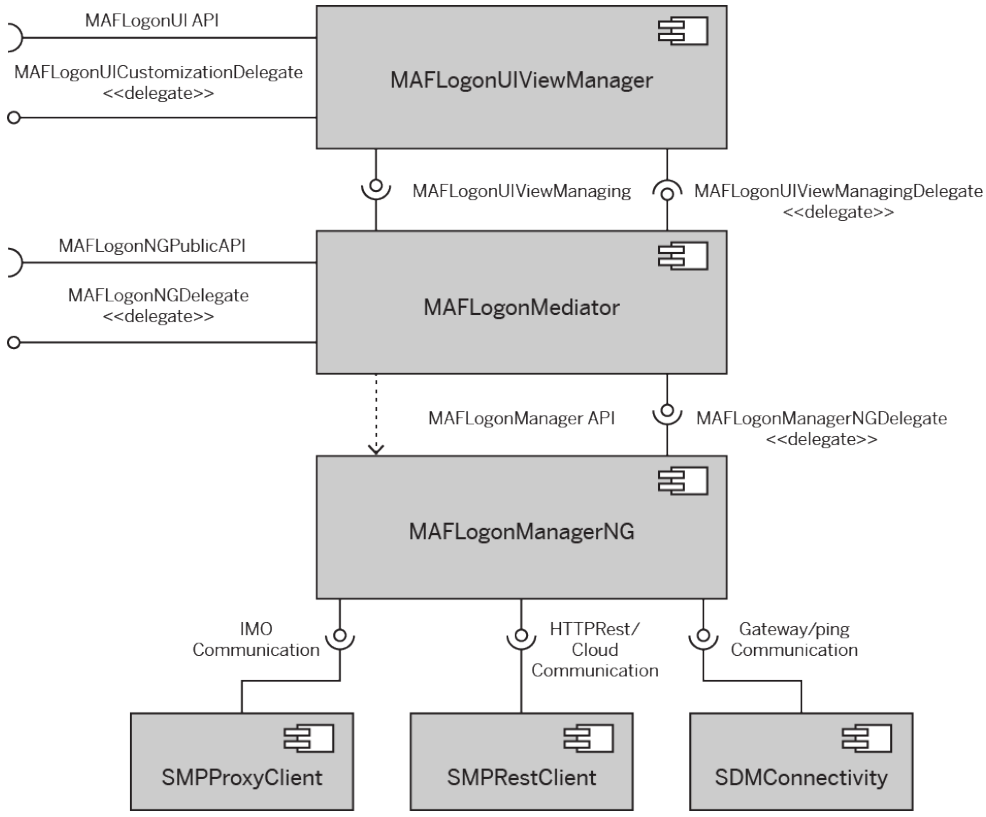
To set these values, use code similar to this:

```
//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){
    }];
```

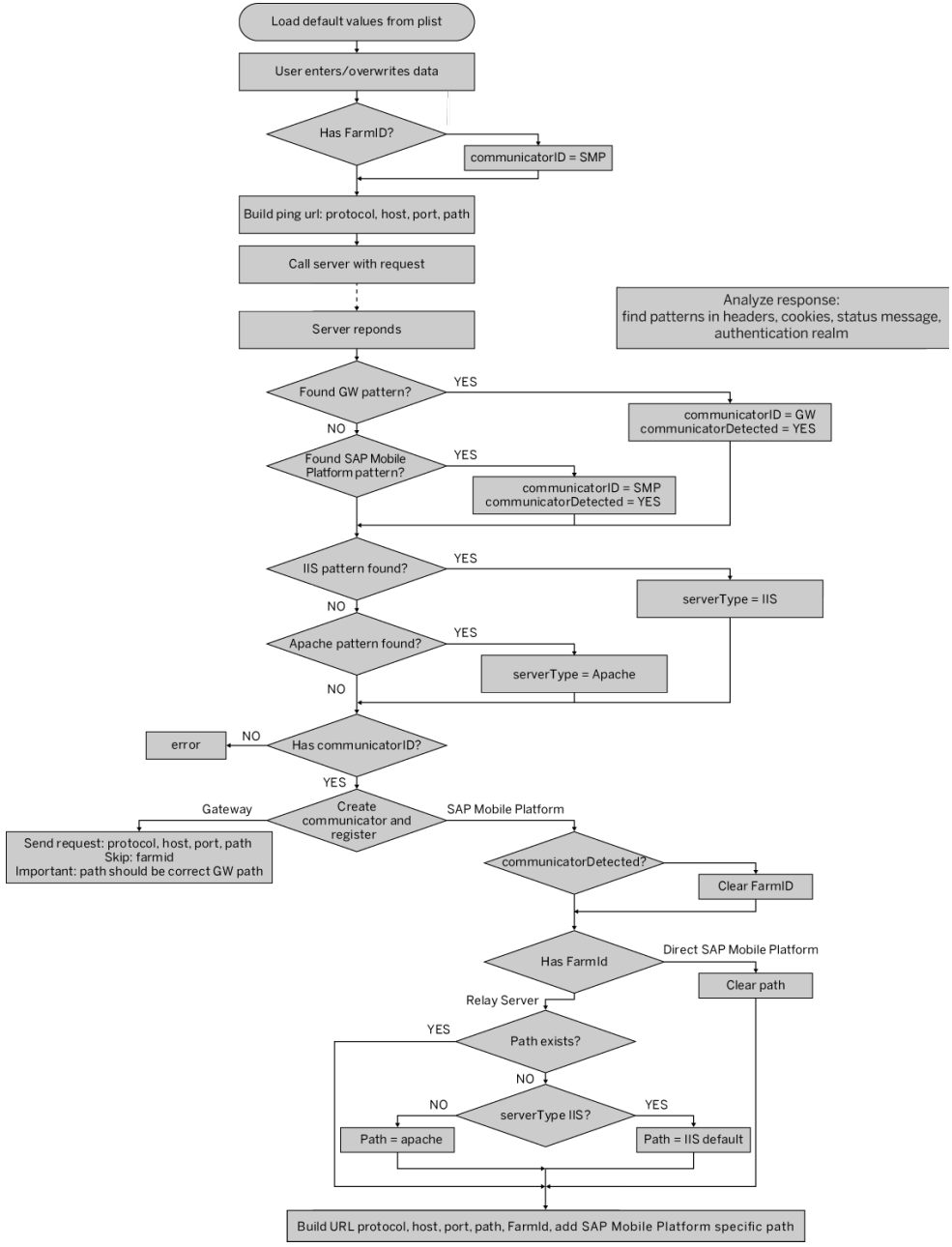
```
}

#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:



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

Rule Name	Description	Default Value
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
keyMAFLogonPasswordPolicyIsDefaultPasswordUsageOnByDefault	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.logonUIViewManager.logonManager setUrl:url];
    return YES;
}
```

MAF Onboarding Scenarios

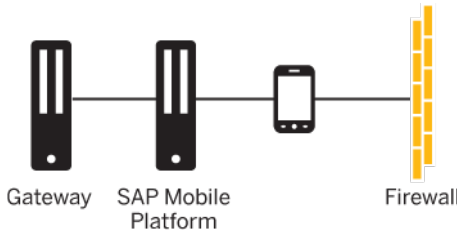
The MAF logon manager supports multiple onboarding scenarios, based on the most common infrastructure setups supported by enterprise mobile applications.

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.



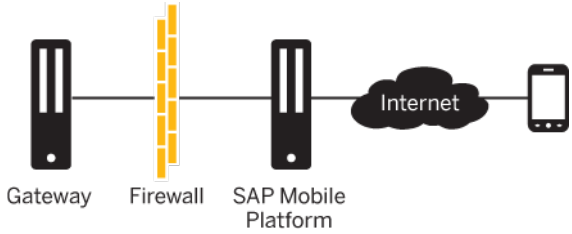
This table shows the information that users must provide, in the MAF logon UI, to use this type of connection. The parameter values depend on the configuration the administrators set.

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.

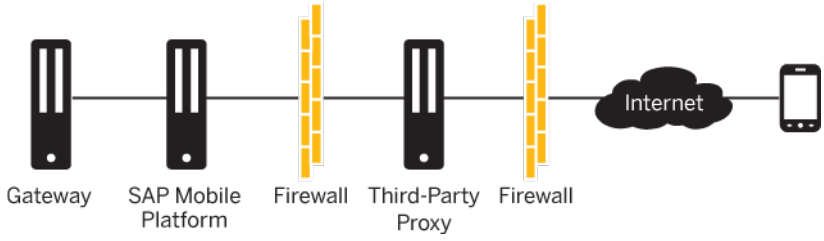
Parameter Name	Example Value
Server Host	< SMP_SERVER_HOST_NAME>
User Name	<USERNAME>

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.



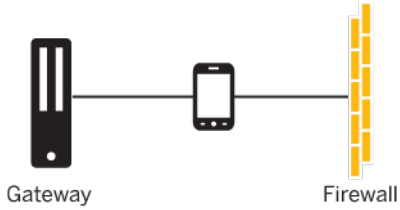
This table shows the information that users must provide, in the MAF logon UI, to use this type of connection. The parameter values depend on the configuration the administrators set.

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.



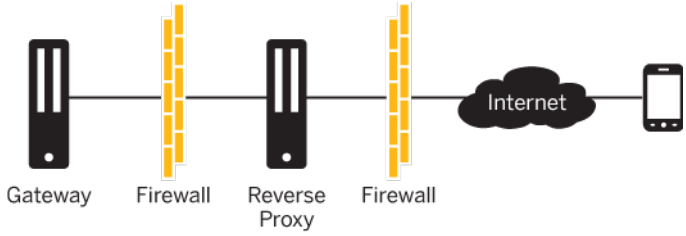
This table shows the information that users must provide, in the MAF logon UI, to use this type of connection. The parameter values depend on the configuration the administrators set.

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.

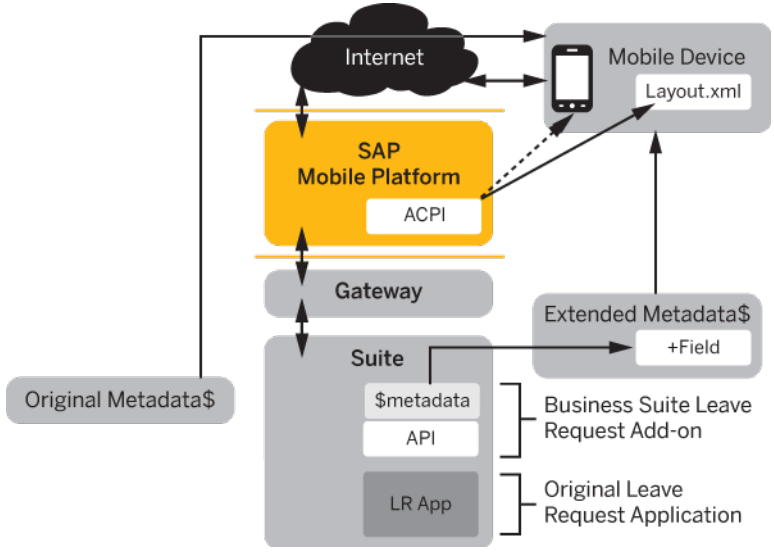
- Back-end users must have authorization to access the Gateway systems ping URL.
- The `is/HTTP/show_server_header` property must be enabled in SMICM transaction (ICM@SAPNetweaver). See *http://help.sap.com/saphelp_nw73ehp1/helpdata/en/48/49e4dd2e3131c3e10000000a42189d/frameset.htm*.

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*.

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.

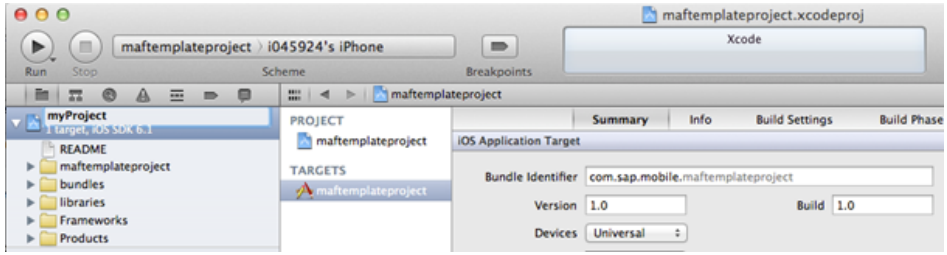
MAF Template Project

MAF includes a template Xcode project that is designed to help you initially consume MAF libraries.

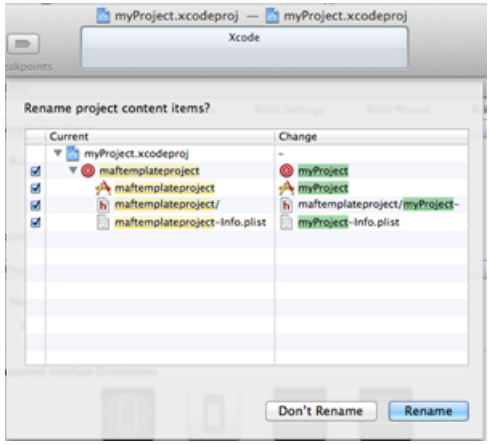
Download the template project (maftemplateproject-1.1.0-beta-3-xcodeproj-with-deps.zip) from the SAP Service Marketplace. It is packaged in the SAP Mobile SDK at the following location: **SAP Support Portal > Software Downloads > SAP Software Download Center > Installations and Upgrades > Browse our 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:

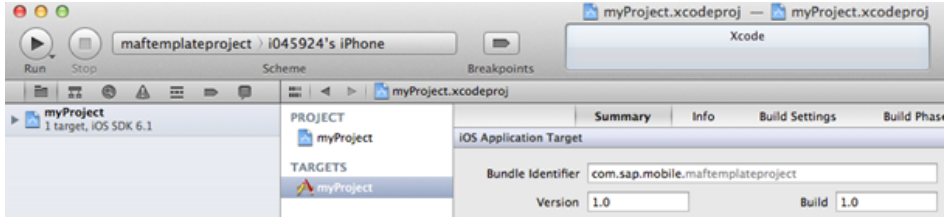
1. In the Project Navigator, which is the first view of the left pane in Xcode, open the Xcode project and rename the project node:



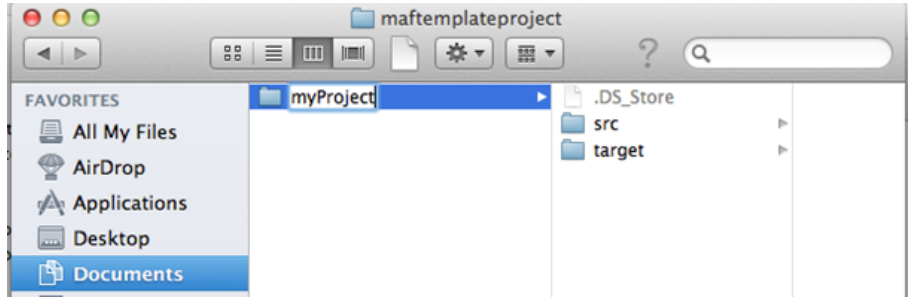
You see a a list of project items that will be renamed:



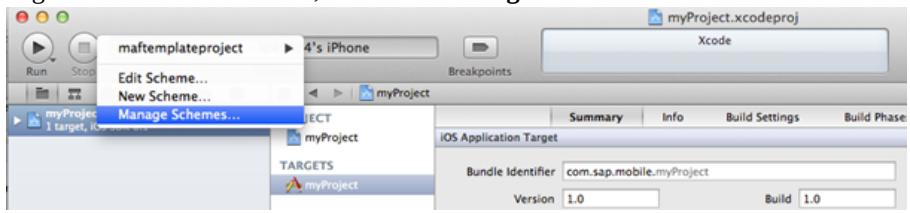
2. Click **Rename**. This renames all targets in the Xcode project:



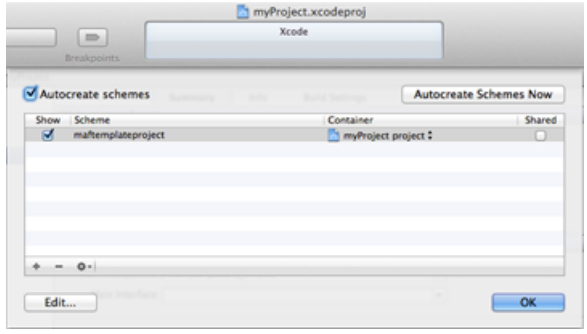
3. Rename the enclosing folder on the MAC OS X.
   a) Close Xcode and open the Finder application.
   b) Navigate to the folder where you unzipped the Xcode project and rename the folder:



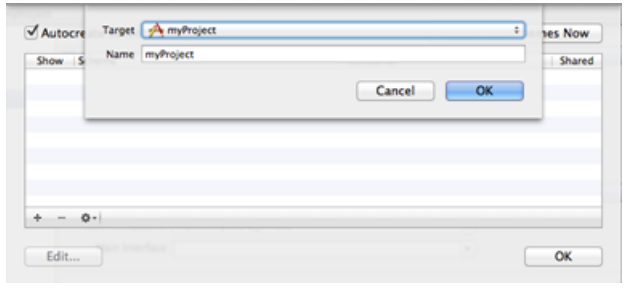
4. From the renamed folder, reopen the Xcode project.
5. Re-create the Xcode build schemes.
   a) Right-click the build scheme, and select **Manage Schemes**:



   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 2362.

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 MAFUITableViewCell 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,
attahced 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 reloadInputViews];
}
```

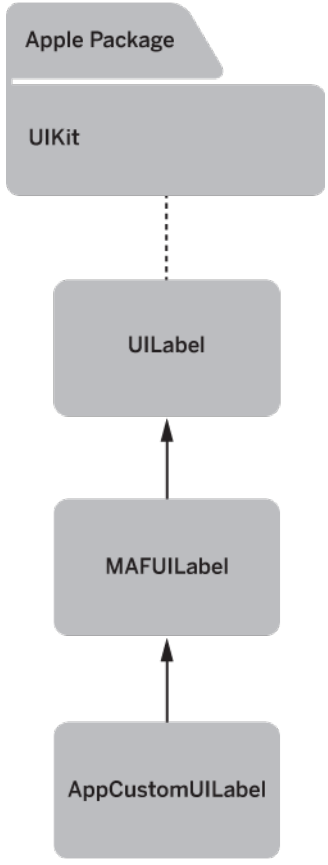
The following code loads and applies the styles. You can execute this code when the application loads or when a custom event is triggered. This is the complete MAF skinning code placed in a ViewController:

```
#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 reloadInputViews];
}
```

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"/>
```

```
<Setter Property="VerticalContentAlignment" Value="Center"/>
</Style>
<Style BasedOn="Label" Key="stdLabel" TargetType="Label"
platform="ios">
<Setter Property="TextColor" Value="#FFFFFFFF"/>
<Setter Property="Shadow" Value="#FF0000FF"/>
</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.

Skinning 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 programatically. 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

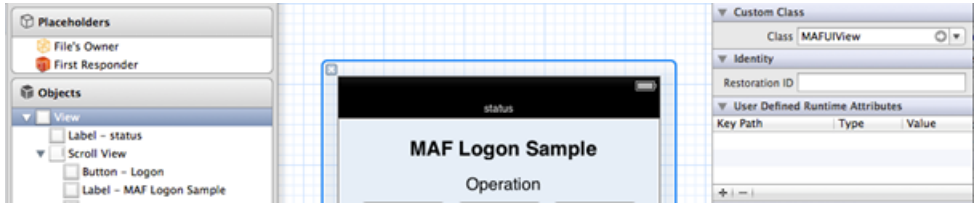
Present your custom control in the same way you present a MAF skinnable control. Create an instance of the control and set its style name via the mafStyleName property:

```
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.

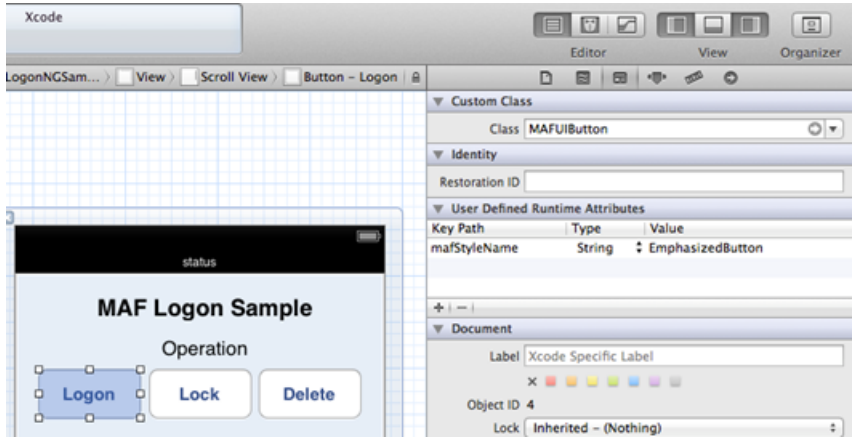
There is no support in Xcode to provide pixel-perfect design for custom UIView subclasses. This is the Interface Builder in Xcode, showing a UIView selected in the visual editor:



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>
```

```
            <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.

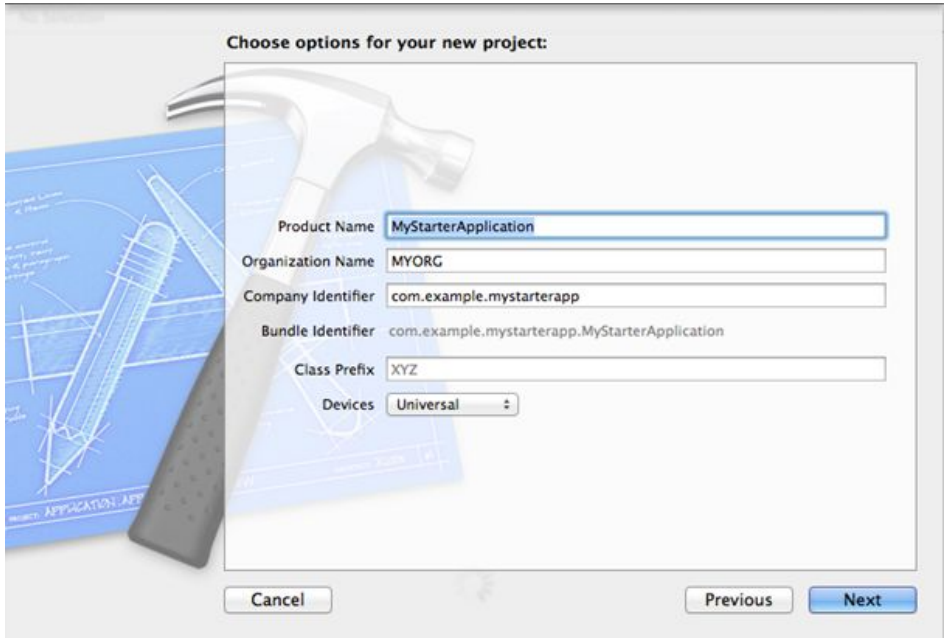
Project Setup

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.

- MessagUI.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 thede 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: • Borderbrush – defines the color. • BorderThickness – is the width of the border. • CornerRadius – is the angle of the edge.

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:

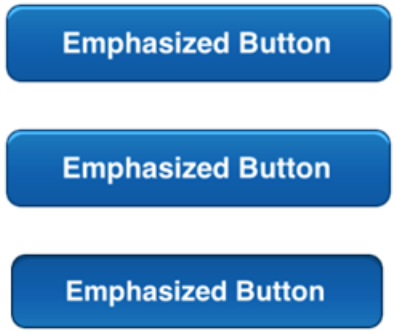
```
<Style BasedOn=”Button” Key=”stdButton” TargetType=”Button”
platform=”ios”/>
```

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:CGRectMake(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: • Borderbrush – defines the color. • BorderThickness – is the width of the border. • CornerRadius – is the angle of the edge.
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

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: • Borderbrush – defines the color. • BorderThickness – is the width of the border. • CornerRadius – is the angle of the edge.
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	The border attributes of the MAFUITextField include: • Borderbrush – defines the color. • BorderThickness – is the width of the border. • CornerRadius – is the angle of the edge.

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

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">
    <CurrentThumbImage 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:

minimumTrackTintColor	The tint color of the standard minimum track images.
maximumTrackTintColor	The tint color of the standard maximum track images.
thumbTintColor	The tint color of the standard thumb images. Can be used only if no thumb image is used.
CurrentThumbImage	Contains the current thumb image that renders the receiver. Overwrites thumbTintColor.
MinimumValueImage	Contains the image that is drawn on the side of the slider representing the minimum value.
MaximumValueImage	Contains the image that is drawn on the side of the slider representing the maximum value.

MAFUIProgressView

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:

progressTintColor	The color of the filled portion of the progress bar. Colors are defined as RGBA (red, green, blue, alpha).
trackTintColor	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:CGRectMake(160, 150, 0, 0)] autorelease];
    [coloredStepper addTarget:self
action:@selector(stepperValueChanged:)
forControlEvents:UIControlEventValueChanged];
    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 DividerImage. 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 Background-Image. Available in iOS 6.0 and above.
IncrementImage	The image for the increment button of MAFUIS-tepper. If you use this property, do not set any other property except DecrementImage. Availa-ble in iOS 6.0 and above.
DecrementImage	The image for the decrement button of MAFUIS-tepper. If you use this property, do not set any other property except IncrementImage. 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:CGRectMake(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 MAFUITabBar background; can only be a solid color.
BackgroundImage	Image for MAFUITabBar's background.
IndicatorImage	Image for MAFUITabBar's indicator. Images can be local or can come from a url and they can be base64 encoded images.
ShadowImage	Image for MAFUITabBar'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:CGRectMake(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, UIBarStyle-Black, 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 Sytle Compatible MAFUIToolbar

The default SAP style of the MAFUINavigationBar looks like this:

Figure 15: SAP Style Compatible MAFUINavigationBar

To present the MAFUIToolbar or MAFUINavitationBar, 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
*/

MAFUIBarButtonItem *item = [[[MAFUIBarButtonItem alloc]
                    initWithImage:[UIImage
imageNamed:@"employee_grey_24.png"]
                    style:UIBarButtonItemStylePlain target:self
action:nil] autorelease];
item.mafStyleName = @"UIBarButtonItem";

MAFUIBarButtonItem *item2 = [[[MAFUIBarButtonItem alloc]
                    initWithImage:[UIImage
imageNamed:@"lead_grey_24.png"]
                    style:UIBarButtonItemStylePlain target:self
action:nil] autorelease];
item2.mafStyleName = @"UIBarButtonItem";

UIBarButtonItem *flexibaleSpaceBarButton = [[[UIBarButtonItem
alloc]

initWithBarButtonSystemItem:UIBarButtonSystemItemFlexibleSpace
                    target:nil action:nil] autorelease];

MAFUIBarButtonItem *item3 = [[[MAFUIBarButtonItem alloc]
                    initWithImage:[UIImage
imageNamed:@"decline_24.png"]
                    style:UIBarButtonItemStylePlain target:self
action:nil] autorelease];
item3.mafStyleName = @"plainBarButton";

MAFUIBarButtonItem *item4 = [[[MAFUIBarButtonItem alloc]
                    initWithImage:[UIImage
imageNamed:@"accept_24.png"]
                    style:UIBarButtonItemStylePlain 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 tooblar*/
[self setToolbarItems:toolbarItems animated:YES];
/*Unhide toolbar of Navigation Controller*/
[self.navigationController setToolbarHidden:NO animated:YES];

// rightbutton to the navbar
MAFUIBarButtonItem *mafButton = [[MAFUIBarButtonItem 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.
BackgroundImageLanscapePhone	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 MAFUIBarButtonItem instances. To change the style of an individual MAFUIBarButtonItem, 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:

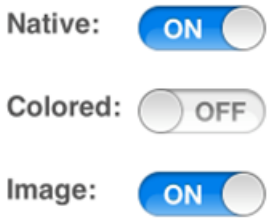
Background	Color of the control's background; can only be a solid color, no freestyle gradient. Colors are defined as RGBA (red, green, blue, alpha).
IosStyle	The iOS style for the control. Possible values: UIBarButtonItemStylePlain, UIBarButtonItemStyleBordered, UIBarButtonItemStyleDone.
TintColor	Color 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: • Borderbrush – defines the color. • BorderThickness – is the width of the border. • CornerRadius – is the angle of the edge.

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:

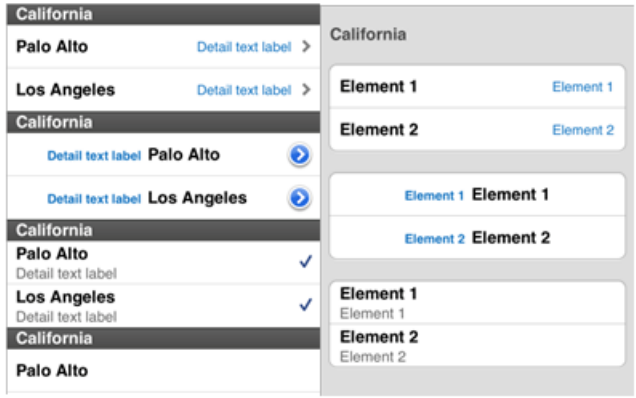
Background	Color of the MAFUIImageView's background; cannot be a freestyle gradient. This is the color of the area that the image does not cover, or where the image is transparent. Colors are defined as RGBA (red, green, blue, alpha).
BackgroundImage	The background image for the control.
Border	The border attributes of the MAFUIImageView include: • Borderbrush – defines the color. • BorderThickness – is the width of the border. • CornerRadius – is the angle of the edge.

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 MAFUITableViewCell – 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
MAFUITableView*/
#import <UIKit/UIKit.h>
#import "MAFUITableView.h"
@interface ViewController1 : UIViewController<UITableViewDelegate,
UITableViewDataSource> {
    NSMutableArray* m_TableData;
    MAFUITableView* m_TableView;
}

@property (nonatomic, retain) NSMutableArray* tableData;
@property (nonatomic, retain) MAFUITableView* tableView;

@end
```

The UIViewController must implement the two UITableView delegates. m_TableView is a reference to the MAFUITableView 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
```

```
{
    …
MAFUITableViewCell *cell = [self.tableView
dequeueReusableCellWithIdentifier:cellIdentifier];
    if (cell == nil) {
    cell = [[[MAFUITableViewCell alloc] initWithStyle:
UITableViewCellStyleValue1
                                                reuseIdentifier:
cellIdentifier] autorelease];

}

    …
}
```

To present a grouped MAFUITableView, use the appropriate constructor call and pass the style parameter to it:

```
MAFUITableView* tempTableView = [[MAFUITableView 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 MAFUITableView and the MAFUITableViewCell 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="#BBCCFF"/>
       <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 MAFUITableView in the skinning XML:

Background	Color of the background of the MAFUITableView; can only be a solid color, no freestyle gradient. Colors are defined as RGBA (red, green, blue, alpha).
SeparatorColor	The MAFUITableView's cell separator color.
Border	The border attributes of the MAFUITableView include: • Borderbrush – defines the color. • BorderThickness – is the width of the border. • CornerRadius – is the angle of the edge.

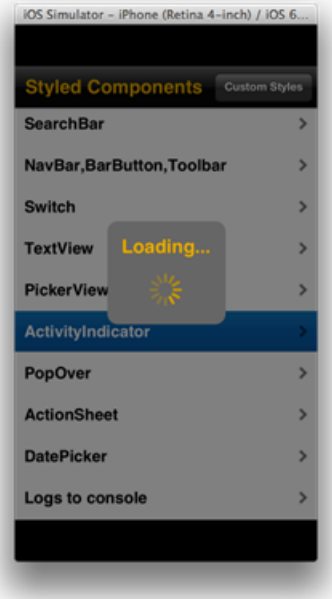
You can change these properties of the MAFUITableViewCell in the skinning XML:

Background	Color for the TableViewCell background, it can be a solid color, freestyle gradient, ios style background color, colors are difined 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 textsLabels, the secondary is called detailsTextlabel. It can alsobe 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 MAFUILabel include: • Borderbrush – defines the color. • BorderThickness – is the width of the border. • CornerRadius – is the angle of the edge.

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 Activity Indicator. 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 the 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 MAFUISegementedControl 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 UISegmentedControlStyleBar 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: • UISegmentedControlStylePlain • UISegmentedControlStyleBordered • UISegmentedControlStyleBar • UISegmentedControlStyleBezeled

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

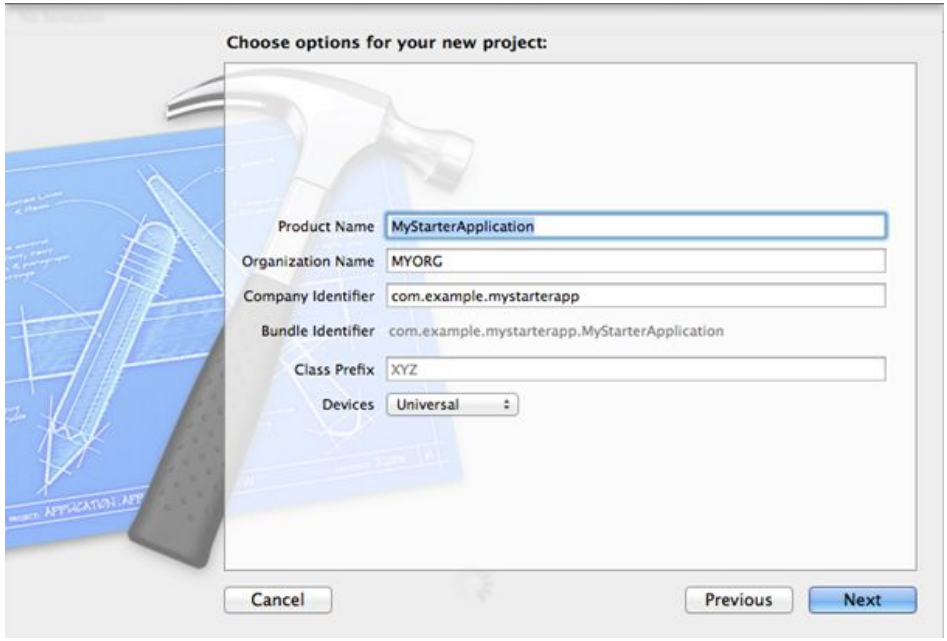
The MAF Calendar control is a complex reusable control, which means that it builds on top of simple controls, such as MAFUILabel and MAFUIButton. The Calendar control depends on the MAFUIControls library.

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.

- MessagUI.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 appllication, 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";
```

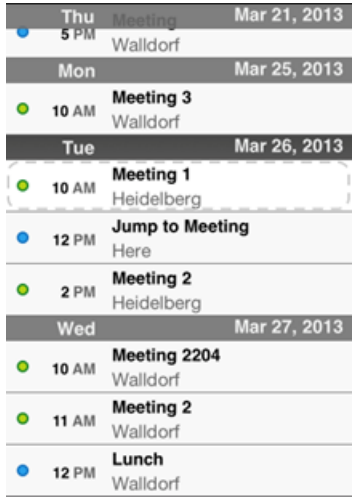
```
    cal3.color        = [UIColor colorWithRed:246/255.0f green:
139/255.0f blue:31/255.0f alpha:1.0];
    cal3.bordercolor  = [UIColor colorWithRed:203/255.0f green:
77/255.0f blue:44/255.0f alpha:1.0];


    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:



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];
}
}
```

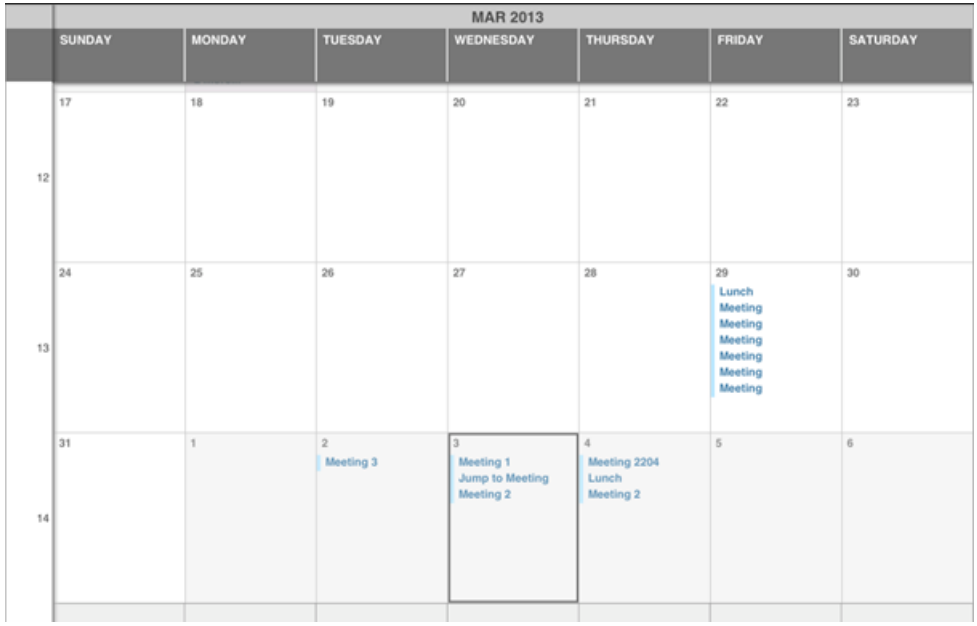
It is your task to initialize the appointments. For example, create MAFAppointment objects and store them in memory.

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.

Use the MAFIpadMainMonthView class to present the iPad month view:



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];
}
```

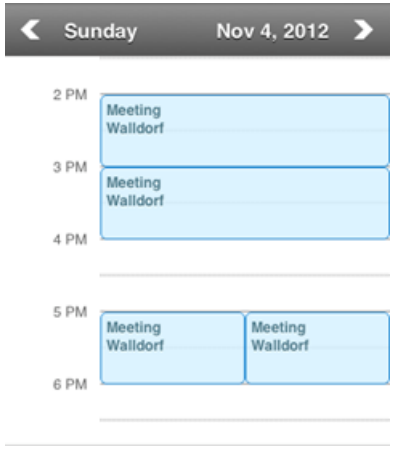
Day Detail View

The MAFAppointmentView displays appointments scheduled in a day 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:

- 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:

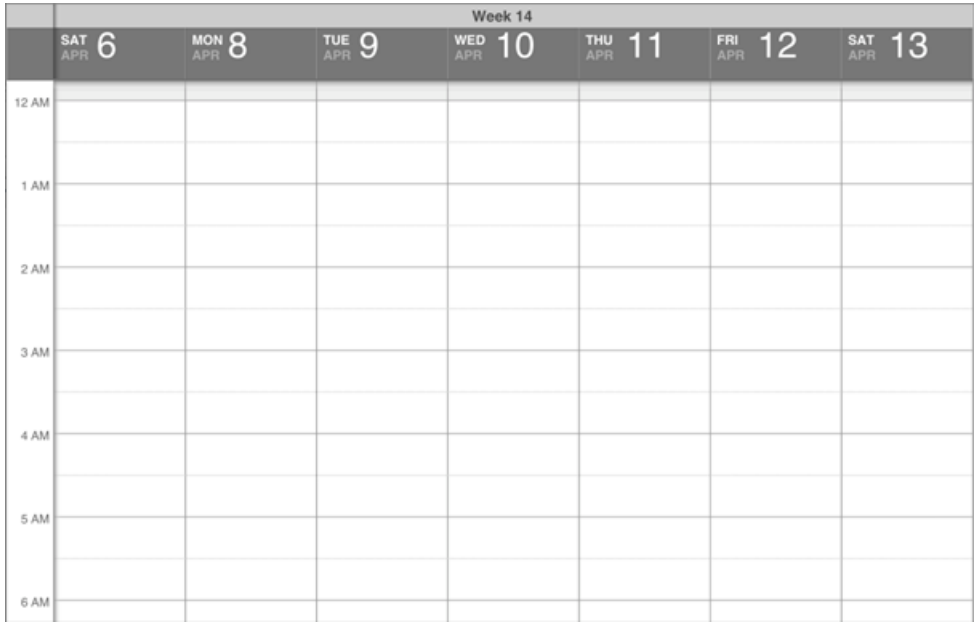
```
-(void)setupDayView:(UIViewController*)vc
{
    MAFDayDetailView* view = [[MAFDayDetailView alloc]
initWithFrame:CGRectMake(0, 44, 320, 367)];

    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:

For iPad, MAF supports another presentation mode for the week view:



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];

}
```

Skinning 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.

```
#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"/>
```

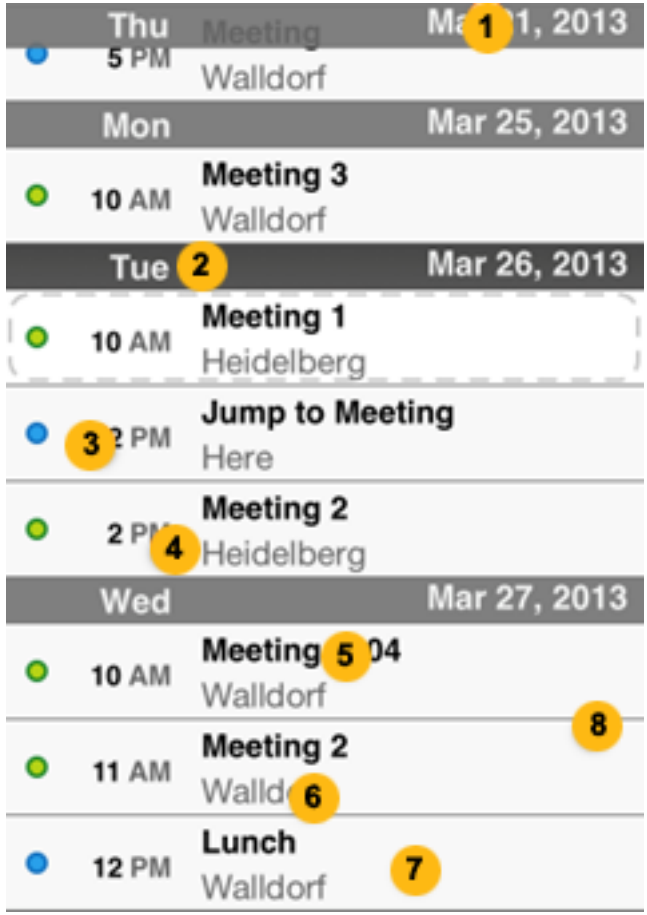
```
        <!-- FIXME Welter -->
        <Setter Property="FontFamily" Value="Helvetica-Bold"/>
        <!-- FINISHED Welter-->
        <Setter Property="FontSize" Value="23"/>
        <!-- FINISHED Welter -->
        <Border BorderBrush="#AAAEB6" BorderThickness="1"/>
        <!-- FINISHED -->
    </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.



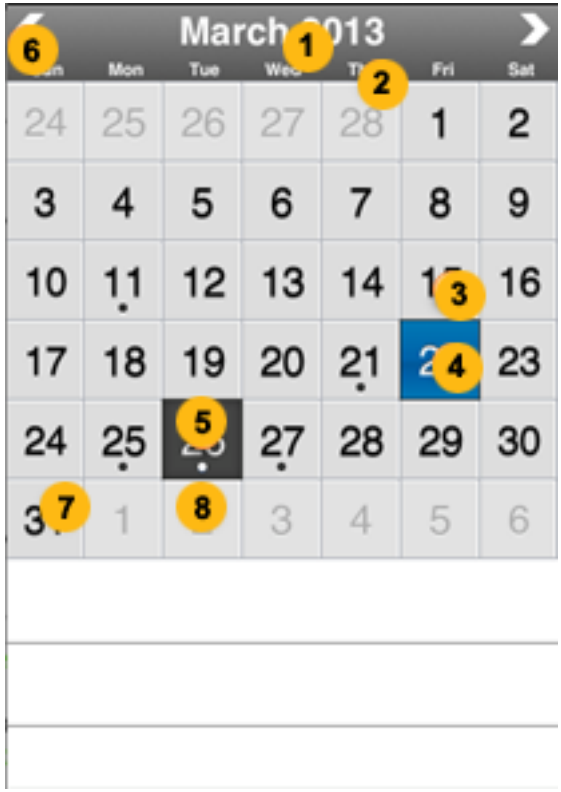
MAF style XML keys for this view:

Number Tag	Screen Element	Key
1	Header Text	CalendarListViewHeaderText
2	Header Current Day Text	CalendarListViewHeaderText-CurrentDay
3	Hour Text	CalendarListViewHourTextLabel
4	Hour Period Text	CalendarListViewHourPeriodTextLabel
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	CalendarMonthViewMonthNa-vigationArrows

Number Tag	Screen Element	Key
7	Day Tile Text image	CalendarMonthViewDayTile-TextImage
8	Day Tile Disabled Text image	CalendarMonthViewDayTile-DisabledTextImage

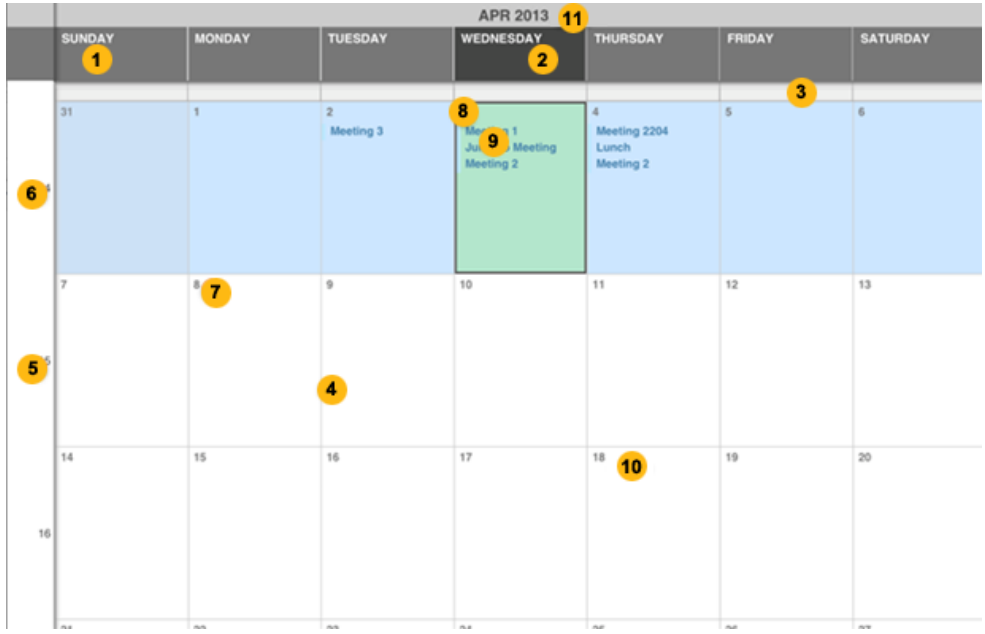
Styling the iPhone Month View

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:

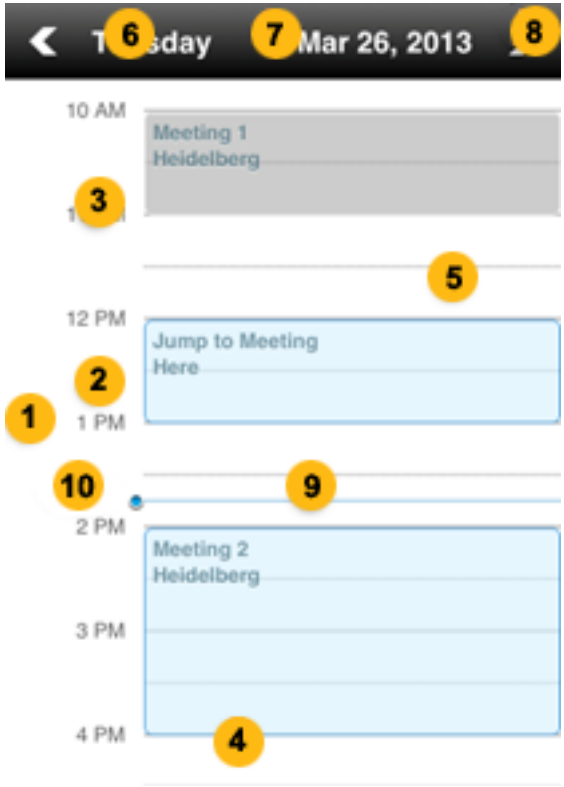
Number Tag	Screen Element	Key
1	Header Day Text	CalendarMonthViewCurrent-MonthdayTextLabel

Number Tag	Screen Element	Key
2	Header Current Day Text	CalendarMonthViewCurrent-MonthdayTextLabel
3	Gutter	CalendarMonthViewGutter
4	Canvas	CalendarMonthViewCanvas
5	Week Number Styles	CalendarMonthViewWeekLa-belFont CalendarMonthViewWeek-View
6	Highlighted Week Number	CalendarMonthViewWeekLa-belHighlightColor
7	Day Box Day Number Text	CalendarMonthViewMonth-dayBoxNumberTextLabel
8	Current Day Box Day Number Text	CalendarMonthViewCurrent-MonthdayBoxNumberTextLa-bel
9	Styles for the appointment with-in the daybox	CalendarMonthViewMonth-dayBoxAppointment CalendarMonthViewCurrent-MonthdayBoxAppointment CalendarMonthViewMonth-dayDecoratorBox CalendarMonthViewCurrent-MonthdayDecoratorBox
10	Daybox styles	CalendarMonthViewDayBox CalendarMonthViewCurrent-DayBox
11	Top header showing the year	CalendarMonthViewTopHead-er

Stlying 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.

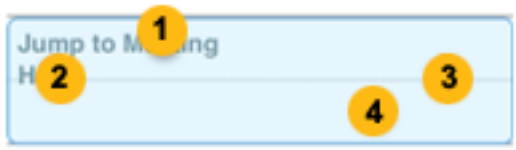
The number tags on the screenshot correspond to the respective lines in the table.



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<MAFFormattingFactory>* formatterFactory =
[[MAFFormatterFactory alloc] init];
```

```
// II. creating a date time formatter with specific formatter
settings defined prior to using it
NSObject<MAFFormatting>* 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 =
    [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] ];

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 countyCode_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.

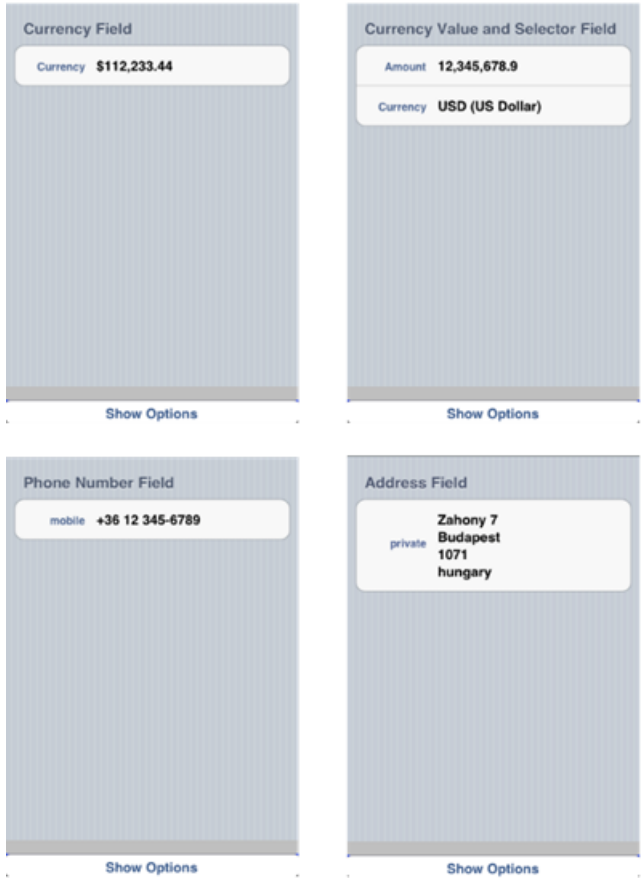
- Configure value helper list entries with your custom set.
- Define custom presentations for value helper lists, besides the out-of-the-box value help screen modal behavior.

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:

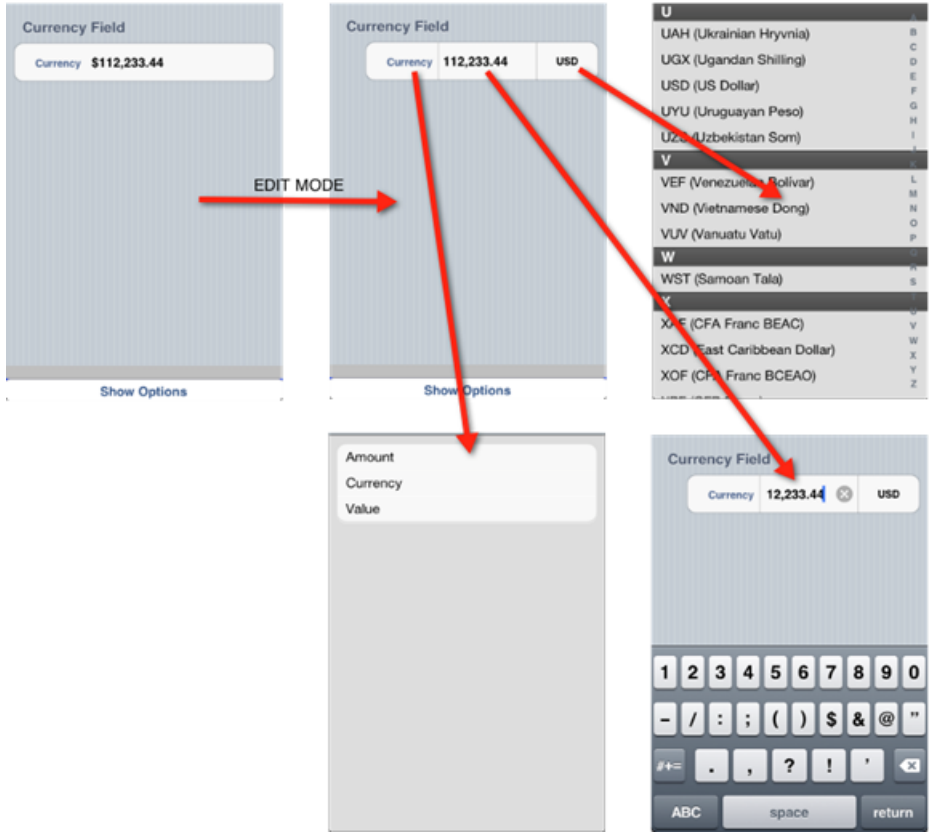


Currency Control

Use the currenncy 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.



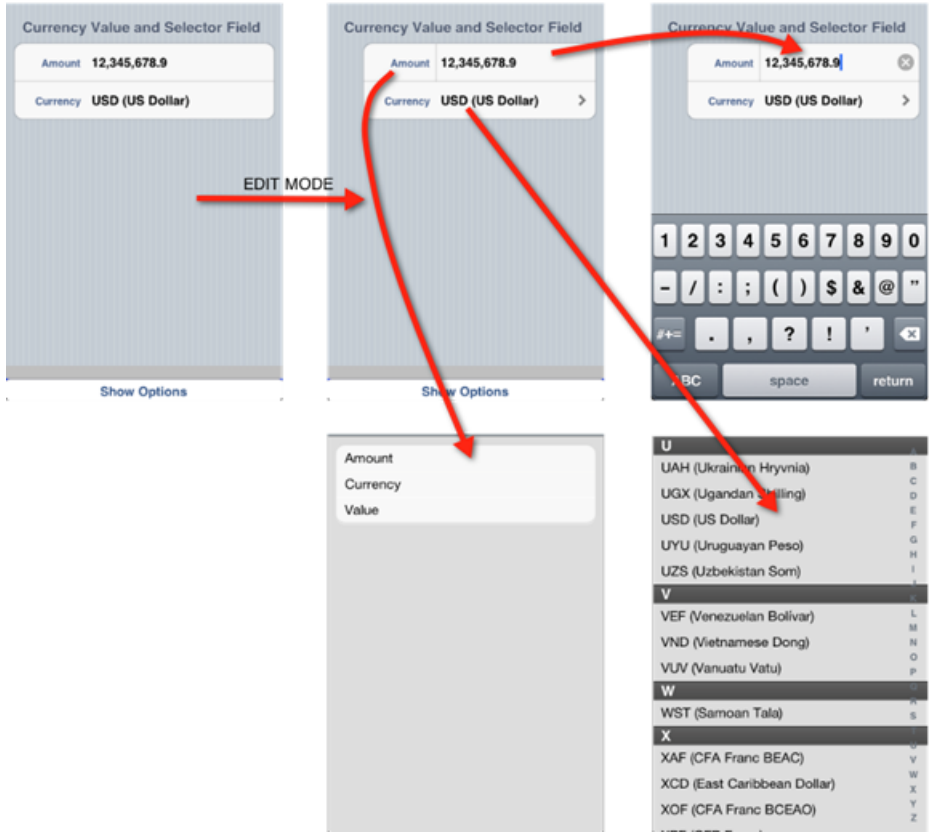
Currency Value with Selector Control

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.

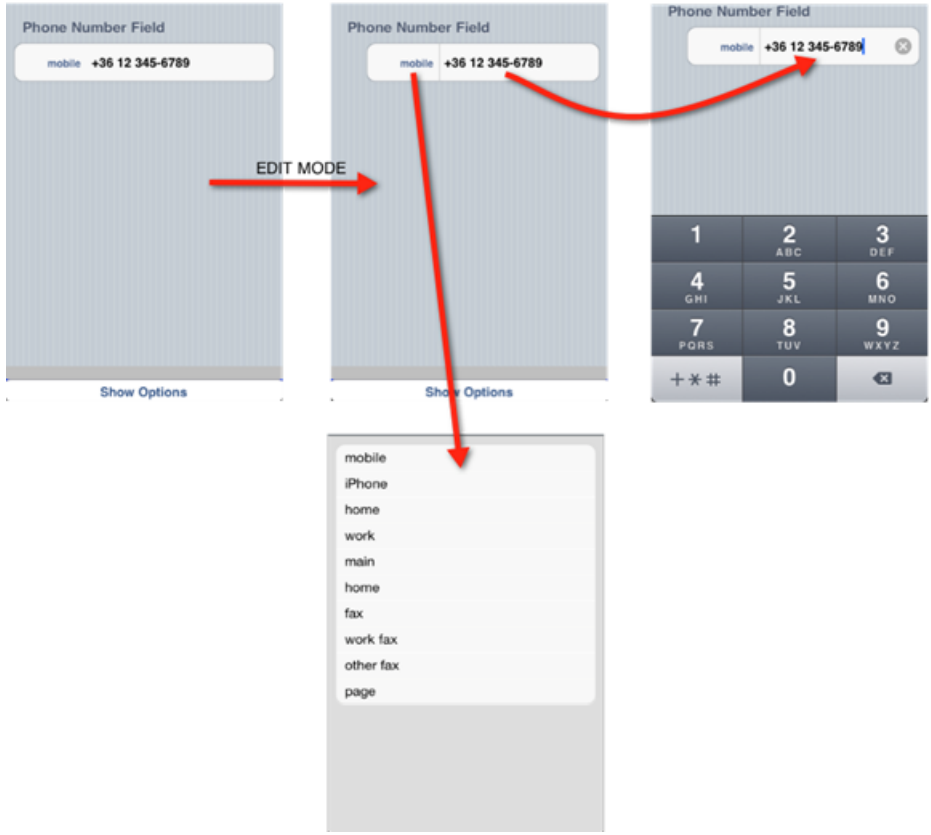


Phone Number Control

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.



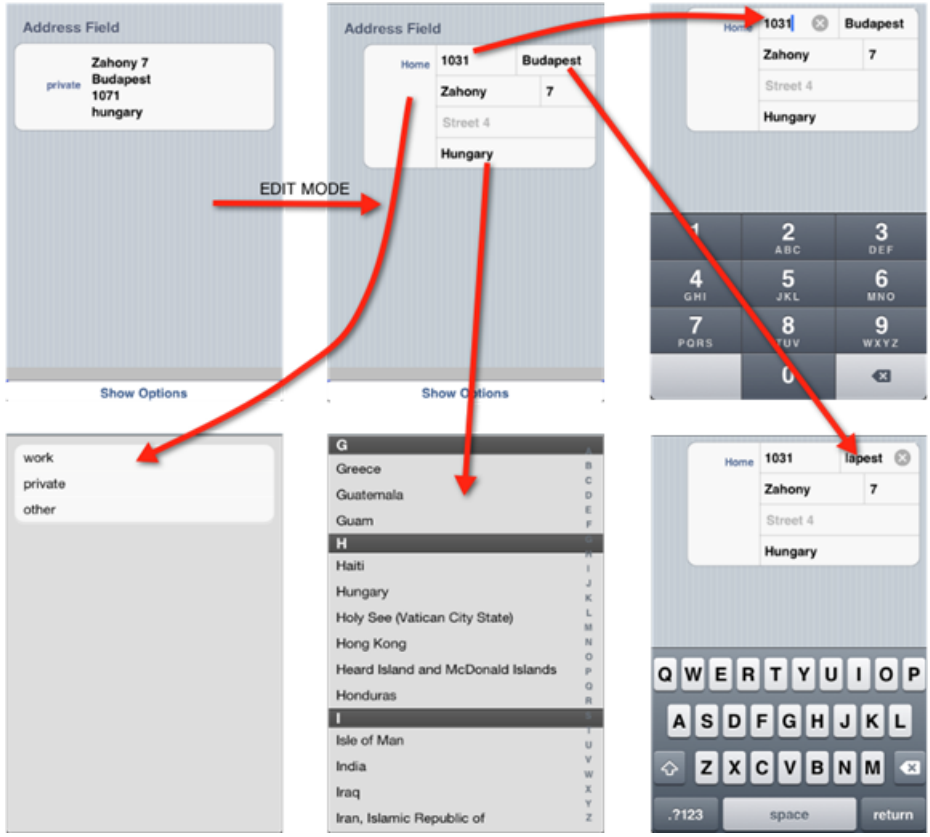
Address Control

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:

- 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 presentModalViewController: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 cretate 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:

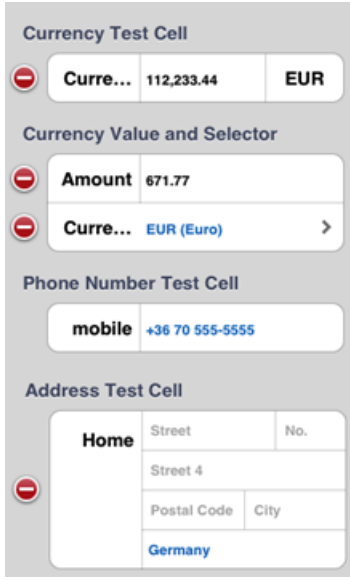
```
// data source delegate method
- (UITableViewCell *)tableView:(UITableView *)tableView
cellForRowAtIndexPath:(NSIndexPath *)indexPath
{
    return [(NSArray*)[self.tableViewCells
objectAtIndex:indexPath.section] objectAtIndex:indexPath.row];
}

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;
    }
}
```

Skinning 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:NSLocalizedString(@"SAP Phone",@"SAP Phone"),
NSLocalizedString(@"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
                                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.

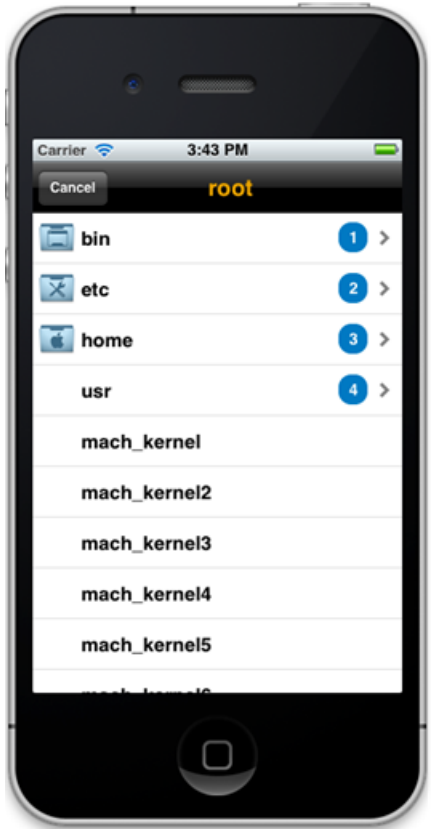
Creating the MAF Tree View Controls

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 it 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 categrory 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 *MAF Skinning* 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 patters, 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.

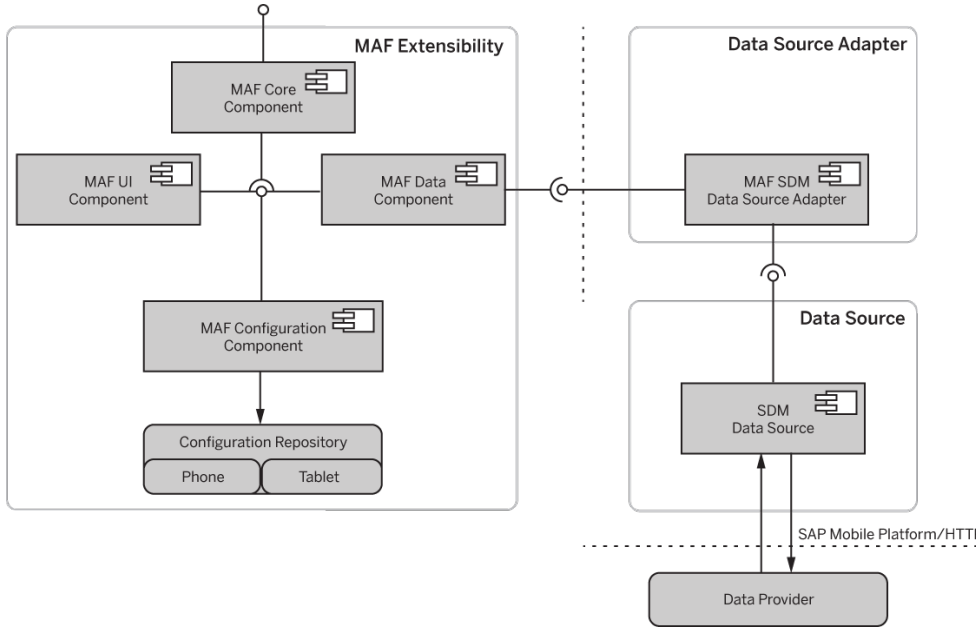
The main features of the Extensibility Framework include:

- **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

- 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:

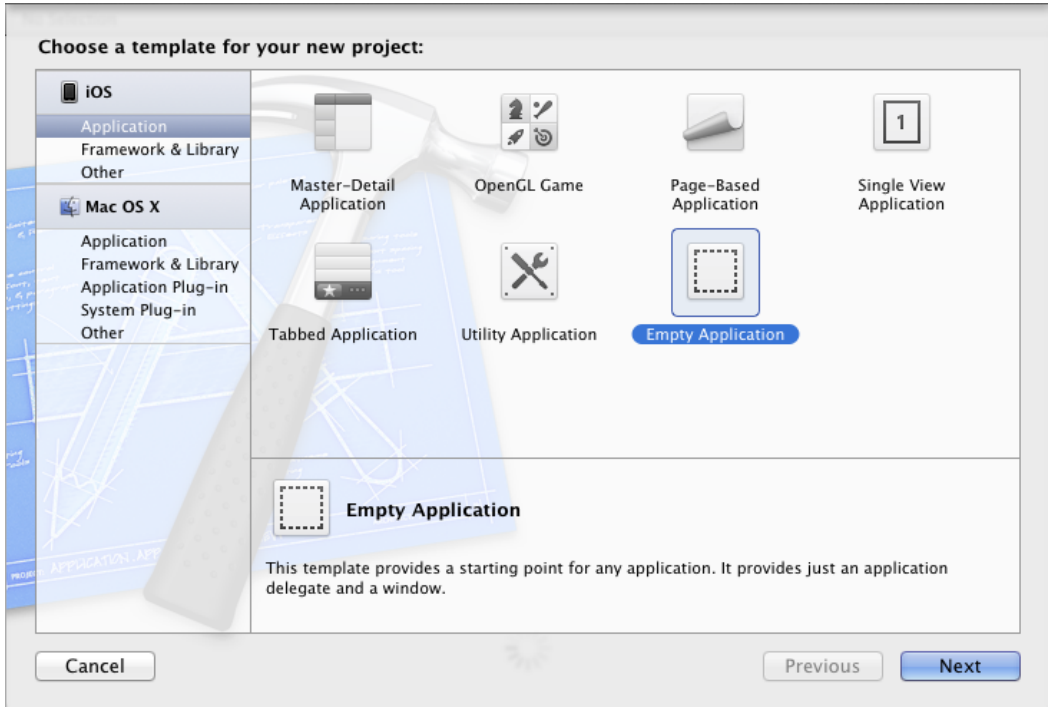
Sample Application	Description
Accessibility Demo	Sample app with accessibility labels and text defined in the Extensibility configuration.
CustomAppWithExtensibility	A simple version of the mixing coded and metadata-driven tiles. This demo is a starting point and reference application when you are creating 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 *Extensibility Configuration XSD*, *The Data Source Adapter* and *Feeding the Tile with Custom Data*.
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 blockUI 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 *Formatters*.
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.

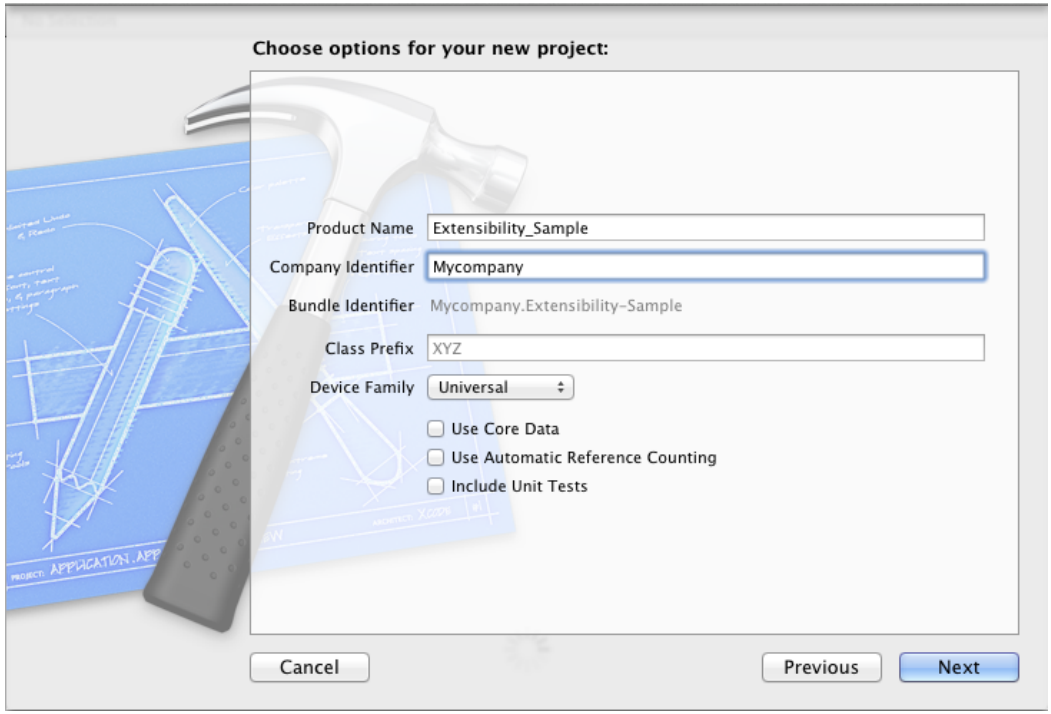
Creating a New Project

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**.



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
- libAfariaSLL.a
- libCoreServices.a
- libE2ETrace.a
- libDatavault.a libMo.a

Frameworks

- SystemConfiguration.framework
- MessageUI.framework
- Security.framework
- MobileCoreServices.framework
- QuarzCore.framework
- CFNetwork.framework
- Foundation.framework
- CoreGraphics.framework

- UIKit.framework
- further frameworks based on your app's requirements

Other Libraries

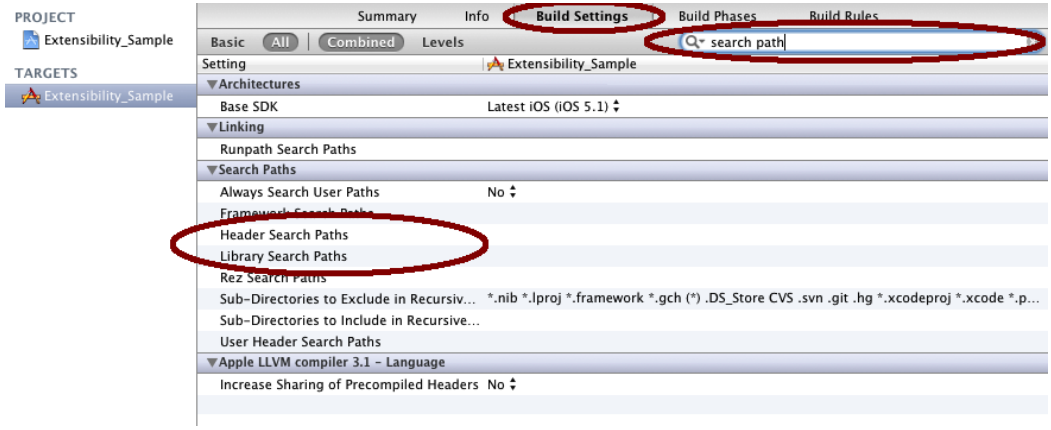
- libstdc++.dylib
- libz.dylib

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`.

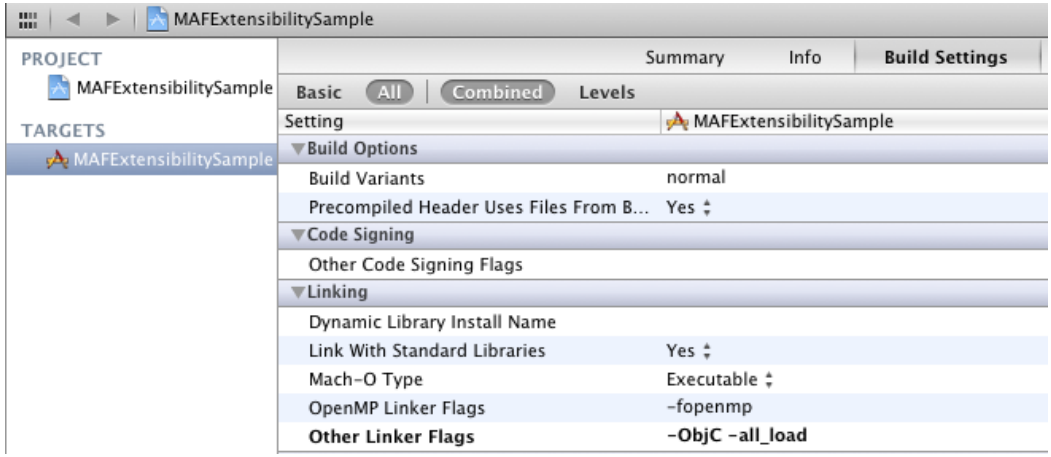
Task

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}-${PLATFORM_NAME}/**"`.
3. Select **Library Search Paths** and insert: `"${PROJECT_DIR}/target/libs/${BUILD_STYLE}-${PLATFORM_NAME}/**"`.

   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.

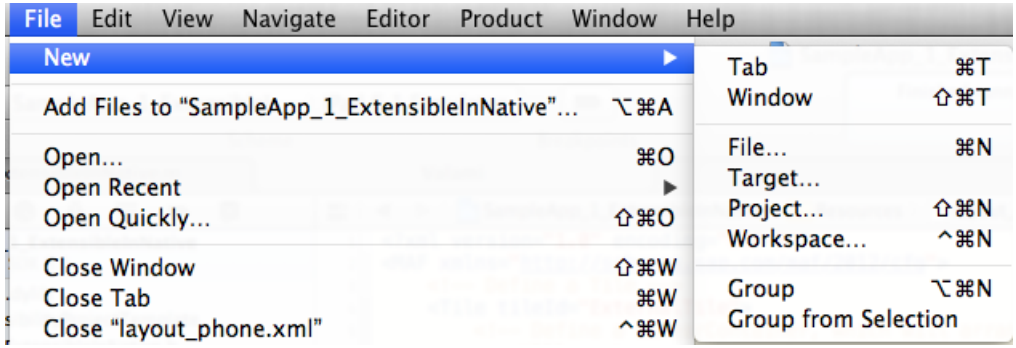
Implement an Extensible Application

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.

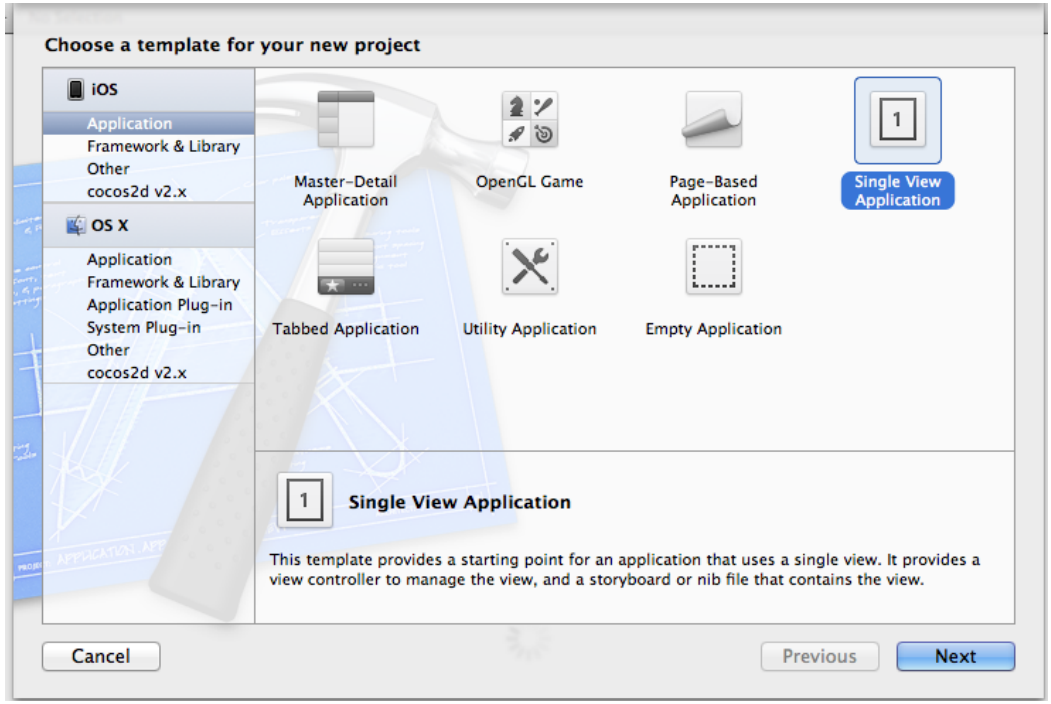
Setting Up a New Project

Set up a new project for an extensible application.

1. Start XCode, and create a new project.

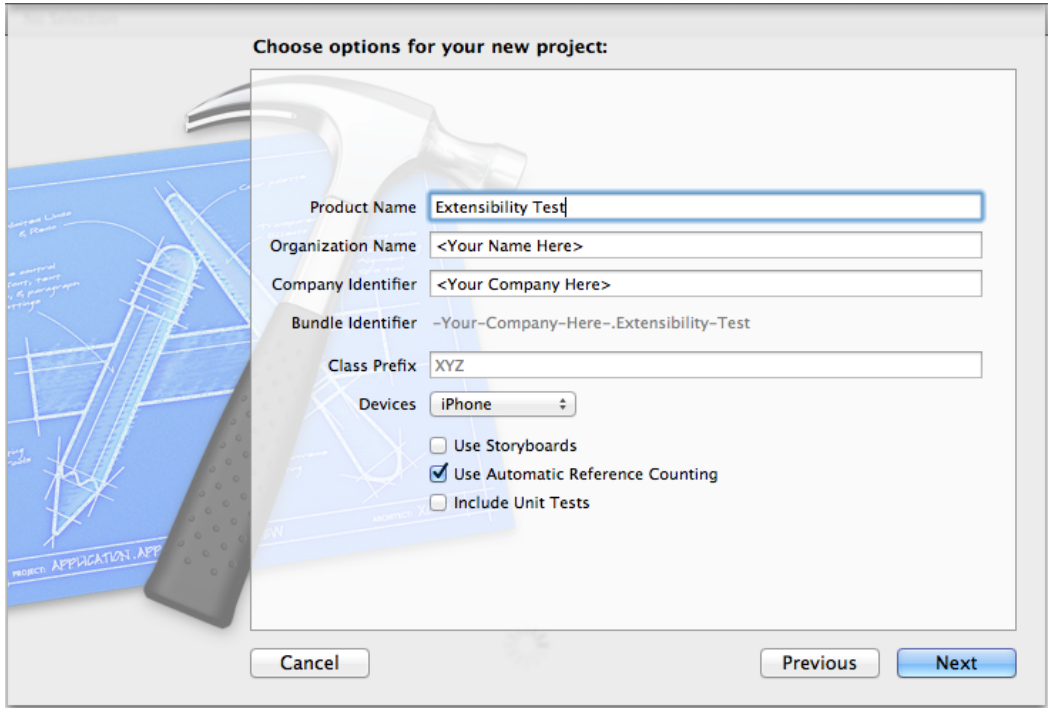


2. In the left pane, under iOS, select **Application**. In the right pane, select **Single View Application**.

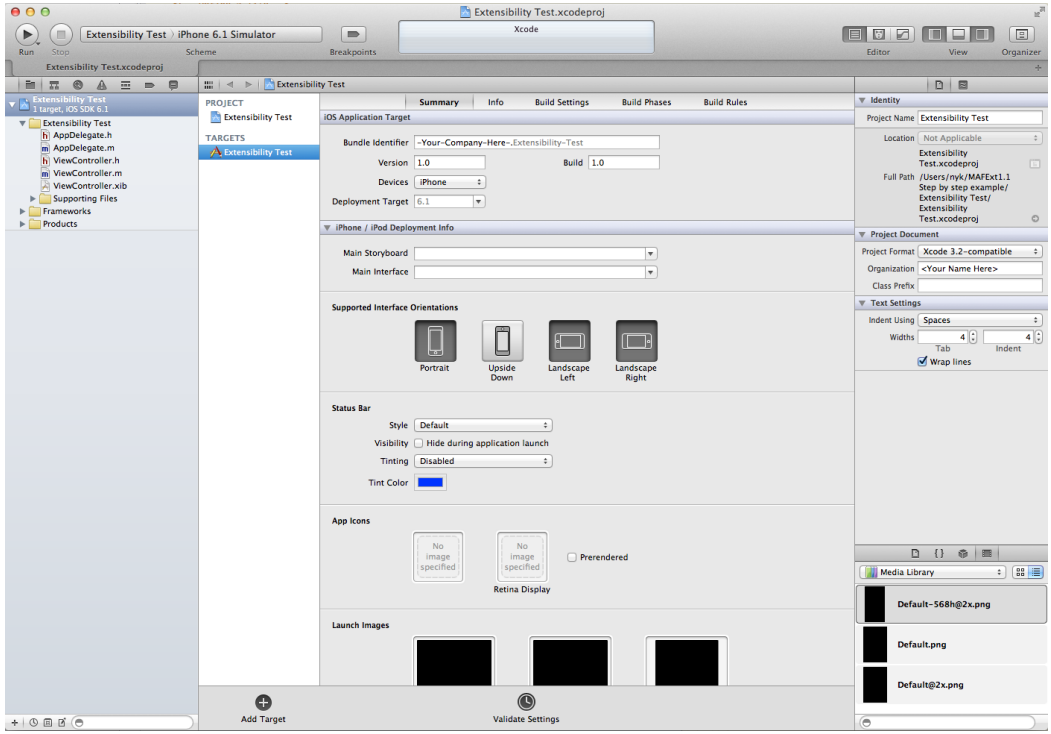


3. Complete the details on the first screen, then click **Next** to build an iPhone-only ap that uses ARC (Automatic Reference Counting).

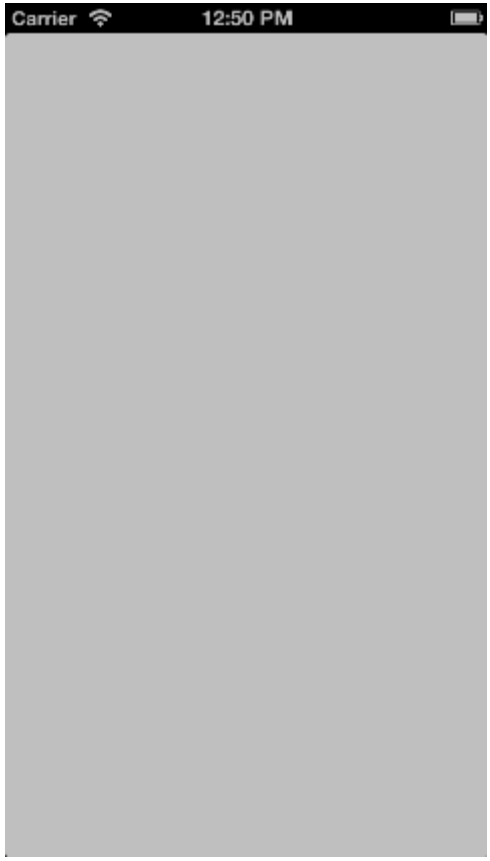
Note: You are not required to use ARC; however, if you use MRC (Manual Reference Counting), you are then responsible for manually retaining and releasing your objects. If you plan to use MRC, appropriately adapt the tutorial code to prevent memory leaks and Xcode warnings.



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
```

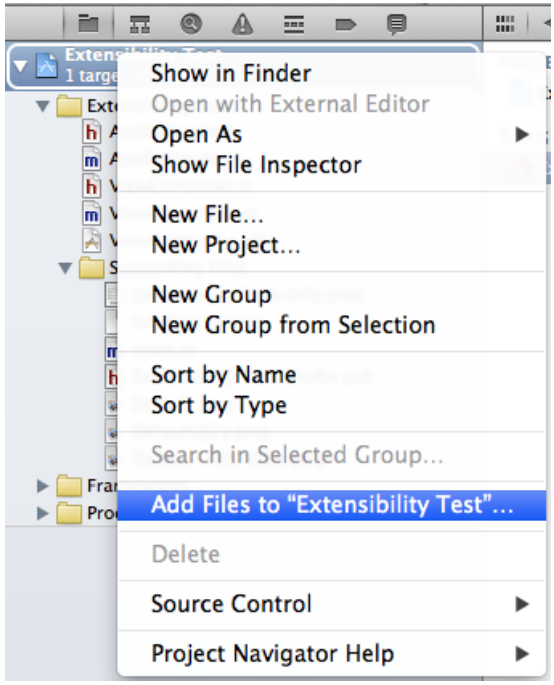
2. With universal libraries, you need not create the folders that reflect the platform name and the build style. A universal binary includes both the simulator and device versions of the library (also known as a fat library). An organized structure lets you easily locate the dependencies, and you can 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)

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.

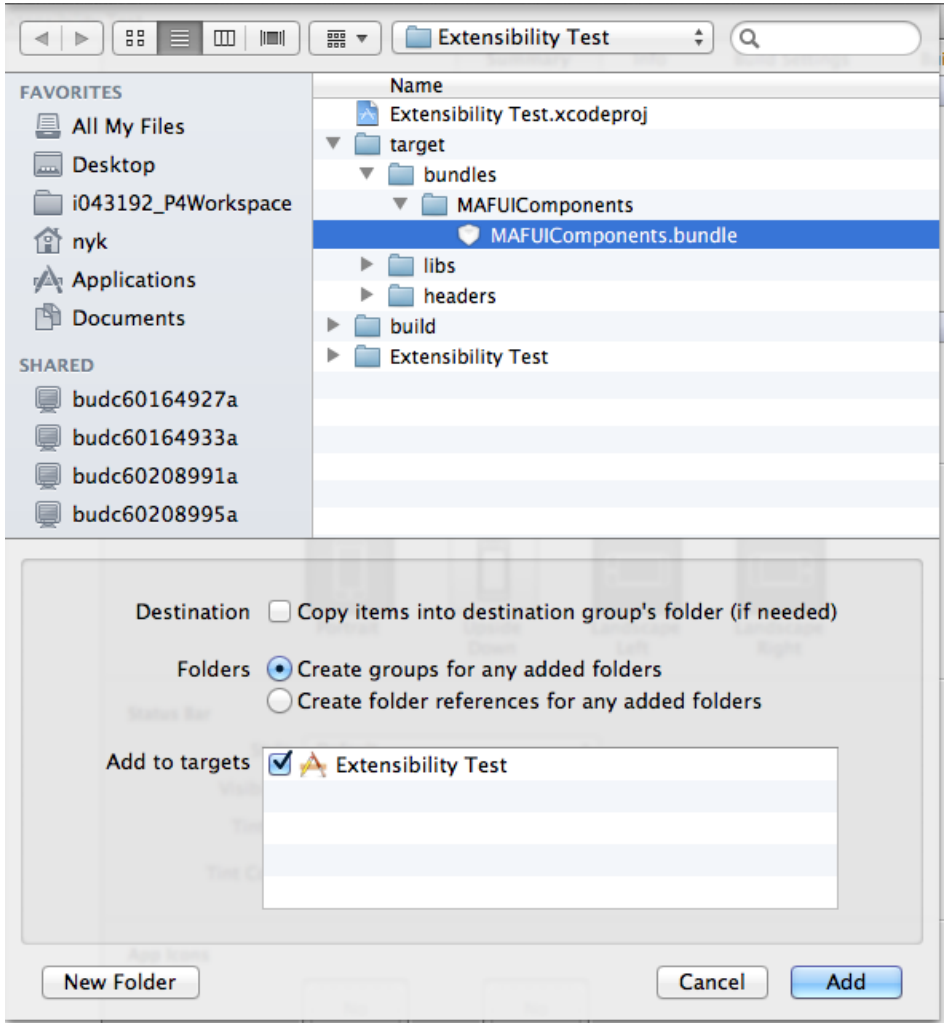
Adding Resources

Add resources to the project.

1. In the Project Navigator, right-click the project, and choose **Add Files to…**.



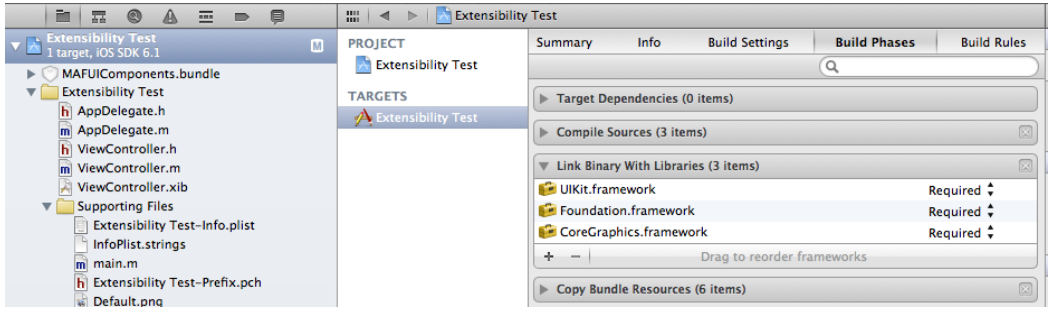
2. Browse to the directory containing the MAFUIComponents.bundle, and add it to the project, using these settings:



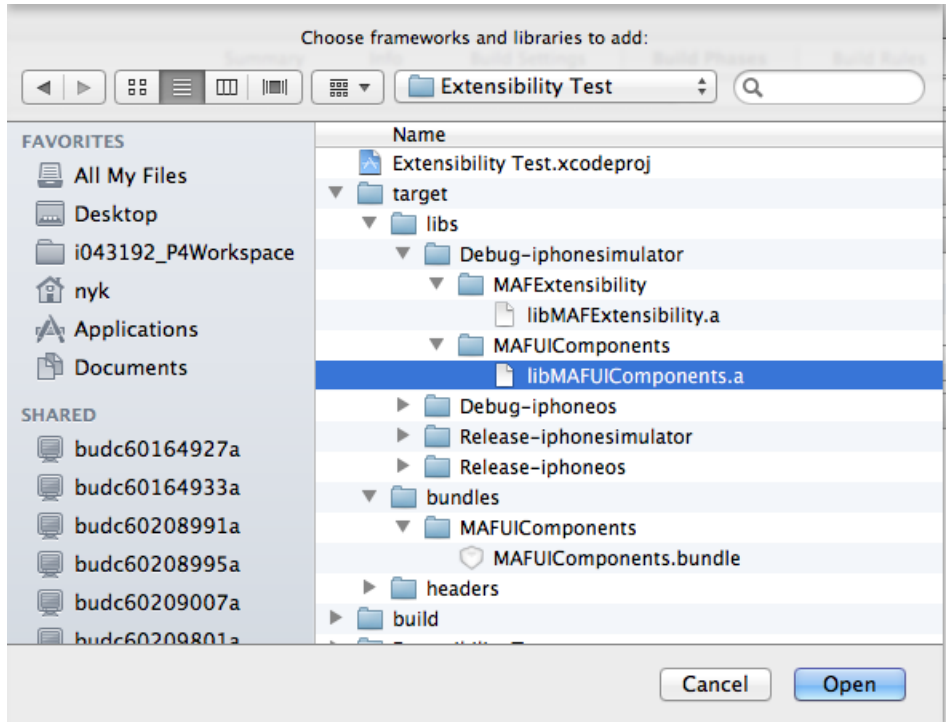
Adding Binary Dependencies

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:



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.



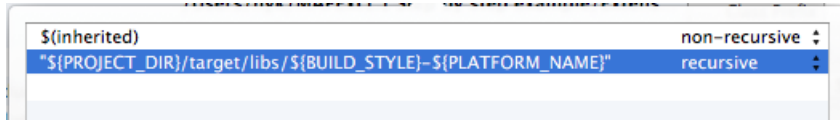
3. Add these libraries and their headers:
   - [MAF] libMAFFormatters
   - libMAFLogger.a
   - libMAFZipHelper.a
4. Add these frameworks / system libs:
   - [iOS] QuartzCore.framework
   - [system] libstdc++.dylib
   - libz.dylib

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.

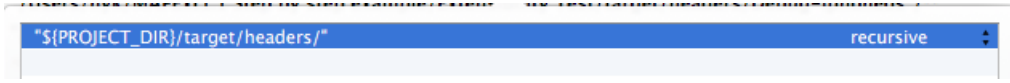
   The paths for the libraries you added are automatically supplied by Xcode. However, these constant paths are valid only for the current platform and build type. To make this setting generic, adapt it by using the `${PROJECT_DIR}`, `${BUILD_STYLE}`, and `${PLATFORM_NAME }` environment variables.

   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 that consists of only two lines and points to the parent libs directory in the project directory, which holds the library files.

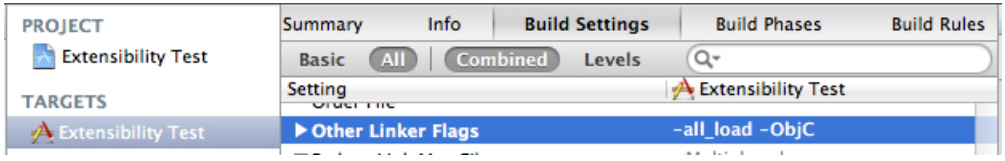
   b) Set the path as recursive to tell the linker to search for libraries recursively, so you need not specify each path separately.



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).

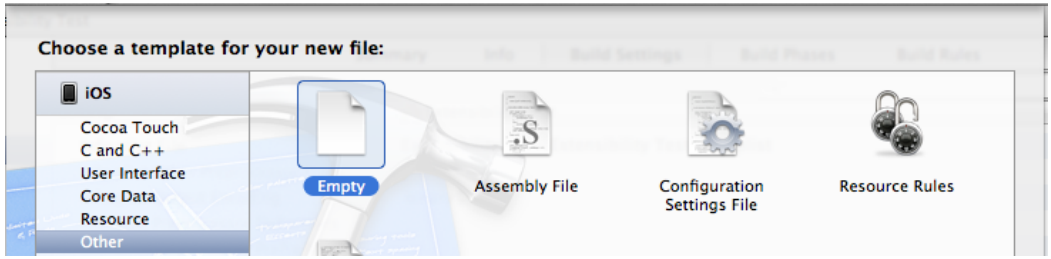


Defining the Extensibility Metadata XML

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;
```

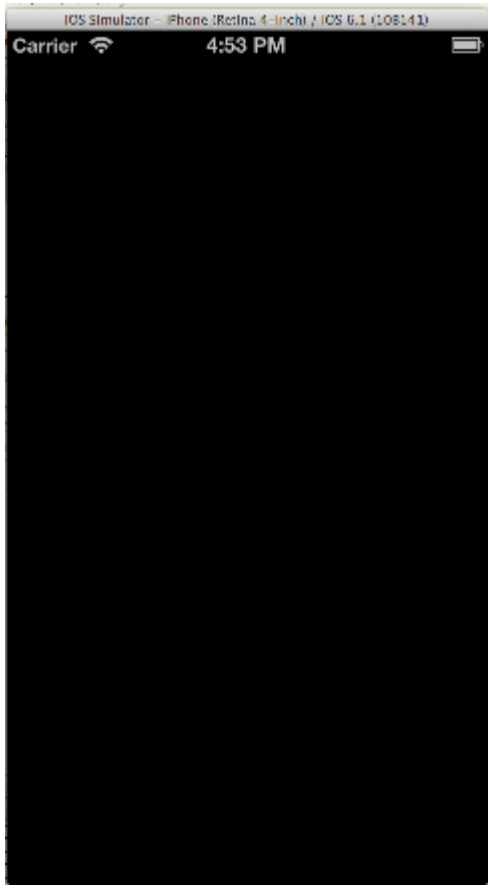
```
    // Since it is marked as a root view controller in the
configuration, the framework will also assign it to the UIWindow
object and finally display the window
//    self.viewController = [[ViewController alloc]
initWithNibName:@"ViewController" bundle:nil];
//    self.window.rootViewController = 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.

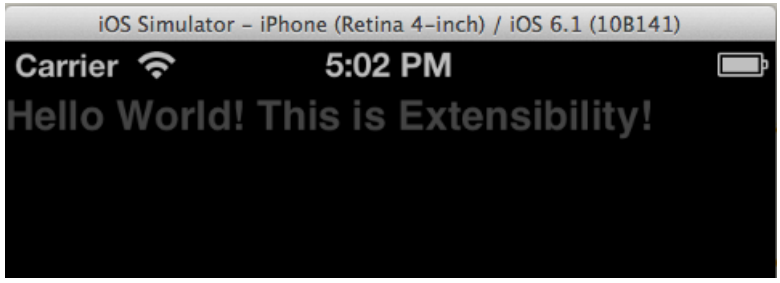
1. 1. Add text to the app by enhancing the layout_phone.xml:

```
<?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>
```

```
                <!-- 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>
```

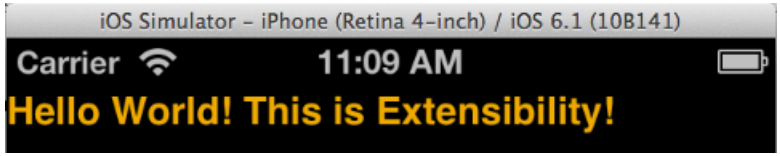
This is a standard SAP style XML, which defines a custom label. To apply a custom style to the text label, edit the layout_phone.xml and set the style:

```
<!-- 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:

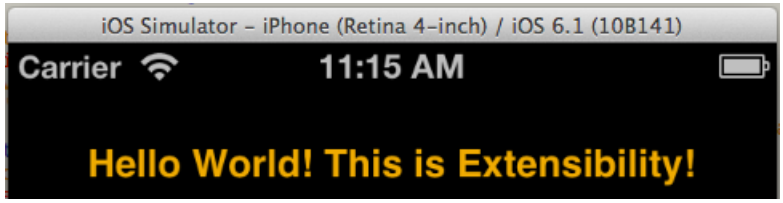


You can also experiment with changing the background color, font family and size, and so on.

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.

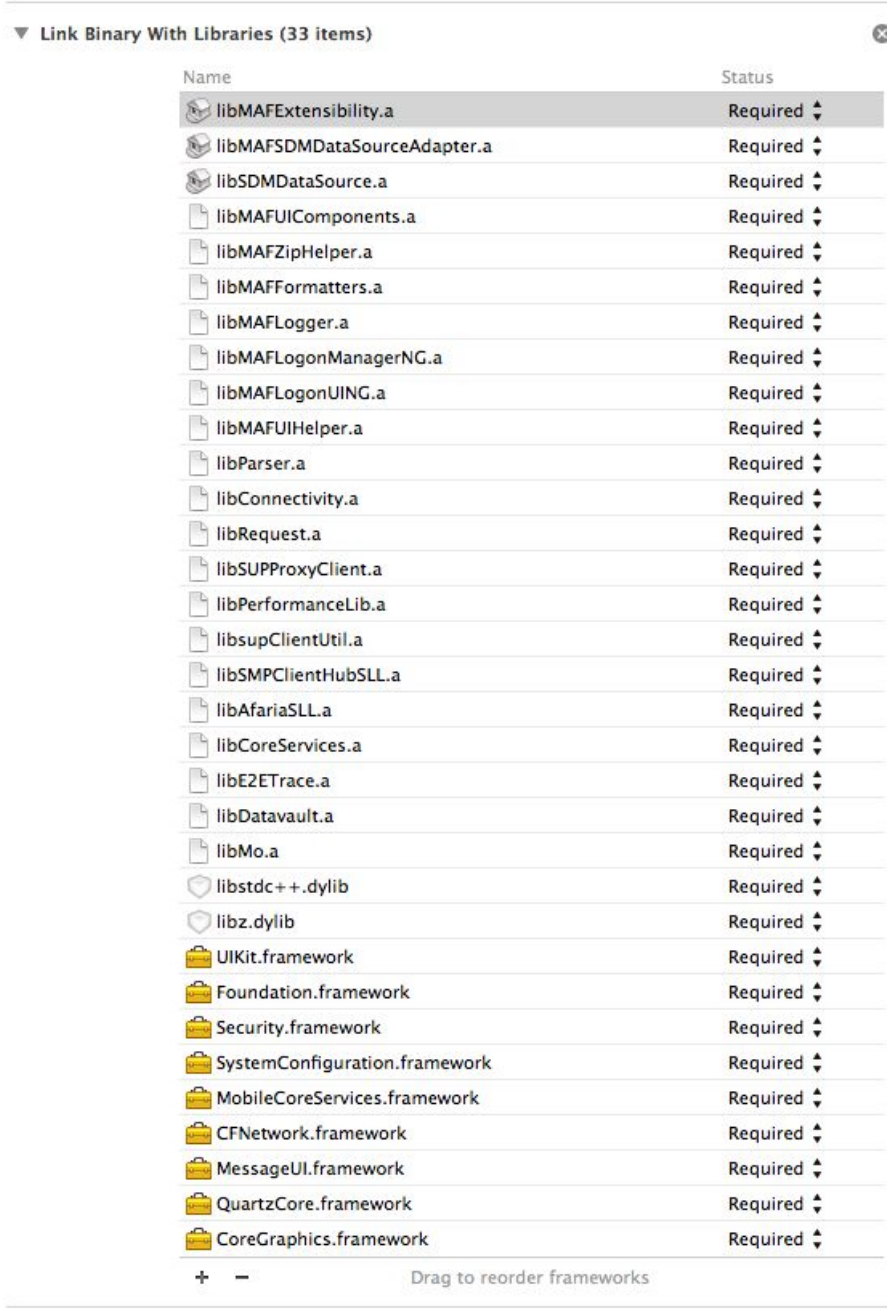
Working with Data
Feed the label with data from an OData stream.

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 2474.

   This screenshot shows the complete list of libraries and 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 -->
        <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
                  ...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>
```

5. 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 "MAFSDMDataSourceAdapter.h"
#import "SDMDataSource.h"
```

6. 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
```

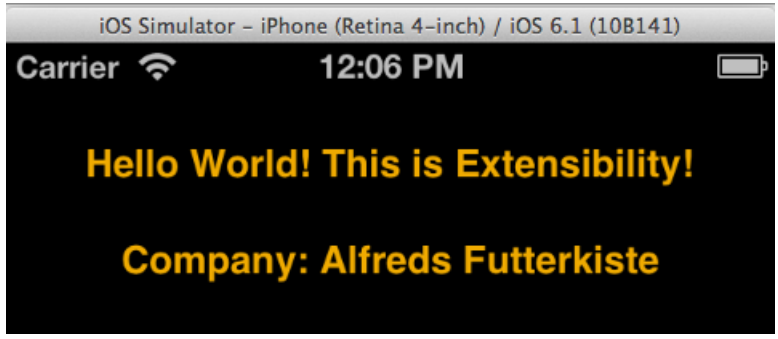
```
{
    self.window = [[UIWindow alloc] initWithFrame:[[UIScreen
mainScreen] bounds]];

    // 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.

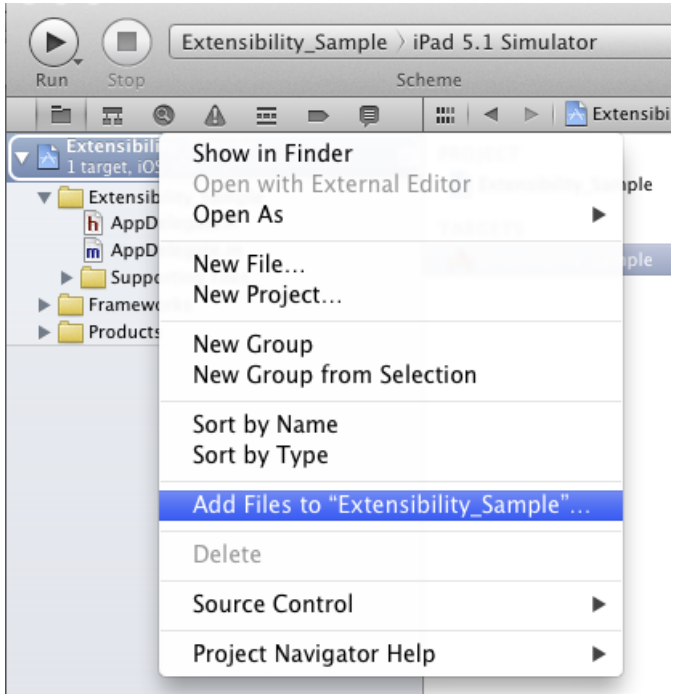
The remaining entries can be visualized as well using a ListContainer (UITableViewController), see *Managing Lists*.

```
                -->
                <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>
```

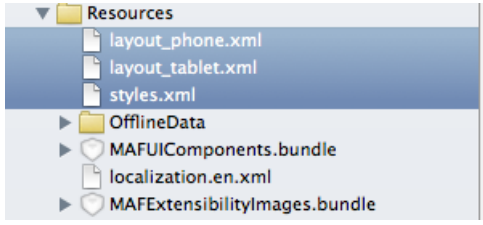
Adding Built-in Style and Layout Configuration Files

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 2467.

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_'2012-1
   2-31T00_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:

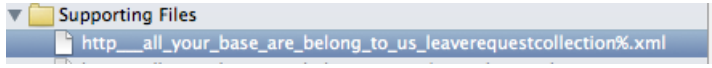
```
- (optional) Bundle

        en.lproj/                   Resources localized for English
                - (optional)OfflineDataDir
                Localizable.strings
                MyApp.nib
                ...
        de.lproj/                   Resources localized for German
```

```
                - (optional)OfflineDataDir
                Localizable.strings
                MyApp.nib
                ...
        ja.lproj/                   Resources localized for Japanese
                - (optional)OfflineDataDir
                Localizable.strings
                MyApp.nib
                ...
        ...
```

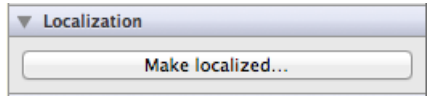
You can place your offline demo data in a dedicated bundle; to do so, follow the localizable.strings directory structure shown above.

There are four different approaches for organizing your localizable offline data:

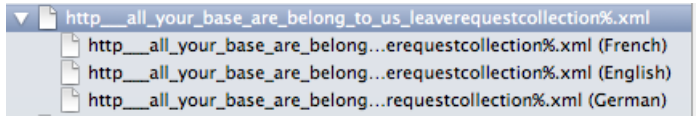
1. Place localizable demo data in the localizable resources folders.
   a) Copy your localized demo XMLs to the appropriate <language_code>.lproj (en.lproj, de.lproj, jp.lproj, and so on) directories. The latest versions of Xcode hide the folder structure, and present a logical view of the localized files. In this case, select your localizable offline XMLs in the project navigator:

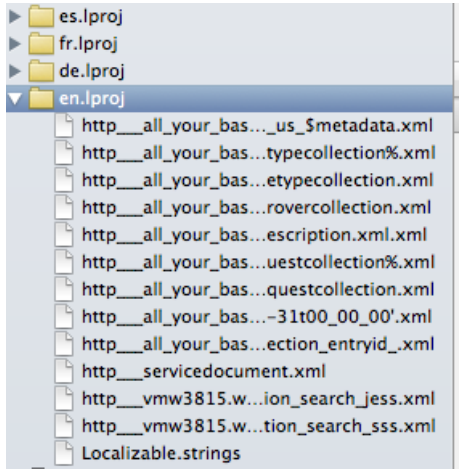
   b) In the right pane, choose Localization, then click Make Localized. Select the language of choice, and click Localize.

   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:

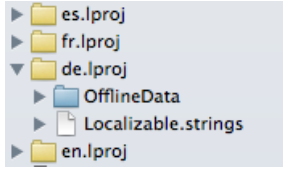
   The corresponding en.lproj, de.lproj, fr.lproj, and so on directories are created in the file system.
   d) As a last step, overwrite the contents of each directory with your localized XMLs.



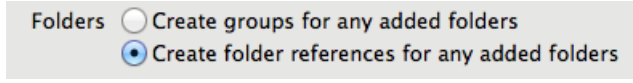
e) Enable demo mode and pass the base URL to SDMDataSource so it points to your SVC document. For example:

```
            [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.

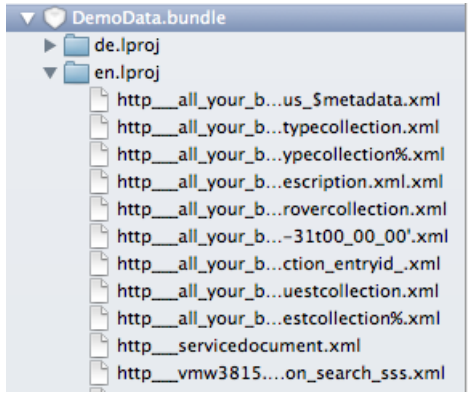


b) In your code, when you initialize the SDMDataSource library, enable the demo mode, set the base URL to point to your SVC document, and set the demo data directory:

```
[SDMDataSource setBaseURL:@"http://serviceDocument"];
[SDMDataSource setDemoDataDir:@"OfflineData"];
[SDMDataSource setDemoMode:YES];
```

3. Place localizable data in a dedicated bundle.

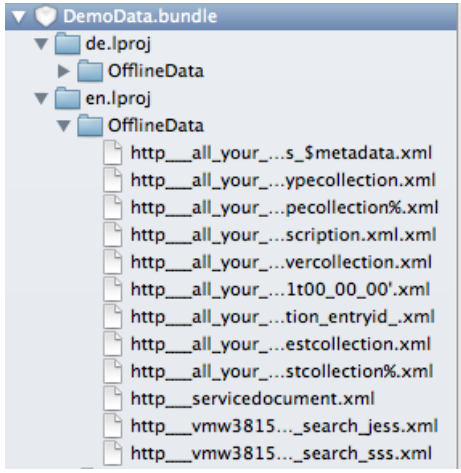
a) Place your demo data in a separate bundle, to prevent it from getting mixed with other resources.



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:

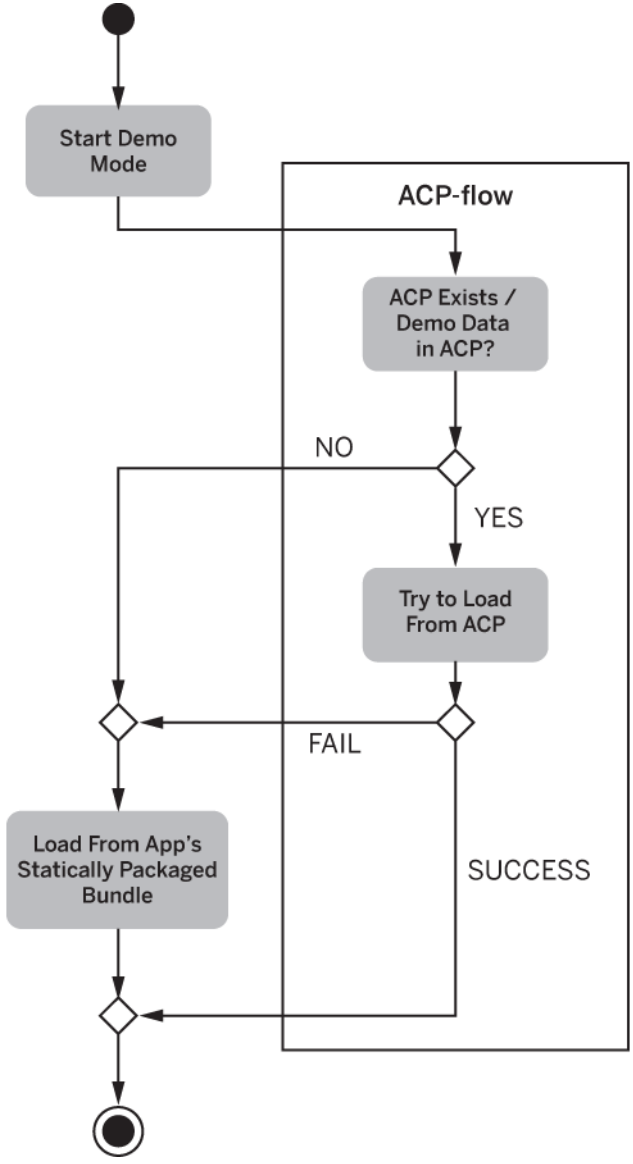
```
[SDMDataSource setBaseURL:@"http://serviceDocument"];
[SDMDataSource setDemoDataBundleName:@"DemoData"];
[SDMDataSource setDemoDataDir:@"OfflineData"];
[SDMDataSource setDemoMode:YES];
```

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

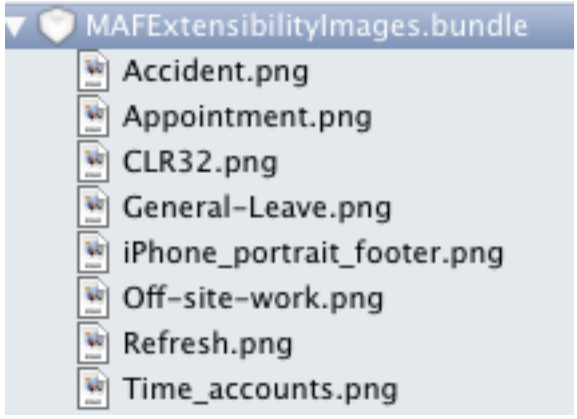
- META-INF
- tiles
- styles
- img
  - ios
    - iphone
    - ipad
  - android
    - ldpi
    - mdpi
    - hdpi
    - xhdpi
- strings
- ext
- demo (this folder contains offline data used by the application in demo mode)
  - ios
  - android

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
BBZG9iZSBJbWFnZVJlYWR5ccllPAAAAyJpVFh0WE1MOmNvbS5hZG9iZS54bXAAAAAAA
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 2514.

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 SDMDataSource 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:@"<xxxxxxxx>"];
    [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:NSLocalizedDescriptionKey] );
                    }
                }];
            }
           // 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 objectfor debugging, logging, and tracing.

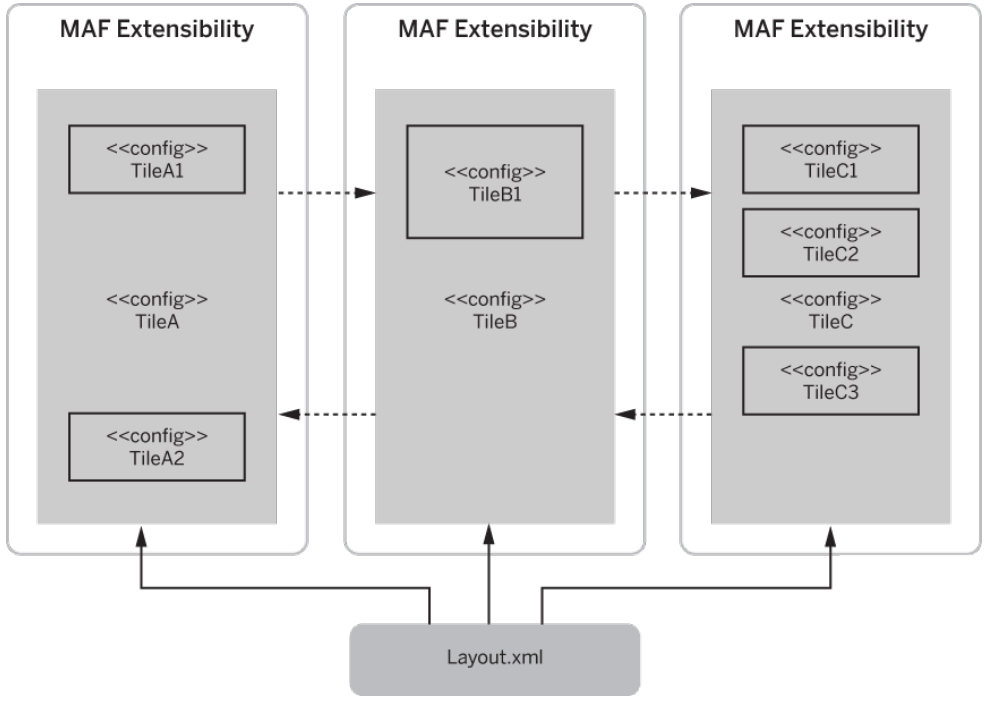
This example demonstrates how to handle the framework busy state: it shows an alert view while the framework is busy, which is then dismissed in the delegate method invoked by the framework when all tasks have completed.

```
#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.

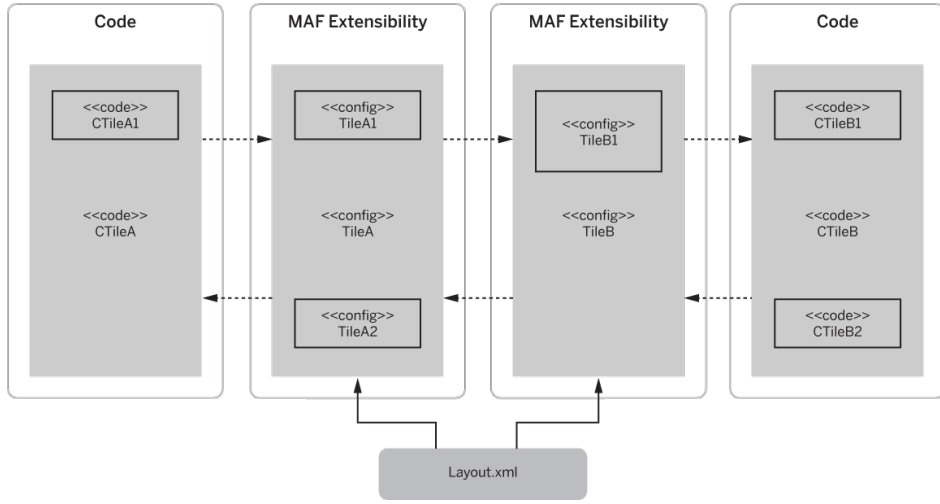


If you set up the layout XML correctly, the app is fully functional as soon as you add a few lines of code to the app delegate, as described in *Loading the Library* on page 2505.

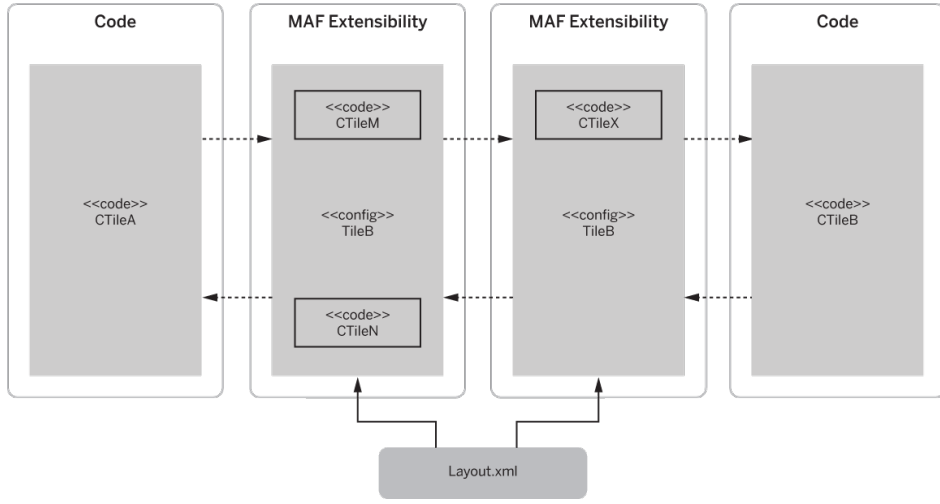
Mixing Coded and Metadata-Driven Tiles

With the Extensibility Framework, you can freely combine metadata-driven tiles and native iOS view controllers (also views and controls).

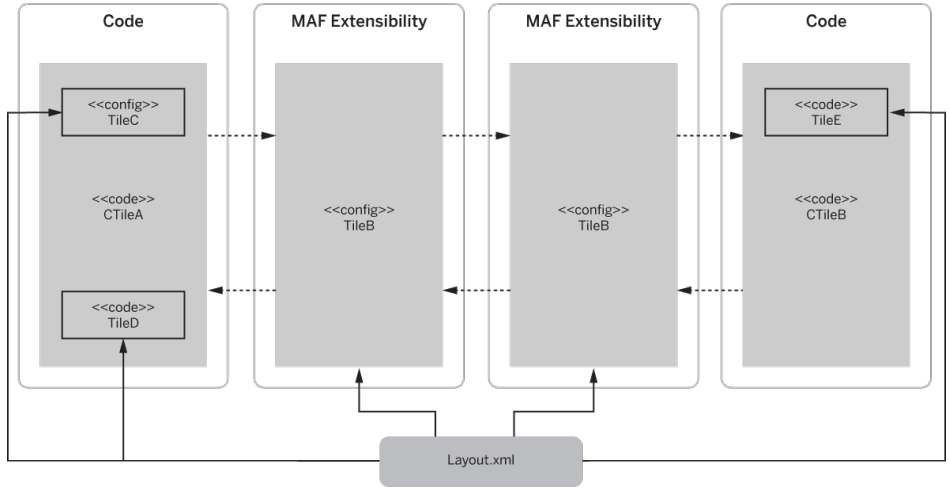
- You can insert coded UIs, and UIs from the layout XML, in the same navigation chain. The root tile itself (the app's initial UI) can also be metadata driven.



- 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. 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 2514.

```
/**
 * 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 2512). 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 2518.

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(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 listItemIndex:(NSNumber*)listItemIndex_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 listItemIndex: (NSNumber*)listItemIndex_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 listItemIndex: (NSNumber*)listItemIndex_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
listItemIndex:(NSNumber*)listItemIndex_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
initializeWithAppID: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 udpated 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 2505.

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 feautres.

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

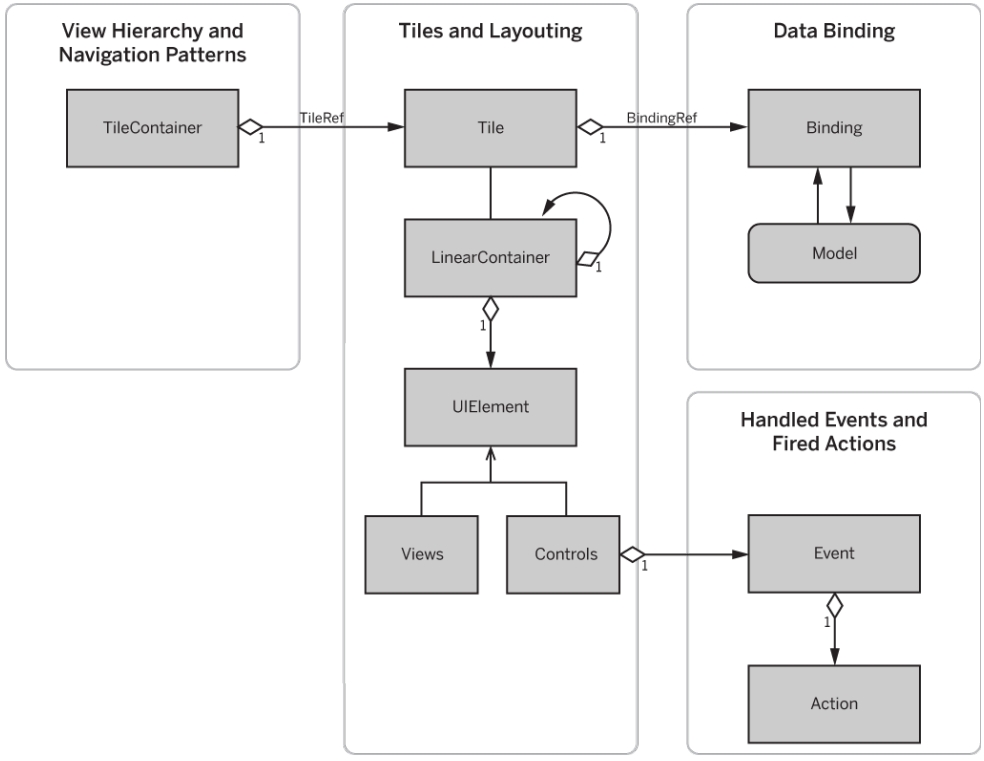
also implement a custom `MAFGenericBO` specialization, and convert the data model to the generic object format.

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" />
```

```
        <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 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 (**UINavigationViewController**)
- 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>
        <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 `BindigRef`.
- `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	
`$_concat(param1, ...) : string`	Converts and concatenates all parameters to a single string: `$_concat("StartDate: ", $LeaveRequests.StartDate, " - EndDate: ", $LeaveRequests.EndDate)` You must provide at least one parameter. If you provide only one parameter, it is converted to a string and returned by the function.
`$_now() : date`	Returns the current date and time as `dateTime`.

`$_format.date(date value, format option) : string`	Returns the formatted string of a date value. Parameters include:
	• date value – date typed value.
	• format option – valid values are: short, medium, long (or 1, 2, 3 respectively).
	Examples:
	`//returns for example "1 January 2012" if the date is 2012-01-01 and format option is long`
	`$_format.date($LeaveRequests.StartDate, long)`
	`//returns for example "1 Jan 2012" if the date is 2012-01-01 and format option is medium`
	`$_format.date($LeaveReuqests.StarDate, medium)`
	The phone's region setting is used to format the date.

Function	

$_format.datetime(date value, format option) : string	Returns the formatted string of a date and time value and supports these parameters:
	• date value – date typed value.
	• format option – valid values are: short, medium, long (or 1, 2, 3 respectively).
	Example:
	`//long format of today's date and time, result: "1 January 2012 11:55"`
	`$_format.datetime($_now(), long)`
	The phone's region setting is used to format the date and time

$_date(year, month, day) : date	Creates a date typed value from parameters and supports these parameters: • year – year value as int or float. • month – month value as int or float. • day – day value as int or float. Example: `//returns "Since 1 January 2012" (UK locale was set on the phone) $_concat("Since", $_format.date($_date($_year($_now(), 1, 1)), long))`

$_count(binding_id) : int	Returns the number of entries in a collection:
	`//returns Leave Requests (6)`
	`$_concat("Leave Requests (", $_count($LeaveRequests), ")")`

$_isNull(value) : int	Checks whether the parameter is a null value or nonexistent. Returns 0 (false) or 1 (true).
$_isNotNull(value) : int	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.
$_isEmpty(value) : int	The function returns 1 (true) if: • Its parameter is a null value. • The referred variable or data field of a BO in its parameter does not exist. • 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. Otherwise, this function returns 0 (false).

Function	
$_isNotEmpty(value) : int	Returns true (1) for values for which $_isEmpty returns false (0).
$_isExisting(value) : int	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 `NSData` instance with zero length, because the parameter refers to an existing object.
$_isNotExisting(value) : int	Returns true (1) for values for which `$_isExisting` returns false (0).

$_setValues(data_reference, value, [data reference, value], ..., return value) : any	Sets one or more values in a business object with a given value, and returns a value you select. Use this function to initialize fields of a new BO with default values before showing it on a create screen. For example, in a new leave request BO, you can write the start date, end date, approved ID, approver name, and absence types into the appropriate fields before showing the BO on the screen.
	Example:
	`//The function sets the values of AbsenceTypeName and AbsenceTypeCode fields in the new leave request object and returns with the value of AbsenceTypeName of the given AbsenceTypes entry`
	`$_setValues("$LeaveRequestsNew.AbsenceTypeName", $AbsenceTypes.AbsenceTypeName, "$LeaveRequestsNew.AbsenceTypeCode", $AbsenceTypes.AbsenceTypeCode, $AbsenceTypes.AbsenceTypeName)`

$_year(date value) : int	Returns the year as an int from a date value: `//Returns the current year $_year($_now())`

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
META-INF	Contains versioning-related metadata in a manifest file: • `MANIFEST.MF` – the manifest file required by SAP Mobile Platform Server
tiles	Contains the extensibility-related configurations: • `layout_phone.xml` – extensibility configuration file for iPhone and iPod Touch. • `layout_tablet.xml` – extensibility configuration file for iPad. For the internal structure of these files, see *Extensibility Layout XML*.
styles	contains the style configuration file: • `style.xml` – the styling configuration file. You can find the styling `XSD` documentation at the SAP Help Portal.*https://community.wdf.sap.corp/sbs/docs/DOC-149382*

img	Contains the static images used by the application, organized by platform.
	• `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, `<filename>.png` for low-resolution images, and `<filename>@2x.png` for hi-resolution images.
	• `Android` – contains images specific to the Android platform. The top-level folder contains images common to all Android devices. Subfolders include:
	  • `Ldpi` – contains images specific to low-density Android devices.
	  • `Mdpi` – contains images specific to medium-density Android devices.
	  • `Hdpi` – contains images specific to high-density Android devices.
	  • `Xhdpi` – contains images specific to extra high-density Android devices.

strings	Contains localized text strings, one file per locale. File names follow this format: `localization.<language code>.xml`. See also *Adding and Accessing Localized Texts*.
ext	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.
Demo	Contains offline data used by the application in demo mode: • `Ios` – platform-specific offline XML files; see *Demo Data Provisioned via ACP*. • `Android` – platform-specific offline data.

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 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 iOS Applications

Deploy the native OData applications to iOS devices.

Note: Code signing is required for applications to run on physical devices.

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 addresse, 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.

   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.

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 **Povisioning 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.

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:

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.

Next

Note: For more information, see *https://developer.apple.com/library/ios/qa/qa1747/_index.html*

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