

Tutorial: Mobile Workflow Package Development Sybase Unwired Platform 2.1 ESD #2

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Sybase Unwired Platform Tutorials

The Sybase[®] Unwired Platform tutorials demonstrate how to develop, deploy, and test mobile business objects, device applications, and mobile workflow packages. You can also use the tutorials to demonstrate system functionality and train users.

Tip: If you want to see the final outcome of a tutorial without performing the steps, the associated example project is available on SAP[®] SDN: *http://www.sdn.sap.com/irj/sdn/mobile?rid=/webcontent/uuid/40ea4956-b95c-2e10-11b3-e68c73b2280e*.

- Learn mobile business object (MBO) basics, and use this tutorial as a foundation for the Object API application development tutorials:
 - Tutorial: Mobile Business Object Development
- Create native Object API mobile device applications:
 - Tutorial: Android Object API Application Development
 - Tutorial: BlackBerry Object API Application Development
 - Tutorial: iOS Object API Application Development
 - Tutorial: Windows Mobile Object API Application Development
- Create a mobile business object, then develop a mobile workflow package that uses it:
 - Tutorial: Mobile Workflow Package Development

Sybase Unwired Platform Tutorials

Task Flow

Use this tutorial to develop, deploy, and run a Mobile Workflow package on an emulator or a simulator.

| Task | Goals | Steps |
|---|---|---|
| Getting started | Install Sybase Unwired Platform, create a connection profile, start the server and Unwired WorkSpace, and create a Mobile Workflow Applica- tion project. | Installing Sybase Unwired Platform Starting Unwired Platform Services Starting Sybase Unwired Work-Space Connecting to Sybase Control Center (Optional) Learning Unwired WorkSpace Basics These steps are prerequisites for the rest of this tutorial. You need to perform them only once. |
| Developing a database mobile business object | Create and deploy a database mobile object. | Creating the TravelRequest Table Creating the TravelRequest Mobile Business Object Deploying the Workflow101 Mobile Application Project |
| Developing the Mobile Workflow package | Create a mobile workflow form, generate the files, register the device in Sybase Control Center, assign the Mobile Workflow package to a user, and view the mobile workflow form on the emulator or simulator. | Creating a Mobile Workflow Form Installing the Mobile Workflow Package Running the Mobile Workflow Package Verifying the Data on the Back- end Database |

Task Flow

Getting Started with Unwired Platform

Install and learn about Sybase Unwired Platform and its associated components.

Complete the following tasks for all tutorials, but you need to perform them only once.

- 1. *Installing Sybase Unwired Platform* Install Sybase Mobile SDK and Sybase Unwired Platform Runtime.
- 2. Starting Sybase Unwired Platform Services

Start Unwired Server, Sybase Control Center, the sample database, the cache database (CDB), and other essential services.

3. Starting Sybase Unwired WorkSpace

Start the development environment, where you can perform tasks that include creating mobile business objects (MBOs), managing database and server connections, developing Mobile Workflow applications, and generating Object API code.

4. Connecting to Sybase Control Center

Open the Sybase Control Center administration console to manage Unwired Server and its components.

5. Learning Unwired WorkSpace Basics

Sybase Unwired WorkSpace features are well integrated in the Eclipse IDE. If you are not familiar with Eclipse, you can quickly learn the basic layout of Unwired WorkSpace and the location of online help.

Installing Sybase Unwired Platform

Install Sybase Mobile SDK and Sybase Unwired Platform Runtime.

Before starting this tutorial, be sure you have all the requisite Unwired Platform components installed. For complete installation instructions, see the Sybase Unwired Platform documentation at *http://sybooks.sybase.com/nav/summary.do?prod=1289*.

- Release Bulletin for Sybase Mobile SDK
- Installation Guide for Sybase Mobile SDK
- Release Bulletin for Runtime
- Installation Guide for Runtime
- 1. Install these Unwired Platform Runtime components:
 - Data Tier (included with single-server installation)
 - Unwired Server
- 2. Install Mobile SDK, which includes:

- Development support for Native Object API applications, HTML5/JS Hybrid (Mobile Workflow) applications, and OData SDK applications.
- Sybase Unwired WorkSpace, the Eclipse-based development environment for MBOs and mobile workflows.

Starting Sybase Unwired Platform Services

Start Unwired Server, Sybase Control Center, the sample database, the cache database (CDB), and other essential services.

How you start Unwired Platform services depend on the options you selected during installation. In some cases, you may need to manually start Unwired Platform services. Select **Start > Programs > Sybase > Unwired Platform > Start Unwired Platform Services**.

The Unwired Server services enable you to access the Unwired Platform runtime components and resources.

Starting Sybase Unwired WorkSpace

Start the development environment, where you can perform tasks that include creating mobile business objects (MBOs), managing database and server connections, developing Mobile Workflow applications, and generating Object API code.

Select **Start > Programs > Sybase > Unwired Platform > Unwired WorkSpace**. The Sybase Unwired WorkSpace opens in the Mobile Development perspective. The Welcome page displays links to the product and information.

Next

To read more about Unwired WorkSpace concepts and tasks, select Help > Help Contents.

Connecting to Sybase Control Center

Open the Sybase Control Center administration console to manage Unwired Server and its components.

From Sybase Control Center, you can:

- View servers and their status
- Start and stop a server
- View server logs
- Deploy a mobile application package
- Register application connections
- Set role mappings

For information on configuring, managing, and monitoring Unwired Server, click **Help** > **Online Documentation**.

1. Select Start > Programs > Sybase > Sybase Control Center.

Note: If the Sybase Control Center service does not open, make sure that the service is started. See the *Installation Guide for Runtime*.

2. In Sybase Control Center, log in by entering the credentials set during installation.

Sybase Control Center gives you access to the Unwired Platform administration features that you are authorized to use.

Learning Unwired WorkSpace Basics

Sybase Unwired WorkSpace features are well integrated in the Eclipse IDE. If you are not familiar with Eclipse, you can quickly learn the basic layout of Unwired WorkSpace and the location of online help.

- To access the online help, select **Help > Help Contents**. Some documents are for Sybase Unwired Platform, while others are for the Eclipse development environment.
- The Welcome page provides links to useful information to get you up and running.
 - Reopen the Welcome page by selecting **Help > Welcome**.
 - To close the Welcome page, click **X**.
 - To learn about tasks you must perform, select the Development Process icon.
- In Unwired WorkSpace, look at the area (window or view) that you will use to access, create, define, and update mobile business objects (MBOs).

| Window | Description |
|--------------------------|--|
| WorkSpace Navigator view | Use this view to create Mobile Application projects, and review and modify MBO-related properties. |
| | This view displays mobile application project fold- ers, each of which contains all project-related re- sources in subfolders, including MBOs, datasource references to which the MBOs are bound, personal- ization keys, and so on. |
| Enterprise Explorer view | A view that provides functionality to connect to var- ious enterprise information systems (EIS), such as database servers, SAP [®] back ends, and Unwired Server. |

| Window | Description | | |
|----------------------------|--|--|--|
| Mobile Application Diagram | The Mobile Application Diagram is a graphical ed- itor where you create and define mobile business objects. | | |
| | Use the Mobile Application Diagram to create MBOs (including attributes and operations), then define relationships with other MBOs. You can: Create MBOs in the Mobile Application Dia- gram using Palette icons and menu selections – either bind or defer binding to a data source, when creating an MBO. For example, you may want to model your MBOs before creating the data sources to which they bind. This MBO de- velopment method is sometimes referred to as the top-down approach. Drag items from Enterprise Explorer and drop them (drag and drop) onto the Mobile Applica- tion Diagram to create the MBO – quickly cre- ates the operations and attributes automatically based on the datasource artifact being dropped on the Mobile Application Diagram. | | |
| | Each new mobile application project generates an associated mobile application diagram. | | |
| Palette | The Palette is accessed from the Mobile Application Diagram and provides controls, such as the ability to create MBOs, add attributes and operations, and de- fine relationships, by dragging-and-dropping the corresponding icon onto the Mobile Application Di- agram or existing MBO. | | |
| Properties view | Select an object in the Mobile Application Diagram to display and edit its properties in the Properties view. While you cannot create an MBO from the Properties view, most development and configura- tion is performed here. | | |
| Outline view | Displays an outline of the active file and lists struc- tural elements. The contents are editor-specific. | | |
| Problems view | Displays problems, errors, or warnings that you may encounter. This is a valuable source for collecting troubleshooting information. | | |

| Window | Description | |
|----------------|---|--|
| Error Log view | Displays error log information. This is a valuable source for collecting troubleshooting information. | |

Getting Started with Unwired Platform

Developing a Database Mobile Business Object

Create a database mobile business object and deploy it to Unwired Server.

Develop the database mobile business object by:

- Creating the Mobile Workflow 101 Mobile Application Project
 A mobile application project is the container for the mobile business objects that form the business logic of mobile applications.
- **2.** *Creating the TravelRequest Database Table* Create the database table to be used by the Travel Request mobile business object.
- **3.** *Creating the TravelRequest Mobile Business Object* Use the TravelRequest database table to create a mobile business object.
- **4.** *Deploying the WorkFlow101 Mobile Application Project* Deploy the project that contains the TravelRequest mobile business object to the server.

Creating the Mobile Workflow 101 Mobile Application Project

A mobile application project is the container for the mobile business objects that form the business logic of mobile applications.

Create a mobile application project before creating its mobile business objects.

- 1. In the Unwired WorkSpace menu, click File > New > Mobile Application Project.
- 2. Enter MobileWorkflow101 as the name.
- 3. Click Finish.

Creating the TravelRequest Database Table

Create the database table to be used by the Travel Request mobile business object.

In this task, create a SQL file that you can use to create the database table for the mobile business object.

- 1. From the main menu, select **File > New > Other.**
- 2. Select SQL Development > SQL File, and click Next.

Developing a Database Mobile Business Object

3. Enter or select the values shown, then click **Finish**:

| Field | Value |
|-------------------------|---------------------------------------|
| Parent folder | Select the MobileWorkflow101 project. |
| File name | Enter TravelRequest. |
| Database server type | Select Sybase_ASA_12.x. |
| Connection profile name | Select My Sample Database. |
| Database name | Select sampledb. |

| 🛟 New SQL File | | | |
|---|-----------------------------|--------|----------------|
| Create SQL File | | | |
| Create a new SQL file | | | |
| Enter or select the paren | t folder: | | |
| MobileWorkflow101 | | | Create Project |
| Image: Image: Im | 101 [Version 1.0] n 1.0] | | |
| File name: TravelReque | st | | |
| Advanced >> | | | |
| Database server type: | Sybase_ASA_12.x | | • |
| Connection profile name: | My Sample Database | | ▼ Create |
| Database name: | sampledb | | T |
| Do not connect now | | | |
| ? < | Back Next > | Finish | Cancel |

4. In the TravelRequest.sql editor, copy and paste this code:

```
CREATE TABLE TravelRequest (
   trvl_Id
                               integer NOT NULL DEFAULT
autoincrement
                              date NULL
  ,trvl_Date
  ,trvl_Loc
                             varchar(20) NULL
  ,est_Cost
                              float NULL
  ,purpose
                             varchar(200) NULL
                           varchar(20) NULL
  ,trvl_Status
  ,st_Cmmnt
                              varchar(200) NULL
  , PRIMARY KEY CLUSTERED (trvl_Id)
```

);

- 5. Save TravelRequest.sql and close the editor. Unwired Workspace adds TravelRequest.sql to the MobileWorkFlow101 project.
- 6. In the WorkSpace Navigator, expand MobileWorkflow101. Right-click TravelRequest.sql and select Execute SQL Files.

Unwired Workspace creates a table called TravelRequest in the sampledb database.

7. In the Enterprise Explorer, expand **sampledb**, expand the **Tables** folder, and verify that the new TravelRequest table is added.

If the table is not visible, right-click the Tables folder and select Refresh.

Creating the TravelRequest Mobile Business Object

Use the TravelRequest database table to create a mobile business object.

Prerequisites

Complete Creating the TravelRequest Database Table on page 11.

Task

- **1.** In the Enterprise Explorer, expand the **sampledb** database, then expand the **Tables** folder.
- **2.** Drag the TravelRequest table from the Enterprise Explorer onto the MobileWorkflow101 Mobile Application Diagram.
- **3.** In the Quick Create wizard, accept the default settings and click **OK**. An MBO is created in the Mobile Application Diagram.
- 4. Save the diagram.

Deploying the WorkFlow101 Mobile Application Project

Deploy the project that contains the TravelRequest mobile business object to the server.

- 1. Right-click in the MobileWorkflow101 Mobile Application Diagram, and select **Deploy Project**.
- 2. In the first page of the Deploy Mobile Application Project wizard, accept the default options and click **Next**.

| 🔁 Deploy Mobile Application Project 📃 🗌 🗙 | | | |
|---|--|--|--|
| Deploy Mode and Target Version | | | |
| Specify deploy mode and target version for the deployment. The package name is case-insensitive in server. | | | |
| Deploy Mode | | | |
| O Update | | | |
| Updates the target package with updated objects. After deployment, objects in the target server's package that share the same name as those being deployed, are updated. | | | |
| O Replace | | | |
| Replaces any of the target objects with those in the package. After deployment, the server's package contains only the objects being deployed. | | | |
| O Verify | | | |
| Do not deploy, only return errors, if any. Used to determine the effect of a deployment using the Undate cetting | | | |
| | | | |
| Target version: 1.0 | | | |
| Package name: MobileWorkflow101 | | | |
| | | | |
| | | | |
| | | | |
| Back Next > Finish Cancel | | | |

- 3. In the Contents page, select the TravelRequest mobile business object, and click Next.
- 4. In the Package User-defined Classes page, click Next.

Note: The Package User-defined Classes window appears by default in the advanced developer profile.

- 5. In the Target Server page, select **My Unwired Server** in the list of available servers. If the **Next** button is not enabled, click **Connect** to connect to the server. Then, click **Next**.
- 6. In the Deploy Application to Server page, click Next.
- 7. In the Server Connection Mapping page, click **My Sample Database** under Connection profile. Then, choose **sampledb** under Server connection.

| Connection profile | Server connection 🔻 |
|----------------------|--|
| 💯 My Sample Database | sampledb 💌 |
| | default |
| | sampledb |
| | <pre><new connection="" server=""></new></pre> |
| | |

- 8. Click Finish.
- **9.** When the Executing Deployment window closes, click **OK** to dismiss the Deployment Status window.

Developing a Database Mobile Business Object

10. In Enterprise Explorer, open Unwired Servers\My Unwired Server \Domains\default\Packages\mobileworkflow101:1.0. Verify that the Mobile Business Objects folder contains the TravelRequest MBO that you deployed.

Developing the Mobile Workflow Package

Develop and deploy a mobile workflow package.

- 1. *Registering Application Connections in Sybase Control Center* Register a connection for each device or emulator that you want to use.
- **2.** *Creating a Mobile Workflow Form* Create a mobile workflow form using the TravelRequest mobile business object.
- **3.** *Generating Code for a Mobile Workflow Package* Generate a Mobile Workflow package and deploy it to Unwired Server to make it available to device clients.
- **4.** *Running the Mobile Workflow Application on the Windows Mobile Emulator* Install and configure the Windows Mobile synchronization software and emulator, and use it to run the Mobile Workflow application.
- **5.** *Running the Mobile Workflow Application on the Android Emulator* Install and configure the Android Simulator software and use it to run the Mobile Workflow application.
- 6. *Running the Mobile Workflow Application on the iPhone Simulator* Build a sample Mobile Workflow container in the XCode IDE, and run the travelrequest Mobile Workflow application on an iPhone simulator.
- 7. *Running the Mobile Workflow Application on the BlackBerry Simulator* Install and configure the BlackBerry simulator, and use it to run the Mobile Workflow application.
- 8. Verifying the Data on the Backend Database

After submitting a travel request in an emulator, verify that the information is updated in the database.

Registering Application Connections in Sybase Control Center

Register a connection for each device or emulator that you want to use.

- 1. Log in to Sybase Control Center using the supAdmin user name and the current password.
- 2. In Sybase Control Center, select View > Select > Unwired Server Cluster Management View.

- **3.** Click **Applications** in the left pane. In the right pane, open the Application Connections tab.
- 4. Register an application connection for each device that you will test in the tutorial:
 - a) Click **Register**.
 - b) In the Register Application Connection window, specify the following options:
 - User name enter the name of the user that will activate and register the Mobile Workflow application. For this tutorial, where we test several different emulators, enter a unique user name for each device.
 - Template accept the default template name.
 - Server name the machine and domain of the host server where the mobile application project is deployed.
 - Port accept the default value for the port used for messaging connections between the device and Unwired Server. If you use Relay Server, this is the Relay Server port.
 - Farm ID enter 0.
 - Application ID select **HWC**.
 - Security configuration accept the default value.
 - Domain accept the default blank field.
 - Activation code length accept the default value.
 - Activation expiration (hours) optionally, change the default value (for example, to enable the connection for longer than 72 hours).
 - Specify Activation Code enter a value (using the specified length) that is sent to the user in an activation e-mail. If you do not specify an activation code, one is generated automatically. The user must enter the activation code when logging in to the application. The value can contain letters A Z (uppercase or lowercase), numbers 0 9, or a combination of both.

c) Click OK.

The connection is added to the Application Connections table. The following example shows three registered connections, each for a different device. The connection in the second line has no Device Type or Device ID yet because the device is not currently connected: these fields are automatically loaded when the specified user accesses the connection.

| Applications | Application | Users Applic | ation Conn | ections | Application | Conne |
|--|--------------------------------|-----------------|------------|---------|-------------|----------|
| fanage applicati | anage application connections. | | | | | |
| 🔗 Refresh 🛛 🗶 Delete 🕼 Users 🔀 Register 🔀 Reregister | | | | | | |
| earch: User M | lame 🛛 | • | | 🔗 Go | × | |
| User Name | Device Type | Device ID 🛛 🔻 | Status | Pendin | Application | Security |
| user1 | WM Professio | Emulator2141990 | Offline | 0 | ншс | admin |
| androiduser | | | Pending | 3 | ншс | admin |
| bbsimuser1 | BlackBerry 6 | Simulator-30f5 | Offline | 0 | ншс | admin |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| < <first <p<="" td=""><td>revious Next</td><td>t> Last>></td><td>Go to Page</td><td>: 1</td><td>Page Size</td><td>. 10</td></first> | revious Next | t> Last>> | Go to Page | : 1 | Page Size | . 10 |
| | | | | | | |

Creating a Mobile Workflow Form

Create a mobile workflow form using the TravelRequest mobile business object.

Prerequisites

Complete Deploying the WorkFlow101 Mobile Application Project on page 14.

Task

- 1. In the Sybase Unwired WorkSpace menu, click **File > New > Mobile Workflow Forms Editor**.
- 2. Select the MobileWorkflow101 folder and enter travelrequest.xbw as the file name.
- 3. Click Next.
- 4. In the Starting Points page, select **Can be started, on demand, from the client**, and click **Finish**.
- **5.** In the Mobile Workflow Forms editor, click the **Flow Design** tab. The new flow diagram contains a Client-initiated screen, connected to a Start Screen.

| 🔄 *travelrequest.xbw 🛛 | |
|---------------------------------|--|
| Client-initiated | Palette ▷ ● ● □ - ↓ ✓ GoTo ✓ |
| Start Screen | 🗁 Screens 👘 🖉 🖈 |
| | Screen |
| For light | 🗁 Starting Points 🛛 🖈 |
| | 🜔 Activate |
| | Credential Request |
| | 🜔 Server-initiated |
| × | 🜔 Client-initiated |
| I F | |
| Introduction Flow Design Screen | Design |

- In Workspace Navigator, expand MobileWorkflow101 > Mobile Business Objects > TravelRequest > Operations.
- Drag the create operation onto the flow diagram. The TravelRequest_create screen is added.



- 8. Add a GoTo connection from the Start Screen to the TravelRequest_create screen:
 - a) In the Palette, click GoTo.
 - b) Click the **Start** Screen, and while holding the mouse down, drag the connection to the **TravelRequest_create** screen.
 - A line with an arrow connects the two screens.



- 9. Double-click the Start screen to open its Screen Design page.
- **10.** In the Palette, select the **HtmlView** control and click the Start screen. The HtmlView control is added to the Start screen design.



11. Click Flow Design.

12. In the Flow Design, select the Client-initiated starting point.

The Properties view shows all of the keys that were automatically created for each parameter in the **create** method of the TravelRequest mobile business object. If the Properties view does not open, right-click the Client-initiated screen and select **Show Properties View**.

| 🔲 Prope | erties 🕱 | Ē | g ▽ ᄆ ◻ੇ | | |
|--------------------|---|----------|----------|--|--|
| 🕑 Client-initiated | | | | | |
| Kevs | Key Name | Туре | New | | |
| KC73 | TravelRequest_create_trvl_Date_paramKey | DateTime | | | |
| | TravelRequest_create_trvl_Loc_paramKey | string | Edit | | |
| | TravelRequest_create_est_Cost_paramKey | double | | | |
| | TravelRequest_create_purpose_paramKey | string | Remove | | |
| | TravelRequest_create_trvl_Status_paramKey | string | | | |
| | TravelRequest_create_st_Cmmnt_paramKey | string | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |

- **13.** Create a new key:
 - a) In the Client-initiated Properties view, click New.
 - b) Enter these values:

- Name IntroKey
- Type-string

Note: In the tutorial this key doesn't do anything, and the name and type are not important; we are simply demonstrating how to add a new key.

c) Click OK.

The new key, IntroKey, is added to the list of keys in the Properties view.

| 🔲 Prope | erties 🛛 | 2 | | | |
|--------------------|---|----------|--------|--|--|
| 🕑 Client-initiated | | | | | |
| Kevs | Key Name | Туре | New | | |
| 1275 | IntroKey | string | | | |
| | TravelRequest_create_trvl_Date_paramKey | DateTime | Edit | | |
| | TravelRequest_create_trvl_Loc_paramKey | string | | | |
| | TravelRequest_create_est_Cost_paramKey | double | Remove | | |
| | TravelRequest_create_purpose_paramKey | string | | | |
| | TravelRequest_create_trvl_Status_paramKey | string | | | |
| | TravelRequest_create_st_Cmmnt_paramKey | string | | | |
| | | | | | |
| | | | | | |
| | | | | | |

14. Define the default value for the new key:

- a) In the Mobile Workflow Forms editor, click the Screen Design tab.
- b) If the Start Screen is not selected, select **Start Screen** in the screen selection control above the Screen Design.



- c) In the Start Screen, select the HtmlView control to display its properties.
- d) In Properties view, click the Key control and select IntroKey.
- e) In Default value, enter the message code:

```
<H2>Travel Request App</H2>This application enables vacation requests to be sent for approval<br>.
```

| 🔲 Propertie | s 🛛 🔁 🏲 🗖 |
|-------------|--|
| 🗏 Html¥ | iew |
| General | Input Data Binding Key: Introkey New key Default value: <pre> </pre> <pre> <pre> </pre> <pre> </pre> <pre> </pre> <pre> Default value: </pre> <pre> </pre> </pre> <pre> <pr< th=""></pr<></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre> |

15. View the current parameter settings of the TravelRequest screen:

a) In the screen selection control above the Screen Design page, change the screen to **TravelRequest_create**.

| ⇔ ⇔ • ⇒ •] | Start Screen 💽 🔛 |
|---------------------|--------------------------------------|
| ☐ ▼ 100% | Start Screen TravelRequest_create |
| 🖥 travelrequest.xbw | x k |

- b) In the menu, select the Create operation to display its properties.
- c) In Properties, click Parameter Mappings.

The parameter mapping table shows the mobile business object parameters for the operation and their keys.

| Properties X Problems Console SQL Results | | | | | |
|---|----------------|----------------|--------------|---|--|
| 嶜 Menu Item [Create] | | | | | |
| General Parameter Mapping | | | | | |
| Parameter Mappings | Parameter Name | Parameter Type | Mapping Type | Key | |
| Personalization Key Mannings | [trvl_Date | date | Key | TravelRequest_create_trvl_Date_paramKey | |
| · · · · · · · · · · · · · · · · · · · | trvl_Loc | string | Key | TravelRequest_create_trvl_Loc_paramKey | |
| Output Keys | est_Cost | float | Key | TravelRequest_create_est_Cost_paramKey | |
| | purpose | string | Key | TravelRequest_create_purpose_paramKey | |
| | trvl_Status | string | Key | TravelRequest_create_trvl_Status_paramKey | |
| | st_Cmmnt | string | Key | TravelRequest_create_st_Cmmnt_paramKey | |
| | | | | | |
| | | | | | |

16. Save the travelrequest workflow form.

Generating Code for a Mobile Workflow Package

Generate a Mobile Workflow package and deploy it to Unwired Server to make it available to device clients.

Prerequisites

Complete these tasks:

• *Registering the Device in Sybase Control Center* on page 17 for each device that you want to enable to connect to the package.

- Complete Developing a Database Mobile Business Object on page 11.
- Complete *Creating a Mobile Workflow Form* on page 19.
- For Windows Mobile devices, start the synchronization software if it is not already running:
 - On Windows XP, start Microsoft ActiveSync.
 - Windows Vista, Windows 7, or Windows 2008, start Windows Mobile Device Center.

Task

Use the Mobile Workflow Package Generation wizard to generate files for the mobile workflow package, optionally deploy the generated package files to the server, and assign the package to one or more devices.

- 1. Open Sybase Unwired Workspace.
- 2. In the WorkSpace Navigator, expand MobileWorkflow101 and double-click travelrequest.xbw.

The package file opens in the Mobile Workflow Forms Editor.

- 3. In the Sybase Unwired Workspace toolbar, click the Mobile Workflow package wizard button.
- 4. In the New Mobile Workflow Package Generation wizard, select these options:

| Option | Description |
|-----------------------------|--|
| Update generated code | Select Generate into the project. |
| Unwired Server Profile | Select My Unwired Server as the profile to associate with the mobile workflow package. |
| Deploy to an Unwired Server | Select this option. |
| Assign workflow to users | Select this option and click Get Users to choose one or more registered users for whom you want to deploy the package. Multiple users are separated by commas. |

| 🏠 New Mobile Workflow | Package Generation | | | |
|--|--|--------|--|--|
| Mobile Workflow Pack | age Generation Wizard | - | | |
| Generate and optionally de | ploy a mobile workflow package | | | |
| Favorite Configuration | Ins | ? | | |
| Package Generation | and Deployment | 0 | | |
| 🔽 Update generated code | | | | |
| Generate into the p | roject | | | |
| C Generate to an ext | ernal folder | | | |
| Generation folder: | C:\Documents and Settings\denisb\workspace1\Mobili | Browse | | |
| jQuery Mobile theme: | Theme b | • | | |
| Unwired Server profile: | My Unwired Server | • | | |
| Deploy to an Unwired Server Deploy Mode New Deploys the Workflow package for the first time. Replace Replaces an existing Workflow preserving user assignments. Update Creates a Workflow with a new version number and preserves existing notifications. | | | | |
| 🔽 Assign workflow to use | r(s) | | | |
| User(s): user1, and roid user Get Users Get Users | | | | |
| Separate user names with commas if adding more than one user. | | | | |
| Validate controls as soon as the user tries to change focus away from them Optimize JavaScript in the generated workflow package | | | | |
| ? | < Back Next > Finish | Cancel | | |

5. Click Finish.

The WorkSpace assigns the TravelRequest application to the user and generates the files for the mobile workflow package in a zip archive on the server. You can see the files in your project in the Workspace Navigator:



If the package is not displayed initially, double-click the server to refresh the display. The mobile workflow package is added to the Enterprise Explorer under the Unwired Servers/Workflows folder.



Save your emulator settings.
 For example, click File > Save State and Exit.

Running the Mobile Workflow Application on the Windows Mobile Emulator

Install and configure the Windows Mobile synchronization software and emulator, and use it to run the Mobile Workflow application.

1. Installing Microsoft Synchronization Software

Install and configure Microsoft synchronization software so you can deploy and run a mobile application on a Windows Mobile emulator.

2. Configuring the Windows Mobile Emulator

Follow these steps to configure the Windows Mobile emulator for the Mobile Workflow package deployment.

3. *Running the Mobile Workflow Form on the Windows Mobile Emulator* Run the travelrequest mobile workflow form on the Windows Mobile emulator.

See also

• Running the Mobile Workflow Application on the Android Emulator on page 43

Installing Microsoft Synchronization Software

Install and configure Microsoft synchronization software so you can deploy and run a mobile application on a Windows Mobile emulator.

Note: These instructions describe installing Microsoft ActiveSync for Windows XP. If you are using Windows Vista, Windows 7, or Windows 2008, install Virtual PC 2007 SP1 and Windows Mobile Device Center to manage synchronization settings. Download the Windows Mobile Device Center from *http://www.microsoft.com/windowsmobile/en-us/downloads/microsoft/device-center-download.mspx* and follow Microsoft instructions for installing and using that software instead of this procedure.

- 1. Download Microsoft ActiveSync:
 - a) In a Web browser, open the Windows Phone page at *http://www.microsoft.com/windowsmobile/en-us/help/synchronize/device-synch.mspx*.
 - b) Follow the instructions to select and download the sync software for the system's operating system. Windows XP requires ActiveSync version 4.5.
 - c) In the Windows Phone downloads page, click the ActiveSync button.
 - d) In the ActiveSync page, download the ActiveSync install file and save it to your local system.
- Run the downloaded install file. For example, double-click setup.msi in Windows Explorer.
- 3. When the installation is complete, restart the system.
- **4.** Start ActiveSync if it does not start automatically. For example, click **Start > Programs > ActiveSync**.
- 5. In ActiveSync, click File > Connection Settings.
- 6. Select Allow connections to one of the following, then select DMA.
- 7. For the option, This computer is connected to, select Work Network.

| 🔞 Connection Settings | × | | | |
|--|----------|--|--|--|
| | Connect, | | | |
| Show status icon in taskbar | | | | |
| Allow USB connections | | | | |
| Allow connections to one of the following: | | | | |
| DMA | | | | |
| This computer is connected to: | | | | |
| Work Network | | | | |
| Open ActiveSync when my device connects Allow wireless connection on device when connected to the desktop | | | | |
| Help OK | Cancel | | | |

8. Click OK.

Configuring the Windows Mobile Emulator

Follow these steps to configure the Windows Mobile emulator for the Mobile Workflow package deployment.

Prerequisites

- Complete Installing Microsoft Synchronization Software on page 30.
- Install Windows Mobile Professional emulator images on which to test and run the sample application. Emulator images are available individually, and some are installed with Visual Studio and Windows Mobile SDK. For example, the emulator used for this tutorial is included in the Windows Mobile 6.5.3 Developer Tool Kit, available for download in the Microsoft Download Center (http://www.microsoft.com/download)
- Install the Microsoft Device Emulator, if it is not already installed (for example, as part of Visual Studio or the Windows Mobile SDK). Go to the Microsoft Download Center at http://www.microsoft.com/download, search for "Device Emulator", and follow the links to download and install the Standalone Release of the Microsoft Device Emulator.
- Download the Microsoft .NET Compact Framework Redistributable (for example, NETCFSetupv35.msi) from http://www.microsoft.com/download/ to your system. See *Supported Hardware and Software* for the most current version information for mobile device platforms and third-party development environments.

Task

This tutorial uses examples based on one of the supported emulators. The screens and steps for configuring other supported emulators might be different. See *Supported Hardware and Software* for the most current version information for mobile device platforms and third-party development environments.

- **1.** *Installing the Hybrid Web Container on the Windows Mobile Emulator* Install Sybase Messaging Runtime software on your emulator.
- **2.** Configuring Connection Settings on Windows Mobile Configure the connection settings on the Windows Mobile emulator.

See also

• Running the Mobile Workflow Form on the Windows Mobile Emulator on page 38

Installing the Hybrid Web Container on the Windows Mobile Emulator

Install Sybase Messaging Runtime software on your emulator.

- Start the synchronization software. For example, on Windows XP, start Microsoft ActiveSync. On Windows Vista, Windows 7, or Windows 2008, start the Windows Mobile Device Center.
- **2.** Start the Device Emulator Manager and select an emulator to run. For example:
 - Double-click C:\Program Files\Microsoft Device Emulator \1.0\dvcemumanager.exe.
 - 2. In the Device Emulator Manager, right-click the device you want to run and choose **Connect** to open the emulator. For example.

| 🗊 De | wice Emulator Manager | | | |
|------|---|------------------|----------|-----------------|
| File | Actions Help | | | |
| | | | | |
| | Windows Mobile 6 Professional Square QVGA Emu | ilator | | <u>R</u> efresh |
| | Windows Mobile 6 Professional Square VGA Emulator | | | |
| | Windows Mobile 6 Professional VGA Emulator | | | |
| | Windows Mobile 6.5.3 Professional DTK | | | |
| | Windows Mobile 6.5.3 Professional Emulator | | | |
| | Windows Mobile 6.5.3 Professional Square QVG | Connect | | |
| | Windows Mobile 6.5.3 Professional Square VGA | Cradle | | |
| | Windows Mobile 6.5.3 Professional VGA Emulato | Uncradie | | |
| | - Windows Mobile 6.5.3 Professional WQVGA Emu | Shutdown | | |
| | | Reset | | |
| | My Device Emulators | Clear Save State | | |
| | All Device Emulators | Bring to Front | | |
| | Others | Deconfigure | | |
| | | Cours As | • | |
| Ľ | | DAVE-H2 | | |

- 3. In the Device Emulator Manager, right-click the device again and click Cradle.
- **3.** The synchronization software runs and connects to your device. If the Setup Wizard opens, accept the default options for each step and click **Finish**.


- **4.** Run the downloaded Microsoft .NET Compact Framework Redistributable file to install the .NET Compact Framework on your running emulator. Follow the setup wizard instructions, and click **Finish** to close the wizard when you are done.
- 5. Go to UnwiredPlatform_InstallDir\UnwiredPlatform\MobileSDK \HybridWeb\WM and copy the SybaseMobileWorkflow.cab file to a folder on mobile device folder on your system.

For example:



6. On the device emulator, open File Explorer and browse to the folder to which you copied the CAB file. Click the file once to install the Sybase mobile workflow client on your emulator.



Configuring Connection Settings on Windows Mobile

Configure the connection settings on the Windows Mobile emulator.

Prerequisites

Complete *Installing the Hybrid Web Container on the Windows Mobile Emulator* on page 32.

Task

1. On the emulator, open Workflow Settings. For example, open the Start screen and click **Workflow Settings**.



- 2. In Workflow Settings screen, click Connection.
- **3.** In the Connection screen, enter the connection settings. For example:



- Server Name the machine and domain of the host server where the mobile application project is deployed, or the input server IP address.
- Server Port accept the default Unwired Server port number, 5001.
- Farm ID or Company ID accept the default value, 0.
- User Name: the user name registered for the device in Sybase Control Center

- Activation Code an optional activation code for the user to enter.
- 4. Click Done.

Running the Mobile Workflow Form on the Windows Mobile Emulator

Run the travelrequest mobile workflow form on the Windows Mobile emulator.

In the emulator, open Sybase Mobile Workflows.
 For example, open the Start screen and click the Sybase Mobile Workflows icon.



2. In Sybase Workflow, click the travelrequest workflow:



3. In the travelrequest Start Screen, click **Open**.



4. In the application, enter your travel request information.

| | <u>ه</u> |
|---|----------------------------------|
| Ē | TravelRequest_creat 🚔 🏹 🃢 🎟 8:02 |
| L | Trvl 2012-03-07 |
| в | Trvl Loc: San Francisco |
| 1 | Est 999 Cost: |
| | Purpose: |
| | Trvl Status: |
| I | St Cmmnt: |
| İ | Create Cancel OK |
| | |

5. Click Create.

The emulator closes the mobile workflow form and updates the TravelRequest database table on the back end.

See also

• Configuring the Windows Mobile Emulator on page 31

Running the MobileWorkflow Application on the Android Emulator

Install and configure the Android Simulator software and use it to run the Mobile Workflow application.

1. Configuring the Android Emulator

Configure an Android emulator for testing a Sybase Mobile Workflow package.

- **2.** *Configuring Connection Settings on the Android Emulator* Configure the connection settings on the Android emulator.
- **3.** *Running the Mobile Workflow Form on the Android Simulator* Run the travelrequest mobile workflow form on the Android simulator.

See also

- Running the Mobile Workflow Application on the Windows Mobile Emulator on page
 29
- Running the Mobile Workflow Application on the iPhone Simulator on page 53

Configuring the Android Emulator

Configure an Android emulator for testing a Sybase Mobile Workflow package.

Note: The steps or interface may be different depending on which Android SDK version you are using.

1. Install the Android SDK.

Go to *http://developer.android.com/sdk/* to download and install the Android SDK. Follow the instructions on the Android page, with these exceptions:

- See *Supported Hardware and Software* for the most current version information for mobile device platforms and third-party development environments.
- When specifying the install location, consider choosing a path that does not contain spaces, such as C:\Android\android-sdk. Some versions of the Android SDK do not work correctly when installed in the default *drive*:\ Program Files location.
- If the Android installer stops with a message that the required Java JDK is not found on your system (even when the JDK is installed), try clicking **Back** and then **Next**, one or more times, until the installer detects the JDK.
- 2. Click Start Programs > Android SDK Tooks > AVD Manager.

| 🗮 Android SDK a | nd AVD Manag | er | | | | _ 🗆 × |
|--------------------|--------------------|-----------------------------|----------------|-----------------|--------------------|----------------|
| Virtual devices | List of existing A | Android Virtual Devices loc | ated at C:\D | ocuments ar | nd Settings\denisl | b\.android\avd |
| Available package: | AVD Name | Target Name | Platform | API Level | CPU/ABI | New |
| About | | No AVD available | | | | Edit |
| | | | | | | Delete |
| | | | | | | Repair |
| | | | | | | Details |
| | | | | | | Start |
| | | | | | | Refresh |
| | 🗸 A valid And | roid Virtual Device. 🖂 A | repairable A | Android Virtu | al Device. | |
| | 🗙 An Android | Virtual Device that failed | to load. Click | ('Details' to s | see the error. | |

- **3.** Add a device:
 - a) In the Android AVD Manager, click New.
 - b) In the Create new Android Virtual Device window, enter a name.
 - c) For the target, select a supported Android version.
 - d) Set any other available options you want, then click Create AVD.

| Create new | Android Virtual Device (AVD) | | | | |
|--|--|--|--|--|--|
| Name: | avd1 | | | | |
| Target: | Android 2.2 - API Level 8 | | | | |
| CPU/ABI: | ARM (armeabi) | | | | |
| SD Card: | | | | | |
| | ● Size: MiB ▼ | | | | |
| | C File: Browse, | | | | |
| Spanshot | | | | | |
| bhapshot. | Enabled | | | | |
| Skin: | | | | | |
| | Built-in: Default (WVGA800) | | | | |
| | C Resolution: x | | | | |
| Hardware: | | | | | |
| | Property Value New | | | | |
| | Abstracted LCD density 240 | | | | |
| | Max VM application heap size 24 Delete | | | | |
| | | | | | |
| Override the existing AVD with the same name | | | | | |
| | Create AVD Cancel | | | | |

- 4. Select the new virtual device and click Start.
- 5. In Launch Options, optionally modify the default display scaling, then click Launch.

Developing the Mobile Workflow Package

| Launch | Options | × | | | | | | |
|-------------------------|-----------------------------------|--------|--|--|--|--|--|--|
| Skin: WVGA800 (480x800) | | | | | | | | |
| Densit | y: High (240) | | | | | | | |
| 🔽 So | ale display to real | size | | | | | | |
| | Screen Size (in): Monitor dpi: | 6 | | | | | | |
| | Scale: | 0.62 | | | | | | |
| 🗖 Wi | pe user data | | | | | | | |
| 🔲 La | unch from snapsho | ot | | | | | | |
| 🗖 Save to snapshot | | | | | | | | |
| | | | | | | | | |
| | Launch | Cancel | | | | | | |

- **6.** When the Android screen finishes loading, install the Sybase container files to the emulator:
 - a) Open a command prompt.
 - b) In the command prompt, run the Android_InstallDir\android-sdk \platform-tools\adb.exe command to install the SybaseDataProvider.apk package file.

The apk files are located in *UnwiredPlatform_InstallDir*\MobileSDK \HybridWeb\Android

For example:

```
C:\Android\android-sdk\platform-tools\adb install ^
C:\Sybase\UnwiredPlatform\MobileSDK\HybridWeb\Android
\SybaseDataProvider.apk
```

c) Run the same command to install Workflow.apk.

For example:

```
C:\Android\android-sdk\platform-tools\adb install ^
C:\Sybase\UnwiredPlatform\MobileSDK\HybridWeb\Android
\Workflow.apk
```

Configuring Connection Settings on the Android Emulator

Configure the connection settings on the Android emulator.

- 1. On the emulator home page, click Menu.
- 2. Click the launcher icon.



3.

In the launcher, find and click the For example:

Sybase Mobile Workflow icon.

Tutorial: Mobile Workflow Package Development

| 💳 5554:avd1 | | | | | | | | | | | | - | |
|-------------|-----------|----------|------------|-----|------------------|-------------|-------------|-------------|------------------------------|-------------|-------------|--------|--------|
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| 0, | - | S | = | | | | | | | | | | |
| Alarm Clock | API Demos | Browser | Calculator | | | | | | | | | | |
| Camera | Car Home | Contacts | Custom | | | 0 | | | | | 0 | | |
| Dev Tools | Email | Gallery | Gestures | | ! ₂ @ | « |) (| MENU 5% | 6 | 78 | Q | q (| 0. |
| | Music | Phone | Fattingr | Q A | W S Z | E D X | R F C | T G V | γ) Η ^{<} Β | U J N | I K M | 0 L | P P |
| Messaging | Andreid | | Settings | AL | SYM | 0 | | | | - | 1 | | ALT |
| | 4 | | | | | | | | | | | | |

- 4. In the Sybase Mobile Workflow screen, enter the Unwired Server password and click OK.
- 5. Click Menu. In the menu, click Settings.



6. In Sybase Settings, enter the connection settings for your application.



7. Click Menu. In the menu, click Save to save your settings. Then click Restart Engine.



Running the Mobile Workflow Form on the Android Simulator

Run the travelrequest mobile workflow form on the Android simulator.

- 1. Start your emulator instance if it is not already running:
 - a) Click Start > Programs > Android SDK Tools > SDK Manager.
 - b) Select the new virtual device and click Start.
 - c) In Launch Options, optionally modify the default display scaling, then click **Launch**.
- 2. In the emulator, click Menu.
- 3. In the launcher, click the Sybase Mobile Workflow icon.
- 4. In the Sybase Mobile Workflow, enter the Unwired Server password and click OK.
- Click Menu. In the menu, click Workflows. Sybase Workflows lists the travelrequest workflow:

| 5554:myavd5 | | | | | | | |
|------------------|----------|------|---|------|--|--|--|
| | | | | | | | |
| | †+ 36 | all. | 7 | 1:15 | | | |
| Sybase Workflows | | | | | | | |
| travelrequest | | | | | | | |

6. Click travelrequest to open the workflow start screen.

7. Click Menu again, and choose Open TravelRequest_create.



- 8. Enter your travel request information in the workflow form.
- 9. Click Menu and choose Create.

| 5554:avd1 | | | | | _ 🗆 🗵 |
|---------------------------|-----------------------------|----------------|---------|---|---|
| TravelRequest_c | AB (| 36 | 6:38 рм | | |
| Trvl Date: 2012-03 | | 15 | | | |
| Trvl Loc: | San Francisco | | | | a a |
| Est Cost: | 999 | | | | |
| Purpose: | Purpose: Mobile We training | | | 8 (| 9 Q |
| Trvl Status: St Cmmnt: | | | | 1 2 [°] 3 [#] 4 ^{\$} 5 [%] 6 Q W E R T Y | 5 [^] 7 ^{&} 8 [*] 9 ⁽ 0 ⁾ ^{,)} U-I [*] 0 ⁺ P ⁼ |
| | 2 ABC | DEF 3 | DEL | A S D F G H | н ј к L 🖾 3 N M . 🖊 |
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| Create | | Cance | | | |

The mobile workflow form closes and the TravelRequest database table on the server is updated.

Running the MobileWorkflow Application on the iPhone Simulator

Build a sample Mobile Workflow container in the XCode IDE, and run the travelrequest Mobile Workflow application on an iPhone simulator.

1. Building the Mobile Workflow Container Using the Provided iOS Source Code

The mobile workflow container referenced is a sample container. You can use the provided source code in Xcode to build your own customized user interface and configure other resources.

2. Configuring iPhone Connection Settings

Configure settings for the Mobile Workflow application.

3. *Running the Mobile Workflow Form on the iPhone Simulator* Run the travelrequest mobile workflow form on the iPhone simulator.

See also

- Running the Mobile Workflow Application on the Android Emulator on page 43
- Running the Mobile Workflow Application on the BlackBerry Simulator on page 57

Building the Mobile Workflow Container Using the Provided iOS Source Code

The mobile workflow container referenced is a sample container. You can use the provided source code in Xcode to build your own customized user interface and configure other resources.

Prerequisites

- Register the device in Sybase Control Center.
- Have access to a Mac with a supported version of Xcode and the iOS SDK.

See *Supported Hardware and Software* for the most current version information for mobile device platforms and third-party development environments.

Task

- **1.** On your Mac, connect to the Microsoft Windows machine where Sybase Unwired Platform is installed:
 - a) In the Apple menu, click **Go > Connect to Server**.
 - b) Enter the name or IP address of the machine. For example, smb://<machine DNS name or smb://IP Address.</p>
- 2. Copy the MobileWorkflow<version>.tar archive from UnwiredPlatform_InstallDir\UnwiredPlatform\MobileSDK \HybridWeb\iOS\ to a location on your Mac.

In the archive file name, <*version*> is the current Unwired Platform version number. For example, MobileWorkflow-2.1.2.tar.

- 3. Unpack MobileWorkflow<version>.tar. The extraction creates a Workflow directory.
- 4. In the Workflow directory, double-click **WorkFlow.xcodeproj** to open it in the Xcode IDE.
- 5. If necessary, select **Project > Edit Active Target > ProjectName > General** to add these from the SDK to the project:
 - Security.framework

- AddressBook.framework
- QuartzCore.framework
- CoreFoundation.framework
- libicucore.A.dylib
- libz.1.2.5.dylib
- libstdc++.dylib
- 6. In Xcode, select **Build > Build** to build the project.

Configuring iPhone Connection Settings

Configure settings for the Mobile Workflow application.

- **1.** When the iPhone simulator runs, the TravelRequest workflow application opens. Close the Assigned Workflows screen.
- 2. In the iPhone simulator Settings window, click WorkFlows.
- 3. Enter these settings for the SUP Mobile Workflow application:
 - Server Name the machine that hosts the server where the mobile application project is deployed.
 - Server Port Unwired Server port number. The default is 5001.
 - Company ID the company ID you entered when you registered the device in Sybase Control Center, in this case, 0 (zero).
 - User Name the user you registered in Sybase Control Center.
 - Activation Code the optional user activation code.

Running the Mobile Workflow Form on the iPhone Simulator

Run the travelrequest mobile workflow form on the iPhone simulator.

- 1. Click Workflows.
- 2. In Workflows, click travelrequest.

| Carrier 🗢 2:51 PM | ļ | | | | |
|--------------------|---|--|--|--|--|
| Assigned Workflows | | | | | |
| Workflow Messages | | | | | |
| travelrequest | > | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |

3. In the introduction page, click Open TravelRequest.



4. Fill out the information for the travel request, and click Create.

| < can TravelRequest_cre Create |
|--------------------------------|
| Trvl Date: |
| 2011-03-11 |
| TrvI Loc: |
| San Francisco |
| Est Cost: |
| 5000.00 |
| Purpose: |
| Mobile Workflow Training |
| Trvl Status: |
| St Cmmnt: |

The simulator closes the mobile workflow form. The TravelRequest database table is updated on the backend.

Running the MobileWorkflow Application on the BlackBerry Simulator

Install and configure the BlackBerry simulator, and use it to run the Mobile Workflow application.

1. Configuring the BlackBerry Simulator

Follow these steps to configure a BlackBerry simulator for the Mobile Workflow package deployment.

2. *Running the Mobile Workflow Form on the BlackBerry Simulator* Run the travelrequest mobile workflow form on the BlackBerry simulator.

See also

- Running the Mobile Workflow Application on the iPhone Simulator on page 53
- Verifying the Data on the Backend Database on page 65

Configuring the BlackBerry Simulator

Follow these steps to configure a BlackBerry simulator for the Mobile Workflow package deployment.

This tutorial was developed using one of the supported BlackBerry simulators. If you use a different version, the interface might differ in some details. See *Supported Hardware and Software* for the most current version information for mobile device platforms and third-party development environments.

1. Downloading the BlackBerry JDE

To generate and distribute BlackBerry device applications, download BlackBerry JDE and its prerequisites from the BlackBerry Web site.

2. Configuring the Mobile Workflow in the BlackBerry Simulator

Start the BlackBerry simulator and configure it to connect to the Workflow application.

See also

• Running the Mobile Workflow Form on the BlackBerry Simulator on page 63

Downloading the BlackBerry JDE

To generate and distribute BlackBerry device applications, download BlackBerry JDE and its prerequisites from the BlackBerry Web site.

Prerequisites

You must have a BlackBerry developer account to download the BlackBerry JDE. You may be required to register if you do not already have an account. Before you download the JDE, ensure the 32-bit JDK has already been installed, even for 64-bit operating systems; otherwise, MDS will not start.

Task

Go to the BlackBerry Web site at *http://us.blackberry.com/developers/javaappdev/javadevenv.jsp* to download and install the BlackBerry JDE. The MDS-CS simulator is installed with the BlackBerry JDE.

Configuring the Mobile Workflow in the BlackBerry Simulator

Start the BlackBerry simulator and configure it to connect to the Workflow application.

- Start the Mobile Data System Connection Service (MDS-CS): click Start > Programs > Research In Motion > BlackBerry JDE version > MDS-CS.
 MCS-CS runs in a Command window and waits for a BlackBerry device to send data.
- Start the BlackBerry simulator.
 For example, click Start > Programs > Research In Motion > BlackBerry JDE version
 > Device Simulator.

- **3.** Click through any introductory screens:
 - In the end-user license agreement, scroll to the end and click **OK** to accept it.
 - In the Setup screen, click **Escape** and then **Exit**.



4. In your Windows file system, copy the Sybase Workflow client files to your BlackBerry simulator.

```
For example, copy C:\Sybase\UnwiredPlatform\MobileSDK\HybridWeb
\BB\*.*toC:\Program Files\Research In Motion\BlackBerry JDE
6.0.0\simulator.
```

- 5. Restart the simulator.
- **6.** In the BlackBerry simulator, configure connection settings for the Mobile Workflow application:
 - a) In the main window, click **All** to access the applications screen, then scroll until you see the Workflow application.

| | SlackBerry | | | | | | |
|----------------------------------|----------------------|-----------------|-------------------------|--|--|--|--|
| Fri 28 Oct | Simulater 13: | ³⁹ | | | | | |
| _1 0 | | | Q | | | | |
| uent | A | | Favol | | | | |
| YouTube | Social Feeds | Facebook | Twitter | | | | |
| MySpace | Instant Messaging | Applications | Games | | | | |
| Options | First Setup | Vorkflow | (Normal) Sound and A | | | | |
| (((マ))) Manage Connections | ? Help | C Power Off | | | | | |
| | | | | | | | |

- b) Double-click the Workflow application to open its settings.
- c) Enter these connection settings:



- Server Name: the server name registered for the device in Sybase Control Center
- Server Port: 5001
- **Farm ID**: 0
- User Name: the user name registered for the device in Sybase Control Center
- Activation Code: the activation code if registered for the device in Sybase Control Center
- d) Click the similator **Menu** control. In the menu, click **Save**. Press the simulator **Return** control, and save the configuration when prompted.



7. Click the similator **Menu** control. In the menu, click **Save**. Press the simulator **Return** control, and save the configuration when prompted.

Running the Mobile Workflow Form on the BlackBerry Simulator

Run the travelrequest mobile workflow form on the BlackBerry simulator.

Note: This tutorial was developed using a supported version of the BlackBerry simulator. If you use a different version, the interface might differ in some details.

- 1. Start your BlackBerry simulator instance if it is not already running:
- 2. In the emulator, click All.
- 3.

Open the

Sybase Mobile Workflow.

4. Start travelrequest and create a new record.

Developing the Mobile Workflow Package



5. Enter your travel request information in the workflow form, and click Submit.

| E BlackBerry | | | | | | | |
|----------------------|--|--|--|--|--|--|--|
| TravelRequest_create | | | | | | | |
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The mobile workflow form closes and the TravelRequest database table on the server is updated.

See also

• Configuring the BlackBerry Simulator on page 58

Verifying the Data on the Backend Database

After submitting a travel request in an emulator, verify that the information is updated in the database.

- 1. In Unwired WorkSpace, expand the sample database in Enterprise Explorer.
- 2. In the Tables folder, right-click the TravelRequest table and select Edit Data.

Developing the Mobile Workflow Package



3. In the Table Data Filter dialog, accept the default settings and click **OK**. The TravelRequest table opens, displaying the new row.

See also

• Running the Mobile Workflow Application on the BlackBerry Simulator on page 57

Learn More About Sybase Unwired Platform

Once you have finished, try some of the other samples or tutorials, or refer to other development documents in the Sybase Unwired Platform documentation set.

Check the Sybase Product Documentation Web site regularly for updates: *http://sybooks.sybase.com/nav/summary.do?prod=1289*, then navigate to the most current version.

Tutorials

Try out some of the other getting started tutorials available on Product Documentation to get a broad view of the development tools available to you.

Example Projects

Example projects are available for download, if you want the finished tutorial without going through the steps. Download example projects from: *http://www.sdn.sap.com/irj/sdn/mobile? rid=/webcontent/uuid/40ea4956-b95c-2e10-11b3-e68c73b2280e.*

Samples

Sample applications are fully developed, working applications that demonstrate the features and capabilities of Sybase Unwired Platform.

Check the SAP[®] Development Network (SDN) Web site regularly for new and updated samples: *https://cw.sdn.sap.com/cw/groups/sup-apps*.

Online Help

See the online help that is installed with the product, or the Product Documentation Web site.

Developer Guides

Learn best practices for architecting and building device applications:

- *Mobile Data Models: Using Data Orchestration Engine* provides information about using Sybase Unwired Platform features to create DOE-based applications.
- *Mobile Data Models: Using Mobile Business Objects* provides information about how to develop mobile business objects (MBOs) to fully maximize their potential.

Learn about using the API to create device applications:

- Developer Guide: Android Object API Applications
- Developer Guide: BlackBerry Object API Applications
- Developer Guide: iOS Object API Applications
- Developer Guide: Windows and Windows Mobile Object API Applications
- Developer Guide: Mobile Workflow Packages

Customize and automate:

• *Developer Guide: Unwired Server Management API* – customize and automate system administration features.

Javadoc and HeaderDoc are also available in the installation directory.
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