SYBASE®

Getting Started Tutorial - Eclipse Edition

Sybase Unwired Platform 1.2

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Workflow

Sybase Unwired WorkSpace Eclipse tutorials explain how to develop, deploy, and run a mobile application.

Note: To develop a simple database mobile application, complete these tasks.

Table 1. Unwired WorkSpace tutorial goals

Task	Goal	Tutorials required to complete the task
Getting Started with Unwired WorkSpace	Verify that: • All required WorkSpace components and external resources are installed • Servers are started, connection profiles created, and database data sources are available • The Web-based administration console (Sybase Control Center) is running and you are connected • The Mobile Development perspective is open, a Mobile Development project is created, and you are familiar with the various views of the perspective along with the Mobile Application Diagram, and Device Application Designer	• *Installing Sybase Unwired Platform* on page 7 • *Downloading the BlackBerry JDE and MDS Simulator* on page 7 • *Starting Unwired Server* on page 7 • *Connecting to Sybase Control Center* on page 8 • *Starting Sybase Unwired WorkSpace* on page 9 • *Learning the Basics* on page 9 **Note:** Getting Started is required for all tutorials, but needs to be performed only once. The other tutorials require that: • Servers are started • Connection profiles are created • SUP101 Mobile Development project is created • Device Application Designer setup is complete
Developing a Database Mobile Business Object	Develop two database mobile business objects, create a relationship between them, and deploy the project that contains them to Unwired Server.	• *Creating the SUP101 Mobile Application Project* on page 11 • *Creating the sampledb Connection Profile* on page 11 • *Creating Database Mobile Business Objects* on page 11 • *Creating a Relationship Between Mobile Business Objects* on page 12 • *Deploying the Database Mobile Business Objects* on page 13
Developing a device application	Create a BlackBerry device application and run it on the BlackBerry Simulator	• *Creating the Device Application* on page 15 • *Verifying and Generating Code for a Device Application* on page 17 • *Running the Device Application on the BlackBerry Simulator* on page 19

Getting Started

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

The following tasks are required, unless otherwise noted, for all tutorials, but you need to perform them only once.

1. *Installing Sybase Unwired Platform* on page 7
2. *Downloading the BlackBerry JDE and MDS Simulator* on page 7
3. *Starting Unwired Server* on page 7
4. *Connecting to Sybase Control Center* on page 8.
5. *Starting Sybase Unwired WorkSpace* on page 9
6. (optional) *Learning the Basics* on page 9

Installing Sybase Unwired Platform

Goal: Install Sybase Unwired Platform.

Install these Sybase Unwired Platform components:

- Unwired Server
- Sybase Unwired WorkSpace (Eclipse Edition)

If Unwired Platform is already installed and any of these components are missing:

1. Start the Sybase Unwired Platform installer.
2. Follow the instructions in the installation wizard.
3. Select the required components, and complete the installation.

For complete installation instructions, see the Sybase Unwired Platform *Installation Guide* and *Release Bulletin*.

Downloading the BlackBerry JDE and MDS Simulator

To generate and distribute device applications built with the Unwired WorkSpace Device Application Designer, download the MDS simulator and the BlackBerry JDE 4.2.1 from the BlackBerry developers' Web site.

1. Go to the BlackBerry Web site at *http://na.blackberry.com/eng/developers/javaappdev/javadevenv.jsp* and download and install the BlackBerry JDE 4.2.1.
2. Go to *http://na.blackberry.com/eng/developers/browserdev/devtoolsdownloads.jsp* to download and install the MDS simulator (`BlackBerry_Email_MDS_4.1.2.17.exe`).

Starting Unwired Server

Goal: Start the server.

In Windows, select **Start** > **Programs** > **Sybase** > **Sybase Unwired Platform** > **Unwired Server** > **Start Unwired Server** .

The server starts. Icons for the MobiLink server and a consolidated SQL Anywhere database server appear in the taskbar.

Connecting to Sybase Control Center

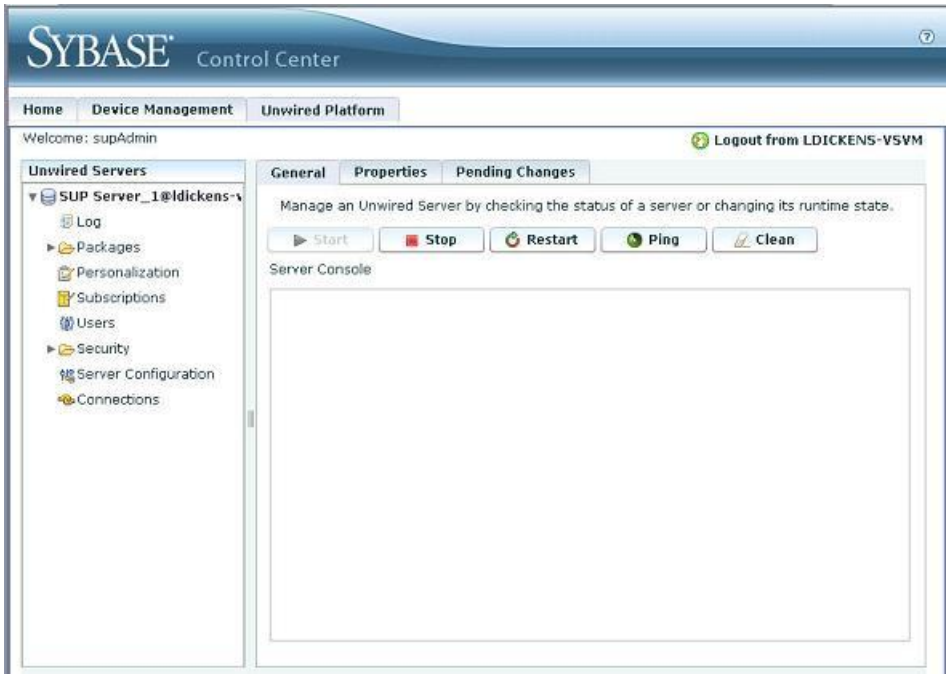
Goal: Open the Web-based Sybase Control Center administration console to manage Unwired Server and its components.

From Sybase Control Center, you can:

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

1. Select **Start** > **Programs** > **Sybase** > **Sybase Control Center** .
2. Click **Unwired Platform**.

   Available servers display under Unwired Servers.
3. Select the server to which you want to connect, and log in using the default login:
   - User Name – `supAdmin`
   - Password – `s3pAdmin`
4. To perform any of these server-administration tasks, select the **General** tab:
   - Start
   - Stop
   - Restart
   - Ping
   - Clean



5. To view any of these server configuration properties, select the **Properties** tab:
   - Host
   - Port
   - Secure Port

- Synchronization Port
- Version
- Unwired Server Home
- Synchronization Protocol

Starting Sybase Unwired WorkSpace

Goal: Start Unwired WorkSpace.

1. In Windows, select **Start** > **Programs** > **Sybase** > **Sybase Unwired Platform** > **Sybase Unwired WorkSpace (Eclipse Edition)** .

   Sybase Unwired WorkSpace opens, and displays the tasks required to develop a mobile application.
2. To read more about Sybase Unwired WorkSpace concepts and tasks, from the main menu bar, select **Help** > **Contents** , and expand **Sybase Unwired WorkSpace**.

Learning the Basics

Goal: Learn about Sybase Unwired WorkSpace and how to access help.

1. *Starting Sybase Unwired WorkSpace* on page 9.

   The Getting Started page displays a brief description of the tasks you must perform to develop a mobile application.
2. To close this page, click the **X**.

   You can reopen this page by selecting **Help** > **Getting Started with Sybase Unwired WorkSpace** .
3. Look at the windows that you will be working in to access, create, define, and update mobile business objects.

   The following table provides a description of the windows.

Window	Description
WorkSpace Navigator	This window displays mobile business objects, roles, personalization keys, relationships and connection references. Use this window to review and modify mobile business object properties.
Enterprise Explorer	A window that provides functionality to connect to various enterprise back-end systems; for example, database servers, SAP servers, and Sybase Unwired Server.
Palette	The Palette provides controls, such as a mobile business object, attribute, operation, and relationship, that you can drag and drop onto the mobile application diagram to create and define a mobile business object.
Mobile Application Diagram	The mobile application diagram is a graphical editor where you create and define mobile business objects. Use the mobile application diagram to create a mobile business object, then create and define its operations, attributes, and relationships between other mobile business objects. You can create mobile business objects in the mobile application diagram using its menus, or you can drag items from the Palette and Enterprise Explorer and drop them onto the mobile application diagram to develop the mobile business object. Each new mobile application project generates an associated mobile application diagram.
Properties	The Properties window displays the properties of the selected object. Select an object in the mobile application diagram to display and edit its properties in the Properties window.

4. To access the online help, select **Help** > **Contents** from the main menu bar.

   The Contents window opens.
5. Expand **Sybase Unwired WorkSpace**.

   The online help provides tasks, concepts, and reference material to guide you through the development process.

Developing Database Mobile Business Objects

Goal: Create two mobile business objects, each using a database object as its data source; create a relationship between the two, and deploy them to Unwired Server.

Prerequisites

Complete *Getting Started* on page 7.

Develop the database mobile business objects by:

1. *Creating the SUP101 Mobile Application Project* on page 11
2. *Creating the sampledb Connection Profile* on page 11
3. *Creating Database Mobile Business Objects* on page 11
4. *Creating a Relationship Between Mobile Business Objects* on page 12
5. *Deploying the Database Mobile Business Objects* on page 13

Creating the SUP101 Mobile Application Project

Goal: Create a Mobile Application project to store the mobile business objects and resources you are developing.

All tutorials use the SUP101 Mobile Application project to store mobile business objects.

1. Select **File** > **New** > **Mobile Application Project** to create the project.
2. In the New Mobile Application Project wizard, in Project Name, enter `SUP101` and click **Finish**.
   The project appears in the WorkSpace Navigator and the Mobile Application Diagram opens.

Creating the sampledb Connection Profile

Goal: Create a database connection profile.

1. From the Enterprise Explorer right-click the Databases folder and select **New** to open the Wizard Selection Page.
2. Select Sybase ASA and click **Next**.
3. In Name, enter sampledb and click **Next**.
4. Select Sybase ASA v11.x for Unwired Server Default as the driver and keep the default settings. Click **Test Connection**.
5. Click **Next**.
6. From the Check for Multiple Database SQL Anywhere Servers window, click **Check for multiple databases**.
7. Select the sampledb database and click **Finish**.

Creating Database Mobile Business Objects

Goal: Create two mobile business objects, each from a database object.

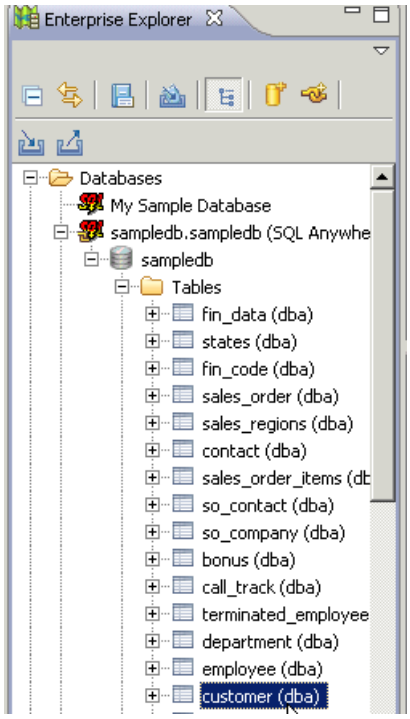
Prerequisites

Complete *Creating the sampledb Connection Profile* on page 11and *Creating the SUP101 Mobile Application Project* on page 11.

1. Open the SUP101 mobile application project if it is not already open:

In WorkSpace Navigator, right-click on the SUP101 folder and select , Open in Diagram Editor.

2. In the Enterprise Explorer, expand the Database folder, right-click on the sampledb you created, and select Connect.
3. Expand the sampledb, then expand the Tables folder.
4. Select the *customer* table, and drag it onto the Mobile Application Diagram.



The Quick Create wizard launches.

5. In the Quick Create wizard, accept the defaults and click **OK**.
6. Create another MBO from the *sales_order* table:
   a) Drag the *sales_order* table from Enterprise Explorer, and drop it onto the Mobile Application Diagram.
   b) In the Quick Create wizard, accept the defaults and click OK.

   The customer and sales_order MBOs display in the Mobile Application Diagram.

Next

Creating a Relationship Between Mobile Business Objects on page 12

Creating a Relationship Between Mobile Business Objects

Goal: Create a relationship between mobile business objects to associate related data and maintain data synchronization on the device.

Prerequisites

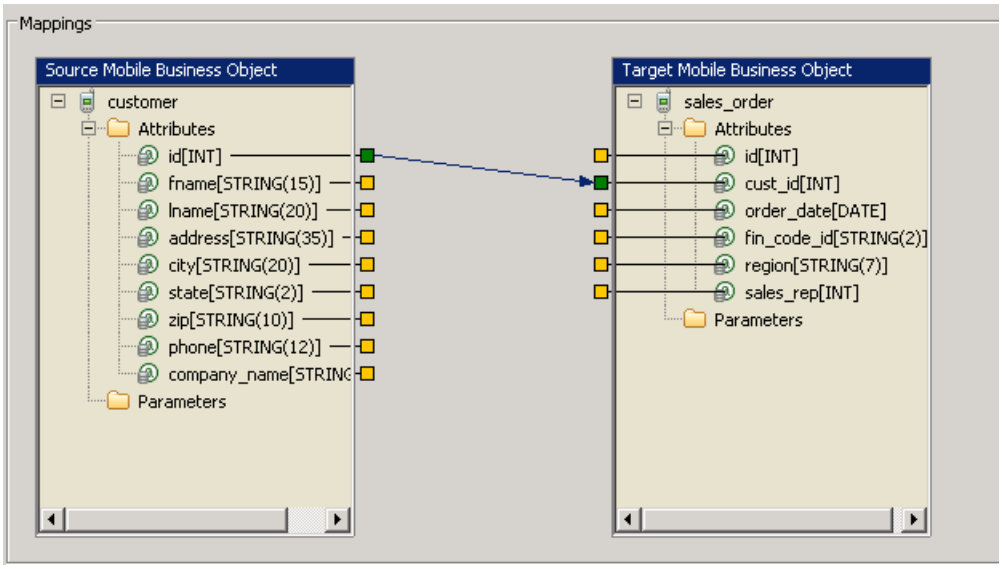
Complete *Creating Database Mobile Business Objects* on page 11.

In this tutorial, you create a relationship between the *customer* and *sales_order* mobile business objects (MBO).

1. In the Palette, click **Relationship**.
2. Select the *customer* MBO and, keeping the mouse button pressed, drag the link to the *sales_order* MBO to establish the relationship link.

   The Relationship Creation wizard opens.

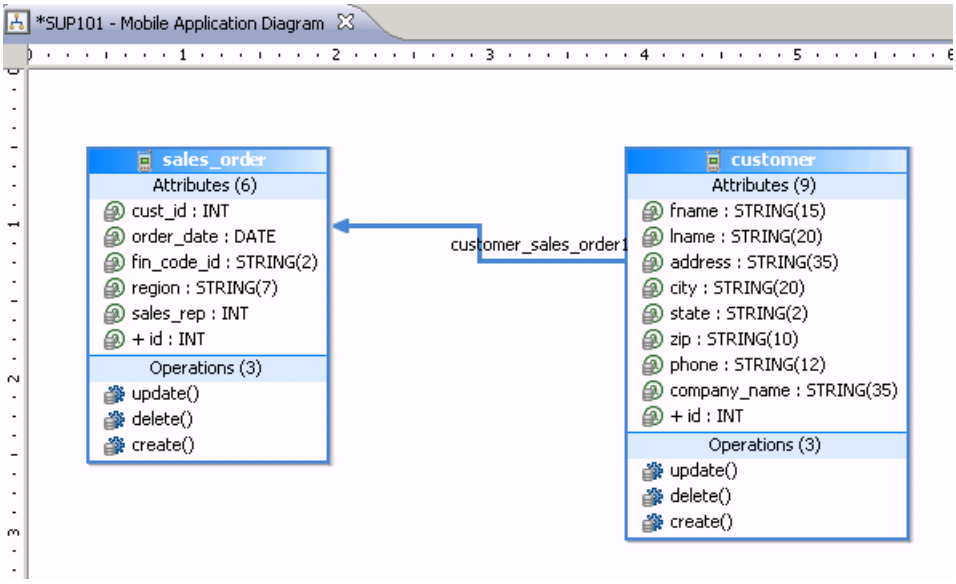
3. Select the **id** attribute in the **Source object** pane and **cust_id** in the **Target object** pane.



A line connects the two attributes.

4. Click **Finish**.

The mobile application diagram now shows the link from the customer MBO to the sales_order MBO.



5. Select **File** > **Save** .

Next

Deploying the Database Mobile Business Objects on page 13

Deploying the Database Mobile Business Objects

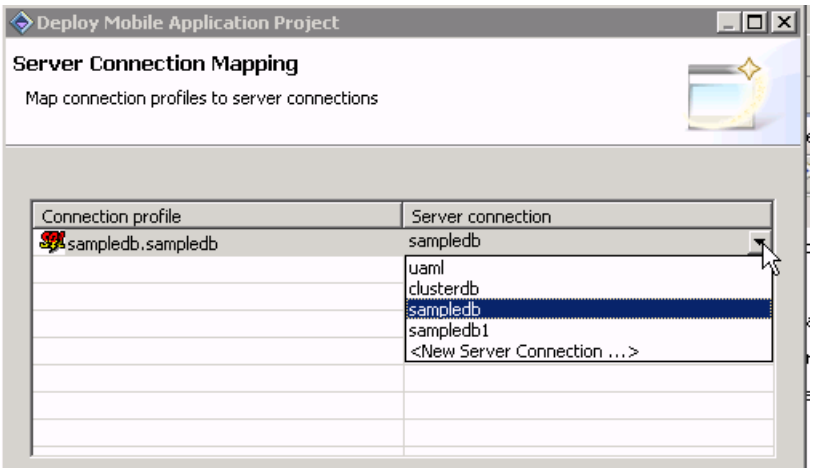
Goal: Deploy the project that contains the database mobile business objects to the server.

Prerequisites

After completing these tutorials, you can deploy the mobile business objects (MBOs):

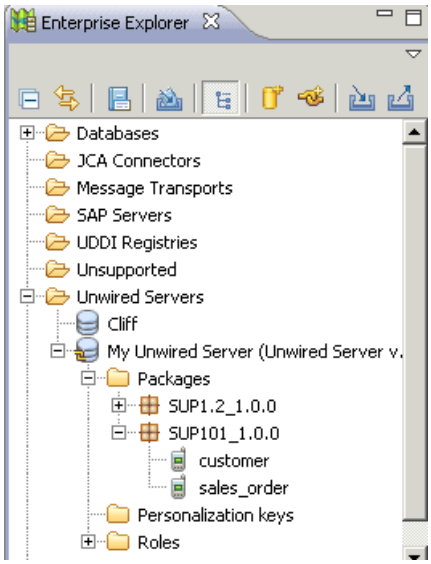
- *Getting Started* on page 7
- *Creating Database Mobile Business Objects* on page 11

1. Right-click in the SUP101 Mobile Application Diagram , and select **Deploy Project**.
2. In the first page of the Deploy Mobile Application Project, click **Next**.
3. In the Contents page, select the **customer** and **sales_order** MBOs and click **Next**.
4. In the Target Server page, from the list of available servers, select My Unwired Server and click **Next**.
5. In the Server Connection Mapping page, select the sampledb server connection from the drop-down list and click **Finish**.



The deployment progress window displays.

6. In the Deployment status window, click **OK**.
7. After deployment completes, click **File > Close** .
8. In the Enterprise Explorer, expand Unwired Servers, right-click My Unwired Server, and select **Refresh**.
9. Expand the Packages folder. The server package *SUP101_1.0.0* into which you deployed the MBOs appears in the Packages folder. The two MBOs appear in the Mobile Business Objects folder.



The deployment unit (metadata) is saved in a temporary directory on Unwired Server, in the *SUP101* project. Using Sybase Control Center, administrators can deploy the MBOs in the deployment unit to other servers.

Developing a Device Application

Develop a BlackBerry device application, and test its functionality.

Prerequisites

Complete these tutorials:

- *Getting Started* on page 7
- *Developing Database Mobile Business Objects* on page 11
- *Deploying the Database Mobile Business Objects* on page 13

The device application communicates with the database mobile business objects that are deployed to Unwired Server. Develop the device application:

1. Open the SUP101 Mobile Application Project if it is not already open:

   In WorkSpace Navigator, right-click the SUP101 folder and select **Open in Diagram Editor**.
2. *Creating the Device Application* on page 15
3. *Generating Code for a Device Application* on page 17
4. *Deploying and Running the Device Application*

Creating the Device Application

Goal: Create the user interface for an application that runs on a BlackBerry mobile device, and accesses the database mobile business objects.

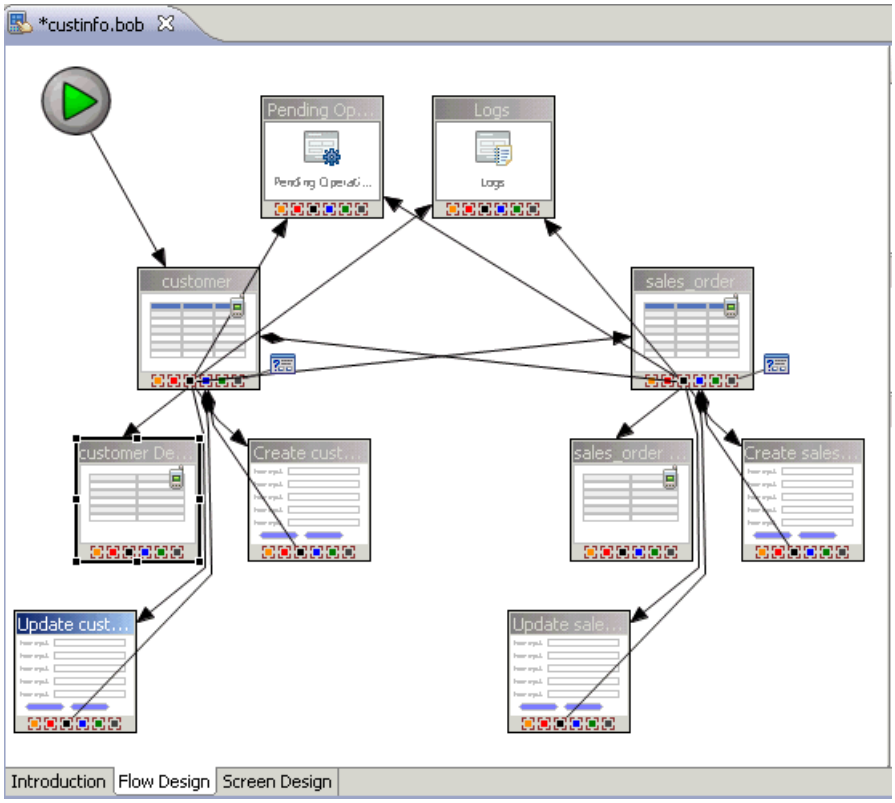
Prerequisites

Verify that the Device Application Designer Preferences are set to the default settings:

1. Select **Window** > **Preferences** .
2. In Preferences, select **Sybase, Inc.** > **Mobile Development** > **Device Application Designer** .
3. (Optional) Click **Restore Defaults**. This is necessary only if you have changed the default settings.

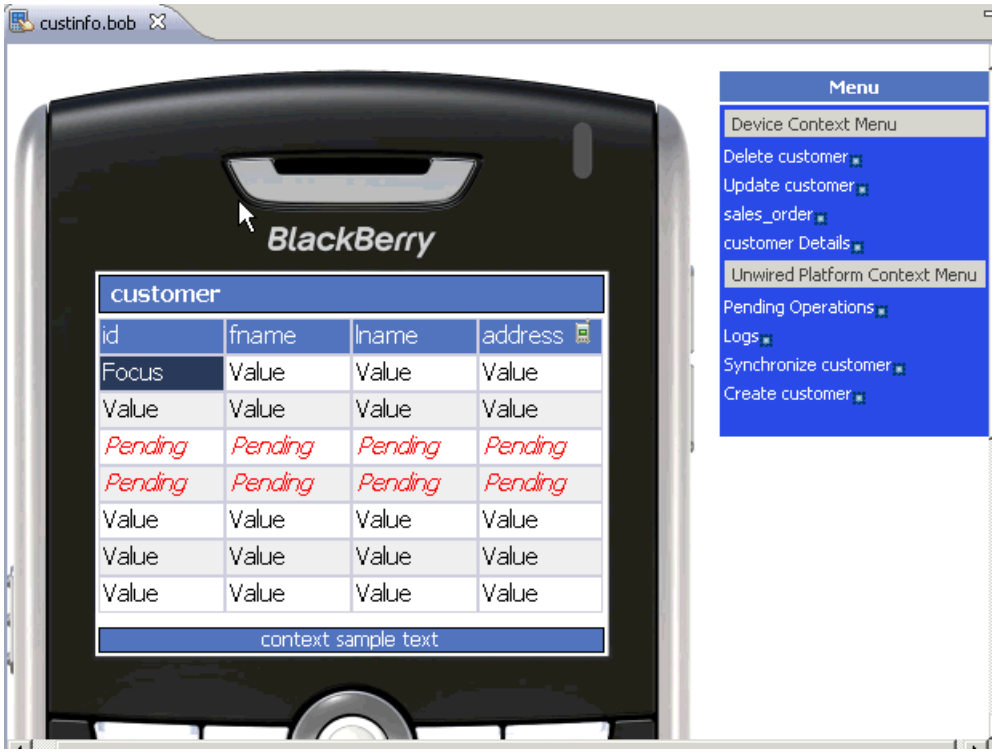
1. Select **File** > **New** > **Device Application Designer.** .
2. In the New Device Application Designer wizard:
   a) In Parent Folder, select **SUP101**.
   b) In File Name, enter `custinfo.bob`.
   c) In Platform Device, select **BlackBerry/BlackBerry8800**.
   d) From the Connection Profile drop-down list, select **My Unwired Server**.
   e) Click **Finish**.
3. In the Device Application Designer Introduction page, click Flow Design.
4. In WorkSpace Navigator, under **SUP101** > **Mobile Business Objects** , locate the **customer** mobile business object and drag and drop it onto the Flow Design page.

   The Start icon is automatically connected to the first screen you place on the Flow Design page, in this case, "customer." Screens for the mobile business object operations and relationships are automatically created if this option is selected in the Device Application Designer Preferences (default settings).

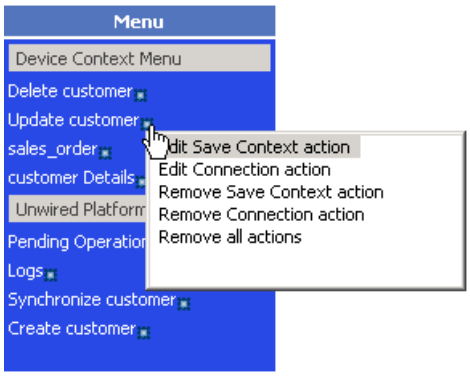


5. Double-click on the "customer" screen to view the screen layout.

   The blue menu on the right shows the context menu items for the screen. You can customize the screen layout, style, menu items, controls, and so on. This tutorial uses the default style.



   The decorators that display to the right of the menu items show that an action is assigned to the screen. Clicking the decorator allows you to edit the assigned action.



6. Select **File** > **Save** .

Next

Verifying and Generating Code for a Device Application on page 17

Verifying and Generating Code for a Device Application

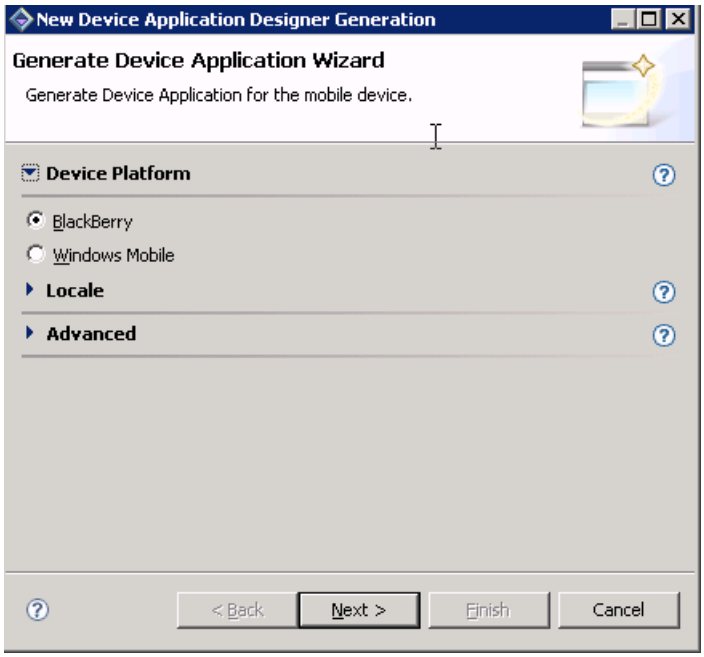
Goal: Generate client code for a mobile application project, so you can develop the device application to run on a BlackBerry device.

Prerequisites

After you complete *Creating the Device Application* on page 15 you can generate the client code.

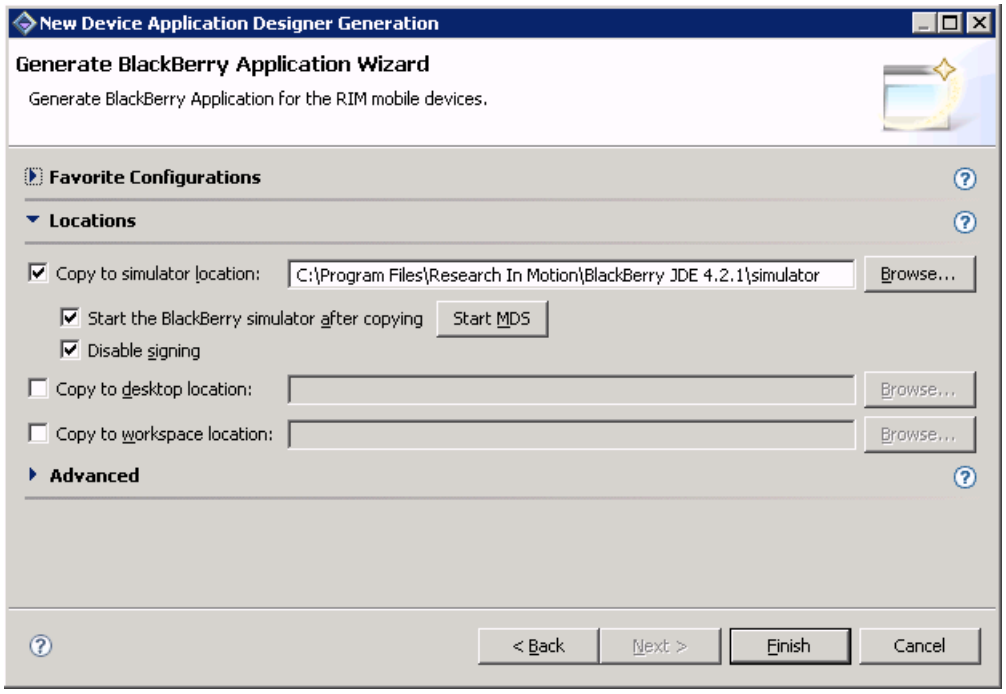
1. In the Device Application Designer toolbar, click the Verify icon to verify the device application code.
   If there are errors, they display in the Problems view. Errors must be fixed before generating the code.
2. Once you have verified the device application, in the Device Application Designer toolbar, click the Generate Device Application icon .

   The Generate Device Application wizard launches.

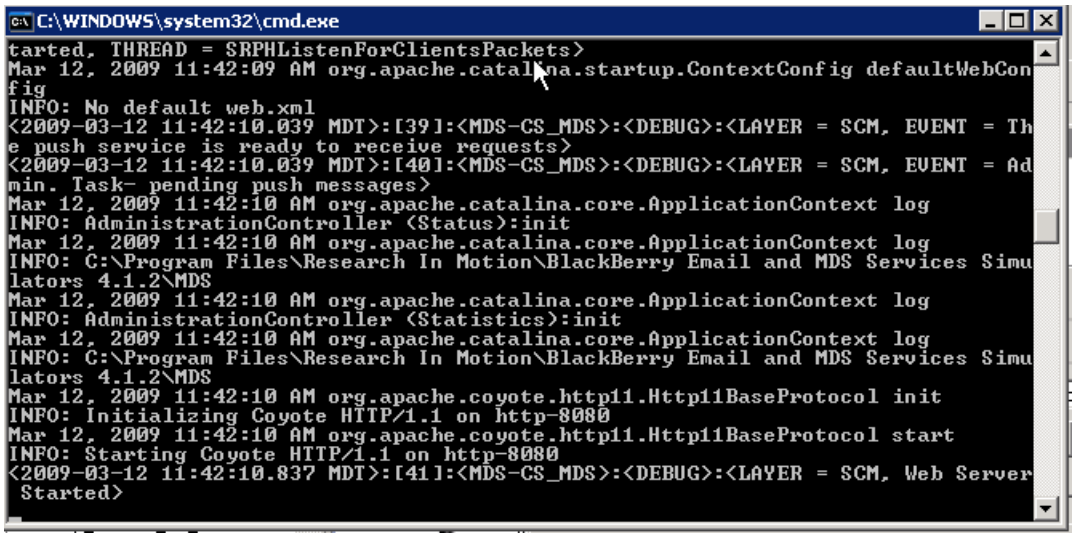


3. In the Generate Device Application Wizard, accept the defaults and click **Next**.

4. In the second page of the Generate Device Application Wizard, accept the default settings and click Start MDS.



The BlackBerry MDS server starts and you see a window similar to this:



5. Click **Finish**.
   The BlackBerry Simulator launches. This may take a few moments. When it launches, it will take a few moments to load the device application. You will see the progress screen.

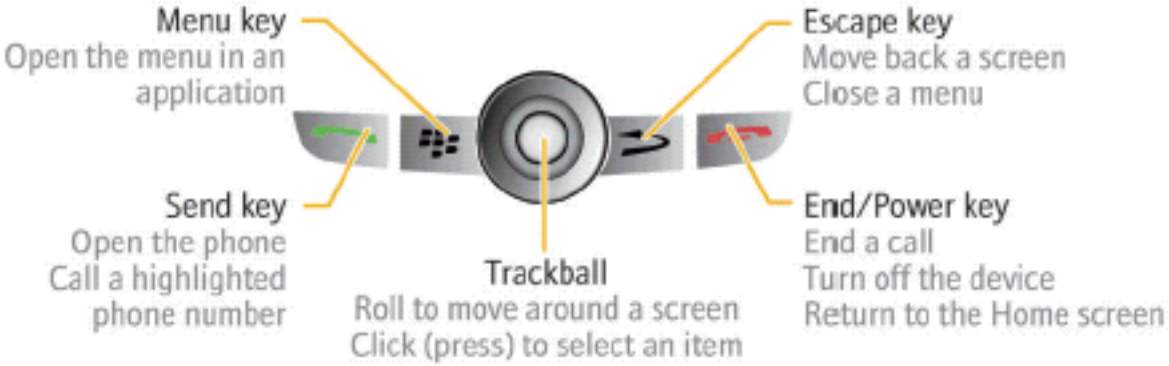
Next

Running the Device Application on the BlackBerry Simulator on page 19

Running the Device Application on the BlackBerry Simulator

This tutorial shows you how to run the custinfo device application on the BlackBerry Simulator.

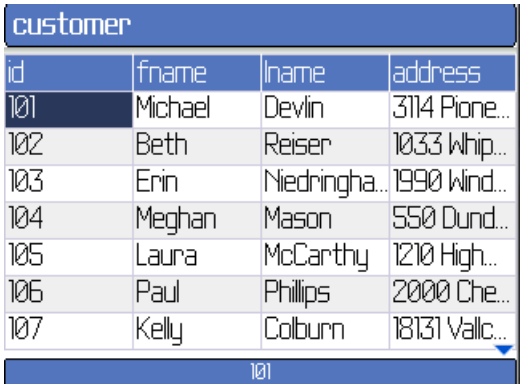
This tutorial shows the device application running on the BlackBerry 8800 Simulator. The navigation features of the BlackBerry 8800 Simulator include:



- The trackball functions as an Enter button. Use the scroll button to simulate rolling the trackwheel. If you do not have a scroll button, use the up and down arrow keys on your keyboard to scroll.
- Click on the menu key to access the applications screen.
- The simulator automatically turns the LCD display off after a certain length of time. Keep the LCD display on by selecting **View > Keep LCD On** .

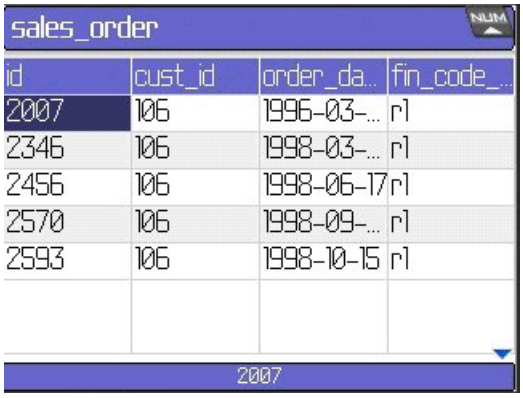
1. When the simulator launches, you can run the Setup Wizard. Scroll to **Don't Ask Me Again**, and click the trackball.
2. Click the menu key to access the applications screen.
3. Scroll to locate the custinfo device application, and click the trackball to open it.

4. By default, the first time the device application is accessed on the simulator, an automatic synchronization is performed.
   When synchronization finishes, the customer list detail appears.

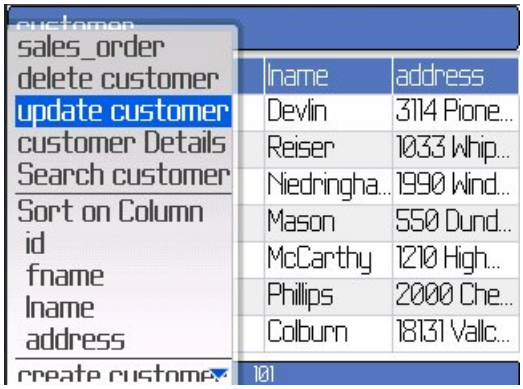


5. Scroll down the customers list and then click the menu key to display the application menu.

   The application menu shows the menu items that were shown when designing the device application in the Device Application Designer and includes the Synchronize menu item that you added.
6. Scroll back up the menu items, and select **sales_order**. Notice how Unwired Platform automatically associates data based on the relationships between mobile business objects, and the screens are automatically created based on those relationships.



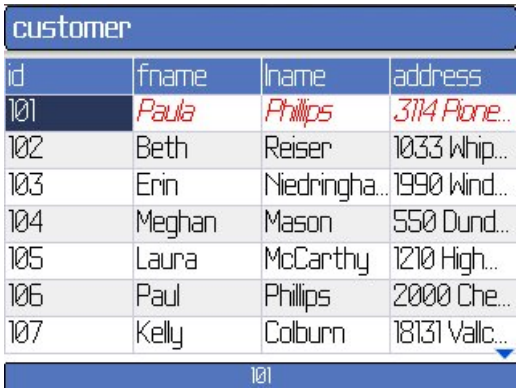
7. Click the Escape key to return to the customer list.
8. Click the Menu key and select **update customer**.



9. In the **fname** and **lname** fields, change the name of the customer to `Paula Phillips`.

10. Scroll down the customer record, then highlight and click **Submit**.

11. You return to the main customer list screen. The updated record is highlighted and shown in red.



12. To upload the name change to the back-end database (sampledb.sampledb), click the Menu key, and select **Synchronize** from the menu.

    You see the synchronization progress screen. The **Submit** button on the "update customer" screen is mapped to the `update` operation of the "customer" mobile business object. When the application is synchronized, any pending operations are uploaded to Unwired server, which then executes the UPDATE query defined for the `update` operation of the "customer" mobile business object.

13. When the synchronization is complete, you return to the customer screen. The changed record now looks the same as all the other records.

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