



**Tutorial: BlackBerry Application
Development using Device Application
Designer**

Sybase Unwired Platform 1.5.2

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Introduction to Getting Started Tutorials

Getting started tutorials enable users of all levels to try Sybase® Unwired Platform with minimal setup. You can also use the tutorials to demonstrate system functionality and train users.

Overview of Getting Started Tutorials

The getting started tutorials demonstrate how to develop, deploy, and test mobile business objects, device applications, and message-based mobile workflow packages.

- Learn mobile business object (MBO) basics, and create a mobile device application:
 - *Tutorial: Mobile Business Object Development*
 - *Tutorial: BlackBerry Application Development using Device Application Designer*
 - *Tutorial: Windows Mobile Device Application Development using Device Application Designer*
- Create native mobile device applications:
 - *Tutorial: BlackBerry Application Development using Custom Development*
 - *Tutorial: iPhone Application Development using Custom Development*
 - *Tutorial: Windows Mobile Application Development using Custom Development*
- Create a mobile workflow package:
 - *Tutorial: Mobile Workflow Package Development*

The getting started tutorials demonstrate a cross section of basic functionality, which includes creating MBOs that can be used in replication-based or message-based synchronization; and using various Sybase Unwired WorkSpace development tools, independent development environments, and device types.

Table 1. Tutorial summary

Tutorials	Mobile business objects (MBOs)	Synchroni- zation types	Development tools	Device types
Tutorial: Mobile Business Object Development	Create new MBOs	Replication-based	Sybase Unwired WorkSpace	N/A
Tutorial: BlackBerry Application Development using Device Application Designer	Reuse MBOs	Replication-based	Device Application Designer	BlackBerry

Tutorials	Mobile business objects (MBOs)	Synchronization types	Development tools	Device types
Tutorial: BlackBerry Application Development using Custom Development	Create new MBOs	Replication-based	Sybase Unwired WorkSpace	BlackBerry
Tutorial: iPhone Application Development using Custom Development	Create new MBOs	Message-based	Sybase Unwired WorkSpace	iPhone
Tutorial: Windows Mobile Application Development using Device Application Designer	Reuse MBOs	Replication-based	Device Application Designer	Windows Mobile
Tutorial: Windows Mobile Device Application Development using Custom Development	Create new MBOs	Message-based	Sybase Unwired WorkSpace	Windows Mobile
Tutorial: Mobile Workflow Package Development	Create new MBOs	Message-based	Mobile Workflow Forms Editor	Windows Mobile

Understanding the Unwired Platform Development Environment

Learn more from the getting started tutorials by understanding basic development environment concepts. Sybase Unwired Platform provides an Eclipse development environment.

Development in Eclipse

Sybase Unwired WorkSpace is a plug-in to your Eclipse development environment that provides tools for creating mobile applications.

Unwired WorkSpace includes back-end integration tools that connect Unwired Server to enterprise data sources, allowing you to create mobile business objects (MBOs) from the back-end business data model.

Developers can perform MBO code generation at any time and use this MBO model code along with the user interface code that users write in a native integrated development environment (IDE). This makes the code available to transition from the Unwired WorkSpace MBO development tool to the fully extensible and open development environment provided for device platforms from third-party vendors. Optionally, use the Device Application

Designer to create prototype device applications for BlackBerry and Windows Mobile devices.

Developers can use the Mobile Workflow Forms Editor to develop message-based mobile workflow packages for Windows Mobile and iOS devices.

Understanding Fundamental Mobile Development Concepts

Learn more from the getting started tutorials by understanding basic mobile development concepts.

Learn more about these concepts:

- *Fundamentals*
- *Sybase Unwired WorkSpace – Mobile Business Object Development*

Mobile Business Objects

Mobile business objects help form the business logic for mobile applications.

A mobile business object (MBO) is derived from a data source (such as a database server, Web service, or SAP® server). MBOs are deployed to Unwired Server, and accessed from mobile device application clients. MBOs include:

- Implementation-level details – metadata columns that include information about the data from a data source.
- Abstract-level details – attributes that correspond to instance-level properties of a programmable object in the mobile client, and map to data source output columns. Parameters correspond to synchronization parameters on the mobile client, and map to data source arguments. For example, output of a SQL SELECT query are mapped as attributes, and the arguments in the WHERE clause are mapped as synchronization parameters, so that the client can pass input to the query.
MBO operations include parameters that map to data source input arguments. Operation parameters determine information a client passes to the enterprise information system (EIS).
- Relationships – defined between MBOs by linking attributes and parameters in one MBO, to attributes and parameters in another MBO.

You can define MBOs using either a top-down approach—first designing attributes and parameters, then binding them to a data source; or a bottom-up approach—first specifying a data source, then automatically generating attributes and parameters from it.

A mobile application package includes MBOs, roles, and data source connection mappings, and other artifacts that are delivered to the Unwired Server during package deployment.

Synchronization Methods

Developers can use either replication-based or message-based synchronization to move data and transactions between device application clients and Unwired Server.

The choice depends on the target device platform, application requirements, target platform, and the nature of data changes and activity between Unwired Server and clients, for example, mobile workflow forms always use message-based synchronization.

Unwired Server manages and maintains data freshness between multiple data sources and device application clients through synchronization.

Application Types

Sybase Unwired Platform supports two choices for application type. First is the native application type, and the other is the container-based business workflow type.

The native application model enables the developer to write custom code (C#, Java, or Objective-C, depending on the platform) to create a device application. The native application model is supported on BlackBerry, iOS, Windows Mobile, and Windows platforms. The choice depends on the functionality desired in the application, and the need to access third-party and platform-provided APIs. Optionally, use the Device Application Designer to create prototype device applications for BlackBerry and Windows Mobile devices.

The business workflow model offers a fast and simple way to build applications that support simple business workflows, such as approvals and requests. The workflow model is supported on iOS, Windows Mobile, and Windows platforms.

Data Sources

A data source is the enterprise information system where data is retrieved from and transactions are executed. A connection profile is a design-time connection to a data source. Connection profiles are created to specific data source by providing connection information such as host, port, login, and password among others. The connection profiles are used to define MBOs and operations, and mapped to existing, or used to create new, server connections when the package is deployed to Unwired Server..

Unwired Platform hides the interaction complexity with datasource-specific protocols, such as JDBC™ for database and SOAP for Web services.

Unwired Platform currently supports multiple EIS connection types. See *Supported Third-Party Software and Hardware* for information.

Switching Between Developer Profiles

Switch between basic and advanced developer profiles in the Mobile Application Diagram.

If you do not see an Unwired Workspace feature (wizard, property, or Workspace Navigator item) that you expect or need, switch to the advanced developer profile, or modify developer

profile settings. To use backend data sources other than those supplied by Sybase Unwired Platform, you must switch to the advanced developer profile to see the Server Connection Mapping page when deploying the Mobile Business Object package.

1. Right-click in the Mobile Application Diagram and select **Switch Developer Profile > Basic/Advanced**.
2. You can also select **Window > Preferences > Sybase, Inc. > Mobile Development > Developer Profile** to directly view or modify the developer profile preference settings. Basic is the default developer profile.

Task Flow

This tutorial shows you how to use the Device Application Designer to create a device application prototype for a BlackBerry device.

Table 2. Eclipse tutorials

Task	Goals	Steps required to complete the task
Getting Started	<ul style="list-style-type: none"> • Install all required WorkSpace components and external resources. • Start Unwired Server. • Open the Mobile Development perspective, and become familiar with the views of the perspective, the Mobile Application Diagram, and the Device Application Designer. 	<ul style="list-style-type: none"> • <i>Installing Sybase Unwired Platform</i> on page 9 • <i>Starting Unwired Server</i> on page 9 • <i>Starting Sybase Unwired WorkSpace</i> on page 10 • <i>Learning the Basics</i> on page 10 <hr/> <p>Note: These tasks are prerequisites for all the other tutorials. You need to perform them only once.</p>
Developing a Device Application Prototype	<ul style="list-style-type: none"> • Create a BlackBerry device application prototype, and test it on the BlackBerry Simulator. 	<ul style="list-style-type: none"> • <i>Installing the BlackBerry Java Plugin for Eclipse</i> on page 13 • <i>Creating the BlackBerry Device Application Prototype</i> on page 14 • <i>Verifying and Generating Code for a Device Application</i> on page 17 • <i>Adding Custom Code to the Generated Code</i> on page 23 • <i>Testing the Device Application on the BlackBerry Simulator</i> on page 24

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 9
2. *Starting Unwired Platform Services* on page 9
3. *Starting Sybase Unwired WorkSpace* on page 10
4. (optional) *Learning the Basics* on page 10

Installing Sybase Unwired Platform

Goal: Install Sybase Unwired Platform.

Install these Sybase Unwired Platform components:

- Data Tier
- Unwired Server
- Unwired WorkSpace
- Device Application Designer
- Windows Mobile .NET components (for developing device applications in Visual Studio)

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*.

Starting Unwired Platform Services

Goal: Start Unwired Server and the sample database.

In Windows, select **Start > Programs > Sybase > Unwired Platform<version> > Start Unwired Platform Services** .

Starting Sybase Unwired WorkSpace

Goal: Start Unwired WorkSpace.

1. In Windows, select **Start > Programs > Sybase > Unwired Platform<version> > Unwired WorkSpace**.

Sybase Unwired WorkSpace opens, and displays the Welcome page with links to product information, and to the product.

2. To read more about Sybase Unwired WorkSpace concepts and tasks, select **Help > Help Contents** from the main menu.

Learning the Basics

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

Prerequisites

Start Unwired WorkSpace.

Task

1. From the Welcome page, select any of the links to familiarize yourself with the Unwired WorkSpace environment.

To close this page, click the **X**. You can reopen this page by selecting **Help > Welcome**.

2. Select **Start Development** to access the Sybase Unwired WorkSpace development environment. Look at the area (window or view) that you will be working in to access, create, define, and update mobile business objects (MBOs).

View	Description
WorkSpace Navigator	This view displays mobile application project folders, each of which contains all project-related resources in subfolders, including MBOs, data source references to which the MBOs are bound, personalization keys, and so on. Use this view to review and modify MBO-related properties.

View	Description
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.
Mobile Application Diagram	<p>A graphical editor where you create and define mobile business objects.</p> <p>Use the Mobile Application Diagram to create MBOs (including attributes and operations), then define relationships with other MBOs. You can:</p> <ul style="list-style-type: none"> • Create MBOs in the Mobile Application Diagram 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 is sometimes called the top-down approach. • Drag items from Enterprise Explorer and drop them onto the Mobile Application Diagram to create the MBO – quickly creates the operations and attributes automatically based on the data source being dropped on the Mobile Application Diagram. This is sometimes called the bottom-up approach. <p>Each new mobile application project generates an associated Mobile Application Diagram.</p>
Palette	Access the Palette from the Mobile Application Diagram. It provides controls, such as the ability to create MBOs, add attributes and operations, and define relationships, by dragging and dropping the corresponding icon onto the Mobile Application Diagram or existing MBO.
Properties view	Select an object in the Mobile Application Diagram to display and edit its properties in the Properties view. You cannot create an MBO from the Properties view, but generally, most development and configuration is performed here.

View	Description
Outline view	Displays an outline of the file that is currently open in the editor area, and lists structural elements. The contents are editor-specific.
Problem view	Displays problems, errors, or warnings that you may encounter.

3. To access the online help, select **Help > Help Contents** from the main menu bar.
4. Expand any of the documents that appear in the left pane. Some documents are for Sybase Unwired Platform, while others are for the Eclipse development environment.

Developing a BlackBerry Device Application Prototype

Develop a BlackBerry device application prototype, and test its functionality.

Prerequisites

Complete the *Tutorial: Mobile Business Object Development*.

Task

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

1. If the SUP101 Mobile Application Project is not already open, in WorkSpace Navigator, right-click the **SUP101** folder and select **Open in Diagram Editor**.
2. Install the BlackBerry Java Plug-in for Eclipse.
3. Create the BlackBerry device application as described in *Creating the BlackBerry Device Application Prototype* on page 14.
4. Verify the device application and generate the code as shown in *Verifying and Generating Code for a Device Application* on page 17.
5. Add custom code to the generated file as shown in *Adding Custom Code to the Generated Code* on page 23.
6. Run and test the application on the BlackBerry Simulator as shown in *Testing the Device Application on the BlackBerry Simulator* on page 24.

Installing the BlackBerry Java Plug-in for Eclipse

The Device Application Designer supports the BlackBerry Java Plug-in for Eclipse, which allows you to generate the device application code using the Device Application Designer code generation wizard, then debug the generated code.

Prerequisites

You must have a BlackBerry developer account to download the BlackBerry Java Plug-in for Eclipse. You may be required to register if you do not already have an account.

Task

Note: To ensure that you are using the supported version of the BlackBerry Java Plug-in for Eclipse, see the topic *Sybase Unwired Platform 1.5.5 > New Features > Supported Hardware and Software*.

1. Shut down Unwired WorkSpace.
2. Go to <http://us.blackberry.com/developers/javaappdev/> and download the BlackBerry Java Plug-in for Eclipse (full installer) to a temporary folder.
3. Double-click the setup application file.
4. On the Introduction page, click **Next**.
5. Accept or decline the terms of the license agreement and click **Next**.
6. Choose <UnwiredPlatform_InstallDir>\UnwiredPlatform\Eclipse as the installation directory and click **Next**.
7. Review the information on the Pre-installation Summary screen and click **Install**.
8. Click **Done**.

Creating the BlackBerry Device Application Prototype

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

Prerequisites

Create the SUP101 Mobile Application Project by completing the *Tutorial: Mobile Business Object Development*.

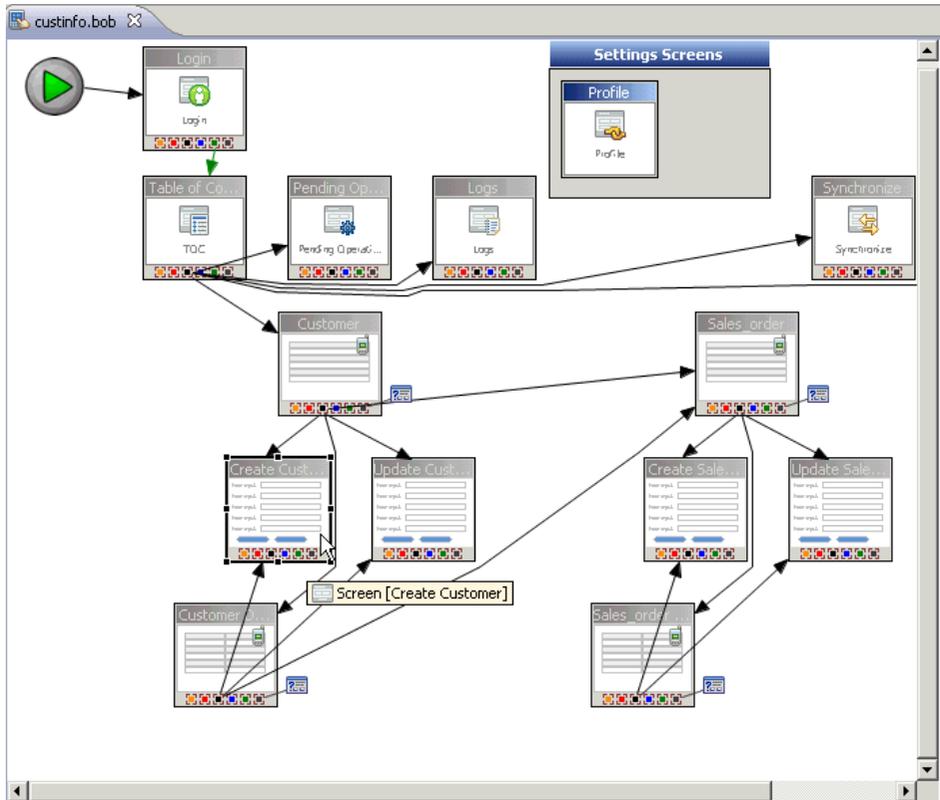
Task

1. Verify that the Device Application Designer Preferences are set to the default settings.
 - a) From the main menu, select **Window > Preferences**.
 - b) Select **Sybase, Inc. > Mobile Development > Device Application Designer**.
 - c) If the default settings have been changed, click **Restore Defaults**.
 - d) Click **OK**.
2. In WorkSpace Navigator, right-click the **SUP101** Mobile Application Project folder and select **Create Device Application Designer**.
3. In the New Device Application Designer wizard, complete these fields:
 - a) In Parent Folder, select **SUP101**.
 - b) In File Name, enter `custinfo`.
 - c) In Platform Device, select the BlackBerry device for which you are developing the application.
 - d) Select **My Unwired Server** as the connection profile.
 - e) Click **Finish**.

The Device Application Designer opens and creates the device application screens and connections.

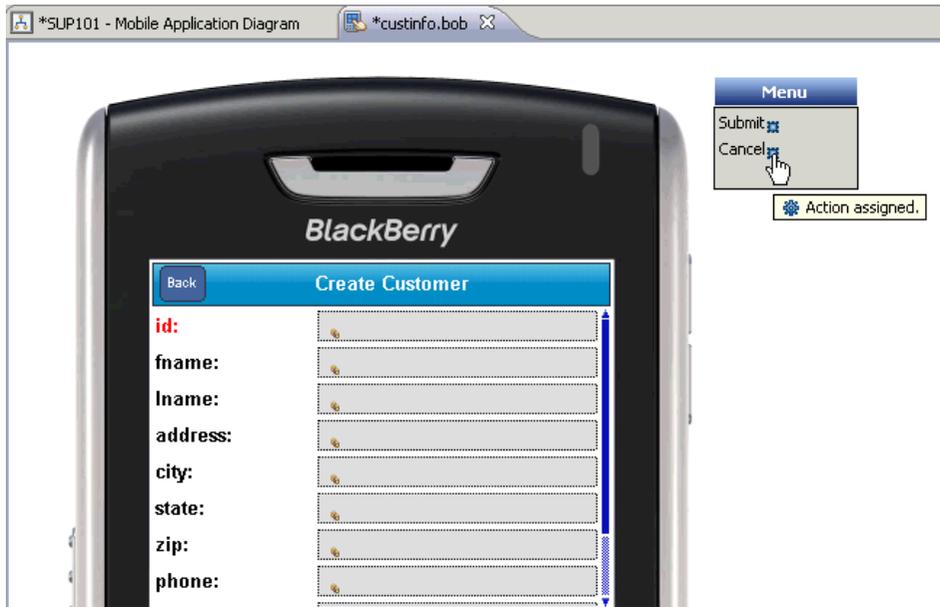
The Start icon is connected to the first screen (Login) and the screens for the mobile business object operations and relationships are automatically created.

4. Double-click the **Create Customer** screen under the Customer screen.

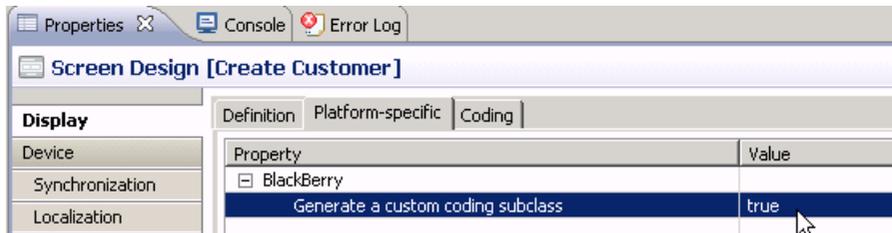


The Screen Design page appears. The Menu on the right shows the context menu items for the screen. In the Screen Design page, you can customize the screen layout, style, menu items, controls, and so on. This tutorial uses the default style.

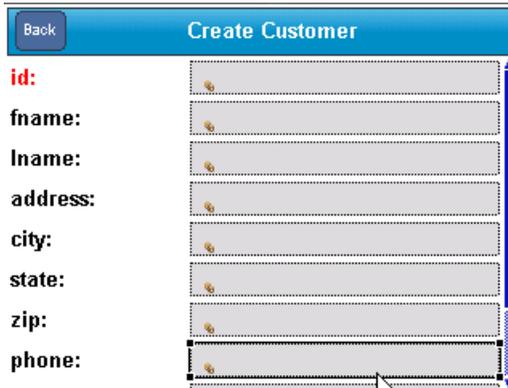
The decorators to the right of the menu items show that an action is assigned to the menu item. Clicking the decorator allows you to edit the assigned action.



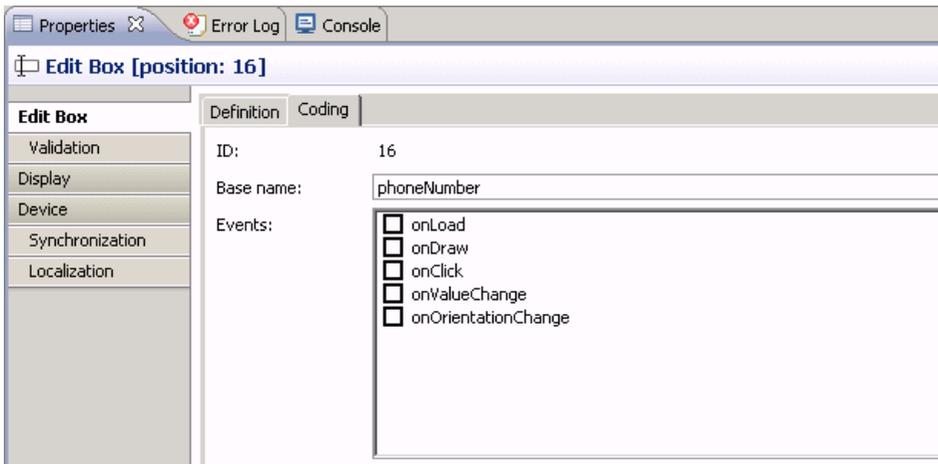
5. In the Properties view, click **Display > Platform-specific**.
If the Properties view is not open, right-click in the Screen Design page, and select **Show Properties View**.
6. Select **Generate a custom coding subclass** to make the value **true**.



7. On the Create Customer screen, click on the **phone** edit box to select it.



8. In the Properties view, click **Edit Box**, then click the **Coding** tab.
9. In Base name, enter `phoneNumber`.



10. Select **File > Save**.

Verifying and Generating Code for a Device Application

Goal: Generate code for the BlackBerry device application, then debug it in Eclipse.

Prerequisites

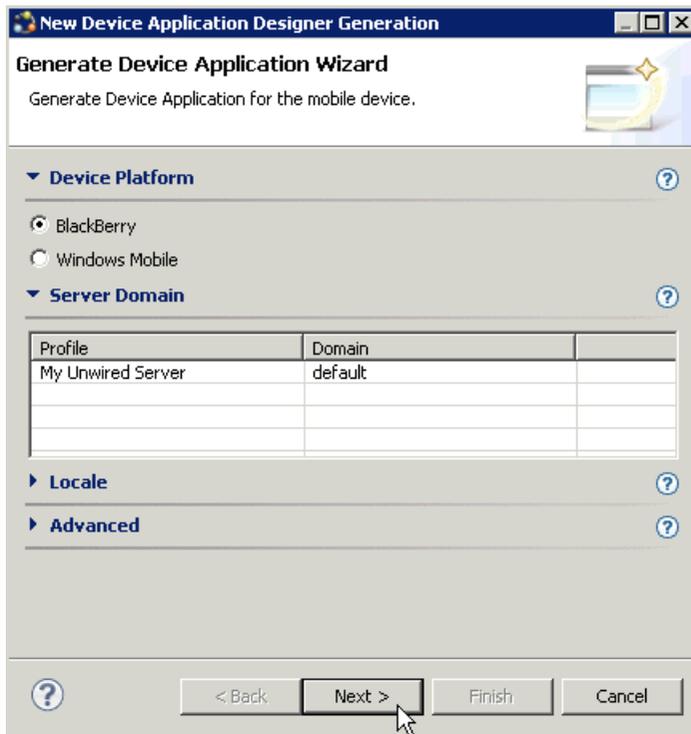
Installing the BlackBerry Java Plug-in for Eclipse on page 13

Task

1. In the Device Application Designer toolbar, click the Verify icon  to verify the device application design.

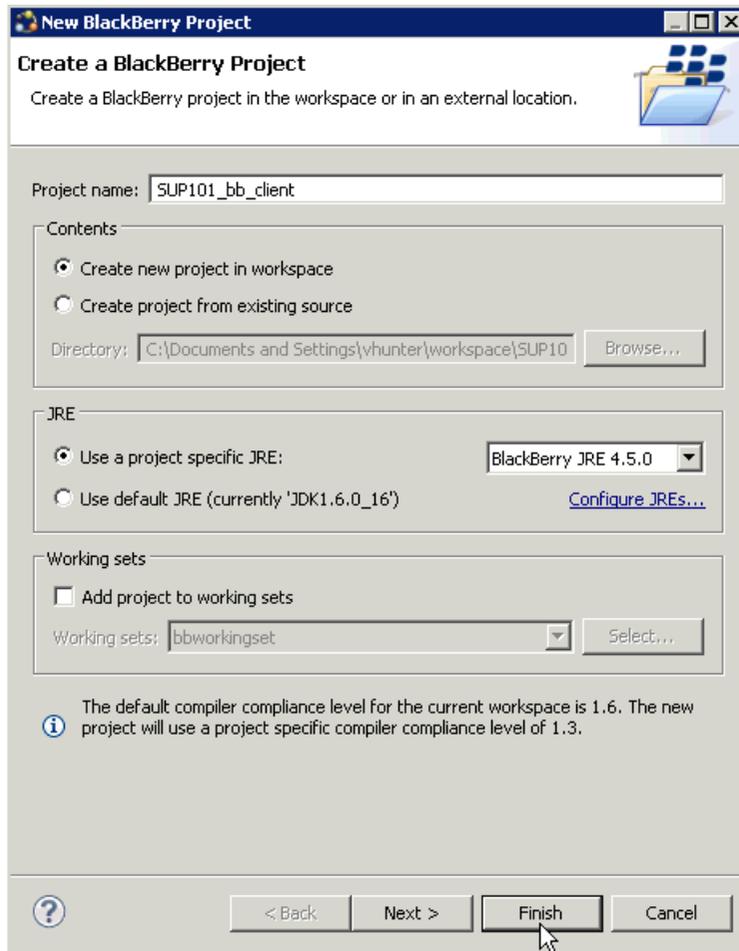
If any errors appear, you must fix them before you can generate the code.

2. Once you have verified the device application, in the Device Application Designer toolbar, click the Generate Device Application icon .
3. Accept the defaults by clicking **Next**.



4. In the second page of the Generate Device Application wizard, select **Debug the BlackBerry application with BlackBerry Java plug-in**.
5. Next to Client project, click **New**.
6. In the New BlackBerry Project wizard:
 - a) Enter: `SUP101_bb_client` as the project name.
 - b) Select **Use a project specific JRE**, then choose **BlackBerry JRE 4.5.0** from the list.

In this tutorial, you select BlackBerry JRE 4.5.0 because that is the JRE that contains the files for the BlackBerry 8800 Simulator the tutorial uses. The JRE specified should be one that contains the BlackBerry Simulator you want to use for your project.



c) Click **Finish**.

You are returned to the Generate BlackBerry Application wizard.

7. Next to Options project, click **New**.

8. In the New BlackBerry Project wizard:

a) Enter: SUP101_bb_options as the project name.

b) Select **Use a project specific JRE**, then choose **BlackBerry JRE 4.5.0** from the list.

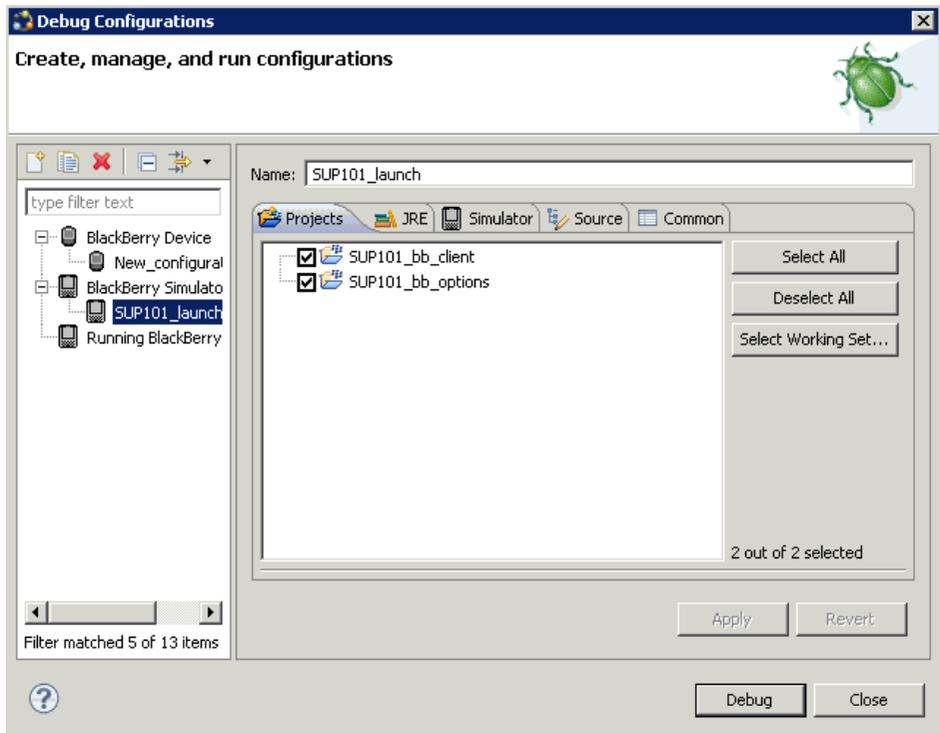
In this tutorial, you select BlackBerry JRE 4.5.0 because that is the JRE that contains the files for the BlackBerry 8800 Simulator the tutorial uses. The JRE specified should be one that contains the BlackBerry Simulator you want to use for your project.

c) Click **Finish**.

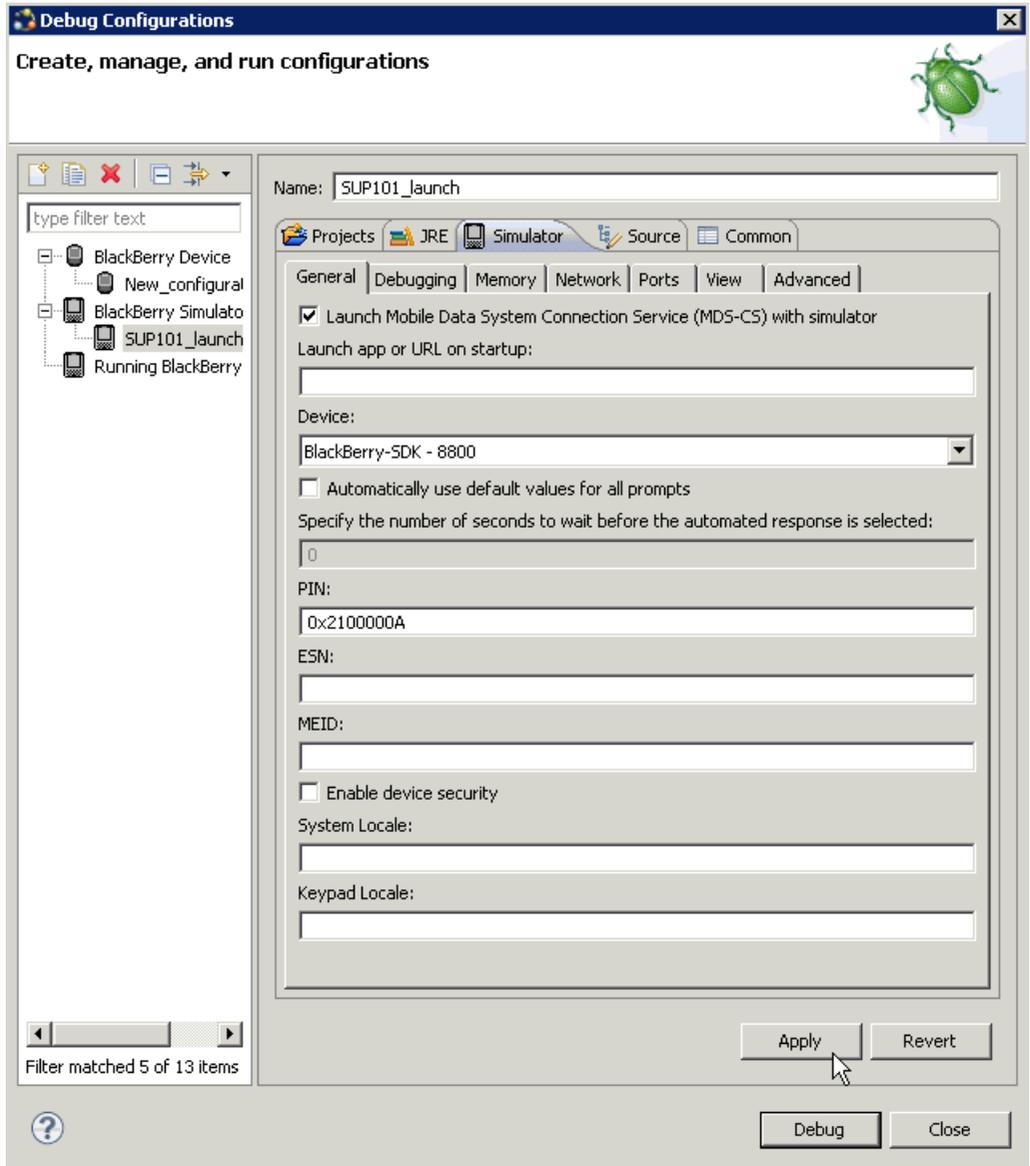
9. Select **Launch the BlackBerry project** and click **Configure**.

The Debug Configurations dialog opens.

10. In the left pane, right-click **BlackBerry Simulator** and select **New**.
11. Enter SUP101_launch as the launch configuration name.
12. In the Projects tab, select the **SUP101_client** and **SUP101_options** projects.



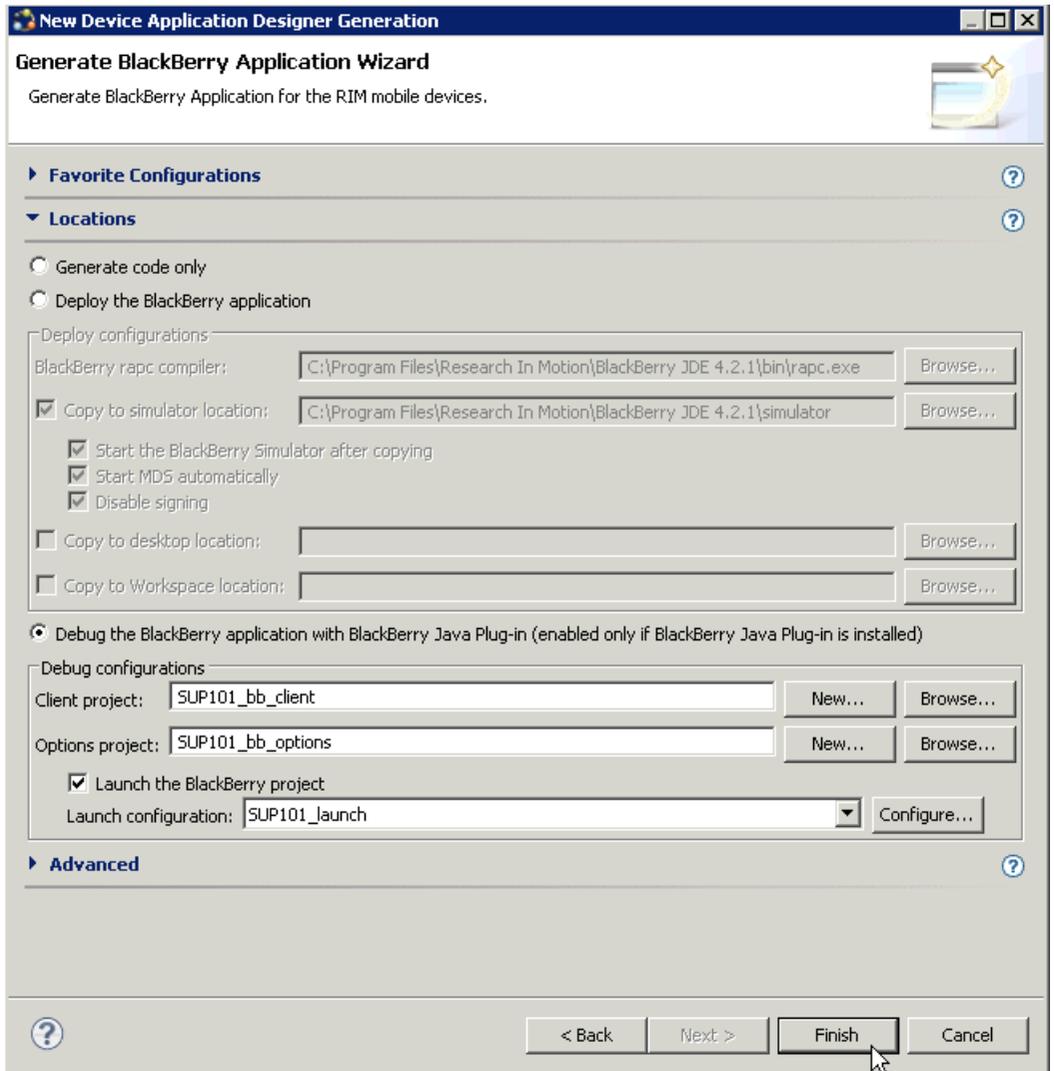
13. Click the **Simulator** tab.
14. Select **Launch Mobile Data System Connection Service (MDS-CS) with simulator** and select **BlackBerry-SDK-8800** as the device.



15. Click **Apply**.

16. Click **Close**.

17. In the New Device Application Designer Generation wizard, click **Finish**.



After clicking Finish:

- The Launch window appears and shows the progress.
- The Console view opens.
- The MDS starts.
- The BlackBerry Simulator launches.

18. Close the BlackBerry Simulator.

19. Close the **custinfo** application.

Adding Custom Code to the Generated Code

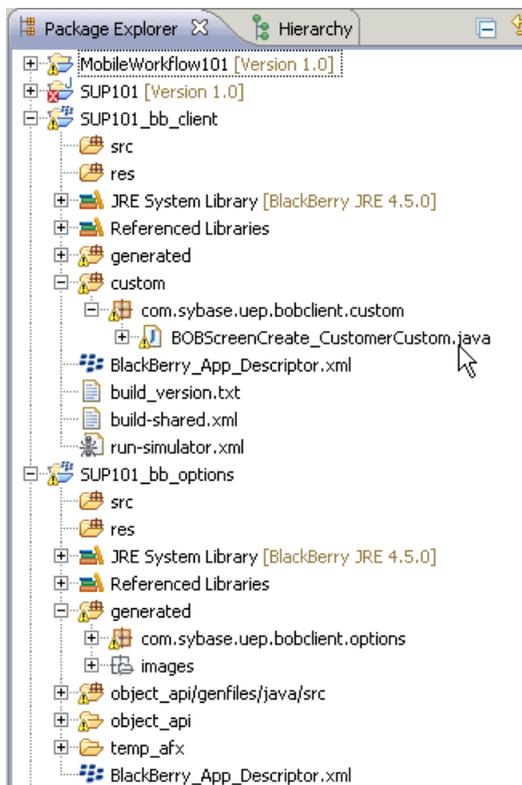
Goal: Add a simple custom coded event and debug the code using the BlackBerry Java Plug-in for Eclipse.

Prerequisites

Complete *Verifying and Generating Code for a Device Application* on page 17.

Task

1. Open the Java perspective:
 - a) From the main menu select **Window > Open Perspective > Other**.
 - b) Select **Java** and click **OK**.
2. In Package Explorer, expand the **SUP101_bb_client** folder, then expand the **custom** folder.



3. Open the `BOBScreenCreate_CustomerCustom.java` file and add this code in the method `protected void configureControlById(int ID)`:

```
case BOBPHONENUMBER:
    //Lets do some custom code here..
    //We'll add a validator. This validator is just checking that the
    string applies
    //a pattern match and passing in a REGULAR Expression
    Vector phoneNumValidatorVector = new Vector();
    phoneNumValidatorVector.addElement(
        new Validator(Validator.VALIDATION_TYPE_PATTERN_MATCH,
            Validator.PATTERN_MATCH_SUBTYPE_MATCHES_REGULAR_EXPRESSION,
            "[0-9][0-9][0-9]-[0-9][0-9][0-9]-[0-9][0-9][0-9][0-9]",
            "Enter a valid value of type 111-111-1111"));
    bobphoneNumber.setValidators(phoneNumValidatorVector);
    super.configureControlById(ID);
    break;
```

This custom code validates that input in the phone number field is in the ###-###-#### format.

4. Select **File > Save**.

Testing the Device Application on the BlackBerry Simulator

Goal: Run and test the custinfo device application on the BlackBerry 8800 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 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. In the Java perspective, select **Run > sup101_launch**.



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

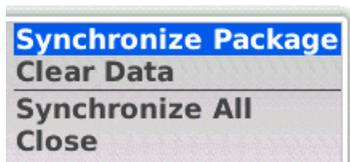
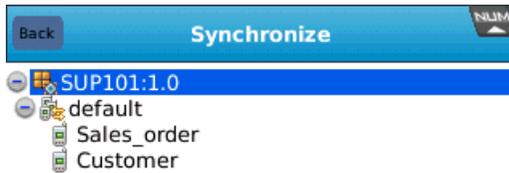


5. In the Login screen, enter:
 - Login – supAdmin
 - Password – s3pAdmin
6. Click **Login**.

The table of contents appears.



7. Scroll to **Synchronize** and click the trackball to open the Synchronize screen.
8. In the Synchronize screen, select the **SUP101** package, click the simulator menu key, and select **Synchronize Package**.



9. Click the Escape key on the simulator to return to the table of contents.
10. From the table of contents, select **Customer** and click the trackball.
11. Select a row in the Customer table, and click the simulator menu key.

The application menu shows the menu items that were shown when designing the device application in the Device Application Designer.
12. Scroll down 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.
13. Click the Escape key to return to the customer list.
14. Click the simulator menu key, and from the "Sort on column" menu, select **id** and click the trackball.

Now the customer list is arranged to show customers in ID order.
15. Select a row in the table, click the simulator menu key and scroll down to select **Create Customer** and click the trackball.
16. In the Create Customer screen, enter:
 - id: 999915
 - fname: Benny
 - lname: Olsson
 - Enter an address, city, state, and zip.
 - phone: abc
17. Leave the cursor in the phone edit box, and use the arrow keys on your keyboard to scroll down the customer record.

You receive an error that tells you to enter the phone number using a valid value format.
18. Reenter the phone number in the correct format: 201-555-8966, and scroll down using the arrows on your keyboard.

There is no error now.
19. Click the simulator menu key, select **Submit**, and click the trackball.

You return to the main customer list screen. The new record is shown at the bottom of the list.

20. To upload the new record to the back-end database `sampledb`, click the Menu key, and select **Synchronize Customer** from the menu.

The **Submit** button on the Create Customer screen is mapped to the **create** operation of the customer mobile business object. When the application is synchronized, any pending operations are uploaded to Unwired Server, which then executes the CREATE query defined for the **create** operation of the customer mobile business object.

When the synchronization is complete, you return to the customer screen.

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.

Getting Started Tutorials

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

Advanced Tutorials

Tutorials are available that demonstrate how to use some of Sybase Unwired Platform advanced features.

Check the Sybase Web site regularly for updates. Navigate to *Support > Product Documentation > Sybase Unwired Platform*, then select the most current version of the document.

Samples

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

Check the Sybase Web site regularly for updates. Navigate to the Sybase Web site, then select *Products > Sybase Unwired Platform > Use tab*: <http://www.sybase.com/products/mobileenterprise/sybaseunwiredplatform?htab=USE>.

Online Help

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

Check the Sybase Web site regularly for updates. Navigate to *Support > Product Documentation > Sybase Unwired Platform*, then select the most current version of the document.

Developer References

See the Developer References to learn about using the API to custom code device applications using the API.

- *Developer Reference for BlackBerry*
- *Developer Reference for iOS*
- *Developer Reference for Mobile Workflow Packages*
- *Developer Reference for Windows and Windows Mobile*

Check the Sybase Web site regularly for updates. Navigate to *Support > Product Documentation > Sybase Unwired Platform*, then select the most current version of the document.

Learn More about Sybase Unwired Platform

Javadocs are also available in the installation directory.

Programmer References

See the Programmer References to learn how to use the Administration API and Server API to extend functionality.

- *Reference: Administration APIs* – integrate your own administrative tools with Unwired Platform to monitor and manage Unwired Platform.
- *Reference: Custom Development for Unwired Server* – customize some Unwired Server features.

Check the Sybase Web site regularly for updates. Navigate to *Support > Product Documentation > Sybase Unwired Platform*, then select the most current version of the document.

Javadocs are also available in the installation directory.

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