SYBASE®

Mobile Application Development Tutorial

Unwired Accelerator

7.0

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Contents

About This Book

Audience

This book is for users that develop applications and deploy them to mobile devices.

How to use this book

- Chapter 1, “Introduction,” introduces Unwired Accelerator, and describes how to get started using the Mobile Web Studio.
- Chapter 2, “Getting Started,” provides basic tutorials for developing mobile applications using Mobile Web Studio.
- Chapter 3, “Creating a Multipage Mobile Application,” describes how to create a multipage mobile application using click-across that you can deploy to a mobile device.
- Chapter 4, “Creating a Mobile Application from an Existing Web Application,” explains how to create a mobile application from an existing Web application and how to extract content for display.
- Chapter 5, “Creating a Multipage Mobile Application with Transaction Support,” describes how to create a multipage mobile application with transaction support so that you can view and update data from a mobile device.
- Chapter 6, “Deploying Applications to Mobile Devices,” describes how to deploy applications from Mobile Web Studio to mobile devices using M-Business Anywhere.
- Chapter 7, “Deploying Applications to BlackBerry Devices,” describes how to deploy applications to BlackBerry devices for use in online or offline modes.
- Chapter 8, “Creating a Multipage Mobile Charting Application,” explains how to create a mobile application from a Flash charting object.
- Chapter 9, “Creating a Composite Application,” describes how to create a composite application for mobile applications running in connected mode.
- Chapter 10, “Setting up Natural Language Search,” describes how to use Answers Anywhere to perform searches from client devices, using natural language queries.

- Chapter 11, “Troubleshooting,” provides answers for frequently asked questions, and troubleshooting information.

Related documents

Unwired Accelerator documentation The following Unwired Accelerator documents are available on the Getting Started with Unwired Accelerator CD:

- The Unwired Accelerator installation guide for your platform explains how to install the Unwired Accelerator software.
- The Unwired Accelerator release bulletin for your platform contains last-minute information not documented elsewhere.
- The *Unwired Accelerator Quick Start Guide* shows how to deploy a Web and a database application to either a PDA or BlackBerry device.

Unwired Accelerator online documentation The following Unwired Accelerator documents are available on the SyBooks CD:

- The *Unwired Accelerator Developer’s Guide* includes developer-related topics for Unwired Accelerator components, Portal Interface applications, and Java Template Framework pages.
- The *Unwired Accelerator Administration Guide* provides administration topics for Unwired Accelerator and its components.
- The *Portal Interface User’s Guide* describes the Portal Interface user interface and how to use Portal Interface to build and manage your enterprise’s portal.
- The *Mobile Application Development Tutorial* (this guide) provides tutorials that help you get started using Mobile Web Studio to develop and deploy mobile applications.

jConnect™ for JDBC™ documents Unwired Accelerator 7.0 includes the jConnect for JDBC driver to allow JDBC access to Sybase database servers and gateways. The *Programmer’s Reference jConnect for JDBC* is included on the SyBooks CD.

Adaptive Server® Anywhere documents Unwired Accelerator 7.0 includes the ASA database to store system information including security authentication and authorization information. The ASA document set is included on the SyBooks CD.

Other sources of information

Use the Sybase Getting Started CD, the SyBooks CD, and the Sybase Product Manuals Web site to learn more about your product:

- The Getting Started CD contains release bulletins and installation guides in PDF format, and may also contain other documents or updated information not included on the SyBooks CD. It is included with your software. To read or print documents on the Getting Started CD, you need Adobe Acrobat Reader, which you can download at no charge from the Adobe Web site using a link provided on the CD.
- The SyBooks CD contains product manuals and is included with your software. The Eclipse-based SyBooks browser allows you to access the manuals in an easy-to-use, HTML-based format.

  Some documentation may be provided in PDF format, which you can access through the PDF directory on the SyBooks CD. To read or print the PDF files, you need Adobe Acrobat Reader.

  Refer to the *SyBooks Installation Guide* on the Getting Started CD, or the *README.txt* file on the SyBooks CD for instructions on installing and starting SyBooks.
- The Sybase Product Manuals Web site is an online version of the SyBooks CD that you can access using a standard Web browser. In addition to product manuals, you will find links to EBFs/Maintenance, Technical Documents, Case Management, Solved Cases, newsgroups, and the Sybase Developer Network.

  To access the Sybase Product Manuals Web site, go to Product Manuals at http://www.sybase.com/support/manuals/.

Sybase certifications on the Web

Technical documentation at the Sybase® Web site is updated frequently.

❖ **Finding the latest information on product certifications**

1. Point your Web browser to Technical Documents at http://www.sybase.com/support/techdocs/.
2. Select Products from the navigation bar on the left.
3. Select a product name from the product list and click Go.
4. Select the Certification Report filter, specify a time frame, and click Go.
5. Click a Certification Report title to display the report.

❖ **Finding the latest information on component certifications**

1. Point your Web browser to Availability and Certification Reports at http://certification.sybase.com/.

2 Either select the product family and product under Search by Product; or select the platform and product under Search by Platform.

3 Select Search to display the availability and certification report for the selection.

❖ **Creating a personalized view of the Sybase Web site (including support pages)**

Set up a MySybase profile. MySybase is a free service that allows you to create a personalized view of Sybase Web pages.

1 Point your Web browser to Technical Documents at http://www.sybase.com/support/techdocs/.

2 Click MySybase and create a MySybase profile.

Sybase EBFs and software maintenance

❖ **Finding the latest information on EBFs and software maintenance**

1 Point your Web browser to the Sybase Support Page at http://www.sybase.com/support.

2 Select EBFs/Maintenance. Enter user name and password information, if prompted (for existing Web accounts) or create a new account (a free service).

3 Select a product.

4 Specify a time frame and click Go.

5 Click the Info icon to display the EBF/Maintenance report, or click the product description to download the software.

Conventions

The formatting conventions used in this manual are:

Formatting example	To indicate
commands and methods	When used in descriptive text, this font indicates keywords such as: • Command names • C++ and Java method or class names

Formatting example	To indicate
variable, *package*, or *component*	Italic font indicates: • Program variables, such as *myCounter* • Parts of input text that must be substituted, for example: *Server*.log • File names
SYBASE	The variable in this manual used to represent the Sybase installation directory. Forward slashes are used for all path names, regardless of platform; for example, *SYBASE\UnwiredAccelerator70*.
File | Save	Menu names and menu items are displayed in plain text. The vertical bar shows you how to navigate menu selections. For example, File | Save indicates "select Save from the File menu."
`package 1`	Monospace font indicates: • Information that you enter in Mobile Web Studio, on a command line, or as program text • Example program fragments • Example output fragments

If you need help

Each Sybase installation that has purchased a support contract has one or more designated people who are authorized to contact Sybase Technical Support. If you cannot resolve a problem using the manuals or online help, please have the designated person contact Sybase Technical Support or the Sybase subsidiary in your area.

CHAPTER 1

Introduction

This chapter introduces Unwired Accelerator, describes how to start Mobile Web Studio, introduces the user interface, and provides information you need to get started on the tutorials.

Product overview

The Sybase Unwired Accelerator accelerates the mobilization of enterprise Web applications and data sources for constant access. Two major components include:

- Mobile Web Studio – a platform for developing applications for mobile devices. Mobile Web Studio is a Web-based, rapid development tool for creating powerful and interactive mobile Web applications or for mobilizing existing Web applications or data sources, databases, XML, Web Services, HTML, and JSPs/ASPs.
- M-Business Anywhere – a platform for delivering Web-based content and applications to mobile devices rapidly and cost-effectively, with minimal recoding. Web developers can leverage their existing skill sets and open standards to develop and deploy fully interactive Web applications with wireless capabilities.

For detailed information, see the *Unwired Accelerator Developer's Guide*.

Introducing Mobile Web Studio

This chapter describes how to start Unwired Accelerator and use the Mobile Web Studio user interface, provides information about the sample database and applications that are included with Mobile Web Studio, and describes the basic workflow for creating and deploying mobile applications.

This chapter assumes you have:

- Installed Unwired Accelerator using information and procedures in the *Unwired Accelerator Installation Guide*
- Network access
- Internet access
- Internet Explorer installed as your browser (see the *Unwired Accelerator Release Bulletin* for version and patches)

Starting Unwired Accelerator

Before you start the tutorials, you must:

- Start the Unwired Accelerator server, which includes the portal database (portaldb) and the sample database (sampledb). The tutorials in this guide use the sampledb database. See "Tutorial environment" on page 9.
- Start the application server. The Tomcat application server is included with Unwired Accelerator.

  If you are using EAServer as your application server, use the EAServer instructions for starting or stopping Mobile Web Studio.

❖ **Starting Unwired Accelerator**

1 Select Start | Programs | Sybase | UnwiredAccelerator | Start UnwiredAccelerator. This starts the ASA database, the Tomcat application server, and an Internet Explorer browser window.

  When the database starts, you see the icon for the Sybase ASA database in your taskbar.

  When Tomcat starts, you see a series of messages in the Tomcat window:

```
Starting service Tomcat-Standalone
Apache Tomcat/4.1.29
```

2 On Windows, when you see this message, minimize the Tomcat window (do not close the window).

If you do not see this message, check the *datamanager.log*, located in *x:\tmp\logs*, for more information.

3 From the Internet Explorer window, you can log in to Mobile Web Studio or Portal Interface, as described in "Using Mobile Web Studio" on page 3.

❖ **Stopping Unwired Accelerator**

- Select Start | Programs | Sybase | UnwiredAccelerator | Stop UnwiredAccelerator. This stops Tomcat and the ASA database, and closes the Tomcat window.

Note See the *Unwired Accelerator Installation Guide* for information about starting and stopping ASA and Tomcat independently using the `startdb`, `starttomcat`, `stoptomcat`, and `stopdatabase` scripts.

Using Mobile Web Studio

Mobile Web Studio is a Web application. Access Mobile Web Studio using Internet Explorer.

❖ **Logging in to the Mobile Web Studio**

1 Log in to Mobile Web Studio by entering the following URL in Internet Explorer:

```
http://hostname.domain:port/onepage/loader.jsp
```

For example, if your machine name is "lab2k", your domain is "sybase.com," and your port number is "4040," enter:

```
http://lab2k.sybase.com:4040/onepage/loader.jsp
```

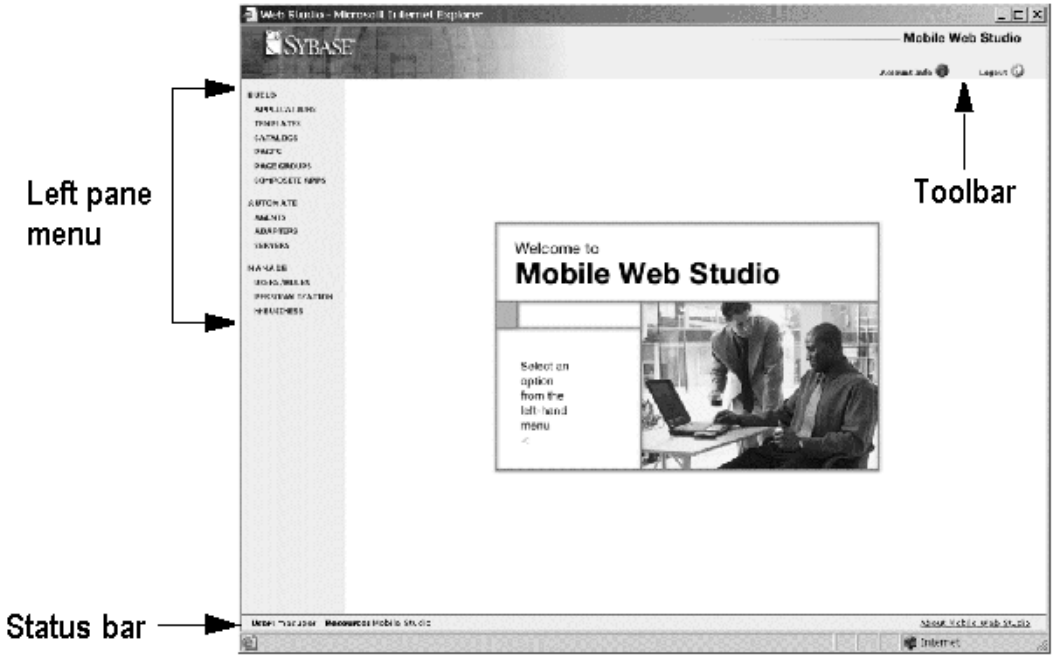
Note In a development environment, your port number may be different, and in a production system, the port number may not be necessary at all if you are using port 80.

2 When the Mobile Web Studio Login window displays, enter the user name `masuper` and password `m8super`, and click Login. These are the default entries for the Mobile Web Studio account with administrative privileges.

You see the Mobile Web Studio welcome window.

Note If your browser session expires, you see `Session has expired. You need to re-authenticate`. Click OK to close the message window, start a new browser session, log in, and close the old window session.

Figure 1-1: Mobile Web Studio welcome window



The welcome window displays:

- Left pane menus – select from menu groupings that allow you to:
  - Build – create, edit, and manage applications, templates, catalogs, pages, page groups, and composite applications.

- Automate – create agents to automatically process application content, monitor agent activity, or use adapters to write application content to an e-mail message, database, or file system.
- Manage – manage Mobile Web Studio resources and create predefined application input fields or drop-down lists, and deploy applications to the M-Business Anywhere server.

- Status bar – always shows the user name of the person logged in to Mobile Web Studio (User), the group of application pages available to this user (Resource), and the version information (About Mobile Web Studio).
- Toolbar – view your account information, change the password, and log out of Mobile Web Studio. Once you make a selection from the left pane, an option-specific toolbar displays.

Note To see all features, you may need to maximize the browser window.

Selecting a Mobile Web Studio menu option

Once you log in to Mobile Web Studio, you can choose the Mobile Web Studio objects that you want to work with and have permission to access.

Build menu

Objects on the Build menu include:

- Applications – create, edit, delete, and manage applications and their content.
- Templates – define the organization of aggregate applications (applications with more than one element), where applications are located, background HTML code, and so on. You can apply the templates you create to applications. Templates help applications display on specific device types. You can assign a different template for each device type for a given application.
- Catalogs – create user-defined hierarchies of content for display in an application. See the *Unwired Accelerator Developer's Guide* and the *Portal Interface User's Guide*.
- Pages – create, edit, delete, and manage the Portal Interface pages on which applications display. See the *Unwired Accelerator Developer's Guide* and the *Portal Interface User's Guide*.

- Page Groups – create, edit, delete, and manage page groups to organize Portal Interface application pages. Page groups provide a container for deploying applications or groups of applications to Portal Interface or to mobile devices in offline (disconnected) mode. See the *Unwired Accelerator Developer's Guide* and the *Portal Interface User's Guide*.
- Composite Apps – create virtual Web applications using several existing applications.

Automate menu

Objects on the Automate menu include:

- Agents – create, edit, manage, start, stop, and view logs for agents that automatically process application content.
- Adapters – create, edit, manage, and view logs for adapters that write content to e-mail, databases, or file systems. See the *Unwired Accelerator Developer's Guide*.
- Servers – create, manage, and view logs for servers on which agents run. See the *Unwired Accelerator Developer's Guide*.

Manage menu

Objects on the Manage menu include:

- Users/Roles – create and edit users, and manage the resource with which they are associated. Create, edit, and manage the roles, and assign roles to users. See the *Unwired Accelerator Administration Guide*.
- Personalization – create and manage keys that allow users to personalize applications to their needs. See the *Unwired Accelerator Developer's Guide*.
- M-Business – deploy applications to M-Business Anywhere server groups, channels, and users, and perform some M-Business Anywhere administration tasks specifically required by Mobile Web Studio, such as user account maintenance. See the *Unwired Accelerator Administration Guide*.

Once you make a selection, the Manager menu, detail window, and toolbar for the selected component display.

Object managers

All object managers (Application Manager, Template Manager, and so on) display similar object-specific user interface components:

- Manager menus – display View By options to change the grouping of applications or pages. For applications, the menu changes the grouping from status to category. For pages and page groups, the menu changes the grouping from status to type.
- Detail window – displays the type of items you selected from the manager menu; for example, only new or approved portlets.
- Toolbar – lets you perform object-specific activities; for example, create a new object, edit, preview, and so on.
- Pop-up menus – let you perform object-specific activities on the selected item in the list.

Manager menus

Object managers allow you to display items based on your menu selection. You can display applications by status or category. Additional options on the toolbar allow you to filter the selected lists by additional criteria.

Detail window

The detail window displays items for the selected object based on your selections from:

- Filter By – choose to see all items or only the items created by you.
- Show Active Only – choose to see only the selected items (portlets, templates, and pages) that are marked as active.
- View By – view items by status or category. Templates and catalogs display only by status.
- Menu – view items of a specific status or category. Templates, catalogs, and composite applications display items only by status.

If a list contains more items than can display in one window, numbers display directly below the detail window that allow you to navigate to the next group of items in the list.

Toolbars

Above the detail window are icons that allow you to perform a variety of activities on an item in the detail view. The icons that appear vary, depending on the object manager with which you are working. For Applications, the buttons are:

- New – create a new object.

- Edit – edit an existing object.
- Preview – test the object.
- Find – locate an object.
- Replace – replace an object with a newer version.
- Import/Export – import or export an object into or out of Mobile Web Studio.
- Publish to UDDI.

Pop-up menus

Once a list displays in the detail window, right-click a list item to display an object-specific pop-up menu showing activities you can perform on the selected item.

Using Portal Interface

Unwired Accelerator provides browser access to Portal Interface, which can be a useful tool for testing and troubleshooting mobile applications.

❖ **Logging in to the mobile device interface**

1 On your browser or mobile device, enter the following URL in your device's browser:

```
http://hostname.domain:port/onepage/mpindex.jsp
```

For example, if your machine name is "lab2k", your portal domain is "sybase.com," and your port number is "4040," enter:

```
http://lab2k.sybase.com:4040/onepage/mpindex.jsp
```

2 Enter a mobile portal user name and password, and click Login.

The home page displays the navigation tree with the names of the mobile applications as links.

Workflow for creating mobile applications

This section describes the basic workflow for creating mobile applications using Mobile Web Studio. Basic tasks include:

1 Create an element – create the element using the Application Builder.

2 Create the application – use the Application Builder wizard to create the application using the element, and customize how the application looks and operates. The Application Builder wizard is described in more detail in “Introduction to creating applications” on page 12.

3 Save the application – give the application a name, access privilege, and additional post-processing configuration details.

4 Approve the application – approve the application to make it available for use.

5 Deploy the application – deploy the application for online or offline use. For online use, create a composite application, otherwise, deploy or export the application.

Tutorial environment

This section describes the tutorial environment. The tutorials in this guide use the sample database and a sample application included with Unwired Accelerator.

- A sample database called sampledb provides populated tables with employer, employee, customer, and product information. The sampledb is located in *SYBASE\UnwiredAccelerator70\asa*.
- The CustomerView application provides fictitious information about customers. The tutorials use examples from CustomerView.

Note The CustomerView application provides examples for the tutorials, but is not a fully functioning application. Some records are not fully populated. Use the examples provided in the tutorials.

The `masuper`/`m8super` account is the recommended account to use with the tutorials, so you have Unwired Accelerator capabilities. See the *Unwired Accelerator Administration Guide* for more information about security, roles, and procedures for setting up new accounts.

This tutorial assumes you have the following global properties set for M-Business Anywhere, as described in the *Unwired Accelerator Installation Guide*:

- alwaysValidateSession – set to true, to enable personal channels to work on a mobile device or Portal Interface.
- MB.Enabled – set to true, to integrate M-Business Anywhere with Portal Interface and Mobile Web Studio.
- MB.AutoRegistration – set to true or false, depending on your company need. If it is set to false, new accounts are handled differently. See the *Unwired Accelerator Installation Guide*, or the *Unwired Accelerator Administration Guide* for account handling tips related to this.

If you do not set these values in the *global.properties.xml* file, located in *SYBASE\UnwiredAccelerator70\tomcat\webapps\onepage\config*, you may see small deviations in your results.

CHAPTER 2

Getting Started

This chapter describes how to get started using Mobile Web Studio and the tutorials.

Overview

This chapter provides several basic tutorials, and discusses basic concepts and terminology you will need for the more difficult tutorials in later chapters.

The procedures in this chapter assume:

- Mobile Web Studio is installed
- Network access
- Internet access
- Internet Explorer is installed with the security patches listed in the Unwired Accelerator release bulletin
- Pop-up blockers installed on your Web browser are disabled
- Database and application servers are started as described in “Starting Unwired Accelerator” on page 2
- Know how to log in to Mobile Web Studio as described in “Using Mobile Web Studio” on page 3, and are using the `masuper`/`m8super` account

- A BlackBerry device or simulator, or PDA is installed and connected as described in the *Unwired Accelerator Installation Guide*

Introduction to creating applications

This section provides basic tutorials for:

- Creating a mobile application
- Approving an application
- Searching for an application
- Working with templates
- Defining grid rules
- Defining simple click-across events
- Defining client-side click-across listeners
- Defining parameters using @OP tags

Application Builder wizard

Application Builder is a wizard comprised of a succession of windows, to define applications. The windows differ depending on the type of application you are creating (Web, HTML, JSP, and so forth). Application Builder includes:

- New Element window – used to create the application type of your choice, including elements for Web, XML, database, JSP, Web service, HTML, document, file element, and SAP, if configured.
- Split window – used to add parameters for splitting the columns or rows in a table. Split rules include:
  - Split – split the table by all rows, a specific row number, all columns, or a specific column number. To specify a specific row or column, enter the row or column number in the text box.
  - Split by Delimiter – split the rows or columns by Line Feed, Space, Comma, or Other. When you select Other, specify the delimiter to use in the text box to the right of the delimiter drop-down list.
  - Personalization – enabled when you select the Variable option. Personalization adapters retrieve values from external systems or databases and automatically submit them to the application.

Personalization adapters must be registered with Mobile Web Studio. Once you select a Personalization adapter, the available methods within the adapter display in the drop-down list. Select a method to specify the parameter within the Personalization adapter to submit to the application.

See the *Unwired Accelerator Developer's Guide* for more information about personalization adapters.

- Define window – used to define the grid layout, for example, whether to display record labels or just the records.
- Filter window – used to identify rows, columns, and fields in the application, as well as to specify additional grid rules. Grid rules enable you to manipulate the content and format of an application for display on a mobile device.
- Configure Parameters window – used to customize the parameters, or variables, used to capture the grid or table. This enables application users to customize or personalize parameter values when they view the application on the mobile device.
- Window Preview window – used to view the element and to give it a name.
- Continuous capture window – used to capture a set of Web pages from a remote site and define how to extract the content for display.
- Finish window – used to configure the application.

Note Leave the Application Builder window open while using the wizard.

Creating a basic application

This tutorial introduces you to creating and approving an application that accesses currency exchange rates on a currency exchange Web site, and demonstrates how to use grid rules to optimize the data for display on a mobile device.

Note Some tutorials use public Web sites, which are subject to change. You may notice some variation in your results.

Some applications cannot be mobilized for PDA, since they require Java or Java plug-in support.

❖ **Creating an application**

1 Log in to the Mobile Web Studio.

2 Click Applications in the Build menu, and select New under Application Manager Status in the middle pane.

3 Click New in the Application Manager toolbar.

4 In Application Builder, click Add to launch the New Web Element wizard.

Note Leave the Application Builder window open while using the wizard.

---

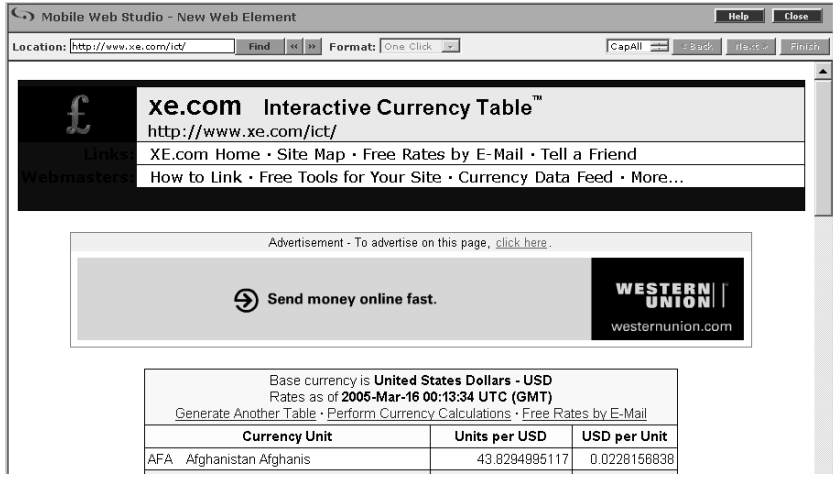
5 In Location, enter the following URL:

```
http://www.xe.com/ict/
```

Click Find or press Enter to display the Interactive Currency Table Web site.

6 Click the Generate Currency Table button at the bottom of the window. This tutorial uses the default settings on the Web site.

Figure 2-1: Capturing a Web site



7 In the New Web Element window, click Next. The page reloads.

8 Move your mouse over the table of currencies and click Afghanistan Afghanis. A flag follows your cursor with abbreviated instructions.

The table of currencies redisplays in several presentation formats, including a grid format as shown in Figure 2-2. Use the scroll bar to scroll through the various options. You must use a grid or table format for mobile applications.

Figure 2-2: Selecting a grid, or table, format

9 Click Select to the left of the grid, then click Next. The Split window displays.

10 Click Next to bypass the Split window as this tutorial does not demonstrate the feature. The Define window displays. The Define window enables you to define the grid layout.

11 Use the Define window to identify record 2 as the header row. In the Define Record Layout section, click “Records contain labels,” then enter `2` in the text box.

12 Click Next. The Filter window displays. The Filter window enables you to identify which rows, columns, and fields to use in the application, and enables you to customize the presentation by inserting records or fields, editing records, and identifying hidden fields.

13 The following modifications remove the first row from the table and rename the headers that appear above the table columns.

To remove the first row from the table:

- Look for the Add Filter Rule section of the window, and in the left-most drop-down list, select “Exclude record(s).”
- In the second drop-down list, select “number” from the “number/where” list.
- In the text box, enter `1`.
- Click Add. In Preview, all records are highlighted except record 1, and a new rule is added under Current Filter Rules.

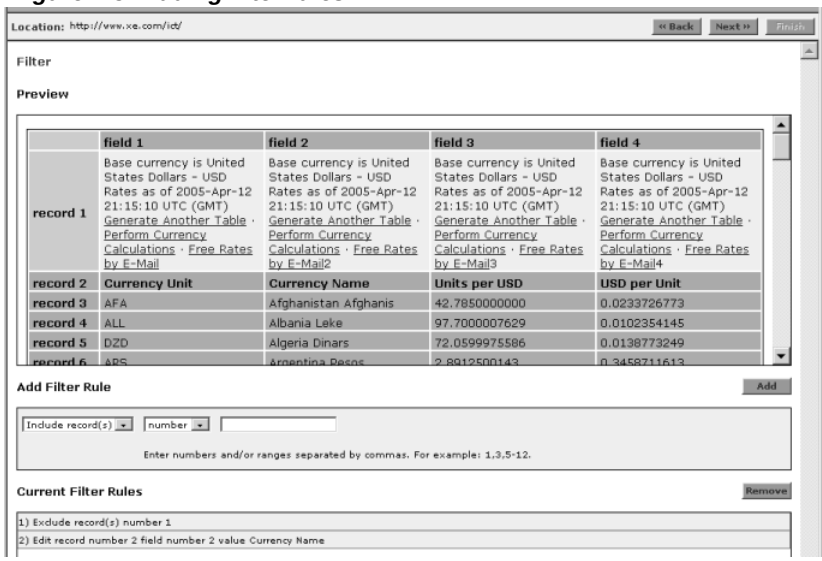
Note If you make a mistake, highlight the rule under Current Filter Rules, click Remove to delete it, and reenter the rule correctly.

To rename the title of the second column to Currency Name:

- In the left-most drop-down list, select “Edit record.”
- Make sure the second drop-down list is set to “number.”
- In the first text box, enter `2`.
- In Field, select “number” from the “number/label” drop-down list.
- In the second text box, enter `2`.
- In the fourth drop-down list, select “value” from the “value/image” drop-down list.
- In the third text box, enter `Currency Name`.
- Click Add. In Preview, the field 2 title has changed from Currency Unit2 to Currency Name, and a new rule is added under Current Filter Rules.

When you finish adding the two filter rules, your table should look similar to Figure 2-3.

Figure 2-3: Adding filter rules



14 Click Next. The Configure Parameters window displays with a list of parameters used to capture the table.

15 Check Variable to the left of “basecur.” The basecur parameter moves to the bottom of the list. This exposes the parameters for the variable.

16 In Display Name, change “basecur” to “Currency,” make sure the Default Value is set to “USD” (without quotes), and click Next. The Window Preview window displays the modified table.

17 In Element Name, enter `Currency Table` as the name for this Web element, and click Next. The Continuous Capture window displays.

18 Click Finish to bypass the Continuous Capture window as this tutorial does not demonstrate this feature. The New Web Element window closes.

19 On the Application Builder window, notice that the Currency Table element appears under Element List.

20 Click Save to create the application.

21 On the Finish window, make this entry (otherwise, accept the defaults):

Content tab In Name, enter `CurrencyTable` (no space).

Window Preview At the bottom of the Finish window, you can see a preview of your application.

22 Click Finish to save the application, and click OK in the Application Saved Successfully window.

23 Click Close in the upper-right corner to close the Application Builder window.

24 In Mobile Web Studio, click New under Application Manager Status in the middle pane. The CurrencyTable application displays in the detail pane.

You have successfully created an application using a Web site as a source, and customized the appearance by including only certain data and modifying column names.

When applications are initially saved, their status is set to "New." To make the CurrencyTable application available for use in a mobile device or in a Composite Application, you must first change the status of the application to Approved.

❖ **Approving the application**

1 Right-click the CurrencyTable application in the detail pane, and select Approval Status | Approved.

2 Click OK to confirm.

3 Select Approved under Application Manager Status and verify the CurrencyTable application displays.

❖ **Previewing the application**

1 Right-click the CurrencyTable application in the detail pane, and select Preview.

2 In Currency, enter another currency value, such as `EUR`, and click OK to change from the default value of US dollars (USD) to (EUR). The column title changes to reflect the new value.

3 Try another value, or close the window. The application is ready to deploy to a mobile device.

Deploying the application

You can continue with the tutorials in the order presented, or you can skip ahead and deploy the CurrencyTable application:

- Deploy the application to a PDA, such as PocketPC or Palm OS. See Chapter 6, “Deploying Applications to Mobile Devices.”
- Deploy the application to a BlackBerry device. See Chapter 7, “Deploying Applications to BlackBerry Devices.”

Creating an application with more features

This tutorial demonstrates how to create a JSP application; select and apply a template; create an XML application; and create a server-side click-across event to link a displayed column (Headline) to a hidden column (URL). This tutorial also shows how to use grid rules to optimize data presentation on a mobile device. (See the *Unwired Accelerator Developer's Guide* for more information about grid rules). The resulting NewsStory application enables you to select a headline and display the corresponding news story.

This tutorial is divided into several procedures, so you can refer to them later when you create your own applications.

❖ **Creating the NewsStory (JSP) application**

1 Log in to Mobile Web Studio.

2 Select Applications in the left pane, and click the New button to launch Application Builder.

3 In the Application Builder, click the down arrow next to the Add button. In the menu that appears select JSP Element.

4 In the JSP Element window, enter:

- Use Web Application – select this option.
- WAR File to upload – leave blank.
- WAR File – enter `onepage.war`.
- Web App Display Name – enter `onepage`.
- Initial Resource – enter `/portlets/jsp/documentdisplay.jsp`.
- Web App Qualified URLs – select this option.
- Enable Grid Rules – unselect this option.
- Single-Sign On Required – unselect this option.

- Input Parameters – enter `url=http://www.yahoo.com`. Later, you will create the TopNews application and create an event for its `url` parameter.

Note For remote JSP applications, only applications containing grid data or simple HTML are supported on WAP devices.

5 Click Preview to preview the JSP page showing Yahoo's Web site. If you do not see the Yahoo Web site, verify your input; you must see the Yahoo Web site before you go on.

6 Click Next to continue.

7 In Element Name, enter `documentdisplay`.

8 Click Next to continue.

9 Click Finish. The document display element is added to the Element List in Application Builder.

The JSP element does not yet display in the Application Builder preview pane. The template needs to be changed so that the IFRAME in the document display JSP expands and fills the application's available screen space.

10 Click the Template button in Application Builder.

11 In the Find Template window, verify that "html" is selected from the Type drop-down list, then click Search.

12 When the template list appears in the detail pane, select the OP Basic template, and click Select. (The template name indicates the template layout; for example, OP-1-1 Basic means the template creates a table with one row and one column).

13 The Find Template window closes and the template is applied to the application. It may take a few moments for the new preview of the application to appear showing the Yahoo.com Web site in the preview pane.

14 In the Application Builder window, click Save.

15 On the Finish window, make these entries (otherwise accept the defaults):

Content tab Name – enter `NewsStory` (no spaces).

Presentation tab Select No Popup.

16 Click Finish to create the application.

17 Click OK to confirm.

18 Click the Close button in the upper-right corner to close the Application Builder window.

19 In Mobile Web Studio, approve the application:

- Click New under Application Manager Status in the middle pane. The NewsStory application displays in the detail pane.
- Right-click NewsStory, and select Approval Status | Approved.
- Click OK to confirm.

20 Select Approved from the Application Manager Status menu. You see the NewsStory application in the detail pane.

21 You can preview the NewsStory application, although it is not yet complete:

- Select NewsStory in the detail pane, and click Preview. The Yahoo.com Web site displays in a window.
- Close the window.

❖ **Creating the TopNews (XML) application**

In this step, create an XML application called, TopNews, and use grid rules to modify its presentation for the mobile device. You will display the three most important columns, and identify two hidden columns, one of which will be used in a click-across event.

Note Currently, only JSP templates are valid for mobile applications.

---

1 Log in to Mobile Web Studio.

2 Select Applications in the left pane, and click the New button to launch Application Builder.

3 Click the arrow to the right of Add, and select XML Element. You see the XML Element Definition window.

4 In XML URL, enter:

```
http://www.moreover.com/cgi-local/page?o=xml_1&c=Top%20US%20stories
```

5 For Content XSLT, click the Select button next to the text box. The Find XSLT Template window displays.

6 In Type, make sure the drop-down list is set to XSL, and click Search in the upper-left corner of the window. A list of templates displays in the detail pane.

7 Click the moreover_content_xsl template.

8 Click Select to set this as the Content XSLT template for the XML Element. The Find Template window closes.

9 On the XML Element Definition window, click Preview to test the settings entered. After a few moments a seven-column table with multiple rows displays in the Preview pane.

10 Click Next to continue

11 On the Split window, click Next as this feature is not used in this tutorial.

12 Use the Define window to identify record 1 as the header row. In the Define Record Layout section, click "Records contain labels." When the "Labels are displayed in Record" option displays, accept the default `1`. Click Next.

13 On the Filter window, rename the headers of the second, third, fourth, sixth, and seventh columns:

- To change the header of the second column:
  - In the left-most drop-down list, select "Edit Record."
  - Make sure the second drop-down list is set to "number."
  - In the first text box, enter `1` to indicate the first record.
  - For Field, select "number."
  - In the second text box, enter `2` to indicate the second column.
  - In the fourth drop-down list, select "value" from the "value/image" drop-down list.
  - In the third text box, enter `URL` to create the header title.
  - Click Add. In Preview, the field 2 title has changed to URL, and a new rule is added under Current Filter Rules.
- To change the header of the third column:
  - In the left-most drop-down list, select "Edit Record."
  - Make sure the second drop-down list is set to "number."
  - In the first text box, enter `1` to indicate the first record.

- For Field, select “number.”
- In the second text box, enter `3` to indicate the third column.
- In the fourth drop-down list, select “value” from the “value/image” drop-down list.
- In the third text box, enter `Headline` to create the header title.
- Click Add. In Preview, the field 3 title has changed to Headline, and a new rule is added under Current Filter Rules.

- To change the header of the fourth column:
  - In the left-most drop-down list, select “Edit Record.”
  - Make sure the second drop-down list is set to “number.”
  - In the first text box, enter `1` to indicate the first record.
  - For Field, select “number.”
  - In the second text box, enter `4` to indicate the fourth column.
  - In the fourth drop-down list, select “value” from the “value/image” drop-down list.
  - In the third text box, enter `Source` to create the header title.
  - Click Add. In Preview, the field 4 title has changed to Source, and a new rule is added under Current Filter Rules.
- To change the header of the sixth column:
  - In the left-most drop-down list, select “Edit Record.”
  - Make sure the second drop-down list is set to “number.”
  - In the first text box, enter `1` to indicate the first record.
  - For Field, select “number.”
  - In the second text box, enter `6` to indicate the sixth column.
  - In the fourth drop-down list, select “value” from the “value/image” drop-down list.
  - In the third text box, enter `SourceURL` to create the header title.
  - Click Add. In Preview, the field 6 title has changed to SourceURL, and a new rule is added under Current Filter Rules.
- To change the header of the seventh column:

- In the left-most drop-down list, select “Edit Record.”
- Make sure the second drop-down list is set to “number.”
- In the first text box, enter `1` to indicate the first record.
- For Field, select “number.”
- In the second text box, enter `7` to indicate the seventh column.
- In the fourth drop-down list, select “value” from the “value/image” drop-down list.
- In the third text box, enter `Date` to create the header title.
- Click Add. In Preview, the field 7 title has changed to Date, and a new rule is added under Current Filter Rules.

- To include only columns 3, 4, and 7:
  - In the left-most drop-down list, select “Include field(s).”
  - Make sure the second drop-down list is set to “number.”
  - In the text box, enter `3,4,7` to indicate you want to include these columns (Headline, Source, and Date).
  - Click Add. In Preview, field 3, 4, and 7 are highlighted in blue, and a new rule is added under Current Filter Rules.
- To indicate that columns 2 and 6 are hidden from view:
  - In the left-most drop-down list, select “Include hidden field(s).”
  - Make sure the second drop-down list is set to “number.”
  - In the text box, enter `2,6` to indicate these columns (URL and SourceURL) should be hidden from view.
  - Click Add. In Preview, fields 2 and 6 are highlighted in green, and a new rule is added under Current Filter Rules.

14 Click Next to continue. The Window Preview window displays the modified table in the lower part of the screen. Only Headline, Source, and Date are displayed (3,4,7) in grid format.

15 In Element name, enter `TopNews` (no space) as the XML Element name.

16 Click Next to continue.

17 On the Continuous Capture window, click Finish since this feature is not included in this tutorial. The XML Element Definition wizard closes and the XML Element displays under the Element List in the Application Builder window.

18 In the Application Builder window, click Save.

19 In the Finish window, make this entry (accept all other defaults):

Content tab Name – enter `TopNews` (no space).

20 Click Finish.

21 Click OK to confirm.

22 Click Close in the upper-right corner to close Application Builder.

23 Click New under Application Manager Status in the middle pane. The TopNews application displays in the detail pane. Do not approve it yet.

❖ **Defining a click-across event**

In this step, define a server-side click-across event for the TopNews application that links the Headline field with the hidden URL field. You also use a grid rule formula to link the two fields.

1 Right-click TopNews in the detail pane, and select Define Events.

2 In the Define Click-Across Events window, click Select to the left of the data grid. The hidden fields (URL and SourceURL) are included in the grid.

3 Click Next to continue.

4 Under Assign An Event, enter these values:

- Row – enter `2-`. This places the event on record 2 to the last row, excluding the header. Alternatively you could enter `all` to include the header as well as all the rows.
- Column – enter `2` for Headline.
- Event Name – enter `url`. This event name is the display name of the Input Parameter you entered (`url=http://www.yahoo.com`) when you created NewsStory.
- With Drop Down List – select "Cell value (other cell)." A formula (`$R0F0`) displays in the formula box. `R0` indicates a row index, and `F0` indicates the field, or column, index.

- Formula Box – replace the default formula with `$R0F1` to indicate any row (`R0` indicates the current row being processed) and the first column of the row (`F1` indicates column 1) of the application. In this case, `$R0F1` links the hidden URL field (column 1) with Headline (column 2) to. See the *Unwired Accelerator Developer's Guide* for information about formulas in grid rules.
- Multi-value – leave unselected.
- Client-side – make sure the option is unselected to indicate the event is a server-side event. This option acts like a toggle. When the option is selected, it indicates a client-side event; when the option is not selected, it indicates a server-side event.
- Click Find Application to open the Search window, and click Search.
- In the Results pane, select NewsStory and select Add. The Search window closes and NewsStory displays in the Portlet Name field.

5 In the Assign An Event section, click Add. After a moment the second field in the grid is highlighted in blue to show the event is defined for the field. The fields are underlined indicating a link is established. This is the link to the hidden URL field.

6 Click Next to continue. A preview of the application for which the event was defined displays.

7 Click Finish to save the event definition to the application.

8 In Mobile Web Studio, approve the application:

- Right-click the TopNews application in the detail pane, and select Approval Status | Approved.
- Click OK to confirm.

9 Select Approved from the Application Manager Status menu. You see the NewsStory application in the detail pane.

❖ **Previewing the TopNews application**

1 Select the TopNews application in the detail pane, and click the Preview button. The Yahoo.com Web site displays in a window.

2 Select a Headline link.

3 Verify that the correct article displays.

4 Close the window.

Using the @OP tag to insert parameters

This tutorial introduces you to the basic process of using the @OP tag to insert a parameter. At runtime, the parameter is replaced with the data that you specify. The @OP tag is often used in SQL queries, as it allows an application to use parameterized queries. You can also use the @OP tag for HTML fields.

See the *Unwired Accelerator Developer's Guide* for information about grid rules, and using @OP tags in grid rules and with HTML.

Note When you create an application with input parameters, you must define a default value to register as click-across event listeners.

❖ **Creating a parameter using the @OP tag**

1 Log in to Mobile Web Studio.

2 Select Applications in the left pane, and click the New button to launch Application Builder.

3 In Application Builder, click the down arrow to the right of Add, and select Database Element.

4 On the Database Element Definition window:

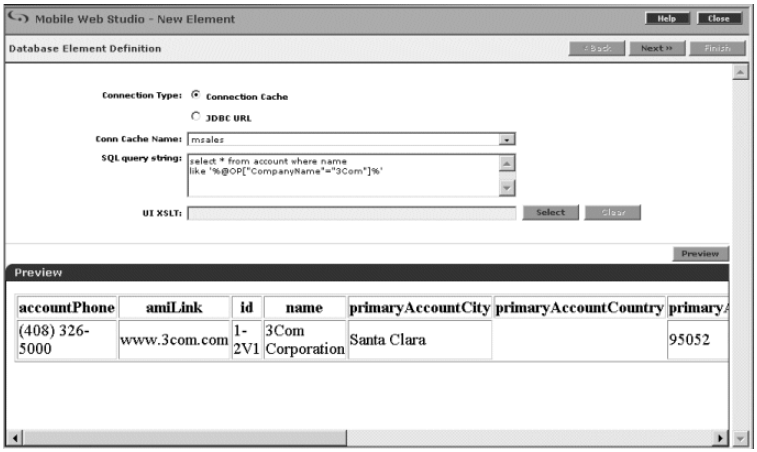
- Click the Connection Cache option.
- Conn Cache name – select `msales` from the drop-down list.
- SQL query string – enter:

```
select * from account where name like
'%@OP["CompanyName"="3Com"]%'
```

  This @OP tag creates a parameter named CompanyName and sets its default value to 3Com.

- Click the Preview button to test the database connection and the SQL command.

Figure 2-4: Database element definition



5 On the Database Element Definition window, click Next.

6 In the Split window, click Next to continue as we will not use this feature in this tutorial.

7 Use the Define window to identify record 1 as the header row. In the Define Record Layout section, click “Records contain labels,” accept the default `1` in the “Labels are displayed in Record” option, and click Next.

8 On the Filter window, click Next to continue as this feature is not used in this tutorial. The Configure Parameters window displays with a list of parameters used to capture the table.

9 On the Configure Parameters window:

- Clicking the Variable check box to the left of CompanyName exposes additional parameters.
- Make sure the Default Value is set to `3Com`, and click Next.

10 On Window Preview, enter `CompanyAccount` (no space).

11 Click Next.

12 On the Continuous Capture window, click Finish to complete the New Web Element window. Continuous Capture is not applicable to this tutorial. The New Web Element window closes.

13 On the Application Builder window, the `CompanyAccount` element displays in the Element List.

14 Click Save.

15 On the Finish window, make this entry (otherwise, accept the defaults):

Content tab Name – enter `CompanyAccount` (no space).

16 Click Finish to save the application.

17 Click OK to confirm.

18 In Application Builder, the CompanyAccount application displays in the detail pane.

19 In Company Name, enter part of a name of any other company or companies in the sample msales database and click Update. For example, enter `tech` to pull up all account records that have the string "tech" somewhere in the name field. Other examples you can enter include `store`, `oak`, `health`, `auto`, and `corp`.

20 Click Close in the upper-right corner to close Application Builder.

21 In Mobile Web Studio, approve the application:

- Click New under Application Manager Status in the middle pane. The CompanyAccount application displays in the detail pane.
- Right-click the CompanyAccount application, and select Approval Status | Approved.
- Click OK to confirm.

22 Select Approved from the Application Manager Status menu. You see the CompanyAccount application in the detail pane.

You can use multiple @OP tags simultaneously, as shown in this example SQL query that uses two @OP tags to perform a search based on a company name and a state.

```
select * from account where name like
'%@OP["CompanyName"="3Com"]%' and primaryAccountState
like '%@OP["State"="CA"]%'
```

If you use multiple @OP tags, additional parameters appear on the Configure Parameters window when you create the application.

When you create an application with input parameters, you must define default values to register as click-across event listeners.

CHAPTER 3

Creating a Multipage Mobile Application

This chapter shows how to create a multipage mobile application using several applications and events.

Overview

Mobile Web Studio enables you to create multiple-page mobile applications using a capability called click-across, which enables you to connect related or unrelated applications in a flow using events. An Event wizard guides you through defining events on the rows, columns, or cells in a grid application.

For example, in a human resources application that lists departments and department heads, you could click on a department name, such as Finance, to view a list of employees in the department, or click on a department head to view information about the department manager and about employees in the department.

See the *Unwired Accelerator Developer's Guide* for more information.

Multipage mobile application tutorial

This tutorial shows how to create a multiple-page mobile application. In the tutorial, you set up three applications—a master application, and two drill-down applications—that extract data from the sample database (sampledb). Then use the Event wizard to create two events—one for extracting department information and one for extracting employee information. Finally, use all the components to create a multiple-page mobile application that can be deployed to a mobile device. These tasks are described in these sections:

- "Creating multiple-page applications" on page 33
- "Creating events" on page 41

This procedure assumes you:

- Know how to log in to Mobile Web Studio.
- Know how to create and approve an application in Mobile Web Studio.
- Understand basic SQL syntax
- Understand how the @OP tag works as demonstrated in "Using the @OP tag to insert parameters" on page 27, and described in the *Unwired Accelerator Developer's Guide*.
- Are running the sampledb database. The example uses port 4747.

Note This tutorial uses a direct JDBC connection to sampledb when creating database elements. An alternate approach is to use connection cache with sampledb, which is demonstrated in "Mobile applications with transaction support tutorial" on page 62.

The advantage of connection caches is that connection details, such as JDBC connection string, user name and password, driver, and so on, are defined when the application server is set up and available to developers building JDBC applications. The disadvantage is that connection changes, which must be made through the application server, may cause applications to break.

In general, connection cache definitions are safer and easier to use, but if a connection to a database is required that is not available through a connection cache, you may have to either use the full JDBC specification, or to create the necessary connection cache definition through the application server.

Creating multiple-page applications

This procedure describes how to create the three applications needed for the multiple-page application example. You will set up a master application and two child, or drill-down, applications, using database elements that extract data from sampledb. The three applications are:

- SSCAMaster – displays a list of departments and department heads within an organization.
- SSCADepartment – displays the employees in a department. An @OP tag is defined so that a default Dept Name of “Shipping” is displayed if no other department name is returned from the database at runtime.
- SSCAEmployee – displays information about an employee. An @OP tag is defined so that a default Emp Name of “Fran Whitney” is displayed if no other employee name is returned from the database at runtime.

The completed example lets you click a department name to display a list of employees in the department, and click a department head name to display information about the employee.

You can click an employee to display details about that employee.

Creating the SSCAMaster application

The master application displays a list of departments within an organization. The application has two columns for department name, and department manager data.

❖ **Defining the SSCAMaster application**

1 Log in to Mobile Web Studio.

2 Select Applications from the Build menu in the left pane, select New under Application Manager, and click the New button to launch Application Builder.

3 Click the down arrow to the right of Add, and select Database Element.

4 In the Database Elements Definition window, enter the JDBC information. The JDBC connection allows the master application to access a database and extract specific database information. This example uses sampledb on port 4747.

   a Select the JDBC URL option.

b Complete these options:

- Username – enter `dba`, which is the ASA database user name.
- Password – enter `SQL`, which is the password used to access the ASA database.
- JDBC Connect URL – enter the URL used by JDBC to connect to the database:

```
jdbc:sybase:Tds:localhost:4747?ServiceName=sampledb
```

- JDBC driver – enter the JDBC driver used to connect to the database, in this case:

  ```
  com.sybase.jdbc2.jdbc.SybDriver
  ```

- SQL Query String – enter the following SQL code to select department heads for each department from sambledb:

  ```
  select d.dept_name as 'Dept Name',
  e.emp_fname + ' ' + e.emp_lname as 'Dept Head'
  from department d, employee e
  where d.dept_head_id = e.emp_id
  ```

- UI XSLT – leave this field empty.

5 Click Preview. A two-column table showing Dept Name and Dept Head displays in the Preview panel.

Dept Name	Dept Head
R & D	David Scott
Sales	Judy Snow
Finance	Mary Anne Shea
Marketing	Scott Evans
Shipping	Jose Martinez

Note If you click on the R & D row, the query does not work because of the "&".

6 Click Next. The Split window displays.

7 Click Next. The Define window displays.

8 Use the Define window to identify record 1 as the header row. In the Define Record Layout section, click "Records contain labels," accept the default `1` in the "Labels are displayed in Record" option, then click Next.

9 On the Filter window, click Next.

10 On the Configure Parameters window, click Next.

11 In Element Name, enter `SSCA Master`. Under Window Preview, notice the grid showing Dept Name and Dept Head.

Click Next.

12 On the Continuous Capture Page, click Finish.

13 On the Application Builder window, click Save.

14 In the Finish window, change this entry (accept all other defaults).

Content tab

- Name – enter `SSCAMaster` (no space).

15 Click Finish to save the application.

16 Click OK to confirm.

17 Click Close to exit the Application Builder.

18 In Mobile Web Studio, approve the application:

- Right-click the SSCAMaster application in the detail pane, and select Approval Status | Approved.
- Click OK to confirm.

19 Select Approved from the Application Manager Status menu. You see your newly approved SSCAMaster application in the detail pane.

Creating the SSCADepartment application

This procedure describes how to define the drill-down application named SSCADepartment. This application displays the employees in a department. The application uses an @OP tag to dynamically select rows from the database to replace the Dept Name parameter. See “Using the @OP tag to insert parameters” on page 27 for information.

❖ **Defining the SSCADepartment application**

1 In Mobile Web Studio, select Applications from the Build menu in the left pane, select New under Application Manager, and click the New button to launch Application Builder.

2 Click the down arrow to the right of Add, and select Database Element.

3 In the Database Elements Definition window, enter JDBC connection information needed for the application to access a database and extract specific database information.

This example uses sampledb on port 4747.

a Click the JDBC URL option button.

b Complete these options:

- Username – enter `dba`, which is the user name used to access the database.
- Password – enter `SQL`, which is the password used to access the database.
- JDBC Connect URL – enter the URL used by JDBC to connect to the database:

```
jdbc:sybase:Tds:localhost:4747?ServiceName=
sampledb
```

- JDBC driver – enter the JDBC driver used to connect to the database, in this case:

```
com.sybase.jdbc2.jdbc.SybDriver
```

- SQL Query String – enter the following SQL code to select department heads for each department from sampledb:

```
select e.emp_fname + ' ' + e.emp_lname
as Employee from employee e, department d
where e.dept_id = d.dept_id and
'@OP["Dept Name"="Shipping"]' = d.dept_name
```

Notice the use of the @OP tag. This indicates that the application uses a parameter (Dept Name) to replace the tag at runtime. If the parameter is not defined, the @OP tag is replaced by the default value, Shipping. This ensures that previews, where parameters may not be explicitly defined, result in some valid data being returned.

Note When you create an application with input parameters, you must define a default value to register as click-across event listeners.

- UI XSLT – leave this field empty.

4 Click Preview. A one column table showing Employee displays in the Preview panel.

Employee
Jeannette Bertrand
Jose Martinez
Jane Braun
Felicia Kuo
Charles Crowley
Joseph Barker
Anthony Rebeiro
Sheila Romero
Michael Lynch

5 Click Next. The Split window displays.

6 Click Next. The Define window displays.

7 On the Define window displays, identify record 1 as the header row. In the Define Record Layout section, click "Record Contains Labels," accept the defautl `1`, and click Next.

8 On the Filter window, click Next. The Configure Parameters window displays with a list of parameters.

9 On the Configure Parameters window, specify "Shipping" as the default Department Name for the @OP tag, and define Dept Name as the default value. Accept the defaults including:

- Variable – select the Variable option to the left of Dept Name. The variable moves to the bottom of the list.
- Display Name – accept Dept Name.
- Default Value – accept Shipping.
- Type – accept Text Field.

10 Click Next. The Window Preview displays.

11 In Element Name, enter `SSCA Department`. Under Window Preview, notice the grid showing Employee.

Click Next.

12 In the Continuous Capture Page window, click Finish.

13 When you return to the Application Builder, click Save.

14 In the Finish window, make this change (otherwise accept the defaults):

Content tab

- Name – enter `SSCADepartment` (no space).

15 Click Finish to create the application.

16 Click OK to confirm.

17 Click Close to exit the Application Builder.

18 In Mobile Web Studio, approve the application:

- Right-click the SSCADepartment application in the detail pane, and select Approval Status | Approved.
- Click OK to confirm.

19 Select Approved from the Application Manager Status menu. You see your newly approved SSCADepartment application in the detail pane.

Creating the SSCAEmployee application

Define the second drill-down application—SSCAEmployee. This application displays employee information. The application uses an @OP tag to dynamically select rows from the database to replace the Emp Name parameter.

❖ **Defining the SSCAEmployee application**

1 From Mobile Web Studio, select Applications from the Build menu in the left pane, select New under Application Manager, and click the New button to launch Application Builder.

2 Click the down arrow to the right of the Add button, and select Database Element.

3 In the Database Elements Definition window, enter JDBC connection information needed for the application to access a database and extract specific database information.

The values in the following example assume that sampledb has been started, and is accessible on port 4747.

a Click the JDBC URL option button.

b Complete these options:

- Username – enter `dba`, which is the user name used to access the database.
- Password – enter `SQL`, which is the password used to access the database.
- JDBC Connect URL – enter the URL used by JDBC to connect to the database:

```
jdbc:sybase:Tds:localhost:4747?ServiceName=sampledb
```

- JDBC driver – enter the JDBC driver used to connect to the database, in this case:

  ```
  com.sybase.jdbc2.jdbc.SybDriver
  ```

- SQL Query String – enter the following SQL code to select employees from sampledb. Cut and paste this code from the HTML version of this guide:

```
select 1 as ID, 'Employee ID' as Item,
convert(varchar(255), emp_id) as Data from employee e
where '@OP["Emp Name"="Fran Whitney"]' = emp_fname + ' ' + emp_lname

                    UNION

select 2 as ID, 'Employee Name', emp_fname + ' ' + emp_lname
from employee e where '@OP["Emp Name"="Fran Whitney"]' = e.emp_fname
+ ' ' + e.emp_lname

                    UNION

select 3 as ID, 'Manager Name', e2.emp_fname + ' ' + e2.emp_lname
from employee e, employee e2
where e2.emp_id = e.manager_id and '@OP["Emp Name"="Fran Whitney"]'
= e.emp_fname + ' ' + e.emp_lname

                    UNION

select 4 as ID, 'Dept Name', d.dept_name
from employee e, department d
where e.dept_id = d.dept_id and '@OP["Emp Name"="Fran Whitney"]' =
e.emp_fname + ' ' + e.emp_lname

                    UNION

select 5 as ID, 'Birthdate', convert(varchar(255), birth_date)
from employee e
where '@OP["Emp Name"="Fran Whitney"]' = e.emp_fname + ' ' +
e.emp_lname

                    order by 1
```

This includes the @OP tag, Emp Name, which sets the default value to Fran Whitney. In a later step, you will assign the default on the Parameter page to complete the process.

Note When you create an application with input parameters, you must define a default value to register as click-across event listeners.

4 Click Preview. A three-column table showing ID, Item, and Data displays in the Preview panel.

ID	Item	Data
1	Employee ID	102
2	Employee Name	Fran Whitney
3	Manager Name	David Scott
4	Dept Name	R & D
5	Birthdate	Jun 05 1959 12:00AM

5 Click Next. The Split window displays.

6 Click Next. The Define window displays.

7 Use the Define window to identify record 1 as the header row. In the Define Record Layout section, click “Records contain labels,” accept the default `1`, then click Next.

8 In the Filter window, define a filter that excludes column (field) 1.

- In the left-most drop-down list, select “Exclude field(s).”
- The second drop-down list is set to “number.”
- In the text box, enter `1` to exclude column 1.
- Click Add. In Preview, field 1 is highlighted in a contrasting color, and a new rule is added under Current Filter Rules.

Click Next.

9 When the Configure Parameters window displays, specify the @OP tag as an application parameter, and define Fran Whitney as the default value for Emp Name. Co. Select the Variable option to the left of Emp Name. The variable moves to the bottom of the list. Accept these defaults:

- Display Name – Emp Name.
- Default Value – Fran Whitney.

- Type – Text Field.

10 Click Next. The Window Preview displays.

11 In Element Name, enter `SSCA Employee`. Under Window Preview, notice the grid showing Item and Data.

Click Next.

12 On the Continuous Capture Page, click Finish.

13 When you return to the Application Builder window, click Save.

14 In the Finish window, make this change (otherwise accept the defaults).

Content tab

- Name – enter `SSCAEmployee` (no space).

15 Click Finish to create the application.

16 Click OK to confirm.

17 Click Close to exit the Application Builder.

18 When you return to the Mobile Web Studio main window, select New from the Application Builder Status menu. The SSCAEmployee application displays in the detail pane.

19 Right-click the SSCAEmployee application in the detail pane, and select Approval Status | Approved.

Click OK to confirm.

20 Select Approved from the Application Manager Status menu. You see the SSCAEmployee application in the detail pane.

Creating events

This section shows how to create events for the three applications you created in “Creating multiple-page applications” on page 33. The events link the master application with the two drill-down applications. This lets you view details obtained from the drill-down applications through the master application. You use the @OP tag to display default data if no data is available. These tasks are described in these sections:

- “Creating a link to department information” on page 42

- "Creating a link to employee information" on page 44

This procedure assumes you:

- Know how to log in to Mobile Web Studio.
- Have built the database applications described in "Creating multiple-page applications" on page 33.

Note If the user is deactivated or deleted, the Mobile Web Studio administrator must also locate the events the user created and delete them as well. See the *Unwired Accelerator Administration Guide* for user account information.

Creating a link to department information

In this procedure, create an event that links department information with the SSCAMaster application.

❖ **Creating an event for department information**

In this procedure, create an event that links department information with the SSCAMaster application.

1 From Mobile Web Studio, select Applications from the Build menu in the left pane, and select Approved under Application Manager.

2 From the list of approved applications that displays in the detail pane, right-click SSCAMaster and select Define Events.

The Define Click-Across Events window appears showing a grid with two columns – Dept Name and Dept Head.

3 Click Select to the left of the grid, then click Next.

The Preview window displays.

4 Look for the Assign an Event section of the window, and create a server-side event that associates the cells in column 1 (Dept Name) with the SSCADepartment application. To do so, make these changes (accept defaults for all others):

- Row – enter `2-` (a 2 followed by a dash, no space) to indicate every record from 2 to the last record, excluding the header). Alternatively you could enter `all` to place the event on the header as well as the records.

- Column – enter `1` to indicate only column 1 (Dept Name) is included.
- Event Name – enter `Dept Name`. This event name is used as the parameter name by the target application, in this case SSCADepartment.
- With – select "cell value (this cell)" from the drop-down list to indicate that the value associated with the event will be extracted from the cell itself.
- Multi-value – leave unselected.
- Client-side – make sure option is unselected to indicate the event is a server-side event. This option acts like a toggle. When the option is selected, it indicates a client-side event; when the option is not selected, it indicates a server-side event.
- Click Find Application to open the Search window. Click Search.
- In the Results pane, select the SSCADepartment application and click Add. This forms the event association between the SSCAMaster application and the SSCADepartment application.

  The Search window closes, and the application details are displayed.
- In the Assign An Event section, click Add. The values in column 1 are highlighted, and the event definition displays under Current Assigned Events.

5 Create a server-side event that associates the cells in column 2 (Dept Head) with the SSCAEmployee application. Under Assign Event For, complete these options:

- Row – enter `all`. This places the event on the header as well as the records; alternatively you can enter `2-` (a 2 followed by a dash, no space) to indicate every record from 2 to the last record, excluding the header).
- Column – enter `2` to indicate only column 2 (Dept Head) is included.
- Event Name – enter `Emp Name`. This event name is used as the parameter name by the target application, in this case SSCAEmployee.
- With – select "cell value (this cell)" to indicate that the value associated with the event is extracted from the cell itself.
- Multi-value – leave unselected.

- Client-side – the option is unselected to indicate the event is a server-side event. This option acts like a toggle. When the option is selected, it indicates a client-side event; when the option is not selected, it indicates a server-side event.

Note For mobile applications, you must always create a server-side event.

- Click Find Application to open the Search window. Click Search.
- In the Results pane, select the SSCAEmployee application and click Add.

  The Search window closes, and the application details are displayed.
- In the Assign Event section, click Add. The values in column 2 are highlighted, and the event definition displays under Current Assigned Events.

6 Click Next.

7 From the Preview window, click Finish.

8 To preview the multipage application, select Approved under the Application Manager Status menu, select the SSCAMaster application in the detail pane, and click the Preview button.

  You can try either link:

  - Under Dept Head, select an employee, such as Judy Snow. Judy's employee information displays. In Emp Name, type in an employee, such as Mary Anne Shea. Then close the window.
  - Under Dept Name, select a department link, such as Finance. Employees in the Finance department display. In Dept Name, type another department, such as Sales, and click OK to see employees in the Sales department. Then close the window.

9 Close the window to exit.

Creating a link to employee information

In this procedure, create an event that links employee information with the SSCAMaster application.

❖ **Creating an event for employee information**

In this procedure, create an event that links employee information with the SSCAMaster application.

1 From Mobile Web Studio, select Applications from the Build menu in the left pane, and select Approved under Application Manager.

2 From the list of approved applications that displays in the detail pane, right-click SSCADepartment and select Define Events.

The Define Click Across Events window appears showing a grid with one column – Employee.

3 Click Select to the left of the grid, then click Next. The Preview window displays.

4 Look for the Assign An Event section of the window, and create a server-side event that associates the cells in column 1 (Employee) with the SSCADepartment application. To do so, make these changes (accept the defaults for all others):

- Row – enter `2-` (a 2 followed by a dash, no space) to indicate every record from 2 to the last record, excluding the header). Alternatively, you can enter `all` to place the event on the header as well as the records.
- Column – enter `1` to indicate column 1 (Employee) is included.
- Event Name – enter `Emp Name`. This event name is used as the parameter name by the target application, in this case, SSCADepartment.
- With – select "cell value (this cell)" from the drop-down list to indicate that the value associated with the event is extracted from the cell itself.
- Multi-value – leave unselected.
- Client-side – this option is unselected to indicate the event is a server-side event. This option acts like a toggle. When the option is selected, it indicates a client-side event; when the option is not selected, it indicates a server-side event.

Note For mobile applications, you must always create a server-side event.

- Click Find application to open the Search window. Click Search.

- In the Results pane, select the SSCAEmployee application and click Add.

  The Search window closes, and SSCAEmployee is added to the Portlet Name field.

- In the Assign An Event section, click Add. The values in column 1 are highlighted, and the event definition displays under Current Assigned Events.

5 Click Next.

6 From the Preview window, click Finish.

7 To preview the application, select Approved under the Application Manager Status menu, select the SSCAMaster application in the detail pane, and click the Preview button.

- Click one of the links under Dept Name to view a list of employees in the department. For example, click Finance to view the employees in the Finance department.
- Click one of the links under Employee to view details about the selected employee. For example, click Felicia Kuo to view employee details about Felicia.
- In Employee Name, enter the manager's name, in this case Jose Martinez, and click OK to view details about her manager, Jose.
- Close the window.

CHAPTER 4

Creating a Mobile Application from an Existing Web Application

This chapter describes how to create a mobile application from a Web application using Mobile Web Studio.

Overview

The tutorials in this chapter are built on the concepts introduced in Chapter 2, “Getting Started.” New complexity is added, such as using the continuous capture feature, which enables you to capture a set of Web pages from a remote site and define how to extract the content for display. The tutorial guides you through creating a Web element, capturing a set of Web pages for a particular customer site in the CustomerView application, and generalizing the URL for any of the customer sites in the application.

See the *Unwired Accelerator Developer's Guide* for more information about the continuous capture feature, and grid rules.

Note When you create a continuous capture application and want to use parameters, create and save the application first, then edit the application to configure the parameters. Do not configure parameters during the original application creation.

Continuous capture tutorial

This tutorial guides you through building a drill-down application that captures a set of Web pages for two customer sites in the CustomerView application, and generalizing the URL for any customer site in the application. You can download the resulting application to a mobile device.

Note CustomerView provides examples for the tutorials, but is not a fully functioning application. Some records are not fully populated. Use the examples provided in the tutorials.

This tutorial assumes you know how to:

- Log in to Mobile Web Studio
- Create and approve an application in Mobile Web Studio

❖ **Building a drill-down application with continuous capture**

1 Log in to Mobile Web Studio.

2 Select Applications in the left pane, select New under Application Manager Status, and click the New button to launch Application Builder.

3 Click Add to create a Web Element. You see the New Web Element window.

4 Access the CustomerView application:

a In Location, enter the URL for the CustomerView application:

`http://`*`hostname`*`.`*`domain`*`:`*`port`*`/custview/Search.jsp`

- *hostname* – the machine where Unwired Accelerator is installed
- *domain* – the domain where Unwired Accelerator is installed
- *port* – the HTTP port on the machine used for Unwired Accelerator. For example:

```
http://lab2k.sybase.com:4040/custview/Search.jsp
```

For the tutorial, use the host name for the machine where your Mobile Web Studio is installed.

b Click Find or press Enter to display the CustomerView Login window.

c Enter your initials for User ID and password, and click Login. These values are ignored for the CustomerView sample application.

5 In CustomerView, select a customer site:

a Select the General Search tab, and look for the Search By Company Name section of the page.

b Enter `sybase` into the Company Name field. The search is case sensitive.

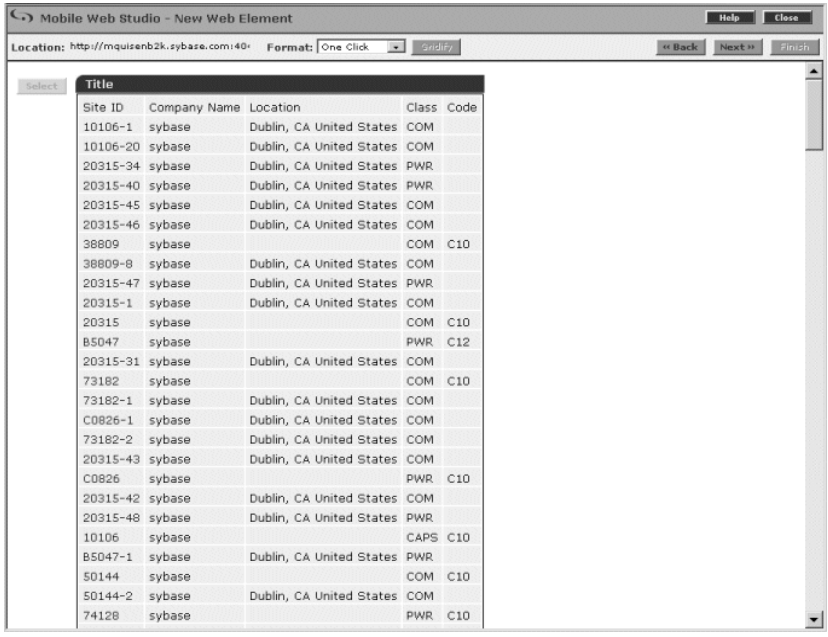
> **Note** For the CustomerView application, valid entries are `sybase`, `ianywhere`, and `ebank`.

c Click Find. The application displays a page showing customer sites.

d Click Next.

e Place the cursor over any site entry in the table, and click the mouse. The screen refreshes showing various presentation styles.

Figure 4-1: Presentation possibilities



f Click Select, then click Next. The Split window displays.

g Click Next to bypass the Split window. The Define window displays.

6 Use the Define window to identify record 1 as the header row. In the Define Record Layout section, click “Records contain labels,” accept the default `1`, then click Next.

7 On the Filter window, define a filter rule that only includes fields 1–3:

   a Under Add Filter Rule, select “Include fields” from the drop-down list.

   b Select “number” from the number/label drop-down list.

   c Enter `1-3` in the value field to indicate that you want to use only fields 1, 2, and 3 (Site ID, Company Name, and Location).

   d Click Add. Fields 1, 2, and 3 are highlighted in the Preview section, and the new rule appears under the Current Filter Rules section.

   e Click Next. The Configure Parameters window displays.

8 Click Next to bypass the Configure Parameters window. The Window Preview window displays.

9 In Element Name, enter `customerSites` (no space).

10 Click Next. The Continuous Capture window displays. You can finish the creation of this particular element, or proceed with defining one or more continuous capture pages for the element.

11 Click Continue, and OK in the pop-up window. The Defining Continuous Capture window displays, including the capture that you defined as the initial page.

12 Define a continuous capture page:

   a With Format set to One Click, click the link for Site ID 10106-1, then click Next. The profile for the selected link displays. This page enables you to select a desired feature on the captured page.

   b When the page reloads, move your mouse over the “Bill To or Sold To” area and click (a flag follows the cursor with abbreviated instructions). The screen refreshes showing various presentation styles.

c Choose Select to the left of the second style, which looks similar to the original, and then click Next.

The Continuous Capture window displays, this time showing the Continuous Capture definition. The window shows the capture level (in this case, 1), and the URL and corresponding CCL used to extract the requested feature.

Sample level 1 URL:

```
http://lab2k\.sybase\.com:4040/custview/
ReportBuilder\.jsp\?&customerNo=10106&siteId=1
&reportName=None
```

CCL found under the Capture Description column:

```
Cells( <?xml version="1.0"?><params><target
type=""/></params>, Feature (C1AAANCAABDA002,
Load("_0_", void)));
```

d Click Continue to define another continuous capture window.

e Define another continuous capture window using the same steps, starting with step 12. This time, capture the details for Site ID 20315-34.

Your window is similar to Figure 4-2 on page 52. This shows the two capture levels defined so far, and shows that both URLs map to the same CCL.

Figure 4-2: Continuous capture – URL-CCL mapping

f Click Generate URL Pattern. The two URLs are replaced with a single generalized URL, as are the two CCLs.

Sample URL (generalized from levels 1 and 2):

```
http://lab2k\.sybase\.com:4040/custview/
ReportBuilder\.jsp\?&customerNo=[^&#]*8siteID=
[^&#]*&reportName=None
```

CCL found under the Capture Description column (same):

```
Cells( <?xml version="1.0"?><params><target
type=""/></params>, Feature (C1AAANCAABDA002,
Load("_0_", void)));
```

The URL has been turned into a “regular expression” that matches on all customers and site IDs.

g Click Finish to return to the Application Builder window. In the left pane, the new customerSites application displays under Element List. In the detail pane, the three columns, Site ID, Company Name, and Location, are displayed.

13 Click Save.

14 On the Finish window, make these changes to configure the application (otherwise, accept the defaults):

Content tab Enter `customerSites` (no space).

Presentation tab Select the No Popup option.

Window Preview You can preview the format, but the links are not yet enabled.

Click Finish.

15 Click OK to confirm.

16 Click Close to close the New Application window.

17 In Application Builder, click Preview at the top of the page and test the application by clicking on any of the site ID links, such as 10106-1 or 20315-34. You should see details of the Bill To and Ship To page for the target site. Close the Preview window when you are finished.

18 Click Close to close Application Builder.

19 In Mobile Web Studio, approve the customerSites application:

- Right-click the customerSites application in the detail pane, and select Approval Status | Approved.
- Click OK to confirm.

20 Select Approved from the Application Manager Status menu. You see the customerSites application in the detail pane.

Working with grid rules

This section includes information about grid rules and some tutorials for working with grid rules. For application elements that generate grid style content (such as a database element or a Web element that is captured as a grid), you can define rules that alter the appearance and content of the grid. For example, you can use rules to filter out unwanted records or fields, and to display column header information. You have already worked with grid rules in previous tutorials. See the *Unwired Accelerator Developer's Guide* for more information.

Grid rules tutorial

This tutorial describes how to manipulate the information to include in an application, using grid rules:

- “Inserting a record” on page 54
- “Editing a record” on page 55
- “Inserting a field” on page 56

This tutorial assumes you have:

- Created and approved the customerSites application as described in “Continuous capture tutorial” on page 48.
- Read the grid rules information in the *Unwired Accelerator Developer's Guide*.

Inserting a record

In this tutorial, user the Filter wizard to insert a new record before an existing record in a grid.

❖ **Inserting a record**

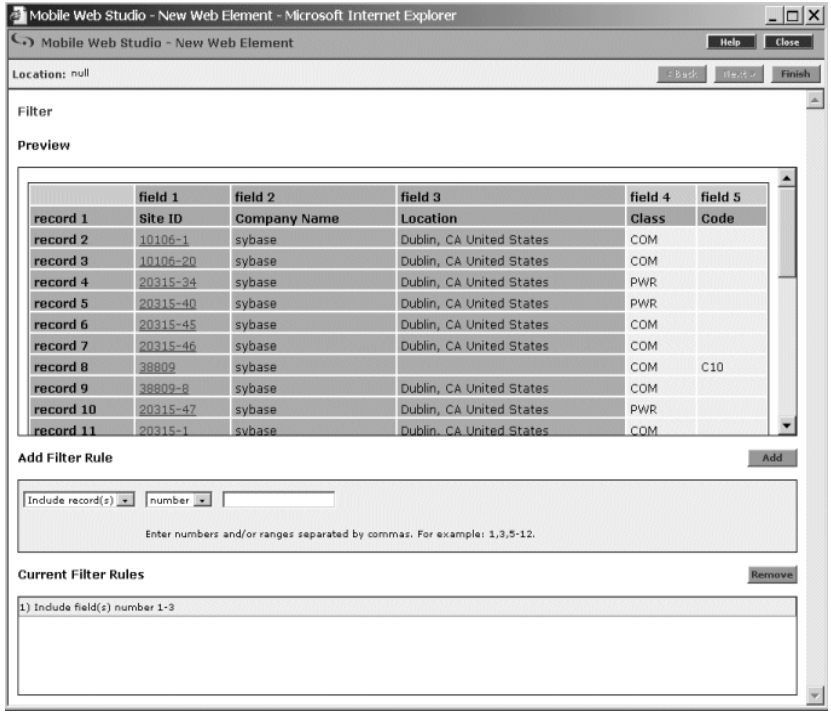
1 In Mobile Web Studio, access the customerSites application that you created in “Continuous capture tutorial” on page 48.

   a Select Applications in the left pane, select Approved under Application Manager Status.

   b Select customerSites in the detail pane, and click the Edit button to launch the Application Builder.

   c In Application Builder, select “customerSites” from the Element list, click the down arrow next to Edit, and double-click Filter Rules. The Filter window displays.

Figure 4-3: Inserting a record with filter parameters



2 In Add Filter Rule, insert a new record:

   a Select “Insert Record” from the drop-down list.

   b Select “before” from the “before/after” drop-down list to insert the record before an existing record.

   c Select “number” from the drop-down list to identify the existing record by number.

   d In the value field, enter `2` to insert the record before record 2.

   e Click Add. The Filter window is updated with the new rule, and a new record is inserted in the grid.

   Keep the Filter window open, and go to “Editing a record” on page 55.

Editing a record

In this tutorial, use the Filter wizard to add the title in the new row.

❖ **Editing a record**

1 In the Filter window, look for the Add Filter Rule section of the window.

2 Edit a record:

a Select Edit Record from the drop-down list.

b Select “number” from the drop-down list to identify the existing record by number.

c In the value field, enter `2` to edit record number 2.

d For field, select “number” from the “number/label” drop-down list to identify an existing field by number.

e In the value field, enter `1` to indicate field number 1.

f Select “value” from the “value/image” drop-down list to enter the value to appear in the field.

g In the value field, enter `Sybase Sites`.

h Click Add. The Filter window is updated with the new rule, and the new name displays in Record 2, Field 1.

Keep the Filter window open, and go to Inserting a field.

Inserting a field

In this tutorial, use the Filter wizard to insert a new field in an existing record.

❖ **Inserting a field**

These steps assume that Record 2, Field 1 has the words “Sybase Sites,” and the remaining fields in Record 2 are blank.

1 In the Filter window, look for the Add Filter Rule section of the window.

2 Insert a new field:

a Select Insert Field from the drop-down list.

b Select “before” from the “before/after” drop-down list to place the new field before an existing field.

c Select “label” from the “number/label” drop-down list to choose a label from a list of defined labels.

d Select Class from the drop-down list to insert the new field before the Class field.

e Click Add. The Filter window is updated with the new rule, and a new field is inserted in the grid before the Class field.

3 Click Finish to close the Finish window.

4 In the Application Builder, look for the customerSites element name in the left pane, and select "Content" from the drop-down list next to the customerSites element to add the element to the template.

5 Click Save in the Application Builder window to save the customerSites application, then click OK to confirm.

6 Optionally, you can click Preview to see your application. The new row, with Sybase Sites, is included, but the new column does not display because you did not change the grid rule to include columns 1 – 4. Close the Preview window when you are finished.

7 Click Close to close Application Builder.

Customizing mobile application templates

When you deploy mobile applications to a mobile device, such as a PDA, the embedded data displays in grid form. You can alter the look and feel of these grids using the Mobile Application Template Customization feature. This feature provides many options for presenting data on the PDA, including various color schemes, number of rows to display on each page, and so forth.

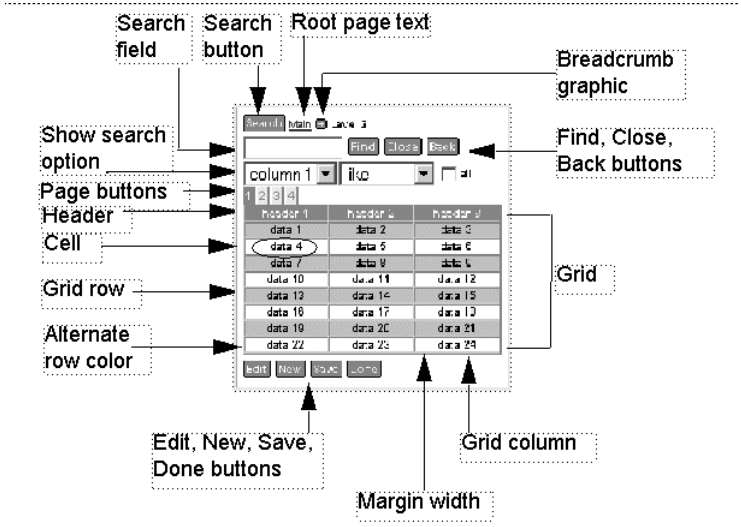
This section describes how to customize mobile application templates for PDAs such as PocketPC and Palm OS. See "Customizing online BlackBerry templates" on page 86 for template customization procedures for the BlackBerry device. See the *Unwired Accelerator Developer's Guide* for a full description.

Note Currently, only JSP templates are valid for mobile applications.

Customizing mobile application templates tutorial

This section shows how to customize mobile application templates, and to apply the template to an application for use on a mobile device. Figure 4-4 shows some of the template areas you can customize. The actual layout of mobile devices vary.

Figure 4-4: Template customizations



❖ **Customizing mobile application templates**

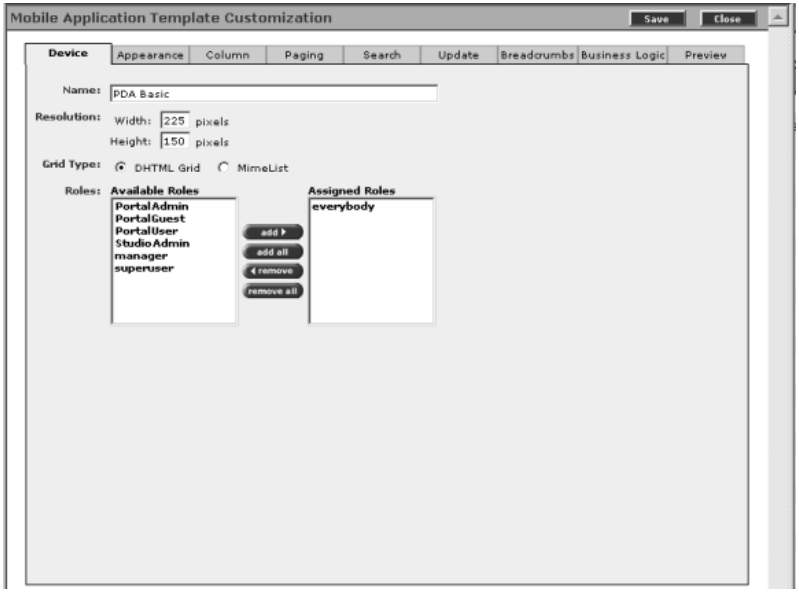
1 Log in to Mobile Web Studio.

2 Select Applications in the left pane, select the customerSites application under Application Manager | Approved, and click Edit to launch Application Builder.

3 In Application Builder, select PDA from the Device Type drop-down list to customize the PDA default template.

4 Click the down arrow next to the Template button, and select Mobile from the Template button drop-down list. The Mobile Application Template Customization window displays.

Figure 4-5: Mobile Application Template Customization window



5 In the Mobile Application Template Customization window, use the tabs to set the template parameters (accept all other defaults):

Device Change the template name, mobile application resolution, and assigned roles:

- Name – enter `PDA Blue`.
- Grid Type – select DHTML Grid for a standard HTML grid. (Alternatively, you could select MimeList to use the mimelist grid. MimeList has a simpler format, so fewer tabs and options display when you select the MimeList option).

Appearance Change the font color, font type, and font size for a mobile application.

- Font – select Trebuchet MS from the drop-down list.
- Color – change color #6B875D to #0066FF.
- Background Color – change color #6B875D to #0066FF.

- Even Row Background Color – change color #AEC6A2 to #99CCFF.

Note You can change the mobile application grid color property by entering a color Hexadecimal code (such as #6B875D) in the text box, or you can click the color palette next to the color properties, and select a color.

Paging Specify the number of data rows to display on the grid, and to define the appearance of the paging buttons.

- Font – select Trebuchet MS from the drop-down list.
- Active Button Color – change color #6B875D to #0066FF.
- CGI Param list – leave selected since this is a template.

Preview View a graphical representation of your template settings.

6 Click Save to save the customization properties to the PDA template assigned to this application.

7 Click OK to confirm.

8 Click Close to exit the Mobile Application Template Customization window.

9 Click Close to exit Application Builder.

CHAPTER 5

Creating a Multipage Mobile Application with Transaction Support

This chapter shows how to create a multipage mobile application with transaction support, and publish the application.

Overview

This chapter describes how to create mobile applications that provide transaction support. You can create a personalization key, which enables the user to personalize the application. You can create mobile applications to view and update data from a mobile device. To support transaction processing, you must create an update application that acts as a holding queue until results can be uploaded from or downloaded to the mobile device.

Mobile applications with transaction support tutorial

The tutorial shows you how to create a mobile application that supports transaction processing. In the tutorial, you set up a personalization key so you can sort customers by geographic region, an update application to hold updated data, a customer list application that selects customers from the sampledb database, and an employee list that selects sales representatives from sampledb. You also create a link from the customer list application to the update application, so changes you make to the customer list are held until they are uploaded, and a listener process that detects changes to a customer identifier.

Once these steps are finished, the tutorial leads you through creating the mobile application to view sales figures for each employee, by region and customer identifier, creating an event for the application, and publishing the event as a mobile application. Finally, you create a mobile application to update values from a mobile device.

The final application enables you to view a list of employees in the sales department with the total sales for each of their customers. Clicking on the customer ID shows the customer's name with the sales order of each product. There, the user can update the quantity requested for each of the products ordered.

These tasks are described in these sections:

This procedure assumes you:

- Know how to log in to Mobile Web Studio
- Know how to create and approve an application in Mobile Web Studio
- Understand basic SQL syntax
- Have sampledb running
- Have access to one of the following:
    - M-Business Anywhere

- Portal Interface
- Mobile device, or desktop simulator

Creating the application components

This section shows how to create the application components.

Creating a personalization key

Personalization allows you to configure application parameter input values to be filled in from adapters that extract values from other sources, for example, values that have been stored in the database. When you configure an application input field to use a personalization adapter, the adapter is invoked at runtime to provide values for preconfigured key fields. The input files of applications that belong to different users can receive input values based on each user.

To use personalization adapters, you must first create new key values for the adapter you want to use, and then create an application that provides input values using that key. This section shows how to create the personalization key "region," which enable the user to select a specific region—Western or Central—for which to display data.

❖ **Creating the personalization key**

1 From Mobile Web Studio, select Personalization in the left pane, select "database table" in the Personalize Manager pane, and click the New button.

2 In Create New Key:

   a Name – enter `region`.

   b Accept the defaults for all other options.

3 Click OK to save.

4 Click OK in the "Save Personalized Key successful" window. The New personalization key appears in the Key Name detail pane.

Creating an update application

This section shows hot to create an application that updates the database.

Note This tutorial demonstrates using connection cache to sampledb when creating database elements. An alternate approach is to use a direct JDBC connection to sampledb, as demonstrated in “Multipage mobile application tutorial” on page 32.

❖ **Creating the update application**

1 From Mobile Web Studio, select Applications in the left pane, select New in the Application Manager Status menu, and click the New button to launch Application Builder.

2 Create a database element:

a Click the down arrow to the right of Add, and select Database Element.

b On the Database Element Definition window, make sure the Connection Cache option is selected.

c In Conn Cache Name, select `sampledb` from the drop-down list.

d In SQL Query String, enter this query for update (you can copy and paste this code from an electronic source):

```
update sales_order_items set quantity =
@OP["quantity"="13"]where id = @OP["id"="-1"]
and prod_id = @OP["prod_id"="-1"]
```

Note This SQL code updates the database, so no preview is available.

e Click Next. The Split window displays.

f Click Next. The Define window displays.

g Click Next. The Filter window displays.

h Click Next. The Configure Parameters window displays, with a list of the parameters used to create the database table.

i On the Configure Parameters window, make these modifications (accept the defaults for all others):

- Quantity – click the Variable box, and select ‘update” from the Kind drop-down list.

- Click the Variable box next to the other two parameters and accept the defaults.

j Click Next. The Window Preview window displays.

k In Element Name, enter `updateOrder`.

l Click Next. The Continuous Capture window displays.

m On Continuous Capture, click Finish.

3 In Application Builder, click Save.

4 In the Finish window, make this change (accept the defaults for all others):

Content tab Name – enter `updateOrder` (no spaces).

5 Click Finish.

6 Click OK to confirm.

7 Click Close to exit the Application Builder.

8 When you return to the Mobile Web Studio main window, select New from the Application Builder Status menu. The updateOrder application displays in the detail pane.

9 In Mobile Web Studio, right-click the updateOrder application in the detail pane, and select Approval Status | Approved.

Click OK.

10 Select Approved from the Application Manager Status menu. You see the newly approved updateOrder application in the detail pane.

Creating a customer list

This section shows how to create the customer list application. You will create another database element using the same sampledb connection, but with a different SQL query. You will also link the customer list to the update application, and establish a listener for the cust_id field.

❖ **Creating the customer list**

1 In Mobile Web Studio, select Applications in the left pane, New in the Application Builder Status menu, and click the New button.

2 In Application Builder, click the down arrow to the right of Add, and select Database Element.

3 On the Database Element Definition window, define the database element:

a Make sure the Connection Cache option is selected.

b In Conn Cache Name, select sampledb from the drop-down list.

c In SQL query string, enter this query:

```
set rowcount 10
select c.fname as customer_fname , c.lname as customer_lname, si.id,
si.prod_id, p.name, si.quantity
from customer c, sales_order s, sales_order_items si, product p
where c.id =@OP["cust_id"="101"] and s.id = si.id and si.prod_id =
p.id and s.region ='@OP["region"="Western"]'set rowcount 0
```

d Click Preview to make sure these columns are included: customer_fname, customer_lname, id, prod_id, name, and quantity.

4 Click Next. The Split window displays.

5 Click Next. The Define window displays.

6 Use the Define window to identify record 1 as the header row. In the Define Record Layout section, click “Records contain labels.”

The “Labels are displayed in Record” option displays. Accept the default `1` and click Next.

7 In the Filter window, click Next. The Configure Parameters window displays.

8 On the Configure Parameters window, make these modifications (accept the defaults for all others):

- Region – click the Variable box and make these changes:

  Default Value – enter `Western,Central` (no spaces).

  Type – choose “Select” from the drop-down list, and click Add. The Edit Default Value window displays.

  - In the first row, Western displays for both Display Name and Value.
  - In the second row, Central displays for both Display Name and Value.
  - Click OK to accept the values, and close the widow.

  Personalize – choose “database table” from the drop-down list.

Key – `region` displays as the personalization key (you created the region key in "Creating a personalization key" on page 63). If a different key displays, select "region" from the drop-down list.

- Cust_id – click the Variable box and accept the defaults:

  Default Value – accept `101` as the default value for this parameter.

  Type – accept Text Field from the drop-down list.

9 Click Next. The Window Preview window displays.

10 In Element Name, enter `customerOrder` (no spaces).

11 Click Next. The Continuous Capture window displays.

12 In the Continuous Capture window, click Finish.

13 In Application Builder, click Save to save the changes.

14 In the Finish window, make this change (otherwise accept the defaults):

Content tab

- Name – enter `customerOrder`.

15 Click Finish.

16 Click OK to confirm.

17 Click Close to exit the Application Builder.

18 When you return to the Mobile Web Studio main window, select New from the Application Builder Status menu. The customerOrder application displays in the detail pane.

19 In Mobile Web Studio, right-click the customerOrder application in the detail pane, and select Approval Status | Approved.

Click OK to confirm.

20 Select Approved from the Application Manager Status menu. You see your newly approved customerOrder application in the detail pane.

21 Optionally, select customerOrder, and click Preview.

In region, select Central from the drop-down list and click OK. The first customer ID value changes from 2020 to 2006.

In cust_id, enter 102 and click OK. The customer name changes from Michaels to Beth. (Other customer IDs include `103`, `104`, and so forth).

Creating a link between applications

This section shows how to link the update application (updateOrder) with the customer order application (customerOrder). This link enables you to update or edit some of the values in the customerOrder list when it is deployed to a mobile device. In this case, the Quantity variable was set to “update” in updateOrder, so the Quantity column can be updated.

❖ **Creating a link to the update application**

1 In Mobile Web Studio, select Applications in the left pane, and Approved in the Application Builder Status menu.

2 Select customerOrder in the detail pane and click Edit.

3 In Application Builder, click Properties. The Properties Editor displays.

4 In Properties Editor, make these changes (otherwise accept the defaults):

Mobile tab Make this entry:

- Linked Applications – identify the application to which to link by clicking the Add button to launch the Find Application window.

  On Find Application window, click Search to locate and select updateOrder, and click Add. The Find Application Window closes and updateOrder displays under Linked Applications.

  Under Action type, select Update from the drop-down list.

Data Validation tab •Set up data validation for the Quantity field.

- Linked Applications – select Update from the drop-down list. Additional parameters display.
- Linked Application for Update – the application name you entered on the Content tab, `updateOrder`, displays.
- Field Name – the update field you specified in the SQL statement, `quantity`, displays.
- Common Expressions – select Number Only from the drop-down list. The expression `^[0-9]*$` displays in the Validation Expression box.
- Test – tests the expression you entered. The Regular Expression Tester window displays.

  In Test Value, enter `10`, then click Test. The Test Result field displays `Valid`.

In Test Value, enter `ten`, then click Test. The Test Result field displays `Invalid`.

Click Save and the window closes.

- Detailed Instructions – optionally enter instructions for the user, such as `Enter the quantity`.
- Error Message – optionally enter a brief error message, such as `Numbers only`.

Click OK to save, and close the Properties Editor.

5 On the Application Builder window, click Save to save the changes, and OK to confirm.

6 Click Close to close Application Builder.

Creating an employee list

This shows how to create an employee list application. The employee list shows total sales figures for each sales representatives, using information in sampledb. This will be the master application.

❖ **Creating the employee list of sales reps**

1 In Mobile Web Studio, select Applications in the left pane, New in the Application Builder Status menu, and click the New button.

2 In Application Builder, click the down arrow to the right of Add, and select Database Element.

3 On the Database Element Definition window, define the database element:

a Select the Connection Cache option.

b In Conn Cache Name, select sampledb from the drop-down list.

c In SQL query string, enter this query:

```
set rowcount 10
select e.emp_id, e.emp_fname, e.emp_lname,
s.cust_id,  (soi.quantity * p.unit_price) as
sales_total from employee e, sales_order s,
sales_order_items soi, product p where e.emp_id
= s.sales_rep and s.id = soi.id and soi.prod_id
= p.id and s.region = '@OP["region"="Western"]'
set rowcount 0
```

d Click Preview and make sure these columns are included: emp_id, emp_fname, emp_lname, cust_id, and sales_total.

4 Click Next. The Split window displays.

5 Click Next. The Define window displays.

6 On the Define window, select the "Records Contain Labels" checkbox, in "Labels are Displayed in Record" accept the default `1`.

7 Click Next. The Filter window displays.

8 Click Next. The Configure Parameters window displays.

9 On the Configure Parameters window, make these modifications (otherwise accept the defaults):

- region – click the Variable box, and make these changes:

  Default Value – enter `Western,Central` (no spaces).

- Type – choose "Select" from the drop-down list and click Add. The Edit Default Value window displays.

  In the first row, Western displays for both Display Name and Value.

  In the second row, Central displays for both Display Name and Value.

  Click OK to accept the values and close the window.

- Personalize – choose "database table" from the drop-down list.

  Key – `region` displays as the personalization key (you created region in "Creating a personalization key" on page 63). If a different key displays, select "region" from the drop-down list.

10 Click Next. The Window Preview window displays.

11 In Element Name, enter `employeeSales`.

12 Click Next. The Continuous Capture window displays.

13 Click Finish.

14 In Application Builder, click Save to create the application.

15 On the Finish window, make these changes (otherwise accept the defaults):

Content tab In Name, enter `employeeSales` (no spaces).

Mobile tab Select the Offline BlackBerry checkbox, then click Finish.

16 Click OK to confirm.

17 Click Close to close Application Builder.

18 When you return to the Mobile Web Studio main window, select New from the Application Builder Status menu. The employeeSales application displays in the detail pane.

19 In Mobile Web Studio, right-click the employeeSales application in the detail pane, and select Approval Status | Approved.

Click OK to confirm.

20 Select Approved from the Application Manager Status menu. You see your newly approved employeeSales application in the detail pane.

Creating an event for employeeSales

In this step, create an event for the customerOrder application. The event links the cust_id field in employeeSales to the customerOrder application. The employeeSales application is the master application, and the customerOrder application is the linked, or child, application.

❖ **Creating an event for employee sales**

1 In Mobile Web Studio, select Applications in the left pane, and Approved in the Application Builder Status menu.

2 From Application Builder, right-click employeeSales in the detail pane, and select Define Events.

3 On the Define Click-Across Events window, click Select next to the grid format, and click Next. The Preview window displays.

4 In Preview, link cust_id in column 4 to the customerOrder application. Under Assign An Event:

a Row – enter `2-` (a 2 followed by a dash, no space) to indicate every record from 2 to the last record, excluding the header). Alternatively, you could enter `all`, to place the event on the header as well as the records.

b Column – enter `4` to indicate column 4 (cust_id).

c Event Name – enter `cust_id` as the event name.

d Multi-value – unselect this option.

e Client-side – unselect this option to indicate this is a server-side click-across event.

f Click Find Application. In the Search window, click Search and select the customerOrder application, then click Add. The window closes and customerOrder displays in the Portlet Name field.

g In Assign An Event, click Add. Column 4 is now selected and a new rule is added under Current Assigned Events.

5 Click Next. The Preview window displays.

6 Click Finish.

Publishing and viewing employeeSales

This section shows how to deploy the employeeSales application to Portal Interface. Portal Interface is a useful test and debug tool. The same mechanism used to deploy to Portal Interface is used to deploy to mobile devices with Pocket Internet Explorer.

- If you are deploying to mobile devices using M-Business Anywhere server, see Chapter 6, “Deploying Applications to Mobile Devices” for information and additional tutorials.

Note To export an application to M-Business Anywhere, the application can contain only one element; multiple-element applications are not compatible as mobile applications.

- If you are deploying to BlackBerry devices using BlackBerry Enterprise Server, instead of M-Business Anywhere server, see Chapter 7, “Deploying Applications to BlackBerry Devices” for information and additional tutorials.

Deploying the mobile application

This section shows how to deploy the employeeSales application to the Portal Interface.

❖ **Deploying the application to Portal Interface**

1 Create a mobile application group:

a From Mobile Web Studio, click M-Business in the Manage menu. The M-Business Manager menu displays.

b Select Group Applications | Groups, and click New.

c On the New Group window, enter:

- Name – enter `SalesPI`.
- Description – enter `SalesRepsPI`.
- Type – choose "Optional" from the drop-down list.

Click OK to save, and click OK to confirm. The window closes.

2 From Mobile Web Studio, select Applications in the left pane, and Approved in the Application Builder Status menu. Approved applications display in the detail pane.

3 In the detail pane, right-click employeeSales and select M-Business | Create Mobile Application.

4 On the New Mobile Application window, define the mobile application:

a In Group, select the "SalesPI" group from the drop-down list.

b Click OK to save.

c Click OK to confirm. The window closes.

5 From Mobile Web Studio, click Pages in the Build menu and Approved in the Page Manager Status menu. The Page Manager window displays.

6 In Page Manager, add the employeeSales application to the DefaultPage:

a In Page Builder, select DefaultPage.

b Click Edit, click Add, click Search, select employeeSales, and click Add. The employeeSales application is listed under the Welcome application. The page layout is 50/50.

c Click Save in the upper left corner, and click OK to confirm.

d Click Close to close Page Builder.

e In the list of Approved pages, right-click the DefaultPage and select Update Users. Click OK in the next two confirmation pop-ups.

The application is now available when you log in to the Portal Interface, or available for download to mobile device.

Trying out the employeeSales application

In this step, try out the employeeSales application from the Portal Interface. The application enables you to view sales figures for each sales representative, by region and customer identifier.

❖ **Using the mobile application in Portal Interface**

1 Access Portal Interface by opening another browser session and navigating to:

`http://`*hostname.domain:port*`/onepage/mpindex.jsp`

2 Click Join Now to set up a new account. See the *Portal Interface User's Guide* for information about Portal Interface and accounts.

3 Log in using the new account. The DefaultPage displays. You see the Welcome window and the employeeSales application.

4 Try out the employeeSales application. For convenience, maximize the window. By default, "Western" is selected in the region drop-down list.

   a With Western selected for the region, click OK. Sales representatives in the Western region display. You can see their sales figures.

   b Click the 119 link to display information about one of Philip Chin's customers. Customer information displays for Thomm Smith.

   c In cust_id, enter 120 and click OK to see customer information for Gertrude Stein.

   d Select "Central" from the region drop-down list, enter 101 in cust_id, and click OK. Data for Michael Devlin displays.

   e Click the Sybase logo in the upper left corner to return to the employeeSales application.

   f Select "Central" from the region drop-down list and click OK. Sales representatives in the Central region display. You can see their sales figures.

5 Personalize the region parameter to only display customers in the Central region:

   a Click My Info, and select the Personalize tab.

   b Region key – enter `Central`.

   c Click Done.

6 Try out the employeeSales application again:

a Click the Sybase logo in the upper-left corner to return to the employeeSales application.

b Click the region drop-down list and notice that only Central is included.

c Click Log Out in the upper-right corner when you are finished. The Portal Login window displays.

CHAPTER 6

Deploying Applications to Mobile Devices

This chapter describes how to deploy applications from Mobile Web Studio to mobile devices using M-Business Anywhere.

Overview

Use M-Business Anywhere to deploy mobile applications to PDA, such as Palm OS or Pocket (for BlackBerry devices, see Chapter 7, “Deploying Applications to BlackBerry Devices”). The M-Business option on Mobile Web Studio enables you to deploy applications using channels or group applications, and to manage user accounts through these menu options:

- Managing channels – create, edit, and delete M-Business Anywhere channels for Web content, organized by categories, or public channels.
- Managing group applications – create, edit, and delete M-Business Anywhere groups to manage how you assign channels to your users.
- Managing users – create, edit, and delete M-Business Anywhere users from Mobile Web Studio.

Deploying to a PDA tutorial

This tutorial shows you how to deploy mobile applications to a PDA. This tutorial uses the `employeeSales` application you developed in Chapter 5, "Creating a Multipage Mobile Application with Transaction Support."

Note To export an application to M-Business Anywhere, the application can contain only one element; multiple-element applications are not compatible as mobile applications.

This tutorial assumes you:

- Have M-Business Anywhere server and client software installed and configured, as described in the *Unwired Accelerator Installation Guide*
- Have M-Business Anywhere server running
- Know how to log in to Mobile Web Studio
- Have completed all steps in Chapter 5, "Creating a Multipage Mobile Application with Transaction Support" to create and approve the employeeSales application.

Publishing the mobile application

In this step, publish the employeeSales application. Once published, the application is available for use on a PDA. The application enables you to view sales figures for each employee, by region and customer identifier.

❖ **Creating an M-Business Anywhere user**

1 From Mobile Web Studio, select Manage | M-Business, and select Users in the M-Business Manager pane. User name information displays in the detail pane.

2 Click New in the toolbar. In the New User window, create the new user:

- User name – enter your initials (required field).
- First Name – enter your initials.
- Last Name – enter your initials.
- Password – enter `password` (required field).
- Confirm Password – enter the password again to confirm (required).

Click OK to save the new user.

3 In the confirmation pop-up window, click OK. The new user displays in the User Name list.

Note See the *Unwired Accelerator Installation Guide* or *Unwired Accelerator Administration Guide* for information about and guidelines for working with M-Business Anywhere users through Mobile Web Studio.

❖ **Creating a mobile application group**

Next, create a mobile application group, and associate the user with the group.

1 From Mobile Web Studio, click M-Business in the Manage menu. The M-Business Manager menu displays.

2 Select Group Applications | Groups, and click New.

3 Create a mobile application group:

- Name – enter `Sales`.
- Description – enter `Sales representatives`.
- Type – choose "Optional" from the drop-down list.
- Click OK to save, and click OK to confirm. The window closes.

Note Group applications are described in detail in the *Unwired Accelerator Administration Guide*.

❖ **Deploying the Sales application**

Deploy the mobile application to M-Business Anywhere.

1 From Mobile Web Studio, select Applications in the left pane, and Approved in the Application Builder Status menu. Approved applications display in the detail pane.

2 In the detail pane, right-click employeeSales and select M-Business | Create Mobile Application.

3 On the New Mobile Application window, define the mobile application:

a In Group, select the "Sales" group from the drop-down list.

b Click OK to save.

c Close the window.

The application is now available when you synchronize your mobile device.

Trying out the employeeSales application

In this step, try out the employeeSales application from a mobile device, such as Palm OS or PocketPC, or a mobile device simulator.

❖ **Using the mobile application on a PDA**

You can use a mobile device, such as M-Business Client, or a mobile device simulator if your SDK includes one.

1 Perform a synchronization to your mobile device.

2 On the mobile device, you should see the employeeSales_app in the subscribed group list.

3 Click the employeeSales_app link to view the mobile application. Information displays for the sales representative, Phillip Chin. The Central region is selected by default.

4 Click one of the customer identifiers in the cust_id column to access detailed customer order information. For example, click 136 to see detailed sales information about one of Chin's customers.

5 Return to the main page.

6 From the drop-down list, select Western to access records in the Western region.

7 Try another record.

CHAPTER 7

Deploying Applications to BlackBerry Devices

This chapter provides special instructions for working with applications to be deployed to the RIM BlackBerry, for use in online or offline modes.

Overview

Unwired Accelerator enables you to create applications specifically tailored for use on BlackBerry devices. For the applications you create in Mobile Web Studio, you can specify the columns to display in list view, and in the drill-down detail view; and you can customize the BlackBerry display template for all applications or for particular applications. You can also create applications using non-grid data as a source.

Note Unwired Accelerator has limited support for non-tabular data.

When applications are deployed to the BlackBerry device, you can easily synchronize application data, delete unwanted applications and data, update data, view high-level list and drill-down detail data, and sort data.

BlackBerry applications tutorial

This tutorial shows you how to use Mobile Web Studio to set up applications for use on BlackBerry devices. Topics include:

This tutorial assumes you:

- Know how to log in to Mobile Web Studio
- Know how to create and approve an application in Mobile Web Studio
- Have created the CurrencyTable application described in "Creating a basic application" on page 14.
- Have created the employeeSales application described in "Mobile applications with transaction support tutorial" on page 62.
- Have created the SSCAMaster application described in "Creating multiple-page applications" on page 33.

Setting up applications for the BlackBerry device

This describes how to set up applications to be accessible on the BlackBerry device, in offline mode and online mode.

❖ **Setting up applications for BlackBerry (offline mode)**

1 In Mobile Web Studio, select Applications from the Build menu in the left pane, select Approved under Application Manager, and select the CurrencyTable application you created in "Creating a basic application" on page 14.

2 Click Edit.

3 In the Application Builder, select Properties. The Properties Editor displays.

4 In Properties Editor, click the Mobile tab, and select "Offline BlackBerry," which makes this application viewable on a BlackBerry device during synchronization.

Note Select "Offline BlackBerry" only for the master application, not its linked applications.

5 Click OK and save the application.

6 In the Application Builder, click Preview. The CurrencyTable application displays in the Preview panel.

7 Click Close to exit Application Builder.

8 On the Mobile Web Studio window, there is now a check mark for the application in the Offline column. This column shows whether an application has been activated for BlackBerry offline.

To try out the application on your BlackBerry device or simulator, see "Retrieving applications on the BlackBerry device" on page 90.

❖ **Setting applications for BlackBerry (online mode)**

1 In Mobile Web Studio, create a page for the Currency application:

- Select Pages in the left pane, and click the New button.
- Click Add.
- Click Search.
- Select CurrencyTable, and click Add.
- Click Save.
- For Name, enter `Currency`, and click Add All to select all roles.
- Click OK to save, then click OK to confirm.
- Click Close to exit the Page Builder window.
- Approve the Currency page (click New under Page Manager, right-click Currency, select Status | Approved, and click OK to confirm).

2 Create a page group using the Currency page:

- Select Page Groups in the left pane, and click the New button.
- Click Add.
- Click Search.
- Select Currency, then click Add.
- Click Save.
- Enter `Currency` for name, and select Add All for both Navigation Styles and Roles.
- Click OK to save, then OK to confirm.
- Click Close to exit the Page Group Builder window.

- Approve the Page Group (click New under Page Group Manager, right-click Currency; select Status | Approved, then click OK to confirm).

3 Deploy the page group:

- Select Page Group, and Approved.
- Select Currency in the detail pane.
- Click Update, then click OK twice to confirm.

4 If you have not already done so, set up a Portal Interface user account for the page group:

a Open a second Internet Explorer window, and enter the following in the Location field:

`http://`***`hostname`***`.`***`domain`***`:`***`port`***`/onepage/mpindex.jsp`

b Click Join Now, and set up the account using your initials for the member name and password, and PortalUser for the role.

c Log out of Portal Interface.

Establishing list and detail settings

This section describes how to set up list and detail settings for applications that are to be deployed to a BlackBerry device.

❖ **Setting up list and details settings for an application**

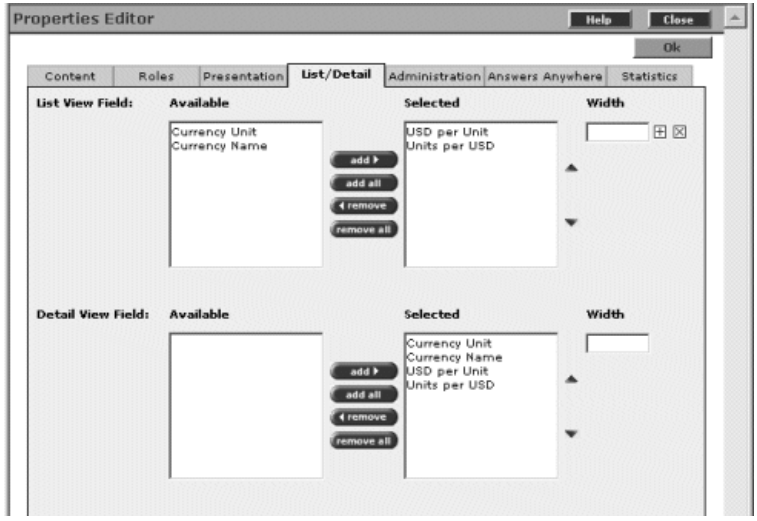
1 In Mobile Web Studio, select Applications from the Build menu in the left pane, select Approved under Application Manager, and select the CurrencyTable application.

2 Click Edit. The Application Builder displays.

3 In the Application Builder, select Properties.The Properties Editor opens.

4 Select the List/Detail tab. The List/Detail tab is used to identify the columns to include in the list view and in the detail view. By default, all columns are in the Selected list, indicating all columns will be displayed in the list and detail views on the BlackBerry.

5 For List View Field, select Currency Unit and Currency Name, and click Remove to move them from the Selected list to the Available list. On the BlackBerry, USD per Unit and Units per USD will be displayed in the list view.



6 In the Detail view, change the order of the columns to display by selecting Units Per USD, and using the up arrow to move it to the first position, after Currency Unit. The first entry in the Selected list is the first column to display on the BlackBerry screen.

7 Change the display width of a column:

- In List View, select USD per Unit, enter 5 (for five characters wide) in the Width field, and click the plus button.

8 Click OK to save and close the Properties Editor window.

9 In Application Builder, click Save to save the changes to the application, and OK to confirm.

10 Close Application Builder.

Customizing online BlackBerry templates

This section describes how to customize templates for applications that are to be deployed to a BlackBerry device and used in online mode. You can modify the basic BlackBerry template, or create various templates.

Note You can convert unstructured data to a grid format using JSP, and then apply the BlackBerry template.

❖ **Customizing BlackBerry templates for online mode**

Note Menu items vary according to the version of the BlackBerry wizard you are using. This procedure shows examples using version 3.7.

---

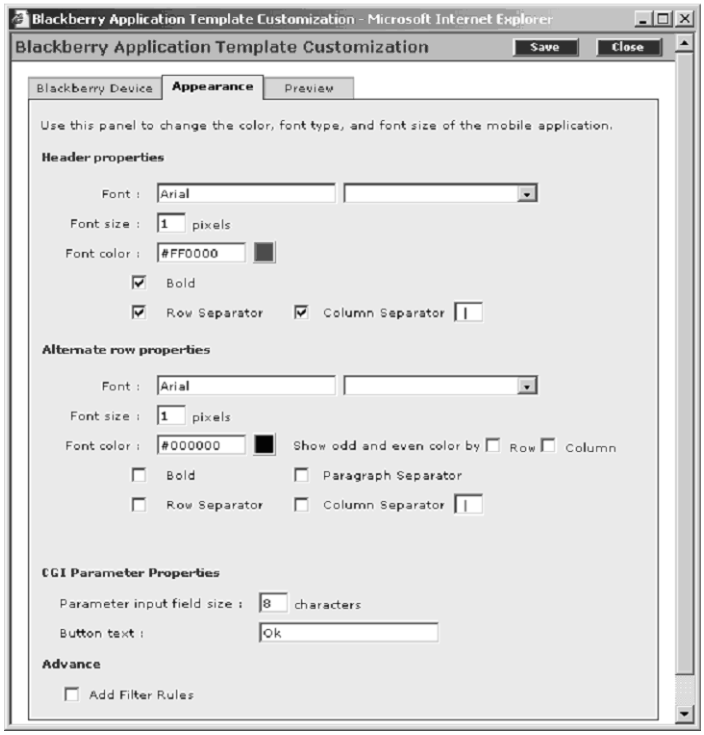
1. In Mobile Web Studio, select Template in the left pane, and Approved under Template Manager Status.
2. Click the New button to start Template Upload.
3. On the Template Upload, click Wizard, and select BlackBerry.
4. In the BlackBerry Application Template Customization editor, make these selections to change the header appearance (otherwise accept the defaults):

   BlackBerry Device tab In Name, enter `BlackBerry2`.

   Appearance tab Under Header Properties, make these changes to the header appearance:

   - Change Font Size to 3.
   - Enter #FF0000 for Font Color.
   - Select Bold.
   - Select Row Separator, to add a horizontal spacing line below the header.

- Select Column Separator, to separate each header's column with a symbol, and accept "|" to use a vertical line.



5 Click the Preview tab to preview the changes.

6 Return to the Appearance tab, and make these changes to the row appearance:

Appearance tab Under Alternate Row Properties, make these changes to data rows appearance (accept the defaults for all others):

- Select Show Odd and Even Color by Row.
- Enter #336600 for Even Row Color.
- Enter 00CC66 for Odd Row Color.
- Select Row Separator to add a horizontal spacing line below rows.
- Select Paragraph Separator to add a space between each row.
- Select Column Separator to separate each row's column with a symbol, and enter "|" to use a vertical line.

Preview tab Click Preview to see the changes you made.

Apply the BlackBerry2 template to applications that you plan to deploy to the BlackBerry device. Once you apply the template to an application and synchronize your BlackBerry device, the new template is used on the application.

7 Click Finish.

8 On Template Upload, select Add All roles.

9 Click Save, and OK to confirm.

BlackBerry device tutorial

This tutorial shows how to use the Unwired Accelerator client on the BlackBerry device. Topics include:

This tutorial assumes you:

- Have the M-Business Anywhere server and client installed and configured as described in the *Unwired Accelerator Installation Guide* (or, have the BlackBerry Enterprise Server and Desktop client software installed and configured).

  Alternatively, you can use the RIM BlackBerry simulator with these tutorials. See the *Unwired Accelerator Installation Guide* for information about obtaining the simulator from Research in Motion.

- Have the Unwired Accelerator offline client software installed on your BlackBerry device or BlackBerry simulator as described in the *Unwired Accelerator Installation Guide*

- Have an Unwired Accelerator user account, based on `masuper/m8super`, set up for the BlackBerry device as described in the *Unwired Accelerator Installation Guide*

Retrieving applications on the BlackBerry device

This section describes how to retrieve applications on the BlackBerry device by synchronizing with M-Business Anywhere server or BlackBerry Enterprise Server. You can synchronize all applications or individual applications.

Note You can synchronize applications that have structured grid data, and unstructured grid data. In some cases, applications with unstructured grid data may not display on the BlackBerry device. See "Handling non-grid data" on page 92 for additional information.

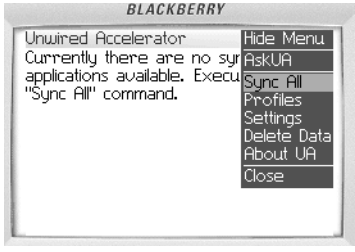
❖ **Retrieving applications on a BlackBerry device**

1 The Unwired Accelerator BlackBerry client must be running on the device (you should see the UA icon included in the application menu).

2 Select the UA icon to access the Unwired Accelerator offline client.

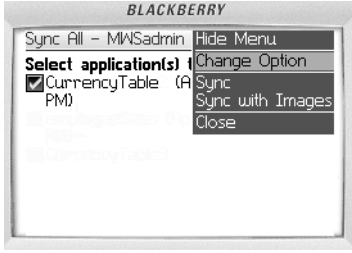
3 Select a user profile by selecting Profiles from the trackwheel menu, selecting a profile, setting it as active, and selecting Close from the trackwheel menu to exit. This example uses the `masuper/m8super` account.

4 Select Sync All from the trackwheel menu.



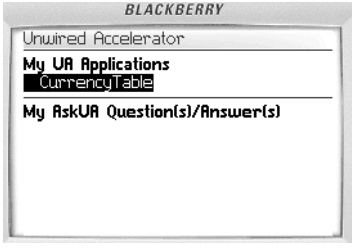
A list of available applications displays.

5 Select the CurrencyTable application, select Change Option from the trackwheel menu, and select the application. A check mark displays to the left of the application. (If you have multiple applications, you can repeat this step to select several individual applications to sync).



6 Select Sync from the trackwheel menu. The selected applications are synchronized. During the synchronization process, status messages display to keep you informed of the progress.

7 Select OK when the Sync Completed messages displays. The selected applications appear under My UA Applications.



8 Select CurrencyTable, and select Open from the trackwheel menu.

The list view displays when the application is running. The two columns you elected to display in list view—USD per Unit and Units per USD—are shown.

9 To view more details of a column, select a row, and select “Details” from the trackwheel menu.

The detail view displays. The four columns you selected to display in detail view are shown.

Handling non-grid data

This section describes how to handle applications that use non-grid (or unstructured) data, such as a graphic, a PDF file, or a search window. After synchronization, when you select an application that uses non-grid data, the BlackBerry client launches the BlackBerry browser to display its contents. The BlackBerry client requires online connectivity to retrieve the applications content. If you are offline, establish connectivity and then retrieve the application.

Note Unwired Accelerator has limited support for non-grid data.

❖ **Handling non-grid data**

1 If you open a non-grid application, the BlackBerry browser launches within the BlackBerry client so you can view the application.

2 When you are finished, select Close from the trackwheel menu. The BlackBerry browser closes, and you to return to the BlackBerry client.

Deleting applications and data

This section describes how to clear persistent applications and data that are stored in memory on the device, not the source applications or data. This is useful to free memory and space.

❖ **Clearing out applications and data**

1 Select Delete Data from the trackwheel menu.

2 Select Delete All.

Note You can use the Sync All option later to retrieve the Unwired Accelerator applications, using procedures in “Retrieving applications on the BlackBerry device” on page 90.

3 Select Yes to confirm.

Using drill-down applications on the BlackBerry device

This section describes how to use drill-down applications on a BlackBerry device.

❖ **Using drill-down applications on BlackBerry**

Drill-down applications are also known as server-side click-across applications.

1. In Mobile Web Studio, select Applications from the Build menu in the left pane, select Approved under Application Manager, and select the SSCAMaster application to make available on the BlackBerry device.
2. In Mobile Web Studio, set the SSCAMaster application to be "Offline BlackBerry."
3. On the BlackBerry device, sync the application as described in "Retrieving applications on the BlackBerry device" on page 90.
4. Select a record, and select "Click Thru" on the trackwheel menu. (If an application does not show the Click Thru menu option, it was not created as a server-side click-across application).

   The list view displays the first available link on the application. A breadcrumb trail displays at the top of the grid.

   You can also perform a "Click Thru" from the detail view of a grid row. This displays as an underline text.

Sorting on the BlackBerry device

This section shows how to sort within an application on the BlackBerry device.

❖ **Sorting in BlackBerry applications**

1. In Mobile Web Studio, select Applications from the Build menu in the left pane, select Approved under Application Manager, and select the CurrencyTable application.
2. If you have not already done so, in Mobile Web Studio, set the CurrencyTable application to be "Offline BlackBerry."
3. On the BlackBerry device, sync the application.
4. Access a record, and display the trackwheel menu.

5 Under Sort Column, select “Units per USD.” The first time you sort a selected column, it sorts in ascending order. The next time you sort the same column, it sorts in descending order.

6 Select “USD per Unit” to resort.

Updating applications on the BlackBerry device

This section describes how to update an application from the BlackBerry device.

❖ **Updating applications on BlackBerry**

1 In Mobile Web Studio, select Applications from the Build menu in the left pane, select Approved under Application Manager, and select the employeeSales application.

2 In Mobile Web Studio, set the application to be “Offline BlackBerry.”

Note Select “Offline BlackBerry” only for the master application, not its linked applications. For example, you would select “Offline BlackBerry” for the employeeSales application (the master application), but not the customerOrder application (its linked, or “child” application).

3 On the BlackBerry device, sync the application.

4 Open the application.

5 Highlight a record, and select Click Thru from the trackwheel menu.

6 Highlight a line item, and select Edit from the trackwheel menu.

7 On the Update Record window, select Clear Field from the trackwheel menu, and enter `10` to change the Quantity value.

If you had set up data validation, as described in “Creating an update application” on page 64, you would receive a custom error message if you tried to enter an invalid entry.

8 Select Save from the track wheel menu, and save the change.

9 Open the Sales application again, and check the record and line item. You see the new value in the quantity column.

Note The changes made affect only the persistent data on the device, not in the source data source. The next time you sync this application, the changes will take effect on the Unwired Accelerator server.

CHAPTER 8

Creating a Multipage Mobile Charting Application

This chapter shows how to create a mobile application from a chart.

Overview

You can create drill-down charts that use server-side click-across to link multiple charting applications together into a cohesive application.

Note Unwired Accelerator introduces limited device detection for charting applications. To support viewing charting applications on mobile devices with small screens, Unwired Accelerator uses screen resolution detection to alter the resulting chart dimensions. Charting application dimensions are resized only if the device sends the resolution in the HTTP request headers. If there are no resolution headers, the charting application uses the dimensions defined in the charting wizard.

Charting tutorial

To illustrate the use of drill-down charts using server-side click-across, this section contains procedures to create a table of data with the stock market's most active stocks and use drill-down charting to get the quote page with details of a selected stock. The information is presented in a bar chart.

To create a drill-down charting application for two chart applications, there must be a relationship between the category or series names of the first chart and the parameters used in defining the second chart's data source.

❖ **Creating the StockDetails application**

1 Log in to Mobile Web Studio.

2 Select Applications from the Build menu in the left pane, select New from the Application Manager Status menu, then click the New button to launch the Application Builder.

3 Click Add.

4 When the New Web Element window appears, in location, enter `http://finance.yahoo.com/`, and click Find or press Enter.

5 When the Yahoo Finance Web site displays, type `SY` in the Enter Symbol field below the Today in Finance title bar, and click GO.

6 Verify that One Click is selected as the Format, and click Next.

7 Place the cursor over the Last Trade cell and click the mouse. The window refreshes displaying various presentation possibilities.

8 Click Select, then click Next.

9 On the Split window, click Next to bypass the options.

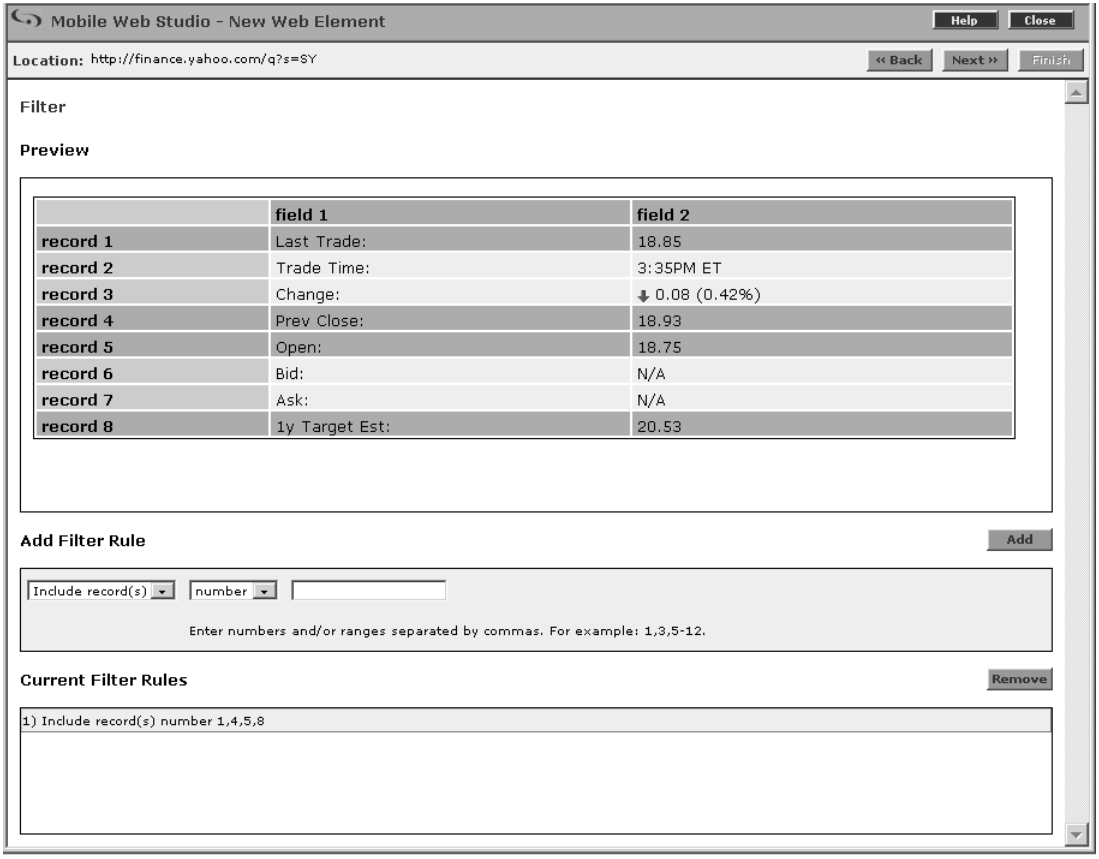
10 On the Define window, click Next to bypass the options.

11 On the Filter window, in the Add Filter Rule section, add a rule to include only rows 1, 4, 5, and 8:

- In the left-most drop-down list, select "Include record(s)."
- Make sure the second drop-down list is set to "number."

- In the text box, enter `1,4,5,8` to indicate you only want to include these records.
- Click Add. In Preview, the records Last Trade, Prev Close, Open, and 1 Yr. Target Est. are highlighted in blue, and a new rule is added under Current Filter Rules.

The result looks similar to this image.



12 Click Next.

13 On the Configure Parameters window, select the Variable option for the "s" parameter and complete these options for that parameter (accept the defaults for all others):

- Display Name – enter `symbol`.
- Default Value – accept `SY`.

- Type – select None.

Click Next.

14 On the Window Preview, enter `StockDetails` (no space) for the element name and click Next.

15 On the Continuous Capture window, click Finish because you do not want to perform a continuous capture.

16 In the Application Builder, click Save to create the application.

17 On the Finish window, make this change (accept the default for all others):

Content tab

- Name – enter `StockDetails` (no space).
- In Context – select this option.

Click Finish, and click OK to confirm.

18 Click Close to close the Application Builder.

19 In the Mobile Web Studio main window, select New from the Application Manager Status menu, then right-click the StockDetails application in the details pane and select Create Chart. The Create Chart window displays.

20 Under Choose a Selection, click Select, then click Next.

21 Complete the following options in the Select Chart Type window:

- Chart Title – enter `StockDetails`.
- Chart Height – change this value to 300, since PDA screens are only 320 pixels high.
- Chart Width – change this value to 200, since PDA screens are only 240 pixels wide.
- Font Name – accept the default of SansSerif.
- Chart Legend – select None from the drop-down list.
- Chart Output – accept the default of JPEG.

Note If you are using Pocket Internet Explorer, you can use Flash. Otherwise, you must use JPEG.

- Chart Type – select Bar Chart.

Click Next to continue.

22 On the Create Chart window, look for the Chart Parameter section, and set these options:

- X-Axis Label – enter `Time` to establish a label for the row.
- Y-Axis Label – enter `Value` to establish a label for the column.
- Category Labels – select "Column 1" from the drop-down list.
- Show Values – select this option.
- Series 1 Data – select "Column 2" from the drop-down list.
- Series 1 Name – accept the default, since the legend is set to None.
- Series 1 Color – select "Blue" from the drop-down list.

Click Next to continue.

23 In the Preview window, you see a stock details bar chart in blue, with labels for Value and Time.

Click Finish to save the application, and click OK to confirm.

24 In Mobile Web Studio, click New under Application Manager Status. The StockDetails application displays in the detail pane.

25 Approve the application:

- Right-click the StockDetails application in the detail pane, and select Approval Status | Approved.
- Click OK to confirm.

26 Select Approved under Application Manager Status and verify the StockDetails application displays.

❖ **Creating the Most Actives stock application**

1 In Mobile Web Studio, select Applications from the Build menu in the left pane, select New from the Application Manager Status menu, then click the New button to launch the Application Builder.

2 Click Add.

3 When the New Web Element window appears, enter `http://finance.yahoo.com/` in the Location field and click Find or press Enter.

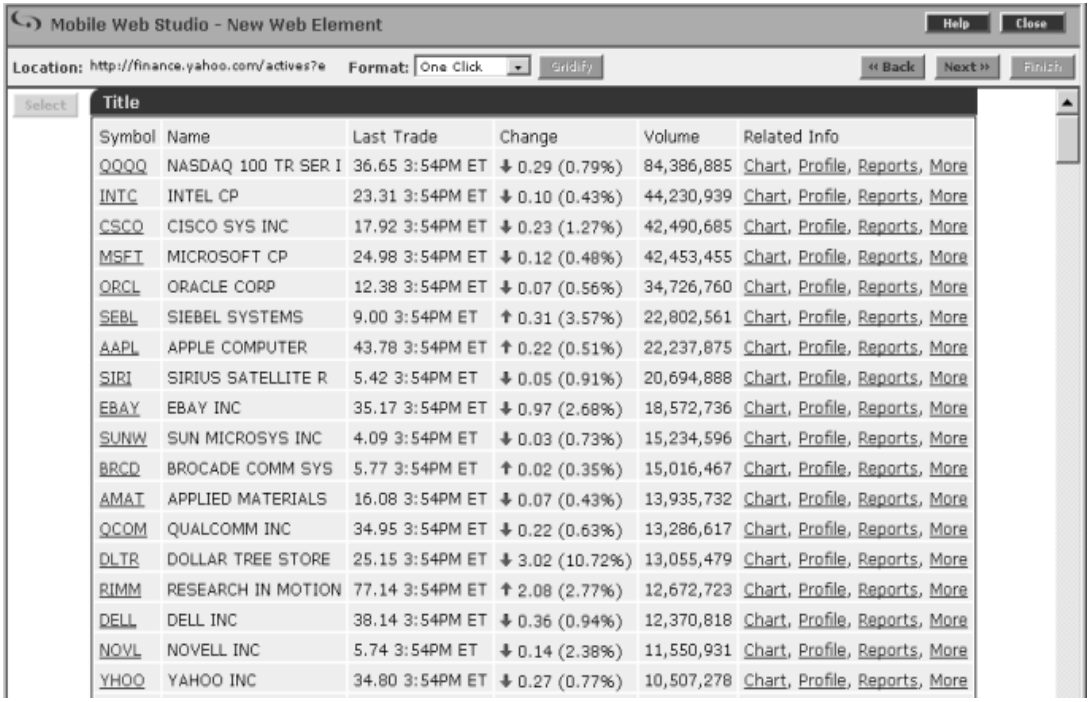
4 When the Yahoo Finance Web site displays, click the Most Actives link, located in the left column below Market Summaries and above Investing.

Note You cannot perform this capture until the stock market is open.

5 Verify that One Click is selected as the Format, and click Next.

6 Perform a one-click capture on the Most Actives stock table by clicking on Symbol (the cursor flag provides instructions). The window displays various presentation styles.

7 Click Select to the left of the first grid, which should look like the capture option shown below, and then click Next.



Symbol	Name	Last Trade	Change	Volume	Related Info
QQQQ	NASDAQ 100 TR SER I	36.65 3:54PM ET	↓ 0.29 (0.79%)	84,386,885	Chart, Profile, Reports, More
INTC	INTEL CP	23.31 3:54PM ET	↓ 0.10 (0.43%)	44,230,939	Chart, Profile, Reports, More
CSCO	CISCO SYS INC	17.92 3:54PM ET	↓ 0.23 (1.27%)	42,490,685	Chart, Profile, Reports, More
MSFT	MICROSOFT CP	24.98 3:54PM ET	↓ 0.12 (0.48%)	42,453,455	Chart, Profile, Reports, More
ORCL	ORACLE CORP	12.38 3:54PM ET	↓ 0.07 (0.56%)	34,726,760	Chart, Profile, Reports, More
SEBL	SIEBEL SYSTEMS	9.00 3:54PM ET	↑ 0.31 (3.57%)	22,802,561	Chart, Profile, Reports, More
AAPL	APPLE COMPUTER	43.78 3:54PM ET	↑ 0.22 (0.51%)	22,237,875	Chart, Profile, Reports, More
SIRI	SIRIUS SATELLITE R	5.42 3:54PM ET	↓ 0.05 (0.91%)	20,694,888	Chart, Profile, Reports, More
EBAY	EBAY INC	35.17 3:54PM ET	↓ 0.97 (2.68%)	18,572,736	Chart, Profile, Reports, More
SUNW	SUN MICROSYS INC	4.09 3:54PM ET	↓ 0.03 (0.73%)	15,234,596	Chart, Profile, Reports, More
BRCD	BROCADE COMM SYS	5.77 3:54PM ET	↑ 0.02 (0.35%)	15,016,467	Chart, Profile, Reports, More
AMAT	APPLIED MATERIALS	16.08 3:54PM ET	↓ 0.07 (0.43%)	13,935,732	Chart, Profile, Reports, More
QCOM	QUALCOMM INC	34.95 3:54PM ET	↓ 0.22 (0.63%)	13,286,617	Chart, Profile, Reports, More
DLTR	DOLLAR TREE STORE	25.15 3:54PM ET	↓ 3.02 (10.72%)	13,055,479	Chart, Profile, Reports, More
RIMM	RESEARCH IN MOTION	77.14 3:54PM ET	↑ 2.08 (2.77%)	12,672,723	Chart, Profile, Reports, More
DELL	DELL INC	38.14 3:54PM ET	↓ 0.36 (0.94%)	12,370,818	Chart, Profile, Reports, More
NOVL	NOVELL INC	5.74 3:54PM ET	↓ 0.14 (2.38%)	11,550,931	Chart, Profile, Reports, More
YHOO	YAHOO INC	34.80 3:54PM ET	↓ 0.27 (0.77%)	10,507,278	Chart, Profile, Reports, More

8 On the Split window, notice that Column 3 includes several values—trade and time. Split Column 3 into separate columns to accommodate each value:

- In the left drop-down list, select Column No..
- Enter `3` in the text box.

- In the second drop-down list, select Space.
- Click Add. The Preview section shows the changes, and a new rule is added.

Click Next.

9 On the Define window, click Next to bypass the option.

10 On the Filter window, in the Add Filter Rule section, set the following:

- "Include record(s)" and "number", enter `2-6` in the text field, and click Add;
- "Include field(s)" and "number", enter `1,3` in the text field, and click Add.

Click Next.

11 On the Configure Parameters window, click Next to bypass the options.

12 In Window Preview window, enter `Most Actives` for the Element Name, and click Next.

13 On the Continuous Capture window, click Finish.

14 On the Application Builder, click Save to create the application.

15 In the Finish window, change:

Content tab

- Name – enter `Most Actives`.
- In Context – select this option.

Click Finish, then click OK to confirm.

16 Click Close to close the Application Builder.

17 On the Mobile Web Studio main window, select New from the Application Manager Status menu.

18 Right-click the Most Actives application in the details pane and select Create Chart.

19 On the Create Chart window, click Select, and click Next.

20 Complete the following options in the Select Chart Type window:

- Chart Title – enter `Most Actives`.
- Chart Height – change this value to 300, since PDA screens are only 320 pixels high.

- Chart Width – change this value to 200, since PDA screens are only 240 pixels wide.
- Font Name – accept the default of SansSerif.
- Chart Legend – select None from the drop-down list.
- Chart Output – accept the default of JPEG.
- Chart Type – select Bar Chart.
- Create An Image Map – select this option. Several additional options display when this option is selected.
- Category Event Name – enter `symbol`, which is the name of the parameter in the StockDetails application.

  Accept the default options that are selected below the Category Event Name.
- Series Event Name – enter `nothing`. While this is a required value, we are not using it, hence the value "nothing".

  Accept the default options that are selected below the Series Event Name.
- Client Side – make sure this option is not selected (unchecked).

21 Click Find Application.

22 When the Search window displays, click Search, select the StockDetails application in the Results pane, then click Add. The Name, Resource ID, and Window ID of the associated application display.

23 Click Next to continue.

24 In the Chart Parameters window, complete these options:

- X-Axis Label – enter `Stock` to establish a label for the row.
- Y-Axis Label – enter `Volume` to establish a label for the column.
- Category Labels – select Column 1 from the drop-down list.
- Show Values – select this option.
- Series 1 Data – select "Column 2" from the drop-down list.
- Series 1 Name – accept the default, since the legend is set to None.
- Series 1 Color – select "Blue" from the drop-down list.

Click Next to continue. The Most Actives chart displays in the Preview window.

25 In the Preview window, click Finish.

26 In the Mobile Web Studio main window, right-click the Most Actives application in the detail view and select Approval Status | Approved.

27 When you see the confirmation that the application was saved successfully, click OK.

❖ **Previewing the drill-down chart application**

1 Select Approved from the Application Manager Status menu.

2 Select the Most Actives application in the detail pane and click Preview.

3 Click one of the bars in the bar chart. You see the StockDetails charting application with a bar chart for the selected company.

Note The Most Actives application is used in "Composite application tutorial" on page 107.

CHAPTER 9

Creating a Composite Application

This chapter describes how to create a composite application from several applications.

Overview

The Composite Application Builder enables you to build composite applications that support the navigation of structured and aggregated mobile applications pages running in connected mode.

Composite application tutorial

The tutorial shows you how to use the Composite Application Builder to create a composite application comprised of three new applications, and the Most Actives application you created in Chapter 8, “Creating a Multipage Mobile Charting Application.”

❖ **Creating and approving the MostActives application**

1 From Mobile Web Studio, select Applications in the Build menu in the left pane, select New under Application Manager, and click the New button to launch Application Builder.

2 In Application Builder, click Add to launch the New Web Element window.

3 In Location, enter the following URL, and click Find or press Enter:

```
http://finance.yahoo.com/actives?e=o
```

4 Click Next in the top right portion of the New Web Element window.

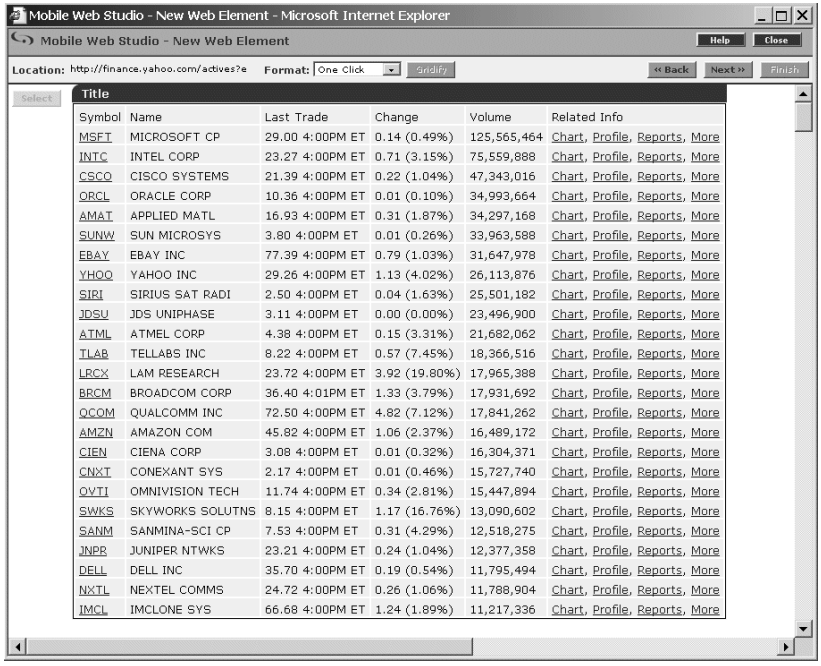
5 Perform a one-click capture by moving your mouse over the six-column Volume Leaders table under U.S. Most Actives table, and clicking the mouse once (a flag follows your cursor with abbreviated instructions).

Note The Web site changes periodically. If you do not see the six-column table with data, close the window and repeat the previous steps until you do, otherwise the tutorial will not work.

You see a preview page where you select how much content to display.

6 Click the Select button next to the six-column data grid, (you can use the scroll bar to scroll through the various options).

Figure 9-1: Selecting the most active stocks grid



Symbol	Name	Last Trade	Change	Volume	Related Info
MSFT	MICROSOFT CP	29.00 4:00PM ET	0.14 (0.49%)	125,565,464	Chart, Profile, Reports, More
INTC	INTEL CORP	23.27 4:00PM ET	0.71 (3.15%)	75,559,888	Chart, Profile, Reports, More
CSCO	CISCO SYSTEMS	21.39 4:00PM ET	0.22 (1.04%)	47,343,016	Chart, Profile, Reports, More
ORCL	ORACLE CORP	10.36 4:00PM ET	0.01 (0.10%)	34,993,664	Chart, Profile, Reports, More
AMAT	APPLIED MATL	16.93 4:00PM ET	0.31 (1.87%)	34,297,168	Chart, Profile, Reports, More
SUNW	SUN MICROSYS	3.80 4:00PM ET	0.01 (0.26%)	33,963,588	Chart, Profile, Reports, More
EBAY	EBAY INC	77.39 4:00PM ET	0.79 (1.03%)	31,647,978	Chart, Profile, Reports, More
YHOO	YAHOO INC	29.26 4:00PM ET	1.13 (4.02%)	26,113,876	Chart, Profile, Reports, More
SIRI	SIRIUS SAT RADI	2.50 4:00PM ET	0.04 (1.63%)	25,501,182	Chart, Profile, Reports, More
JDSU	JDS UNIPHASE	3.11 4:00PM ET	0.00 (0.00%)	23,496,900	Chart, Profile, Reports, More
ATML	ATMEL CORP	4.38 4:00PM ET	0.15 (3.31%)	21,682,062	Chart, Profile, Reports, More
TLAB	TELLABS INC	8.22 4:00PM ET	0.57 (7.45%)	18,366,516	Chart, Profile, Reports, More
LRCX	LAM RESEARCH	23.72 4:00PM ET	3.92 (19.80%)	17,965,388	Chart, Profile, Reports, More
BRCM	BROADCOM CORP	36.40 4:01PM ET	1.33 (3.79%)	17,931,692	Chart, Profile, Reports, More
QCOM	QUALCOMM INC	72.50 4:00PM ET	4.82 (7.12%)	17,841,262	Chart, Profile, Reports, More
AMZN	AMAZON COM	45.82 4:00PM ET	1.06 (2.37%)	16,489,172	Chart, Profile, Reports, More
CIEN	CIENA CORP	3.08 4:00PM ET	0.01 (0.32%)	16,304,371	Chart, Profile, Reports, More
CNXT	CONEXANT SYS	2.17 4:00PM ET	0.01 (0.46%)	15,727,740	Chart, Profile, Reports, More
OVTI	OMNIVISION TECH	11.74 4:00PM ET	0.34 (2.81%)	15,447,894	Chart, Profile, Reports, More
SWKS	SKYWORKS SOLUTNS	8.15 4:00PM ET	1.17 (16.76%)	13,090,602	Chart, Profile, Reports, More
SANM	SANMINA-SCI CP	7.53 4:00PM ET	0.31 (4.29%)	12,518,275	Chart, Profile, Reports, More
JNPR	JUNIPER NTWKS	23.21 4:00PM ET	0.24 (1.04%)	12,377,358	Chart, Profile, Reports, More
DELL	DELL INC	35.70 4:00PM ET	0.19 (0.54%)	11,795,494	Chart, Profile, Reports, More
NXTL	NEXTEL COMMS	24.72 4:00PM ET	0.26 (1.06%)	11,788,904	Chart, Profile, Reports, More
IMCL	IMCLONE SYS	66.68 4:00PM ET	1.24 (1.89%)	11,217,336	Chart, Profile, Reports, More

Note If you do not see the six-column data grid, close the window and repeat the process until you do, otherwise the tutorial will not work.

Click Next. The Split window displays.

7 On the Split window, notice that Column 3 includes several values—volume, time, and time zone. Split Column 3 into separate columns to accommodate each value:

- In the left-most drop-down list, select “Column No.”
- In the text box, enter `3` to indicate the third column.
- In the second drop-down list, select “Space.”
- Click Add. In Preview, the third column has split into three columns.

8 Click Next to continue.

9 On the Define window, select the “Records contain labels” check box. The “Labels are displayed in Record” option displays.

Accept the default value `1`, and click Next to continue. The Filter window displays.

10 Use the Filter window to identify the columns you want to include in the application.

- In the left-most drop-down list, select the “Include field(s).”
- In the second drop-down list, select “number” from the “number/label” list.
- In the text box, enter `1,3,7` to indicate columns 1, 3, and 7 (Symbol, Last, and Volume) should be included.
- Click Add. In Preview, the fields you selected are highlighted, and a new rule is added under Current Filter Rules.

11 Click Next. The Configure Parameters window displays with the parameter used to capture the table.

12 Check the Variable check box to the left of “e.” This exposes the parameters for the variable.

- Default Value – enter `o#Nasdaq,nq#NYSE,aq#AMEX` (no spaces) to create a drop-down list with three options.
- Type – choose “Select” from the drop-down list. An Add button displays.

  Click Add to display the Edit Default Value window, which shows the Display Name for each drop-down menu option. You can change the menu option name by changing the Display Name value. Click OK to save and close the window.

13 Click Next. The Window Preview window displays the modified table and a drop-down list. The links and drop-down list are not active.

14 In Element Name, enter `MostActives` (no space) as the name for this Web element, and click Next. The Continuous Capture window displays.

15 On the Continuous Capture window, click Finish. The New Web Element window closes.

16 On the Application Builder window, the MostActives element appears under Element List. In the detail pane, the application displays. The links are not yet active, but the drop-down list includes the three options.

17 Click Save to create the application.

18 On the Finish window, make these entries (accept the defaults for all others):

Content tab In Name, enter `MostActives` (no space).

19 Click Finish to save the application, and click OK in the Application Saved Successfully window.

20 Click Close in the upper-right corner to close the Application Builder window.

21 From the Mobile Web Studio main window, select New from the Application Builder Status menu. The MostActives application displays in the detail pane.

22 Right-click the MostActives (no space) application and select Approval Status | Approved.

23 Click OK.

24 Select Approved under Application Manager Status and verify the MostActives application displays.

❖ **Creating and approving the Markets application**

In this step, create a market overview application.

1 From Mobile Web Studio, select Applications in the Build menu in the left pane, select New under the Application Manager Status menu, and click the New button in the Application Manager toolbar. The Application Builder window displays.

2 In Application Builder, click Add to launch the New Web Element window.

3 In Location, enter the following URL, and click Find or press Enter:

```
http://money.cnn.com/markets/us_markets.html
```

4 Click Next in the top right portion of the New Web Element window.

5 Perform a one-click capture by moving your mouse over the U.S. Stock Markets table and clicking the mouse once (a flag follows your cursor with abbreviated instructions).

You see a preview page where you select how much content to display.

6 Click the Select button next to the data grid with the arrows in Column 3 (you can use the scroll bar to scroll through the various options), and click the Next button. The Split window displays.

Figure 9-2: Selecting the market grid

7 On the Split window, click Next to continue.

8 On the Define window, select the “Records contain labels” check box. The “Labels are displayed in Record” option displays.

Enter `2`, and click Next to continue. The Filter window displays. Record 2 is highlighted.

9 Use the Filter window to identify what to include in the application.

Identify the fields to include:

- In the left-most drop-down list, select the “Include field(s).”
- Select “number” from the “number/label” drop-down list.
- In the text box, enter `1,2,4` to indicate columns 1, 2, and 4 should be included (Market, Level, and Change).
- Click Add. In Preview, the records you selected are highlighted in blue (Market, Level, and Change), and a new rule is added under Current Filter Rules.

Identify the records to exclude:

- In the left-most drop-down list, select the “Exclude record(s).”
- Select “number” from the “number/label” drop-down list.
- In the text box, enter `1` to indicate record 1 should be excluded.
- Click Add. In Preview, the first record is no longer highlighted, and a new rule is added under Current Filter Rules.

10 Click Next. The Window Preview window displays the modified table.

11 In Element Name, enter `Markets` as the name for this Web element, and click Next. The Continuous Capture window displays.

12 Click Finish. The New Web Element window closes and `Markets` appears under Element List.

13 Click Save to create the application.

14 On the Finish window, make this entry (otherwise accept the defaults):

Content tab In Name, enter `Markets`.

Window Preview At the bottom of the Finish window, you can see a preview of your application. The links do not yet work.

15 Click Finish to save the application, and click OK in the Application Saved Successfully window.

16 Click Close in the upper-right corner to close the Application Builder window.

17 From the Mobile Web Studio main window, select New from the Application Builder Status menu. The Markets application displays in the detail pane.

18 Right-click the Markets application and select Approval Status | Approved.

19 Click OK.

20 Select Approved under Application Manager Status and verify the Markets application displays.

❖ **Creating and approving the Energy application**

In this step, create an energy overview application

1 From Mobile Web Studio, select Applications in the Build menu in the left pane, select New under the Application Manager Status menu, and click the New button in the Application Manager toolbar. The Application Builder window displays.

2 In Application Builder, click Add to launch the New Web Element window.

3 In Location, enter the following URL, and click Find or press Enter:

```
http://money.cnn.com/markets/commodities.html
```

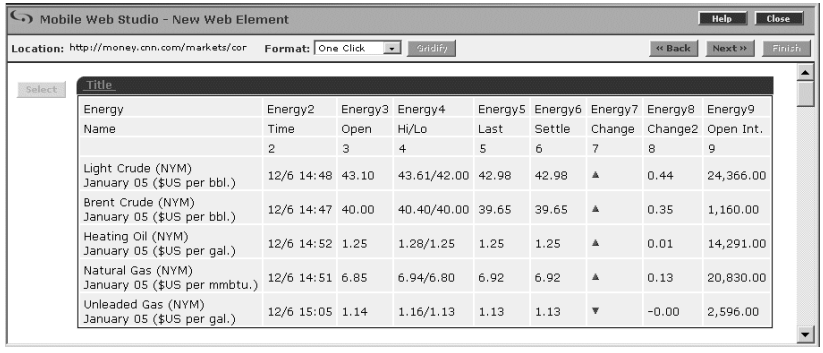
4 When the window redisplays, click Next in the top right portion of the New Web Element window.

5 Perform a one-click capture by moving your mouse over the Energy table and clicking the mouse once (a flag follows your cursor with abbreviated instructions).

You see a preview page where you select how much content to display.

6 Click the Select button next to the data grid with data in Energy, Energy2, Energy3, Energy4 and so on (you can use the vertical scroll bar to scroll through the various presentation options).

Figure 9-3: Selecting the energy grid



Energy	Energy2	Energy3	Energy4	Energy5	Energy6	Energy7	Energy8	Energy9
Name	Time	Open	Hi/Lo	Last	Settle	Change	Change2	Open Int.
	2	3	4	5	6	7	8	9
Light Crude (NYM) January 05 ($US per bbl.)	12/6 14:48	43.10	43.61/42.00	42.98	42.98	▲	0.44	24,366.00
Brent Crude (NYM) January 05 ($US per bbl.)	12/6 14:47	40.00	40.40/40.00	39.65	39.65	▲	0.35	1,160.00
Heating Oil (NYM) January 05 ($US per gal.)	12/6 14:52	1.25	1.28/1.25	1.25	1.25	▲	0.01	14,291.00
Natural Gas (NYM) January 05 ($US per mmbtu.)	12/6 14:51	6.85	6.94/6.80	6.92	6.92	▲	0.13	20,830.00
Unleaded Gas (NYM) January 05 ($US per gal.)	12/6 15:05	1.14	1.16/1.13	1.13	1.13	▼	-0.00	2,596.00

7 Click the Next button. The Split window displays.

8 On the Split window, split the first column, using the open parenthesis as the delimiter. Make sure the grid displays in Preview, and make these entries:

- Under Add Split Rule, in the left-most drop-down list, select “Column No.”
- In the text box, enter `1` to indicate the first column (Energy).

- In the second drop-down list, select “Other.”
- In the text box, enter an open parentheses: `(`
- Click Add. After a moment, the first column is split into two columns (one for the commodity and one for the date), and the new rule displays.

9 Click Next to continue.

10 On the Define window, select the “Records contain labels” check box. The “Labels are displayed in Record” option displays.

Enter `2` to use the labels in Record 2, and click Next to continue. The Filter window displays.

11 Use the Filter window to identify the columns you want to include in the application.

Under Add Filter Rule, identify the fields to include:

- In the left-most drop-down list, select the “Include field(s).”
- In the second drop-down list, select “number” from the “number/label” list.
- In the text box, enter `1,5,6,8` to indicate columns 1, 5, 6, and 8 should be included (Name, Open, Hi/Lo, and Settle).
- Click Add. In Preview, the records you selected are highlighted in blue, and a new rule is added under Current Filter Rules.

Identify the records to exclude:

- In the left-most drop-down list, select the “Exclude record(s).”
- In the second drop-down list, select “number” from the “number/where” list.
- In the text box, enter `1,3` to indicate records 1 and 3 should be excluded.
- Click Add. In Preview, the records you selected are no longer highlighted, and a new rule is added under Current Filter Rules.

12 Click Next. The Window Preview window displays the modified table.

13 In Element Name, enter `Energy Futures` as the name for this Web element, and click Next. The Continuous Capture window displays.

14 Click Finish. The New Web Element window closes.

15 On the Application Builder window, the Energy Futures element appears under Element List.

16 Click Save to create the application.

17 On the Finish window, make this entry (accept the defaults for all others):

Content tab In Name, enter `Energy`.

Window Preview At the bottom of the Finish window, you can see a preview of your application.

18 Click Finish to save the application, and click OK in the Application Saved Successfully window.

19 Click Close in the upper-right corner to close the Application Builder window.

20 On the Mobile Web Studio main window, select New from the Application Builder Status menu. The Energy application displays in the detail pane.

21 Right-click the Energy application and select Approval Status | Approved.

22 Click OK.

23 Click Approved under Application Manager Status and verify the Energy application displays.

❖ **Creating the composite application**

In this step, place the MostActives (no space), Most Actives (from "Creating the Most Actives stock application" on page 101), Markets, and Energy applications into a single composite application.

1 While logged into Mobile Web Studio, click on Composite Apps in the Build menu. The Composite App Manager menu displays in the middle pane.

2 In the toolbar, click the blue, down arrow to the right of the New button and select New Mobile Application. The Composite Application Builder displays.

3 Click the down arrow to the right of the Tab Flow button, and select "2 Tab Layout" from the menu.

4 Double-click to highlight Tab, then double-click 1, and enter `Stocks` to rename the tab.

5 Double-click to highlight Tab, then double-click 2, and enter `Market` to rename the tab.

6 Click the Add button to open the Search window.

In the Search window, click the Search button. After a moment, all applications with the Approved status display.

7 While holding the Control key, select each of these applications:

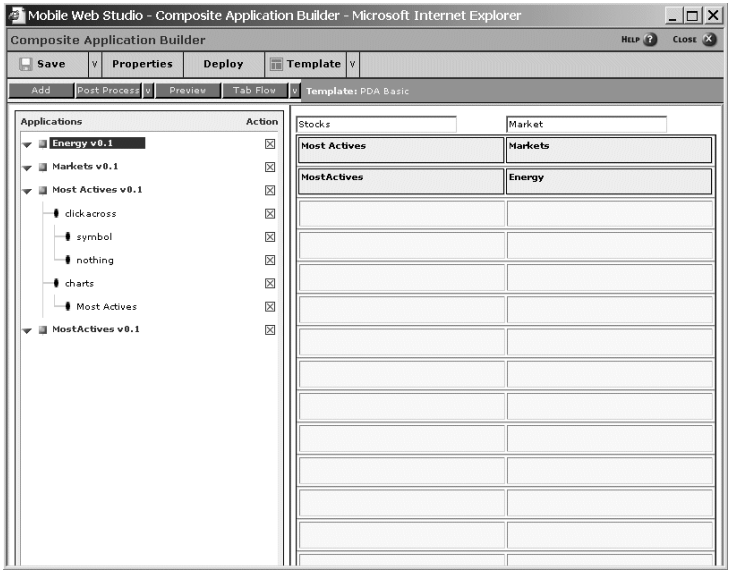
- Energy – created in “Creating and approving the Energy application” on page 112.
- Markets – created in “Creating and approving the Markets application” on page 110.
- Most Actives – created in “Creating the Most Actives stock application” on page 101.
- MostActives (no space) – created in “Creating and approving the MostActives application” on page 107.

Once all of the applications are highlighted, click the Add button

8 All of the applications are added to the Composite Application Builder window. Using the right side of the screen, drag and drop the applications into position:

- Under Stocks – place MostActives (no space) and Most Actives.
- Under Markets – place Markets and Energy.

Figure 9-4: Composite Application Builder



9 Click the Save button to create the composite application.

10 In the Composite Application Properties window:

- Enter the name `Finance`.
- Click Add All to assign all available navigation styles.
- Click Add All to assign all roles.

11 Click OK to save the Composite Application, and click OK to confirm.

12 On the Composite Application Builder window, click the Deploy button. The Create Mobile Application window displays.

13 In Create Mobile Application, indicate whether you are deploying to a BlackBerry device or a PDA:

- For a BlackBerry, click BlackBerry Device. Group and Protected become unavailable.
- For a PDA, in Group, select `employees` from the drop-down list, and click OK to deploy the Composite Application to that group.

14 Click OK to confirm.

15 Click Close to close the Composite Application Builder window.

16 After synchronizing your mobile device you will see the Composite Mobile Application, Markets, if you are a member of the `employees` group.

Figure 9-5: Example composite application

Select the application you want to use, such as MostActives, from the drop-down list. Select the appropriate tab, Stocks or Markets, to view specific information.

CHAPTER 10

Setting up Natural Language Search

This chapter provides special instructions for using the natural language search capability provided by Answers Anywhere.

Overview

Unwired Accelerator 7.0 is integrated with Answers Anywhere to allow natural-language-like questions to retrieve Unwired Accelerator application data. You can use several client interfaces—e-mail, short message service (SMS), Web, and M-Business Client— to "ask UA" for information.

This integration allows you retrieve Unwired Accelerator application content quickly from several interfaces in a natural language form. You need not navigate to the application you are searching for. This is useful in a mobile device with limited connection bandwidth, screen size, and navigation control. You can formulate a simple question, and the content, formatted for a mobile device, is returned to you.

Note The default Ask UA application included with Mobile Studio is for use with M-Business Anywhere clients. Ask UA is not supported online for BlackBerry or Palm devices.

See the *Unwired Accelerator Developer's Guide* for information about Answers Anywhere syntax.

Answers Anywhere tutorial

The tutorial shows you how to set up application and field synonyms for an application created through Unwired Accelerator, and then how to use the natural language search capability from several client devices. This tutorial assumes you:

- Have the Answers Anywhere server configured as described in the *Unwired Accelerator Installation Guide*
- Have client devices configured for Answers Anywhere as described in the *Unwired Accelerator Installation Guide*
- Understand how to formulate natural language search queries as described in the *Unwired Accelerator Developer's Guide*
- Know how to log in to Mobile Web Studio
- Know how to create and approve an application in Mobile Web Studio

Deploying the Ask UA application to an M-Business client

The Ask UA application provided with UA is for use with M-Business clients. To deploy the Ask UA application to an M-Business client as a public or group channel:

1 Select the AskUA application from the list of approved applications and right-click.

2 Select M-Business | Create Public Channel to create a public channel. Select Create Group Channel to create a group channel.

Creating an airline arrival application

This tutorial discusses how to establish application and field synonyms for an airline arrival application.

❖ **Creating synonyms for an application**

1 In Mobile Web Studio, click Applications in the Build menu, and click the New button. The Application Builder window displays.

2 In Application Builder, click Add to launch the New Web Element window.

3 In Location, enter the following URL:

```
www.flysfo.com/airlines/arrivdepart/index.asp
```

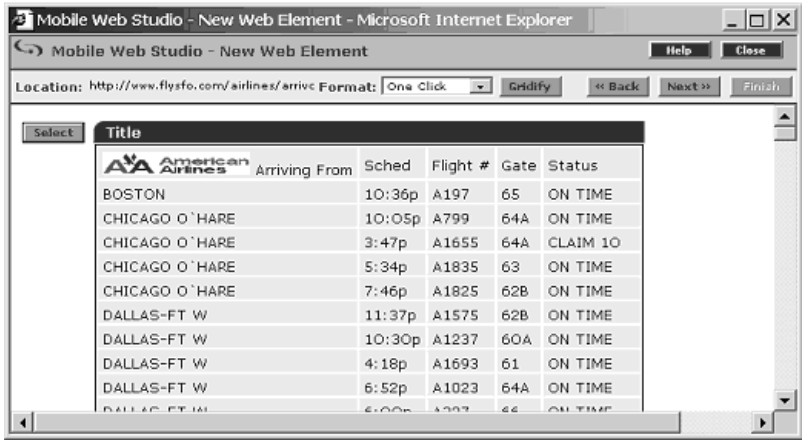
Click Find or press Enter to display the Web site.

4 Select American Airlines and Arrival from the drop-down lists, and click "retrieve info."

5 After the screen refreshes, click Next in the top right portion of the New Web Element window.

6 When the Web page reloads, move your mouse over the table of arrivals and departures, and select a row. You see a preview page where you select the format to display.

7 Click Select to the left of the table, then click Gridify. (You can use the scroll bar to scroll through the various format options). The Split window displays.



8 Click Next to bypass the Split window. The Define window displays.

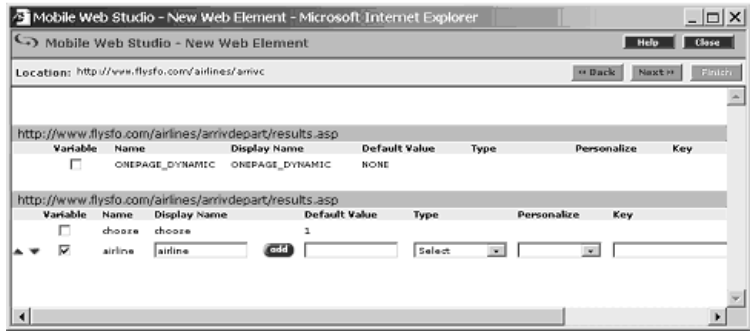
9 On the Define window, identify the first row as the header row:

- Under Define Record Layout, select the Records Contain Labels check box. The Labels are Displayed in Record option displays
- Accept `1` in the text box, and click Next to continue. The Filter window displays.

10 Click Next to bypass the Filter window. The Configure Parameters window displays.

11 On the Configure Parameters window, check the Variable box to the left of "airline." Then make this modification (accept the defaults for all other entries):

- In Type, select “Select” from the drop-down list. The Add button displays.



12 Click Add. The Edit Default Value window displays.

13 Enter these values:

- Display Name = United

  Value = UA

  Click the plus sign to continue.

- Display Name = American

  Value = AA

  Click the plus sign to continue.

- Display Name = British

  Value = BA

  Click the plus sign to continue.

- Display Name = Singapore

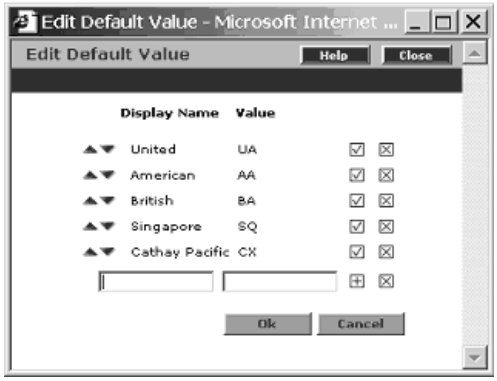
  Value = SQ

  Click the plus sign to continue.

- Display Name = Cathay Pacific

  Value = CX

Click the plus sign to continue.



14 Click OK.

15 Click Next. The Window Preview displays the modified table.

16 In Element Name, enter `Arrivals` as the name for this Web element, and click Next. The Continuous Capture window displays.

17 Click Finish to bypass the Continuous Capture window. The New Web Element window closes.

18 On the Application Builder window, notice that the Arrivals element appears under Element List.

19 Click Save.

20 On the Finish window, make these entries (otherwise accept the defaults):

Content tab In Name, enter `Arrivals`.

Answers Anywhere tab Add the Application and Field synonyms:

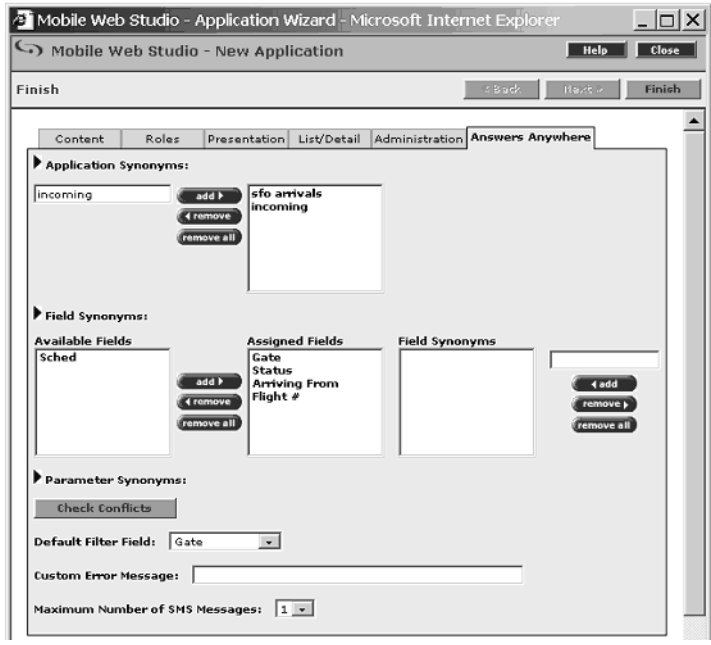
For Application Synonyms:

- Enter `sfo arrivals`, and click Add.
- Enter `Incoming`, and click Add.
- Enter `airline`, and click Add.

For Field Synonyms, select the Assigned Fields from the list of Available Fields:

- Select Gate, and click Add.
- Select Status, and click Add.
- Select Arriving from, and click Add.

- Select Flight #, and click Add.



For the list of selected Assigned Fields, set up the synonyms:

- Select Arriving From from the Assigned Fields list, enter `From` in the blank field, and click the Add button beneath the text box. The new synonym displays in the Field Synonym list.
- Select Flight # from the Assigned Fields list, enter `Flight` in the blank field, and click the Add button beneath the text box. The new synonym displays in the Field Synonym list.

For Parameter Synonyms:

- Navigate to the parameter list.
- Select the Airline parameter.
- Add `for` as the synonym.
- Click the Add button.

In Default Filter Field, select “Gate” from the drop-down list.

21 Select Check Conflicts to make sure the synonyms are unique for all Unwired Accelerator applications. The Check Conflicts window displays. If no conflicts are reported, close the window and proceed.

If conflicts are reported, change the synonyms that are in conflict to unique values. If synonym or field names are the same between two or more applications, Unwired Accelerator selects the one that was created first.

22 Click Finish to save the application, and click OK in the Application Saved Successfully window.

23 Click Close in the upper-right corner to close the Application Builder window.

24 Click New under Application Manager Status. The Arrivals application displays in the detail pane.

25 Approve the Arrivals application by right-clicking the Arrivals application in the detail pane, and selecting Approval Status | Approved.

26 Click OK.

27 Click Approved under Application Manager Status. The Arrivals application displays.

You have successfully created an application using a Web site as a source, and added search synonyms.

Using natural language to search

This provides procedures for using natural language to search the airline arrival application from several client interfaces. Answers Anywhere is case sensitive, so formulate queries with case in mind.

❖ **Using natural language to search (Web interface)**

This example shows how to use natural language search through a Web interface on online mode.

1 Open a second Web browser window in Internet Explorer, and type the following in the Location field, substituting your machine, domain, and port numbers.

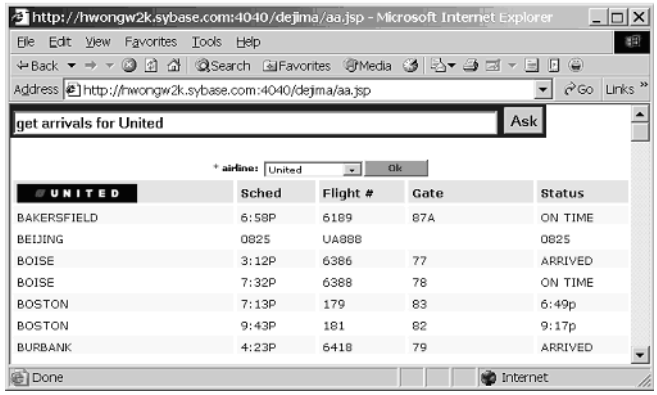
```
http://hostname.domain:port/onepage/askua.jsp
```

For example:

```
http://lab2k.sybase.com:4040/onepage/askua.jsp
```

2 Log in using `masuper`/`m8super`.

3 Under Ask Unwired Anywhere, type `get arrivals for United`, and click Ask. The desired information displays.



4 Jot down a detail such as a flight number or a gate number, and use the information to enter a variation such as `get arrivals for United Flight # 179` or `get arrivals for United Gate 77` or `what is the Gate for United Flight A1575` or `lookup status for American Flight A78`.

❖ **Using natural language to search (PDA interface)**

This example shows how to use natural language search using an M-Business Client, such as a PDA.

1 Access the Unwired Accelerator application on your PDA.

2 Select AskUA from the menu.

3 Enter `get arrivals for United`, and select Find. The Sync completed message displays when synchronization is finished.

4 Select OK. The application data displays.

5 Optionally, select Save Question/Answer. This creates a shortcut on the screen, so you can launch the query again with no typing.

❖ **Using natural language to search (e-mail interface)**

This example shows how to use natural language search through an e-mail interface. You need an Answers Anywhere e-mail client as described in the *Unwired Accelerator Installation Guide*.

1 Launch your e-mail client.

2 Compose a new e-mail message:

- In To, enter the Answers Anywhere e-mail account; for example, `askua@sybase.com`. If you do not have such an account, see the *Unwired Accelerator Installation Guide* for information about setting up Answers Anywhere for e-mail.
- In Subject, enter the query, such as `get arrivals for United`.

3 Send the e-mail message. You will receive an e-mail containing the results of the search for flight information.

❖ **Using natural language to send information via e-mail**

This example shows how to send the results of a natural language search through e-mail to a registered user. You need an Answers Anywhere e-mail client as described in the *Unwired Accelerator Installation Guide*.

Note The registered user must have role and resource access, or the request is denied.

---

1 Launch your e-mail client.

2 Compose a new e-mail message:

- In To, enter the Answers Anywhere e-mail account; for example, `askua@sybase.com`. If you do not have such an account, see the *Unwired Accelerator Installation Guide* for information about setting up Answers Anywhere for e-mail.
- In Subject, enter the query, such as `send arrival information for American Flight A781 to` *username*.

3 Send the e-mail message. You receive a reply stating the query has been sent to the user's e-mail address. If successful, the registered users receives an e-mail with the results of the search for flight information.

If not successful, you receive a reply stating the query has been sent to the user name, meaning the user is not registered.

❖ **Using natural language to search (SMS interface)**

This example shows how to use natural language search through an SMS interface. You need an SMS modem number as described in the *Unwired Accelerator Installation Guide*.

1 Access your SMS service on your device.

2 If you have not already done so, register with the SMS modem by sending an SMS text message with these three lines to the SMS modem number:

```
Register
<user name>
<password>
```

3 Compose a new SMS message:

- In To, enter the SMS phone number for your service.
- Enter the query, such as `get arrivals for United`, as the SMS message.

4 Send the SMS message. The response will be sent to your SMS device.

CHAPTER 11

Troubleshooting

This chapter provides troubleshooting information.

Continuous capture

This section discusses troubleshooting for the continuous capture feature.

Links result in unexpected feature extraction

If you click a continuous capture link, and an entire page is returned, rather than the expected section you extracted, or another unexpected feature extraction is performed, it may indicate a poor URL match expression.

When you click a link, it is checked against the URLs defined for the application, and, if a match is found, the appropriate content capture language (CCL) is used to extract the feature from the page. If the URL match expression is not generic enough, or is constructed incorrectly, the expression may not find the URL being clicked and the required CCL expression. Or the match expression may find another, unintended CCL expression.

Verify the URL-CCL expression.

Cannot generalize some URL patterns

There is a known limitation with continuous capture, whereby attempts to generate a template URL from two URLs with a different paths, fails. For example, you might have captured two URLs similar to:

```
http://some.site.com/path/xxx/tt012345/
```

```
http://some.site.com/path/xxx/tt006654/
```

Ideally, a template URL similar to this should be generated:

```
http://some.site.com/path/xxx/tt[^/]*/
```

Instead the template generator fails when presented with these URLs. For best results, select URLs within the same path.

Server-side click-across

This section discusses troubleshooting for the server-side click-across feature.

Secondary application executes with incorrect parameter

Sometimes when you define a link between two applications (called server-side click-across), and then click a link in the first application that executes the second application, the first application receives incorrect data, or no data.

This may indicate a naming problem for an event associated with the initial application selected. The event name must match the parameter display name in the target application. If the name is incorrect, the target application is executed with a default value for its input parameters, which may result in unexpected behavior.

In the secondary application, check the display name by editing the application and clicking on the Param button. You can view all the required parameters in the wizard.

1. In Mobile Web Studio, select Applications from the left pane, Approved in the Application Manager Status menu. The approved applications display in the detail pane.
2. Click the secondary application in the detail pane and click Edit in the toolbar.

3 Click the Param button to display the application's parameters.

4 Check to make sure the event name matches the display name for the target application.

Application links

This section discusses troubleshooting the application links.

Transaction link does not display

If you create an application that is linked to an update application, but the update or edit link does not display, this typically indicates the update application does not have "update" selected in the "kind" drop-down list on the Configure Parameters window. You must select at least one variable to "update" in the update application in order for the update or edit link to display.

See "Creating an update application" on page 64.

M-Business Anywhere

This section discusses troubleshooting M-Business Anywhere.

Cannot manage M-Business Anywhere server

If you cannot use the Manage M-Business option from the Mobile Web Studio, you may have a configuration problem. Check the following:

1 If you are using Tomcat, use a text editor to open the *server.xml* file, which is located in *%SYBASE%\UnwiredAccelerator70\tomcat\conf*.

If you are using EAServer, use jagmgr to verify the configuration.

2 Search for `<Resource name="jdbc/agdb" auth="Container" type="javax.sql.DataSource"/>`.

3 Verify that the jdbc/agdb JNDI Datasource is configured properly for the container. See the “Configuring M-Business Anywhere” section in the *Unwired Accelerator Installation Guide* for information about setting the JDBC connection for jdbc/agdb JNDI Datasource.

Also, make sure M-Business Anywhere is running.

Mobile Applications

This section discusses troubleshooting mobile applications.

Deployed mobile application does not appear in PDA

If the deployed mobile application does not appear in the mobile device, check the following:

- Verify that the mobile application is deployed to the group. In Mobile Web Studio, select Manage | M-Business | Groups and check the groups.
- Verify that the M-Business username/password and server properties are set correctly in M-Business Client. M-Business Clients use M-Business users, not the Mobile Web Studio users. See the *Unwired Accelerator Installation Guide* for configuration information.
- Verify that the user belongs to the group that contains the mobile application.

Mobile application is blank in M-Business Client

If the mobile application shows nothing on the mobile device, do a PDA preview on the mobile application to verify that all the data displays properly.

avantgo.db is not installed

If you receive the message, `avantgo.db is not installed, please install the db pod`, you must install database PODs for M-Business Client. PODs are binary files compiled from C code used to access the Client Extension API. PODs can be downloaded to mobile devices and run on them even when the devices are not connected to any server.

See the *Unwired Accelerator Installation Guide* for information about installing the required database PODs.

JVM Sync error on BlackBerry device

If you receive a JVM sync error, and a message indicating the element is too big, then try the following:

- Try resyncing. See “Retrieving applications on the BlackBerry device” on page 90 for information about synchronizing.
- Try selecting a single application, and resyncing. See “Retrieving applications on the BlackBerry device” on page 90 for information about synchronizing.
- Try deleting all applications, using the Delete Data option on the trackwheel, and then resyncing. See “Deleting applications and data” on page 92 for information about clearing the BlackBerry device’s memory.
- If the problem persists, try deleting the application and recreating it using a smaller dataset (for example, you could modify the SQL query to limit the results set), or including only required functionality.

Glossary

API

An acronym for application program interface – a set of routines, protocols, and tools for building software applications that enable programs to communicate with each other.

ASP

Active Server Pages. An open, compile-free application environment in which Web developers can combine HTML, scripts, and reusable Active Server components. ASP technology enables server-side scripting for IIS with native support for both Visual Basic Scripting Edition and JScript.

adapter

A component that provides an interface between an internal application and external applications or messaging systems. An adapter detects events and validates event contents.

Application Builder

An Unwired Accelerator wizard used to define applications. A succession of windows guides you through the process of creating, configuring, and customizing the application. You do not need to use all the windows to define your application; the windows needed vary depending on the type of application you are creating (for example, Web, HTML, JSP, database, document, and so forth).

channel

Web content that is optimized for and delivered to mobile devices by M-Business Anywhere server. Channels are defined by a base URL and by other parameters such as channel size, link depth, image preferences, and frequency of refresh. M-Business Anywhere server automatically delivers new information from the specified URL to M-Business Client on the connecting mobile device.

click across

An Unwired Accelerator feature that enables you to connect related or unrelated applications in a flow using events.

client/server

A network architecture in which one or more computers (servers) accept requests for services from one or more workstations (clients).

This may also refer to a back-end application (server) that accepts requests for information from a front-end application (client).

Configure Parameters window — Application Builder window used to customize the parameters, or variables, used to capture the grid. This enables application end-users to customize or personalize parameter values when they view the application.

connection pooling — Connection pooling is a performance optimization based on using collections of pre-allocated resources, such as objects or database connections. Pooling results in more efficient resource allocation.

connectionless communications — Communications that do not require a dedicated connection or session between applications.

continuous capture — An Unwired Accelerator feature that enables you to capture a set of Web pages from a remote site and define how to extract the content for display.

Continuous capture window — Application Builder window used to capture a set of Web pages from a remote site and define how to extract the content for display.

Define window — Application Builder window used to define the grid layout of an application.

enterprise — A reference to all aspects of a large business organization—from manufacturing to finance, marketing to human resources. This term can also refer to an organization plus its partners, vendors, suppliers, and customers.

EP — An acronym for enterprise portal. An enterprise portal integrates all aspects of an organization's IT infrastructure and offers customers, partners, vendors, and employees a broad array of resources and services, including personalized information, online purchasing, E-mail, forums, search engines, and product support.

event — An event is a notification that occurs in response to some action. It can be a change in state or as a result of the user clicking or moving the mouse, pressing a keyboard key, or other actions that are focus-related, element-specific, or object-specific. Programmers write code that respond to these actions. An event can also be an object that is imported, passed between processors, and exported to an external database.

event definition — A set of criteria that are used to determine the contents of events.

Filter window — Application Builder window used to identify which rows, columns, and fields to use in the application and which to exclude; and to define additional grid rules.

Finish window — Application Builder window used to configure the application for use.

grid rules — The Unwired Accelerator feature for manipulating the content and format of an application for display on a mobile device.

HTTP	Hyper Text Transport (or Transfer) Protocol is the set of rules that governs the exchange of text, graphic, sound, and video files on the World Wide Web.
HTTPS	The secure version of HTTP.
Internet	A global network connecting millions of computers.
intranet	A private network within an organization.
JDBC	JDBC is a data access interface based on **ODBC** and used with the **Java** programming language.
J2EE	Sun software: Java 2 platform, Enterprise Edition.
Java	Developed by Sun Microsystems, Java is an object-oriented programming language, similar to C++. Java-based applications, or applets, can be quickly downloaded from a Web site and run using a Java-compatible Web browser such as Microsoft Internet Explorer or Netscape Navigator. Java applets are the most widespread use of Java on the Web.
LDAP	Lightweight Directory Access Protocol. LDAP is a software protocol that allows anyone to locate organizations, individuals, and other resources (files, devices, etc.) on the Internet or on a corporate intranet.
M-Business Anywhere	A platform for delivering Web-based content and applications to mobile devices rapidly and cost-effectively, with minimal recoding. Web developers can leverage their existing skill sets and open standards to develop and deploy fully interactive Web applications with wireless capabilities.
metadata	Data that describes other data. Any file or database that holds information about another database's structure, attributes, processing, or changes.
Mobile Web Studio	A platform for developing applications for mobile devices. Mobile Web Studio is a Web-based rapid development tool for creating powerful and interactive mobile Web applications or for mobilizing existing Web applications or data sources like databases, XML, Web Services, HTML and JSPs/ASPs.
New element window	Application Builder window used to create the element of your choice, including elements for Web, XML, HTML, JSP, database, document, and so forth.
ODBC	Open Database Connectivity. ODBC is a Windows standard API that is used for SQL communication to connect applications to a variety of data sources. Access is generally provided through the Control Panel, where data source names (DSNs) can be assigned to use specific ODBC drivers.

Split window Application Builder window used to add parameters for splitting rows and columns in a grid. Split rules are defined for rows and columns; for delimiters; and for personalization adapters.

SOAP Simple Object Access Protocol. SOAP provides a way for applications to communicate with each other over the Internet, independent of platform. Remote objects can give a program almost unlimited power over the Internet, but most firewalls block non-HTTP requests. SOAP, an XML-based protocol, gets around this limitation to provide intraprocess communication across machines.

In Unwired Accelerator, the implementation of SOAP is intended to provide businesses with a way to expose corporate software functionality to their customers with minimal firewall constraints, platform dependencies or complex development implementations involving DCOM or CORBA.

SOAP was developed by Microsoft, DevelopMentor, and Userland Software and has been proposed to the Internet Engineering Task Force (IETF) as a standard.

SQL Structured Query Language.

SSL Secure Sockets Layer. SSL is a standard for providing encrypted and authenticated service over the Internet. Using the Rivest Shamir and Adleman (RSA) public key, a public key cryptography for Internet security, specific TCP/IP ports can be encrypted. Primarily used for handling commerce payments, SSL is a general-purpose encryption standard for the Internet.

server A computer or software package that provides specific capabilities to client software running on other computers.

servlet A servlet is a small, persistent, low-level program that runs on a server. The term was coined in the context of the Java applet, a small program that is sent as a separate file along with a Web (HTML) page.

Some programs that access databases based on user input need to be on the server. These programs were most often implemented using a Common Gateway Interface (CGI) application. However, if a Java virtual machine is running in the server, servlets can be implemented in Java. A Java servlet can execute more quickly than a CGI application. Instead of creating a separate program process, each user request is invoked as a thread in a single daemon process, so that the system overhead for each request is slight.

sockets A portable standard for network application providers on TCP/IP networks.

stored procedure A program that creates a named collection of SQL or other procedural statements and logic that is compiled, verified and stored in a server database.

style sheet General term for software that transforms XML documents based on one XML vocabulary into XML documents based on a different XML vocabulary. Example style sheets are Java Server Pages (JSPs) and XSLT style sheets.

TCP/IP Transmission Control Protocol/Internet Protocol—the network protocol for the Internet that runs on virtually every operating system. IP is the network layer and TCP is the transport layer.

Unwired Accelerator A software solution that accelerates the mobilization of enterprise Web applications and data sources for constant access. Unwired Accelerator is comprised of Mobile Web Studio and M-Business Anywhere.

Window preview window Application Builder window used to view the element and give it a name.

workflow Software used to automatically route events or work-items from one user or program to another. Workflow is synonymous with process flow, although traditionally has been used in the context of person-to-person information flows.

XML eXtensible Markup Language—a simplified subset of Standard Generalized Markup Language (SGML)—is a way to that provides a file format for representing data, a method for describing data structure, and a mechanism for extending and annotating HTML with semantic information.

As a universal data format, XML provides a standard for the server-to-server transfer of different types of structured data so that the information can be decoded, manipulated, and displayed consistently and correctly. In addition, it enables the development of three-tier Web applications, acting as the data transfer format between the middle-tier Web server and the client.

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