SYBASE®

Mobile Application Development Tutorial

Unwired Accelerator

6.5

DOCUMENT ID: DC00124-01-0650-01

LAST REVISED: January 2005

Sybase, Inc., One Sybase Drive, Dublin, CA 94568.

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.
- Chapter 4, “Creating a Mobile Application from an Existing Web Application,” explains how to create a mobile application from an existing Web application.
- Chapter 5, “Creating a Multipage Mobile Application with Transaction Support,” describes how to create a multipage mobile application with transaction support.
- Chapter 6, “Creating a Multipage Mobile Charting Application,” explains how to create a mobile application from a Flash charting object.
- Chapter 7, “Managing M-Business Anywhere,” describes how to manage M-Business Anywhere.
- Chapter 8, “Creating a Composite Application,” describes how to create a composite application for mobile applications running in connected mode.
- Chapter 9, “Deploying Applications to BlackBerry Devices,” describes how to deploy applications to BlackBerry devices.
- 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.

Enterprise Portal and Unwired Accelerator online documentation The Unwired Accelerator documentation set includes:

- The *Enterprise Portal Developer's Guide* includes development topics for Unwired Accelerator components, Portal Interface portlets, and Java Template Framework pages.
- 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 *Unwired Accelerator Quick Start Guide* shows how to deploy a Web and a database application to either a PDA or BlackBerry device.
- The *Unwired Accelerator Feature Guide* provides an overview of features included in Unwired Accelerator 6.5.

jConnect™ for JDBC™ documents Unwired Accelerator 6.5 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.

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.

❖ **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
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\UA65*.
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 the Unwired Accelerator product, 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 like 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 Feature Guide*.

Introducing Mobile Web Studio

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

This chapter assumes you have:

- Installed Mobile Web Studio using information and procedures in the *Unwired Accelerator Installation Guide*
- Network access
- Internet Explorer installed as your browser

Starting system components

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 "Sample database and application" 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 in the applications server.

❖ **Starting the database and application servers**

1 From a Command Prompt window, go to the installation directory where you unzipped the installation file, for example, *SYBASE\UA65*, and enter:

```
startdb
```

You can also double-click the file in Windows Explorer to start the database.

This starts the Adaptive Server Anywhere database. When database starts, you see the icon for the Sybase ASA database appears in your taskbar.

2 From the same Command Prompt window enter:

```
starttomcat
```

You can also double-click the file in Windows Explorer. This starts the Tomcat application server. When Tomcat starts, you see a series of messages including the following:

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

When you see this message, minimize the window (do not close the window, or the application server stops running). You can ignore the rest of the messages.

❖ **Stopping the database and application servers**

Typically you leave application server and database running. If you do need to stop them, use these steps. If you do stop them, you must restart them to complete the tutorial.

1 From the same Command Prompt window enter:

```
stoptomcat
```

You can also double-click the file in Windows Explorer. This stops the Tomcat application server.

2 From a Command Prompt window, go to the installation directory where you unzipped the installation file, for example, *SYBASE\UA65*, and enter:

```
stopdatabase
```

You can also double-click the file in Windows Explorer. This stops the database.

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/index.html
```

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/index.html
```

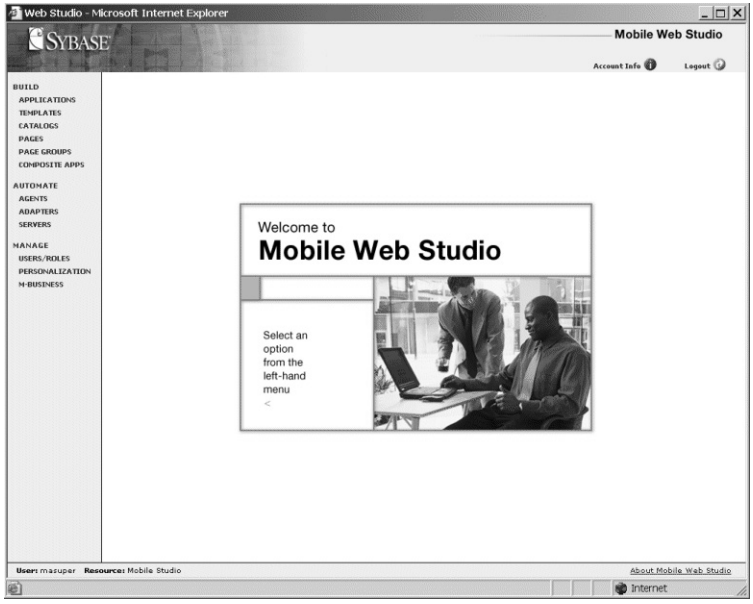
Note In a development environment, your port number may be different, and in a production system, the port number may not be necessary at all if you are using port 80.

2 When the Mobile Web Studio Login window displays, log in with 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 windows of the old session.

Figure 1-1: Mobile Web Studio welcome window



The welcome window displays the:

- Left pane menus – select from menu groupings that allow you to:
  - Build – create, edit, and manage applications, templates, and composite applications. Catalogs, pages, and page groups are described in the *Enterprise Portal Developer's Guide*.
  - Automate – create agents to automatically process application content, 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, which users can later personalize with their own values, 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).
- Toolbar – this is the Mobile Web Studio's static toolbar. From this toolbar, you can view your account information, and log out of Mobile Web Studio. Once you make a selection from the left pane, an option-specific toolbar displays, which is discussed in the next section.

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

Selecting a Mobile Web Studio left pane 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 *Enterprise Portal 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 *Enterprise Portal Developer's Guide* and the *Portal Interface User's Guide*.
- Page Groups – create, edit, delete, and manage page groups to group and organize Portal Interface application pages. See the *Enterprise Portal 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 application content to e-mails, databases, or file systems. See the *Enterprise Portal Developer's Guide*.
- Servers – create, manage, and view logs for servers on which agents run. See the *Enterprise Portal Developer's Guide*.

Manage menu

Objects on the Manage menu include:

- Users/Roles – edit users, and manage the resource with which they are associated. Create, edit, and manage the roles, and assign roles to users.
- Personalization – create and manage keys that allow users to personalize applications to their needs.
- M-Business – deploy applications to M-Business Server groups, channels, and users, and perform some M-Business Anywhere administration tasks specifically required by Mobile Web Studio.

Once you make a selection from the Mobile Web Studio left pane, 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.
- 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:

- 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.
- 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.

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.

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 the mobile device interface

Unwired Accelerator provides browser access to the mobile device interface.

❖ **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 wizard is described in more detail in "Introduction to creating applications" on page 11.

3 Save the application – give the application a name, access privilege, and additional 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. For online use, create a composite application, otherwise deploy or export the application.

Sample database and application

Unwired Accelerator includes a sample database and a sample application, which the tutorials in this guide use.

- A sample database called sampledb is included with Unwired Accelerator. The tutorials use examples from sampledb.
- 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.

Managing Unwired Accelerator users

This section provides information and guidelines for managing Mobile Web Studio and M-Business Anywhere users.

- The *global.properties.xml* property, MB.AutoRegistration, determines how user accounts are handled when Unwired Accelerator and M-Business Anywhere are integrated.
  - If MB.AutoRegistration is set to true, when a user joins Portal Interface, or a user is added to Mobile Web Studio, the user automatically joins the M-Business Anywhere server with the same user name and password. See the *Unwired Accelerator Installation Guide* for information about changing the MB.AutoRegistraiton setting.

    - If MB.AutoRegistration is set to false, Mobile Web Studio does not self-register to M-Business Anywhere. The Studio Admin user can register a Mobile Web Studio user in M-Business Anywhere using Manage | User/Roles, and selecting "Create M-Business user." See the *Unwired Accelerator Installation Guide* for information about changing the MB.AutoRegistraiton setting.

- For existing Mobile Web Studio users who do not have an account in M-Business Anywhere:
    - The M-Business Anywhere administrator can create an account for the user in M-Business Anywhere.
    - The Mobile Web Studio administrator can create an M-Business user in Mobile Web Studio by going to Manage | Users/Roles, selecting a user and right-clicking, and selecting Create M-Business User.
    - The Mobile Web Studio user can self-register in M-Business server or in Mobile Web Studio (using Manage | M-Business); or the Mobile Web Studio.
- User names in Mobile Web Studio and M-Business Anywhere must match. Also, if you create a user in M-Business server, an account is not created for the user in Mobile Web Studio.
- To manage Mobile Web Studio users, use Manage | Users/Roles.
- To manage Mobile Web Studio users of M-Business Anywhere, use Manage | M-Business.
- To create M-Business Anywhere users, use M-Business Anywhere or use Mobile Web Studio (Manage | M-Business).
- If you delete a user from Mobile Web Studio, through Manage | Users/Roles, the user is not automatically deleted from M-Business Anywhere.
- To allow Portal Interface users to create personal channels, a property in the global.properties.xml file, alwaysValidateSession, must be set to "false." Otherwise, permission is denied and the channel cannot be viewed M-Business Anywhere or M-Business Client.

CHAPTER 2

Getting Started

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

Overview

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

The procedures in this chapter assume you:

- Have installed Mobile Web Studio using the *Unwired Accelerator Installation Guide*.
- Have network access.
- Have Internet Explorer.
- Have started the database and application servers as described in “Starting system components” on page 2.
- Know how to log in to Mobile Web Studio as described in “Using Mobile Web Studio” on page 3.

Introduction to creating applications

This section provides basic tutorials for:

- Creating an 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

You will use Application Builder, which 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 windows include:

- New Element window – used to create the element of your choice, including elements for Web, XML, HTML, JSP, database, document, and so forth.
- 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 portlet.

      Personalization adapters must be registered with Mobile Web Studio before they appear in the Personalization drop-down. 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.
- Define window – used to define the grid layout, for example, whether to display record labels or just the records.

- Filter window – used to identify which rows, columns, and fields to use in the application, and which to exclude, as well as specify additional grid rules. Grid rules enable you to manipulate the content and format of an application for display on a mobile device.
- Parameter definition 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.
- 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.

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.

Also, keep in mind that some stock applications, such as Content Explorer, cannot be mobilized for the PDA, since they require Java or Java plug-in support.

❖ **Creating and approving 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 the New button in the Application Manager toolbar. The Application Builder window displays.

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

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 Click Here to Generate Currency Table button located at the bottom of the window. You do not have to change anything, since this tutorial uses the default settings on the Web site.

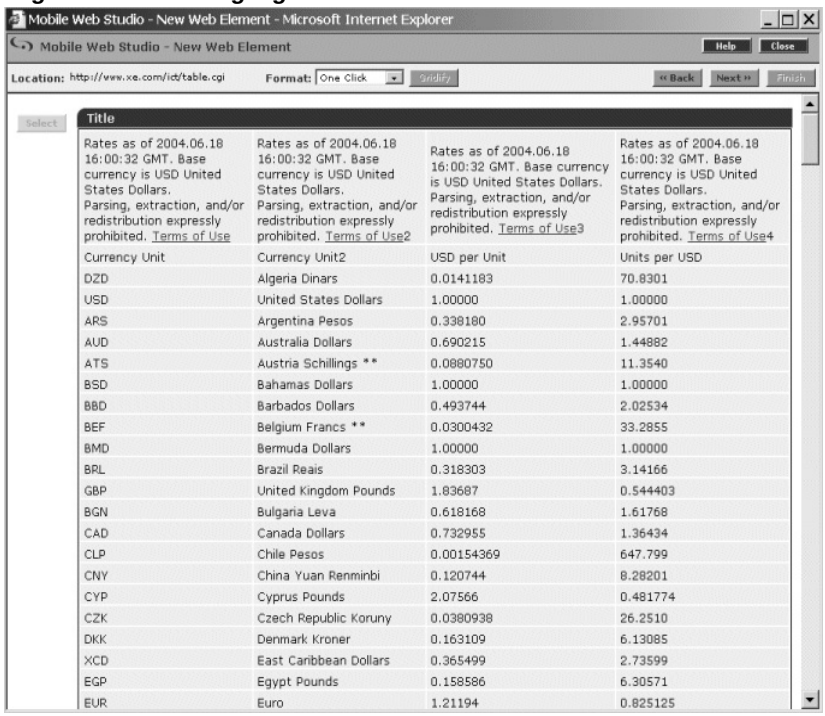
Figure 2-1: Capturing a Web site

7 Click Next in the top right portion of the New Web Element window. The page reloads.

8 When the Web page reloads, move your mouse over the table of currencies and click Algeria Dinars. 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 on page 15. You can use the scroll bar to scroll through the various options.

Figure 2-2: Selecting a grid



9 Click Select to the left of the grid, then click Next in the top right section of the window. 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.” The “Labels are displayed in Record” option displays.
- Enter 2 into the text box.

12 Click Next to continue. The Filter window displays. The Filter window enables you to identify which rows, columns, and fields to use in the application, and which to exclude.

13 Use the Filter window to make a few modifications to the table. 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 the “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.

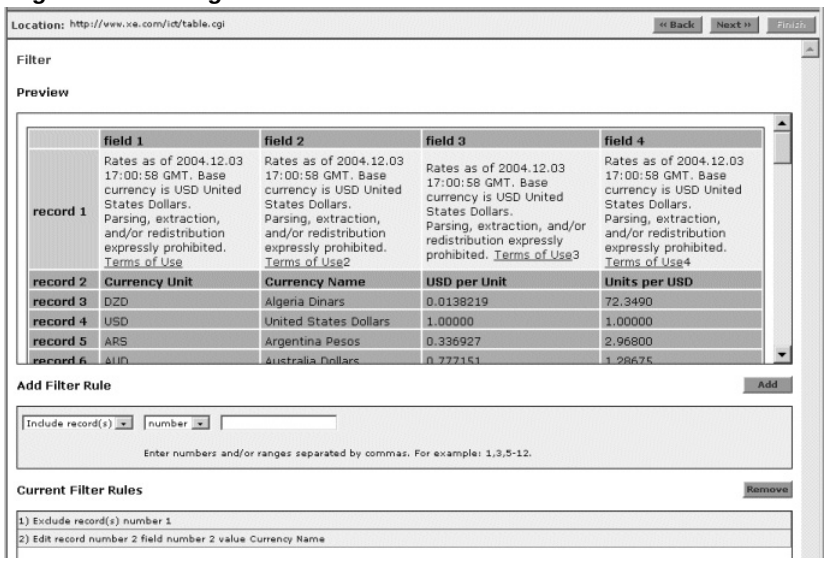
Note If you make a mistake, click the rule under Current Filter Rules to highlight the rule, click Remove to delete it, and re-enter the rule correctly.

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`.
- For 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 one in Figure 2-3 on page 17.

Figure 2-3: Adding filter rules



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

15 Check the Variable check box to the left of “currency.” This exposes the parameters for the variable.

16 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.

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.

25 To approve the application:

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

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

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.

Creating an application with more features

This tutorial demonstrates how to select and apply a template, create an application, create an event, and create a listener for the event. This tutorial also uses grid rules to manipulate the content and presentation of the data. See the *Unwired Accelerator Feature Guide* for more information about grid rules.

The workflow of this tutorial is divided into several procedures, so you can refer to them later when you create your own applications. Complete all the procedures to complete the tutorial.

❖ Selecting a template

In this step, use the Find Template window to locate and select a template.

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 the Select button to set this as the Content XSLT template for the XML Element. The Find Template window closes after you click Select. You have now searched for and selected a template.

❖ **Creating the application**

Next, create the XML application.

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

2 Click Next to continue

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

4 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. The Filter window displays.

5 On the Filter window, enter the following rules:

To 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” from the drop-down list.
    - 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” from the drop-down list.
    - 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” from the drop-down list.
    - 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” from the drop-down list.
- 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” from the drop-down list.
  - 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 only want to include these columns.
  - 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 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.

6 Click Next to continue. The Window Preview window displays the modified table in the lower part of the screen.

7 In Element name, enter `Top News` as the XML Element name.

8 Click Next to continue.

9 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 is added to the Application Builder.

10 In the Application Builder window, click Save.

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

General tab Name – enter `TopNews`, without quotes or spaces.

12 Click the Finish button.

13 Click OK to confirm.

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

15 Click New under Application Manager Status in the middle pane. The TopNews application displays in the detail pane.

❖ **Defining a click-across event**

In this step, define a client-side click-across event for the TopNews application using the hidden URL field.

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

2 In the Define ClickAcross Events window, click the Select button that is to the left of the data grid.

3 Click Next to continue.

4 Under Assign An Event, enter these values:

- Row – enter `all`. This places the event on the header as well as the records; alternatively you could 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`.
- Event Name – enter `TopNewsURL`.
- with Drop Down List – select "Cell value (other cell)."
- Formula Box – enter `$R0F1` to indicate any row (R0 indicates an index row) and in the first field (F1 indicates field 1) of the application. See the *Unwired Accelerator Feature Guide* for information about grid rules.
- Multi-value – deselect the check box.
- Client-side – select the check box.
- Notify Now – select the check box.
- Notify Across Page – deselect the check box.

5 Click the Add button to add the event. After a moment the second field in the grid is highlighted in blue to show the event has been defined for the field. The fields are underlined indicating a link has been established.

6 Click Next to continue. In the Preview window, a preview of the application, for which the event was defined, displays.

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

❖ **Creating a listener application**

In this step, create an application that listens for the TopNewsURL click-across event, and displays the URL for the news story.

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. The JSP Element Definition window displays.

4 On the JSP Element window, enter these values:

- Use Web Application – select this option.
- 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`.

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

---

5 Click the Preview button to preview the document display JSP page showing Yahoo's web site.

6 Click Next to continue.

7 In Element Name, enter `document display` as the element name.

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

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

9 Click the Template button in Application Builder to launch the Find Template window.

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

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

12 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.

13 In the Application Builder window, click Save.

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

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

Presentation tab Click the No Popup check box.

15 Click the Finish button to create the application.

16 Click OK to confirm.

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

18 When applications are first saved their status is set to "New." In the Application Manager, click on "New" in the list of status types that is just to the right of the Build menu.

❖ **Defining a client-side click-across listener**

In this step, define a client-side click-across listener on the NewsStory application using the TopNewsURL event defined earlier.

1 Right-click NewsStory, and select Define Listeners.

2 In Define ClickAcross Listeners, enter the following values:

- Event Name – enter `TopNewsURL`.
- Listener Param – select "url".
- Auto Submit – select this option.

3 Click the plus icon (+) to add the event-to-parameter listener association.

4 Click OK to save the listener to the application.

You have created a link between the TopNewsURL event you just created and the NewsStory listener application you created on page 23.

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 Feature Guide* and the *Enterprise Portal Development 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. You see the Database Element Definition window.

4 On the Database Element Definition window:

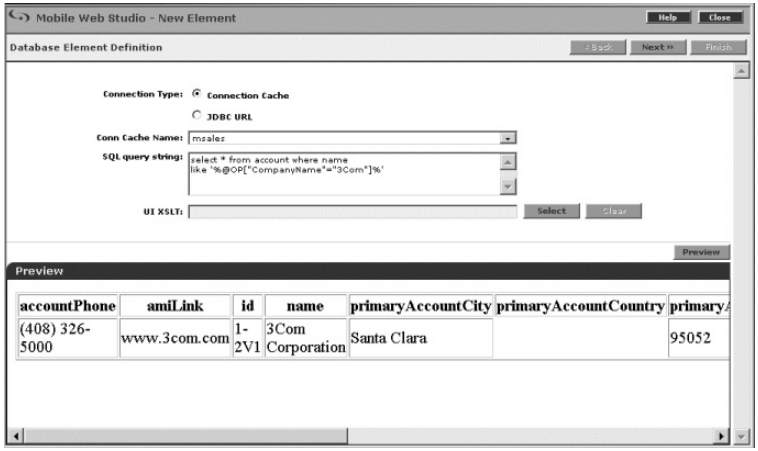
- Click the Connection Cache option.
- Conn Cache name – select `msales` from the drop-down list.
- SQL query string – enter `select * from account where name like '%@OP["CompanyName"="3Com"]%'.`

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

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

- 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 in the top right section of the window.

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." The "Labels are displayed in Record" option displays.
- Accept the default `1`, and click Next. The Filter window displays.

8 On the Filter window, click Next to continue as we will not use this feature in this tutorial. The parameter definition window displays with a list of parameters used to capture the table.

9 On the parameter definition window:

- Click the Variable check box to the left of CompanyName. This 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 application displays in the Element List.

14 Click Save.

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

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

16 Click the Finish button 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:

- Right-click the CompanyAccount application in the detail pane, 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.

Note 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 parameter definition window when you create the application.

Remember, 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. This capability 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 Feature Guide* for more click-across 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) included with the product. Then you use the Event wizard to create two events—one for extracting department information and one for extracting employee information. Finally you 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 31
- "Creating events" on page 40

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 described in the *Unwired Accelerator Feature Guide.*
- Make sure sampledb database running.

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 60.

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:

- SSCA Master – displays a list of departments and department heads within an organization.
- SSCA Department – 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.
- SSCA Employee – 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 extend the functionality so you can click an employee to display details about that employee.

Creating the SSCA Master application

In this step, define the SSCA Master 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 SSCA Master 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 Java Database Connection (JDBC) information. The JDBC connection allows the master application to access a database and extract specific database information.

The values in this example assume that the database included with Mobile Web Studio—sampledb—has been started and that it is accessible on port 4747.

a Select the JDBC URL option.

b Complete these options:

- Username – enter `dba`, which is the database user name.
- 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 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

6 Click Next. The Split window displays.

7 Click Next to bypass these options.

8 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. The Filter window displays.

9 On the Filter window, click Next. The parameter definition window displays.

10 On the parameter definition window, click Next. The Window Preview displays.

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 to create the application.

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

Content tab

- Name – enter `SSCA Master`.

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 SSCA Master 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 SSCA Master application in the detail pane.

Creating the SSCA Department application

This procedure describes how to define the drill-down application named SSCA Department. 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 25 for information.

❖ **Defining the SSCA Department 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.

The values in the following example assume that the database included with Mobile Web Studio—sampledb—has been started and that it 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 department heads for each department from sambledb:

```
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 run time. If the parameter is not defined, the @OP tag will be 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 default `1`, and click Next. The Filter window displays.

8 Click Next. The parameter definition window displays with a list of parameters.

9 On the parameter definition 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.
- 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` as the element name. 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 `SSCA Department`.

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 SSCA Department 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 SSCA Department application in the detail pane.

Creating the SSCA Employee application

Define the second drill-down application—SSCA Employee. 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 SSCA Employee 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 the sample database included with Mobile Web Studio—sampledb—has been started, and that it 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 sambledb:

Note For your convenience, 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 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 Date 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." The "Labels are displayed in Record" option displays.
- Accept the default `1`, and click Next. The Filter window displays.

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

- In the left-most drop-down list, select "Exclude field(s)."
- Make sure the second drop-down list is set to "number."
- In the text box, enter `1` to indicate you only want to include 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 parameter definition window displays, specify the @OP tag as an application parameter, and define Fran Whitney as the default value for Emp Name. Complete these options and fields (accept all other defaults):

- Variable – select the Variable option to the left of Emp Name.
- Display Name – accept `Emp Name`.
- Default Value – accept Fran Whitney.
- Type – accept 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 `SSCA Employee`.

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 SSCA Employee application displays in the detail pane.

19 Approve the application:

- Right-click the SSCA Employee 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 SSCA Employee 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 31. 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 41
- “Creating a link to employee information” on page 43

This procedure assumes you:

- Know how to login to Mobile Web Studio.
- Have already built one or more applications. This example uses the database applications you created in “Creating multiple-page applications” on page 31.

Note If the user who created the agent is deactivated or deleted, the Mobile Web Studio administrator must also locate the events/agents the user created and delete them also.

Creating a link to department information

In this procedure, create an event to link department information to the SSCA Master application.

❖ **Creating an event for department information**

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 SSCA Master and select Define Events.

The Define ClickAcross 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 SSCA Department application. To do so, make these changes (accept defaults for all others):

- Row – enter `all`. This places the event on the header as well as the records; alternatively you could 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 `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 SSCA Department.
- 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 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 the SSCA Department application and click Add. This forms the event association between the SSCA Master application and the SSCA Department 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 SSCA Employees 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 could 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 SSCA Employee.
- 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 - 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.

  Note For mobile applications, you must always create a server-side event, so the option should not be selected.

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

  The Search window closes, and the application details are displayed.

- 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 SSCA Master application in the detail pane, and click the Preview button.

9 Close the window to exit.

Creating a link to employee information

In this procedure, create an event to link employee information to the SSCA Master application.

❖ **Creating an event for employee information**

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 SSCA Department 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 SSCA Department application. To do so, make these changes (accept the defaults for all others):

- Row – enter `all`. This places the event on the header as well as the records; alternatively you could 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 `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 SSCA Department.
- 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 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, so the option should not be selected.

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

  The Search window closes, and the application details are added to the Name, Resource ID, and Window ID fields.

- 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 SSCA Master 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 Julie Jordan to view employee details about Julie.

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; and working with more grid rules. 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 Feature Guide* for more information about the continuous capture feature, and grid rules.

Note We recommend that when you create a continuous capture application and want to use parameters, create and save the application first, and 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. The resulting application can be downloaded 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 in this format:

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

where *hostname* is the machine on which Unwired Accelerator is installed, *domain* is the domain on which Unwired Accelerator is installed, and *port* is 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. The Login window displays.

c Click Next.

d 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.

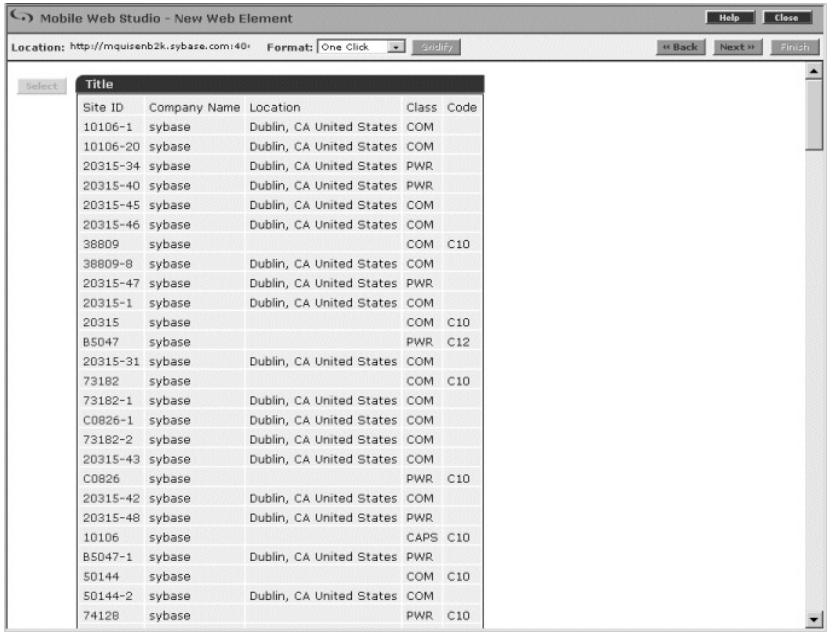
Note For the CustomerView application, valid entries are `sybase`, `ianywhere`, and `ebank`.

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 the Select button at the left of the five-column grid, and 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.” The “Labels are displayed in Record” option displays.
- Accept the default `1`, and click Next. The Filter window displays.

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 only want to use fields 1, 2, and 3.

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 parameter definition window displays.

8 Click Next to bypass the parameter definition window. The Window Preview window displays.

9 In Element Name, enter `customerSites` as the Web element name.

10 Click Next. The Continuous Capture window displays. This window provides you with a choice—to finish the creation of this particular element, or to 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 the mouse (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 50. 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 at the bottom of the window. 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 In Application Builder, click Preview at the top of the page and test the application by clicking on any of the site ID links. You should see details of the Bill To and Ship To page for the target site. Close the Preview window when you are finished.

17 Click Close to close Application Builder.

18 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.

19 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 Feature Guide* for more grid rule information.

Grid rules tutorial

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

- “Inserting a record” on page 52
- “Editing a record” on page 54
- “Inserting a field” on page 54

This tutorial assumes you have:

- Created and approved the customerSites application as described in “Continuous capture tutorial” on page 46.
- Read the grid rules information in the *Unwired Accelerator Feature Guide*.

Inserting a record

In this tutorial, use the Filter wizard to insert a new record before an existing record in a grid. The tutorial guides you through inserting a blank row. Later, in “Editing a record” on page 54, you will insert a heading in one of the fields in the new blank row.

❖ **Inserting a record**

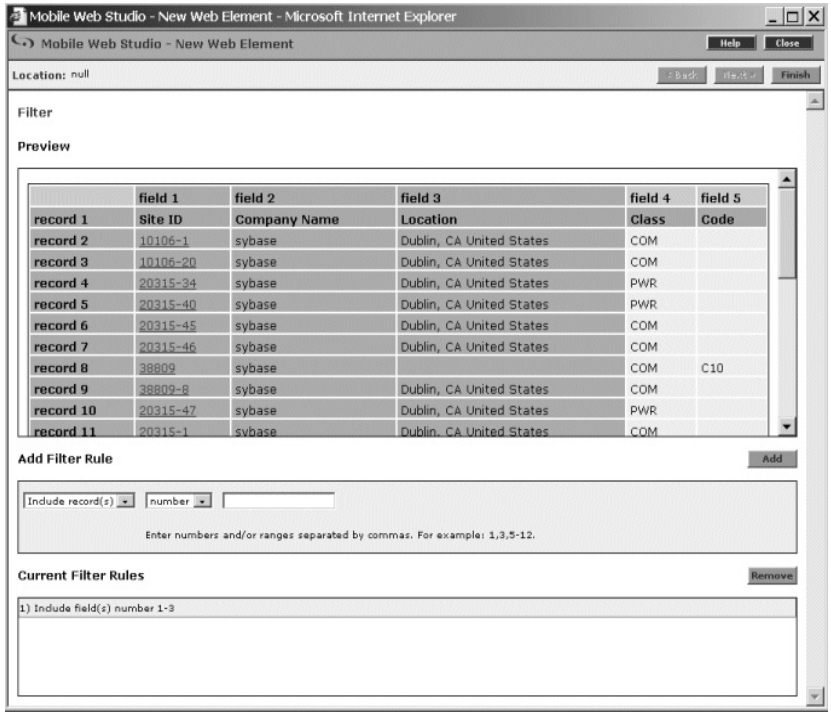
1 In Mobile Web Studio, access the customerSites application that you created in “Continuous capture tutorial” on page 46.

   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 Look for the Add Filter Rule section of the window, and 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 indicate you want to identify the existing record by number.

   d In the value field, enter `2` to indicate you want 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. Do not save the customerSites application. Instead, go to “Editing a record” on page 54.

Editing a record

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

❖ **Editing a record**

These steps assume that you have completed the steps in “Inserting a record” on page 52, and that the Filter window is still displayed.

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

2 Under Add Filter Rule, edit a record by altering fields in the record:

   a Select Edit Record from the drop-down list.

   b Select “number” from the drop-down list to indicate you are identifying the existing record by number.

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

   d For field, select “number” from the “number/label” drop-down list to indicate you are identifying 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 indicate you are entering 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.

   Do not save the customerSites application. Instead, go to “Inserting a field” on page 54.

Inserting a field

In this tutorial, use the Filter wizard to insert a new field in an existing record. This tutorial demonstrates using a label to specify a variable or a value.

❖ **Inserting a field**

These steps assume that you have completed the steps in “Editing a record” on page 54, and that the Filter window is still displayed. 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 Under Add Filter Rule, insert a new field:

a Select Insert Field from the drop-down list.

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

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

d Select Class from the drop-down list to indicate you want 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.

3 Click Finish to close the Finish window.

4 On 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 re-add the element to the template.

5 Click Save in the Application Builder window to save the customerSites application, and 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 mobile device displays the embedded data 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.

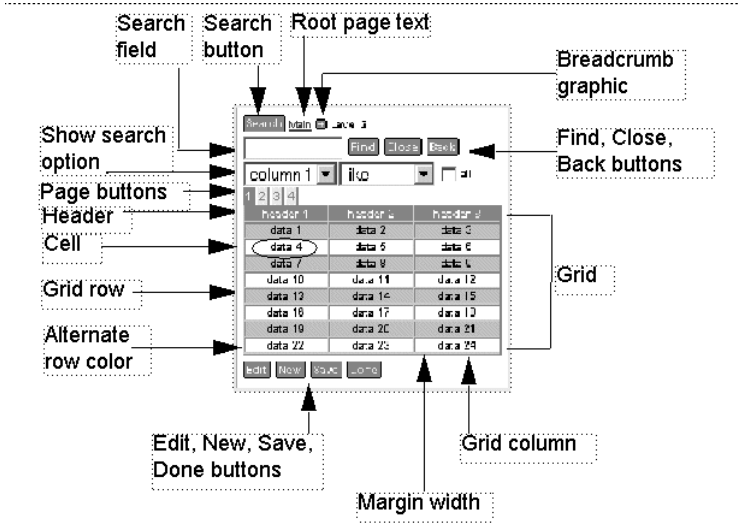
This section describes how to customize mobile application templates for PDAs such as PocketPC and Palm OS. See “Customizing online BlackBerry templates” on page 115 for template customization procedures for the BlackBerry device. See the *Unwired Accelerator Feature Guide* for a full description of what you can customize.

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 on page 56 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**

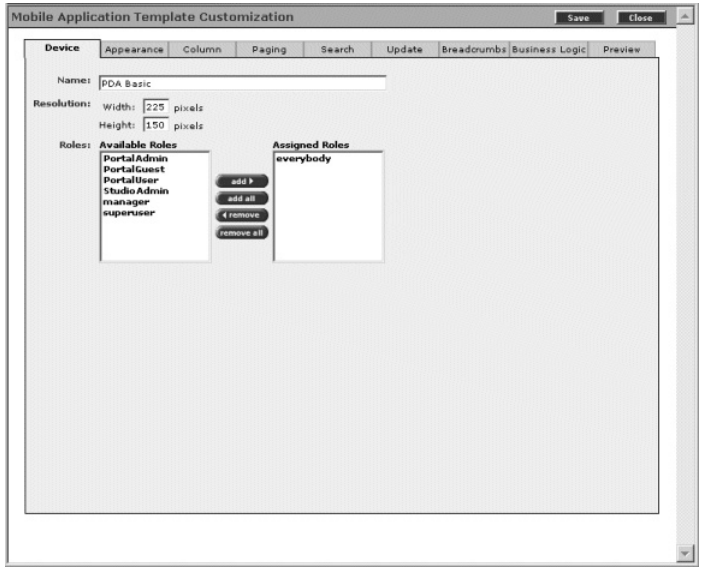
1 Log in to Mobile Web Studio.

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 Set template parameters, using the tabs in the Mobile Application Template Customization window (accept all other defaults):

Device Select this tab to change the template name, mobile application resolution, and assigned roles:

- Name – enter `PDA Blue`.

Appearance Select this tab to 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 Select this tab to 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.

Preview Select this tab to view a graphical representation of your template settings.

6 Click Save in the top right corner of the window. This saves 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, based on the personalization key. 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 the building blocks first—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 will be 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, the tutorial shows you how to 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 will show 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 pre-configured 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 a personalization key. In this case, the personalization key “region” will 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, create a new key:

   a In 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 how 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 direct JDBC connection to sampledb, as demonstrated in "Multipage mobile application tutorial" on page 30.

❖ **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. If you try to use Preview, you will receive an error.

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 parameter definition window displays, with a list of the parameters used to create the database table.

i On the parameter definition window, make these modifications (accept the defaults for all others).

.

- Quantity – click the Variable box and make this change:

  Select “update” from the “kind” drop-down list.

- Click the Variable box next to the other two parameter to make all three parameters available to users to input values, but 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, approve the application:

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

10 Select Approved from the Application Manager Status menu. You see your 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 query. You will also link the customer list to an 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. The Filter window displays.

7 Click Next. The parameter definition window displays.

8 On the parameter definition 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. An Add button appears, which you can ignore.

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 61).

- 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, approve the application:

- 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.

Creating a link between the applications

This section shows how to link the update application (updateOrder) you created in "Creating an update application" on page 62 with the customer order application (customerOrder) you created in "Creating a customer list" on page 63.

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 the Edit button.

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

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

Content tab Make this entry:

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

  On Find Portlet window, click the Search button, locate and select updateOrder, and click Add.

Click OK to close the Properties Editor.

5 Click Save to save the changes.

6 Click OK to confirm.

7 Click Close to close Application Builder.

Defining a listener for the cust_id field

This section shows how to create a listener for the cust_id field. The listener will detect activity in the cust_id field.

❖ **Creating a listener for cust_id**

1 From the Application Builder, select Approved from the Application Manager Status menu.

1 In the detail pane, right-click customerOrder, and select Define Listeners. The Define ClickAcross Listeners window displays.

2 Define a listener for cust_id, using these settings:

- Event Name – enter `cust_id`.
- ListenerParam – make sure `cust_id` is selected.
- Check Auto Submit
- Click the plus (+)

3 Click OK to save.

Creating an employee list

This section 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 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 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 record 1 as the Label. To do so:

- Click the Records Contain Labels check box.
- Accept `1` in the Labels are displayed in Record field.

7 Click Next. The Filter window displays.

8 Click Next. The parameter definition window displays.

9 On the parameter definition 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. The Add button displays, which you can ignore.
- 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 61).

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 Click Save to create the application.

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

Content tab Make this entry:

- Name – enter `employeeSales` (no spaces).

16 Click Finish.

17 Click OK to confirm.

18 Click Close to close Application Builder.

19 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.

20 In Mobile Web Studio, approve the application:

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

21 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 that you created in "Creating a customer list" on page 63). The event links the cust_id field in employeeSales to the customerOrder application. 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 ClickAcross 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 `all`. This places the event on the header as well as the records; alternatively you could enter `2-` (a 2 followed by a dash, no space) to indicate every record from 2 to the last record, excluding the header).

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

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

d Client-side – uncheck to indicate this is a server-side click-across event.

e Click "Find application." In the Search window, click the Search button, and select the customerOrder application and click Add.

f Click Add. Column 4 is now selected and the 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 mobile devices using M-Business Anywhere. See Chapter 7, “Managing M-Business Anywhere” for additional tutorials for working with M-Business Anywhere.

If you are using BlackBerry Enterprise Server to deploy mobile applications to BlackBerry devices, instead of M-Business Anywhere server, see Chapter 9, “Deploying Applications to BlackBerry Devices” for instructions.

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.

Publishing the application as a 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.

❖ **Publishing the application as a mobile application**

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 `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 “Managing group applications” on page 90.

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 “Sales” group from the drop-down list.

   b Click OK to save.

   c Close the window.

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.

   c Click Save, and click OK to confirm.

   d Close to close Page Builder.

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

Trying out the employeeSales application

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

❖ **Using the mobile application (Portal Interface)**

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

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

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

```
http://lab2k.sybase.com:4040/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 Try out the employeeSales application. By default, "Western" is selected in the region drop-down list, and customers in the Western region are displayed in the cust_id column.

   a Click 119 in the cust_id column. Data displays for Thomm Smith.

   b Click Refresh in the upper right corner of the application, and click 198. Data displays for Sheng Chen.

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

   d Select "Central" from the region drop-down list. Customers in the Central region are displayed in the cust_id column.

   e Select 201 in the cust_id column. Data displays for Amit Singh.

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

4 Personalize the region parameter to only display customers in the Eastern region:

   a Click My Info, and select the Personalize tab.

   b Region key – enter `Central`.

   c Click Done.

5 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 Eastern is included.

   c Click on several links in the cust_id column, and view the details. Now only data for the Eastern region is represented.

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

❖ **Using the mobile application (Mobile Device)**

You can use a mobile device, or a mobile device simulator such as M-Business Anywhere Client.

1 Using your synchronize software, 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 on the employeeSales_app link to view the mobile application.

CHAPTER 6

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 using the charting post-processing wizard. Drill-down charts 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 only resized 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 Stock Details 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 the Add button to select Web Element

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 Yahoo 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 to the left of the top grid capture, then click Next.

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

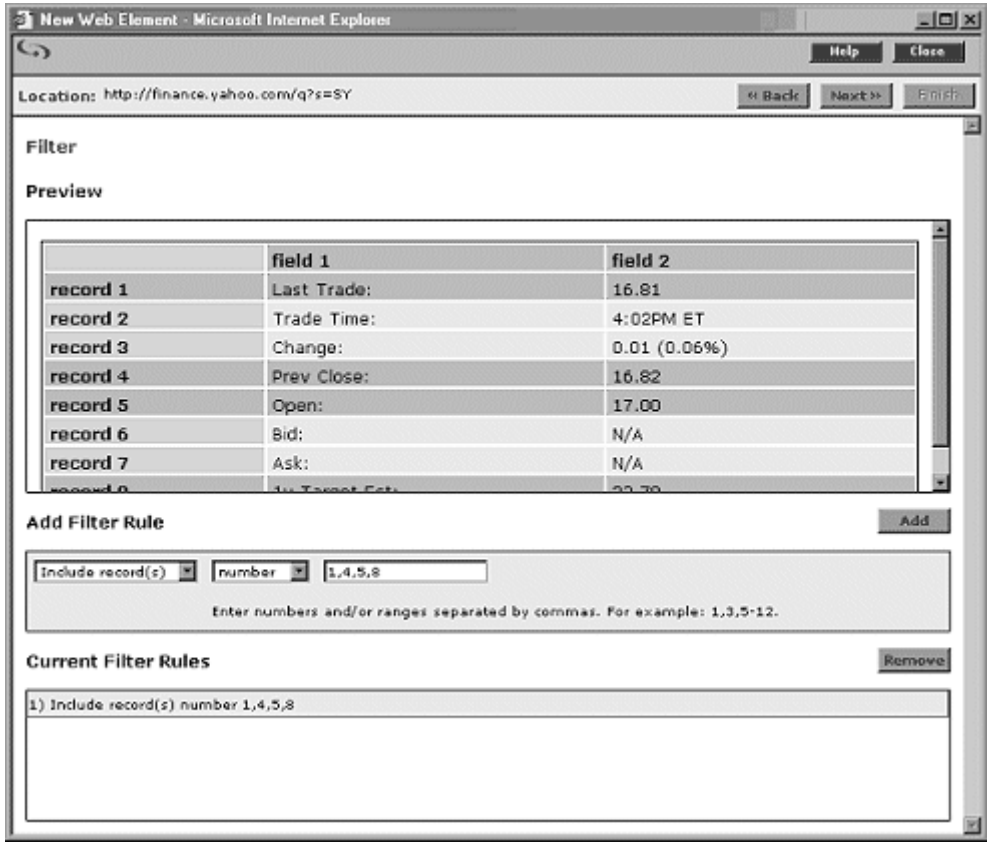
10 On the Define window, click Next to bypass the options.

11 On the Filter window, in the Add Filter Rule section, add a rule to include some of the rows. 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. The parameter definition window displays.

13 On the parameter definition 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 – enter `SY`.

- Type – select None.

Click Next.

14 On the Window Preview, enter `Stock Details` 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 `Stock Details`.
- In Context – select this option.

Roles tab Click Add All to add all of the available roles to the assigned roles list.

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 Stock Details application in the details pane and select Create Chart. The Create Chart window displays.

20 Under Choose a Selection, click Select next to the table and click Next.

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

- Chart Title – enter `Stock Details`.
- 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 Chart Parameters window, 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 Click Close in the upper-right corner to close Application Builder.

25 In Mobile Web Studio, click New under Application Manager Status. The Stock Details application displays in the detail pane.

26 Approve the application:

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

27 Select Approved under Application Manager Status and verify the Stock Details 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 the Add button to select Web Element.

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 middle column below Top Stories and above Market Overview.

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	Last Trade2	Change	Change2	Volume	Related Information
INTC	INTEL CORP	May 28	28.55	+0.10	+0.35%	48,060,112	Chart, Messages, Profile, more...
MSFT	MICROSOFT CP	May 28	26.23	+0.04	+0.15%	37,396,196	Chart, Messages, Profile, more...
SIRI	SIRIUS SAT RADI	May 28	3.00	-0.04	-1.32%	36,337,248	Chart, Messages, Profile, more...
CSCO	CISCO SYSTEMS	May 28	22.37	-0.17	-0.75%	36,227,812	Chart, Messages, Profile, more...
ORCL	ORACLE CORP	May 28	11.40	-0.08	-0.70%	30,497,130	Chart, Messages, Profile, more...
AMAT	APPLIED MATL	May 28	19.97	+0.37	+1.89%	25,704,300	Chart, Messages, Profile, more...
SUNW	SUN MICROSYS	May 28	4.17	-0.02	-0.48%	24,968,772	Chart, Messages, Profile, more...
CIEN	CIENA CORP	May 28	3.59	+0.22	+6.53%	19,078,304	Chart, Messages, Profile, more...
LVLT	LEVEL 3 COMMS	May 28	3.84	+0.25	+6.96%	17,073,468	Chart, Messages, Profile, more...
YHOO	YAHOO INC	May 28	30.66	+0.10	+0.33%	16,683,664	Chart, Messages, Profile, 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 parameter definition 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, make this change (otherwise accept the defaults):

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 next to the table 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 Stock Details 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 Stock Details 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 Stock Details charting application with a bar chart for the selected company.

Note The Most Actives application is used in "Composite application tutorial" on page 97.

CHAPTER 7

Managing M-Business Anywhere

This chapter describes how to manage M-Business Anywhere from Mobile Web Studio.

Overview

Use the M-Business option on Mobile Web Studio to administer a subset of M-Business features, including:

- 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.

M-Business Anywhere tutorial

This tutorial shows you how to manage M-Business Anywhere categories and channels, and groups from Mobile Web Studio. You can create, update, or delete each of these objects. On each list window there are New, Edit, and Delete buttons. Also, each of the list windows can have multiple selections for the delete operation.

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
- Are familiar with M-Business Anywhere, as described in the *M-Business Server Administration Guide* located at:

  `http://localhost:8091/enterprise_doc/Admin_Mbiz.pdf`
- Can access and administer M-Business Anywhere through a browser
- Know how to log in to Mobile Web Studio
- Know how to create and approve an application in Mobile Web Studio

Managing channels

Channels are 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.

Working with categories

You can organize your public channels by grouping them together under categories. You can assign a public channel to a category when you create a new public channel. See “Creating a new public channel” on page 88.

❖ **Creating a new category**

1 Log in to Mobile Web Studio with a user login account that has "admin" privileges for M-Business Anywhere (such as `masuper`/`m8super`).

2 Select M-Business from the left pane. The M-Business Manager menu displays.

3 Select Channels | Categories, and click New in the toolbar. The New Category window displays.

4 Enter a new category:

- Name (required) – enter `Search` as the name of the new category.
- Description – enter `Web search channel` as the description of the new category.
- Subcategory of – accept the default of None (Miscellaneous) from the drop-down list.
- Click OK to save the new category.
- Click OK in the confirmation window. The new category displays in the detail pane.

5 Select Channels | Categories, click the New button, and enter another new category:

- Name (required) – enter `Search2` as the name of the new category.
- Description – enter `Web search channels` as the description of the new category.
- Subcategory of – accept the default of None (Miscellaneous) from the drop-down list.
- Click OK to save the new category.
- Click OK in the confirmation window. The new category displays in the detail pane.

❖ **Editing a category**

1 From the M-Business Manager menu, select Channels | Categories, right-click `Search2`, and select Edit. The Edit Category window displays.

2 Change the description to `Web search channel 2`.

3 Click OK to save the category.

4 Click OK in the confirmation window. The new category description displays in the detail pane.

❖ **Deleting a category**

1 From the M-Business Manager menu, select Channels | Categories, click `Search2` to high-light it, and click Delete in the toolbar.

2 Click Yes in the confirmation pop-up to delete the category.

3 Click Yes in the confirmation window.

4 Click Yes. The category no longer displays in the detail pane.

Note You can delete more than one category at the same time by pressing Ctrl and selecting the categories, then right-clicking on any of the categories and selecting delete.

Working with public channels

This section describes the steps to create a public channel that you can display and access on an M-Business client.

❖ **Creating a new public channel**

1 Log in to Mobile Web Studio.

2 Select M-Business from the left pane. The M-Business Manager menu displays.

3 Select Channels | Public, and click New in the toolbar. The New Public Channel window displays.

4 Enter a new public channel:

- Title (required) – enter `Google` as the name of your new channel.
- Location (required) – enter `http://www.google.com` as the URL of the channel content.

  Click Preview to preview the channel content, then close the Google window.
- Category – select “Search” from the Category drop-down list. This is the category in which your new channel is grouped.
- Description – enter `test` as the description of your new channel.
- Channel Size Limit (KB) – enter `100` as the maximum size in kilobytes (KB) that the entire channel can consume.

- Link Depth – enter `0` to indicate how many levels of hypertext links to traverse when downloading channel content to the device.

You can use these options, by clicking the check boxes to the left, but they are not used in the tutorial:

- Include Images – select this option to include all the images from the channel.
- Follow Offsite Links – select this option if M-Business Anywhere server must to fetch an HTTP address or other Web-based content from a server other than the one that hosts the channel.
- Allow Binary Distribution – unselect this option. Select this if the channel is a binary file, for example, an *.exe* or *.dll* file.
- Auto Subscribe For Users – unselect this option for the tutorial. If you select this option, all M-Business users are automatically subscribed to this public channel.

5 Click OK to save your new public channel, and click OK to confirm.

6 You see the new channel in the list of public channels.

❖ **Editing a public channel**

Do not edit the channel because you need it in a later tutorial. This procedure is provided in case you need it.

1 From the M-Business Manager menu, select Channels | Public. The list of public channels displays. Right-click the channel to edit from the list, and select Edit.

2 The Edit Public Channel window displays. Make the desired changes to the public channel, and click OK.

Click Cancel to return to the originating page without saving the changes.

❖ **Deleting a public channel**

Do not delete the channel because you need it in a later tutorial. This procedure is provided in case you need it.

1 From the M-Business Manager menu, select Channels | Public. The list of public channels displays. Right-click the channel to delete from the list and select Delete.

2 Click Yes in the confirmation pop-up to delete the channel.

Click No if you do not want to delete the channel.

Note You can delete more than one public channel at the same time by pressing Ctrl and selecting the public channels, then right-clicking on any of the selected channels and selecting delete.

Managing group applications

You can create groups to manage how you assign channels to your users. By assigning users to a group, you automatically grant them access to all the channels assigned to the group account. In this tutorial, create a new group and add members to the group.

Working with groups

❖ **Creating a new group**

1 Log in to Mobile Web Studio.

2 Select M-Business from the left pane. The M-Business Manager menu displays.

3 Select Group Applications | Groups, and click New. The New Group window displays.

4 Create a new group:

- Name – enter `employees`.
- Description – enter `remote employees`.
- Type – select “Optional” from the drop-down list.

Click OK.

5 In the confirmation pop-up window, click OK. The new group displays in the detail pane.

❖ **Adding members to a group**

1 From the M-Business Manager menu, select Group Applications | Groups, right-click `employees`, and select "Members". The Group Members window displays.

2 From Available Users, select "Add All" to add all available users to the group.

Click OK.

3 In the confirmation pop-up window, click OK.

Working with Web channels

You can list the Web channels in all groups. You can sort and filter the web channels by groups.

❖ **Adding a new group Web channel**

1 Log in to Mobile Web Studio.

2 Select M-Business from the main menu in the Mobile Web Studio left pane. The M-Business Manager menu displays.

3 Select Group Applications | Web, and click New in the toolbar.

4 The New Group Web Channel window displays.

5 Create a Web channel:

- Title – enter `Google`.
- Location – enter `http://www.google.com`.
- Group – select `employees` from the drop-down list.
- Channel Size Limit – accept the default of 100. This is the maximum size in kilobytes (KB) that the entire channel can consume.
- Link Depth – Enter `1` to indicate number of hypertext link levels to traverse when downloading channel content to the device.
- Color Depth – select "Automatic" from the drop-down list.
- Refresh Rate – accept the default selection of Every Sync.

Click OK to save the new group Web channel.

6 Click OK on the confirmation window.

❖ **Editing a group Web channel**

Do not edit the Google Web channel because you need it in a later tutorial. This procedure is provided in case you need it.

1 From the M-Business Manger menu, select Group Applications | Web. Right-click the channel to edit, and select Edit.

2 In the Edit Group Web Channel window, make the desired changes and click OK.

Click Cancel to return to the originating window without making changes.

❖ **Deleting a group Web channel**

Do not delete the group Web channel because you need it in a later tutorial. This procedure is provided in case you need it.

1 From the M-Business Manger menu, select Group Applications | Web, right-click the channel to delete, and select Delete.

2 In the pop-up confirmation window, click Yes.

Click No to return to the originating window without deleting the group Web Channel.

Note You can delete more than one group Web channel at the same time by pressing Ctrl and selecting the group Web channels, then right-clicking on any of the group Web channels and selecting delete.

Working with database channels

You can list the database channels in all groups. You can sort and filter the database channels by groups.

❖ **Adding a new database channel list**

1 Log in to Mobile Web Studio.

2 Select M-Business from the left pane. The M-Business Manager menu displays.

3 Select Group Applications | Database, and click New in the toolbar. The New Group Database Channel window displays.

- Name – enter `employees_db`.

- Data URL – enter the default used in the *M-Business Server Administration Guide* (available from the M-Business Anywhere user interface):

  ```
  http://demo.avantgo.com/demos/db/test.xsd
  ```

- Schema URL – enter the default used in the *M-Business Server Administration Guide*:

  ```
  http://demo.avantgo.com/demos/db/test.xsd
  ```

- Format – select Attribute Based.
- Group – from the Group drop-down list, select `employees`.

Click OK to save, and OK to confirm.

❖ **Editing a group database channel**

Do not edit the database channel because you need it in a later tutorial. This procedure is provided in case you need it.

1 From the M-Business Manager menu, select Group Applications | Database, right-click the database channel to edit, and select Edit.

2 In the Edit Group Database Channel window, make the desired changes, and click OK.

Click Cancel to return to the originating window without making changes.

❖ **Deleting a group database channel**

Do not delete the database channel because you need it in a later tutorial. This procedure is provided in case you need it.

1 From the M-Business Manager menu, select Group Applications | Database, right-click the database channel to delete and select Delete.

2 In the pop-up confirmation window, click OK to delete the group database channel.

Click Cancel to return to the originating window without deleting the group database channel.

Note You can delete more than one group database channel at the same time by pressing Ctrl and selecting the group database channels, then right-clicking on any of the group database channels and selecting delete.

Managing users

The Users list shows all M-Business Anywhere users. When you go to the Users menu and right-click a user in the list, you can add, update, and delete users. You can also list the user's personal, public, and group channels (see "Working with groups" on page 90 to determine what the user subscribes to automatically through group membership). This tutorial describes how to add, edit, and delete users.

See "Managing Unwired Accelerator users" on page 9 for information about and guidelines for working with M-Business Anywhere users through Mobile Web Studio.

❖ Adding new users

1 Select M-Business from the left pane. The M-Business Manager menu displays.

2 Select M-Business | Users, and click New in the toolbar. The New User window displays.

3 Create the new user:

- User name – enter `Test`
- First Name – enter `Test`
- Last Name – `User`
- Password – enter `password`
- Confirm Password – enter `password`

Click OK to save the new user.

4 In the confirmation pop-up window, click OK.

5 Repeat steps 1 – 4 to create users called `Test1`, `Test2`, and `Test3`.

The new users display in the User Name list.

❖ Editing users

1 From the M-Business Manager menu, select Users, right-click on `Test1`, and select Edit.

2 Update the User name field with your name, and click OK to save the change.

3 In the confirmation pop-up window, click OK.

❖ **Deleting users**

1 From the M-Business Manager menu, select Users, right-click `Test2`, and select Delete.

2 In the confirmation pop-window, click Yes to delete the user, and click OK to confirm.

Note You can delete more than one user at the same time by pressing Ctrl and selecting the users, then right-clicking on any of the users and selecting delete.

CHAPTER 8

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 6, “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:

```
http://finance.yahoo.com/actives?e=o
```

4 Click Next in the top right portion of the New Web Element window.

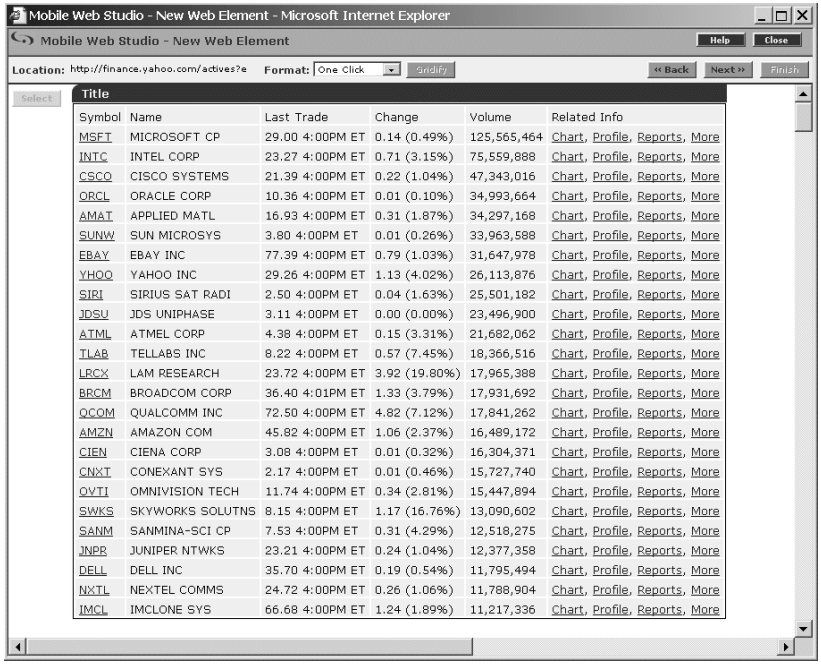
5 Perform a one-click capture by moving your mouse over the six-column Volume Leaders table under U.S. Most Actives table, and clicking the mouse once (a flag follows your cursor with abbreviated instructions).

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 8-1: 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 parameter definition 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, which you can ignore.

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 8-2: 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.
- 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 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:

```
http://money.cnn.com/markets/commodities.html
```

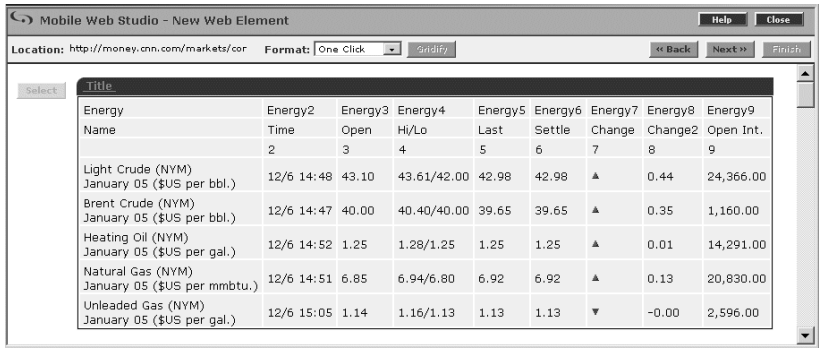
4 When the window redisplays, click Next in the top right portion of the New Web Element window.

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, ENERGY3, ENERGY5, ENERGY7, ENERGY9, and so on (you can use the horizontal scroll bar to view wide tables, and the vertical scroll bar to scroll through the various presentation options).

Figure 8-3: 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.
- Click Add. In Preview, the records you selected are highlighted in blue (Name, Open, Hi/Lo, and Settle), 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, 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 1, and enter `Stocks` to rename the tab.

5 Double-click to highlight Tab 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:

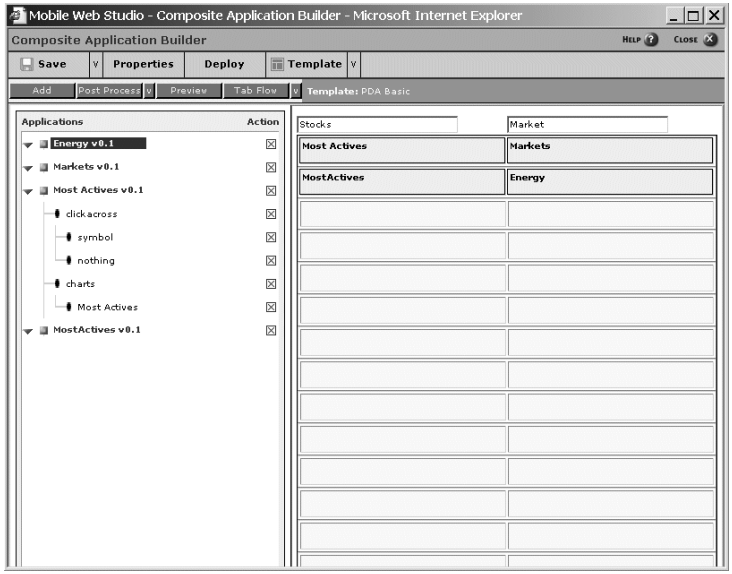
- Energy – created in “Creating and approving the Energy application” on page 102.
- Markets – created in “Creating and approving the Markets application” on page 100.
- Most Actives – created in “Creating the Most Actives stock application” on page 79.
- MostActives (no space) – created in “Creating and approving the MostActives application” on page 97.

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 8-4: 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.

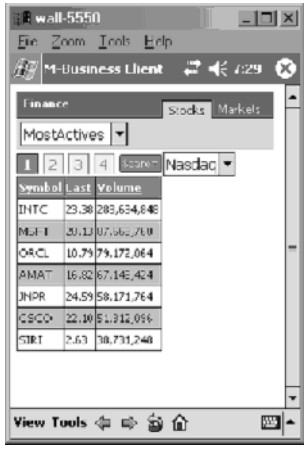
13 In Group, select `employees` (the group you created in "Working with groups" on page 90) from the drop-down list, and click OK to deploy the Composite Application to that group.

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 8-5: 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 9

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-grid data.

Once 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 intended for use on BlackBerry devices. Topics include:

- "Setting up applications for the BlackBerry device" on page 110
- "Establishing list and detail settings" on page 113
- "Customizing online BlackBerry templates" on page 115

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 Currency application (CurrencyTable) described in "Creating a basic application" on page 13.
- Have created the Sales application (employeeSales) described in "Mobile applications with transaction support tutorial" on page 60.
- Have created the SSCA Master application described in "Creating multiple-page applications" on page 31.

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.

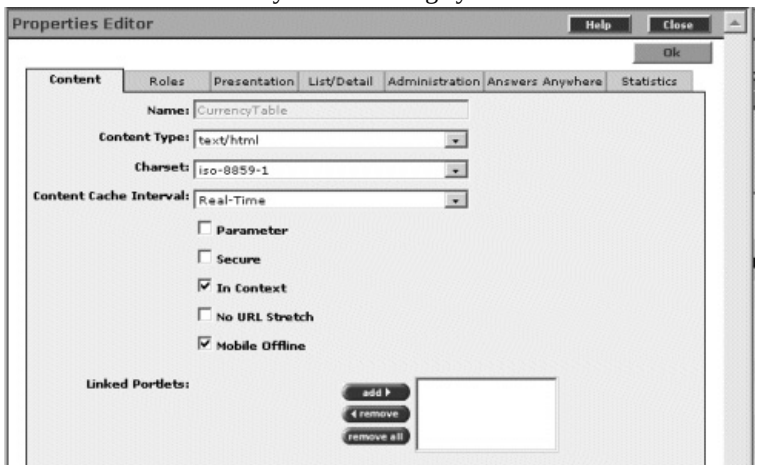
❖ **Setting up applications for BlackBerry (offline mode)**

1 In Mobile Web Studio, select Applications from the Build menu in the left pane, select Approved under Application Manager, and select an existing application to make available on the BlackBerry device. This tutorial uses the Currency application (CurrencyTable) you created in "Creating a basic application" on page 13.

2 Click Edit.

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

4 In Properties Editor, select “Mobile Offline,” which makes this application viewable on a BlackBerry device during synchronization.



Note You need to select “Mobile Offline” 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.

❖ **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, and 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, and click Add.
- Click Save.
- Enter Currency for name, and select Add All for both Navigation Styles and Roles.
- Click OK to save, 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; and click OK to confirm).

3 Deploy the page group:

- Select Page Groups, and Approved.
- Select Currency in the detail pane.
- Click the Update button, and 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.com:port/onepage/mpindex.jsp
```

For example:

```
http://lab2k.sybase.com:4040/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.

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.

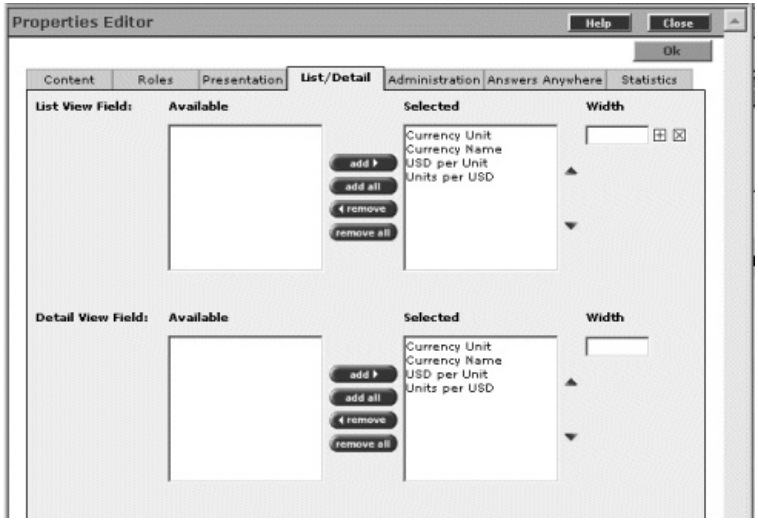
❖ **Setting up list and details settings for an application**

1 In Mobile Web Studio, select Applications from the Build menu in the left pane, select Approved under Application Manager, and select an existing application to make available on the BlackBerry device. In this example, continue to use the Currency application (CurrencyTable).

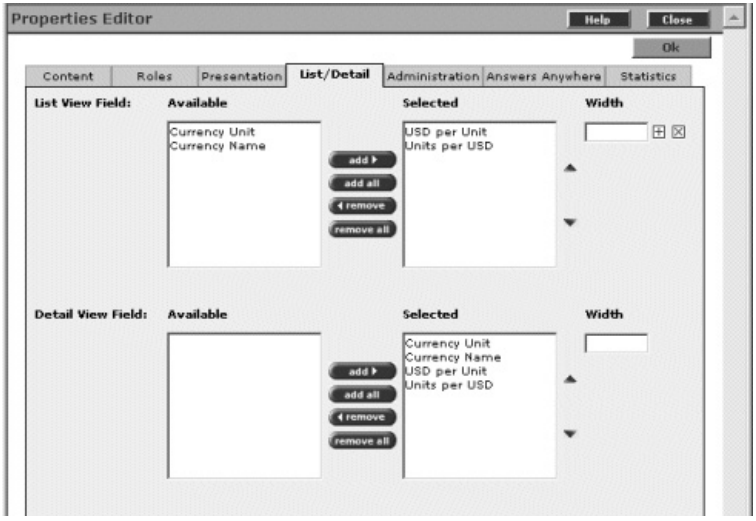
2 Click Edit. The Application Builder displays.

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

4 Select the List/Detail tab on this window. 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.



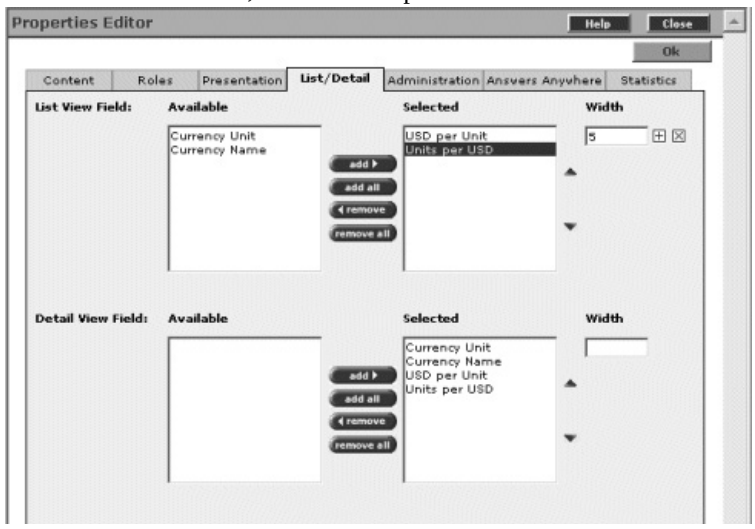
5 For List View, select Currency Unit and Currency Name, and click Remove to move them from the Selected list to the Available list. On the BlackBerry, USD per Unit and Units per USD will be displayed in the list view.



6 Change the order of the columns to display in Detail View, 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 the 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 close the Properties Editor window.

9 Click Save to save the changes to the application, and OK to confirm.

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 The BlackBerry template can only be used for grid data and not for non-grid (or unstructured) data, such as a Microsoft Word document. You can convert unstructured data to a grid format using JSP, and then apply the BlackBerry template.

❖ **Customizing BlackBerry templates for online mode**

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.

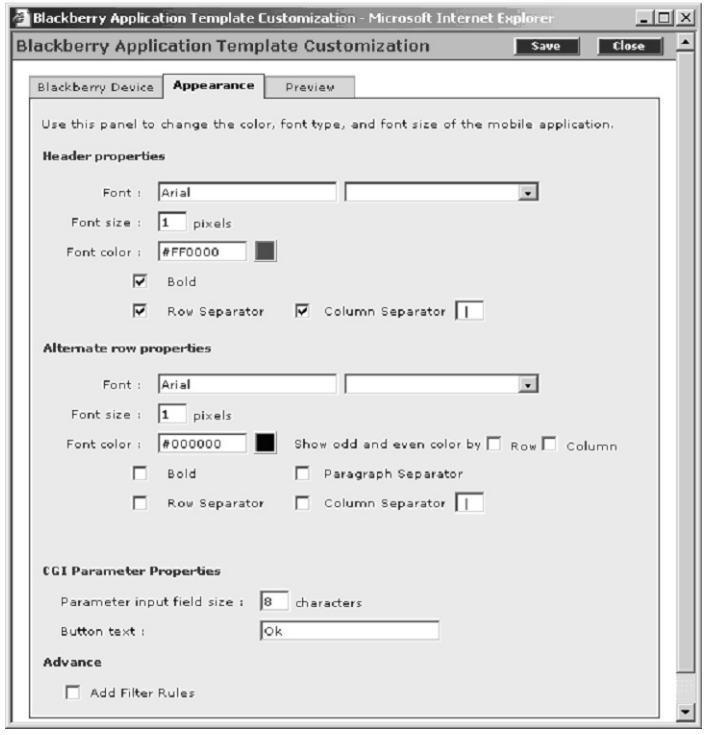
3 On the Template Upload, click Wizard and select BlackBerry.

4 In the BlackBerry Application Template Customization editor, make these selections to change the header appearance (otherwise accept the defaults):

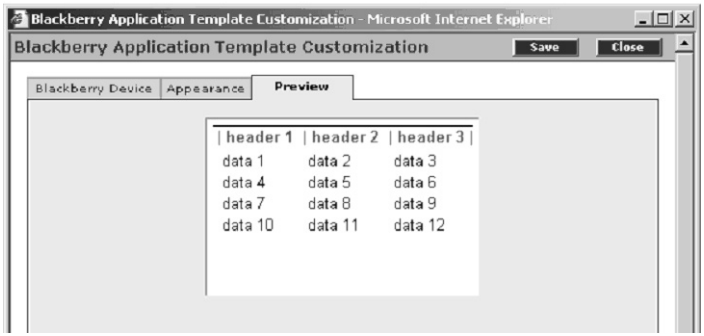
BlackBerry Device tab In Name, enter `BlackBerry2`.

Appearance tab Under Header Properties, make these changes to the header appearance (accept the defaults for all others):

- Change Font Size to 3.
- Enter #FF0000 for Font Color.
- Select Bold, to use a boldface font for the header.
- 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 to separate columns.



Preview tab Click the Preview tab to preview the changes.



5 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 to separate each row's record.

Preview tab Click Preview to see the changes you made.

The BlackBerry2 template can be applied 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 will be used on the application.

6 Click Finish.

7 On Template Upload, select all roles.

8 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 BlackBerry 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 set up for the BlackBerry device as described in the *Unwired Accelerator Installation Guide*

Retrieving applications on the BlackBerry device

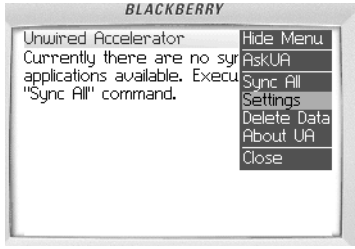
This section describes how to retrieve applications on the BlackBerry device by synchronizing with M-Business Anywhere server or BlackBerry Enterprise Server. You can synchronize all applications or individual applications.

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 122 for additional information.

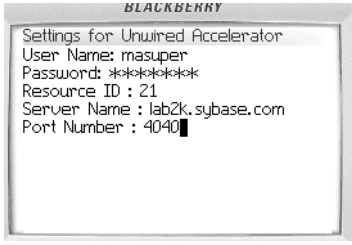
❖ **Retrieving applications on a BlackBerry device**

1 Make sure the Unwired Accelerator BlackBerry client is running on the device (you should see the UA icon included in the application menu).

2 Enter your user name, password, and server settings if you have not already done so. You can access the settings screen by clicking the Settings menu on the trackwheel menu.

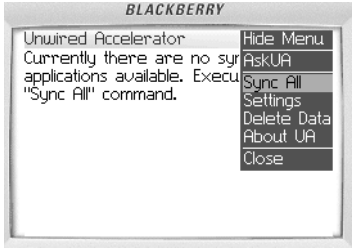


3 In the Settings for Unwired Accelerator screen, enter your username, password, resource id, server name and port number. This example uses the `masuper`/`m8super` account.

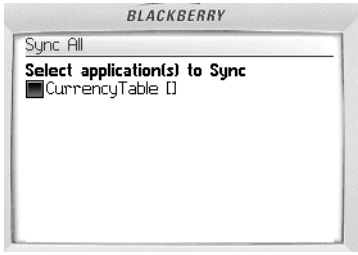


4 Select Save from the trackwheel menu, and save the settings.

5 Select Sync All from the trackwheel menu.

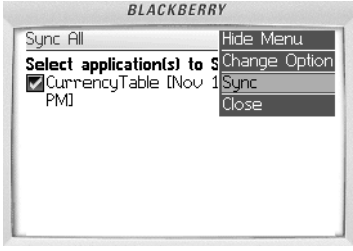


A list of available applications displays.

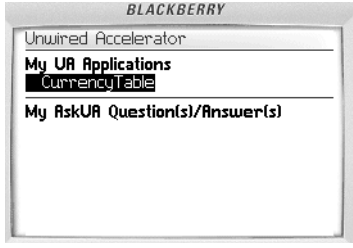


6 Select the CurrencyTable application, select Change Option from the trackwheel menu, and select the application. A check mark displays to the left of the application. (If you have multiple applications, you can repeat this step to select several individual applications to sync).

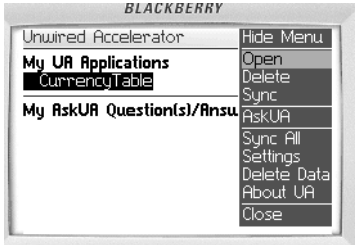
7 Select Sync from the trackwheel menu. The selected applications are synchronized. During the synchronization process, status messages display to keep you informed of the progress.



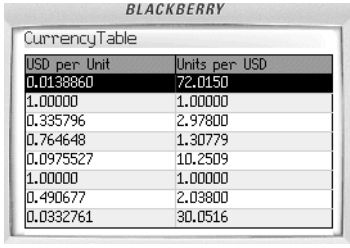
8 Select OK when the Sync Completed messages displays. The selected applications appear under My UA Applications.



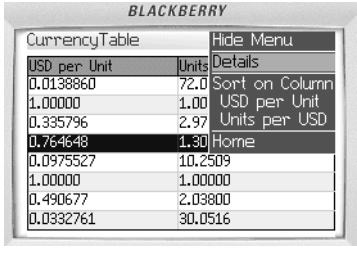
9 Select CurrencyTable, and select Open from the trackwheel menu.



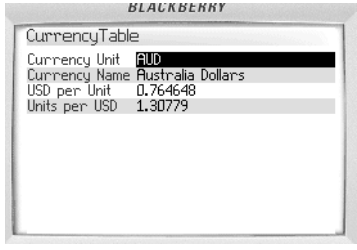
The list view displays when the application is running. The two columns you elected to display in list view—USD per Unit and Units per USD—are shown.



10 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 elected 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 Unwired Accelerator applications and data from the BlackBerry device. These are the persistent applications and data that are stored in memory on the device, not the source applications or data. This is useful to free up memory and space, or to start fresh.

❖ **Clearing out applications and data**

1 Select Delete Data from the trackwheel menu.

2 Select “Delete all” from the following list of options:

- Delete all
- Delete applications
- Delete AskUA results

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 118.

3 Select Yes to confirm.

Using drill-down applications on the BlackBerry device

This section describes how to use drill-down applications (also known as server-side, click-across applications) on a BlackBerry device.

❖ **Using drill-down 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 an existing application to make available on the BlackBerry device. This example uses the SSCA Master application created in "Multipage mobile application tutorial" on page 30.

2 In Mobile Web Studio, set the SSCA Master application to be "Mobile offline" as described in "Setting up applications for the BlackBerry device" on page 110.

3 On the BlackBerry device, sync the application as described in "Retrieving applications on the BlackBerry device" on page 118.

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 bread crumb 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 Currency application (CurrencyTable) that you created in "Mobile applications with transaction support tutorial" on page 60.

2 If you have not already done so, in Mobile Web Studio, set the CurrencyTable application to be "Mobile offline" as described in "Setting up applications for the BlackBerry device" on page 110.

3 On the BlackBerry device, sync the application as described in "Retrieving applications on the BlackBerry device" on page 118.

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 an existing application to make available on the BlackBerry device. This tutorial uses the Sales application (employeeSales) you created in “Mobile applications with transaction support tutorial” on page 60.

2 In Mobile Web Studio, set the application to be “Mobile offline” as described in “Setting up applications for the BlackBerry device” on page 110.

Note You need to select “Mobile Offline” only for the master application, not its linked applications. For example, you would select “Mobile offline” for the employeeSales application you created in “Creating an employee list” on page 67 (the master application), but not the customerOrder application you created in “Creating a customer list” on page 63 (its linked, or “child” application).

---

3 On the BlackBerry device, sync the application as described in “Retrieving applications on the BlackBerry device” on page 118.

4 Open the application as described in “Retrieving applications on the BlackBerry device” on page 118.

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. You can only modify fields that are editable.

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 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 6.5 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 Anywhere 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.

See the *Unwired Accelerator Feature 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 Feature Guide*
- Know how to log in to Mobile Web Studio
- Know how to create and approve an application in Mobile Web Studio

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
```

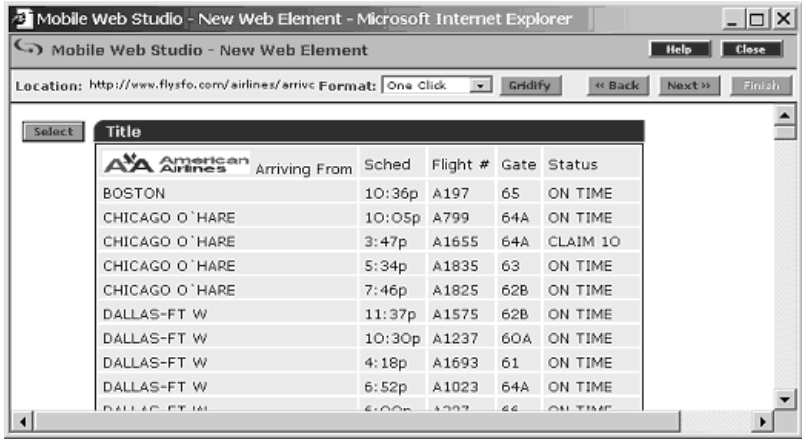
Click Find or press Enter to display the Web site.

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.

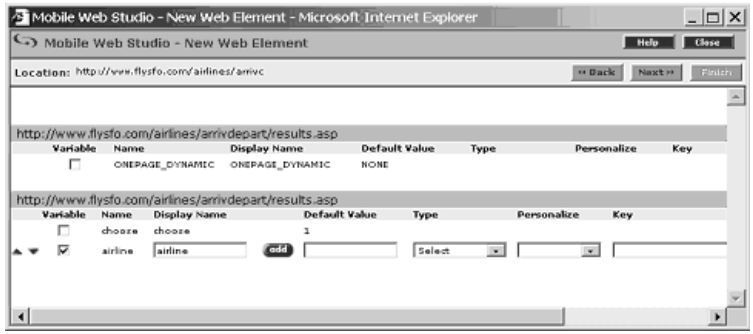
9 On the Define window, identify the first row as the header row:

- 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 parameter definition window displays.

11 On the parameter definition 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

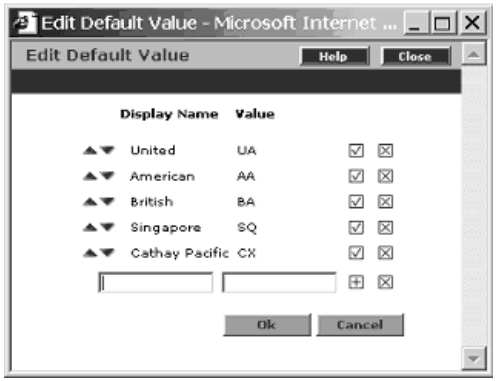
  Value = SQ

  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:

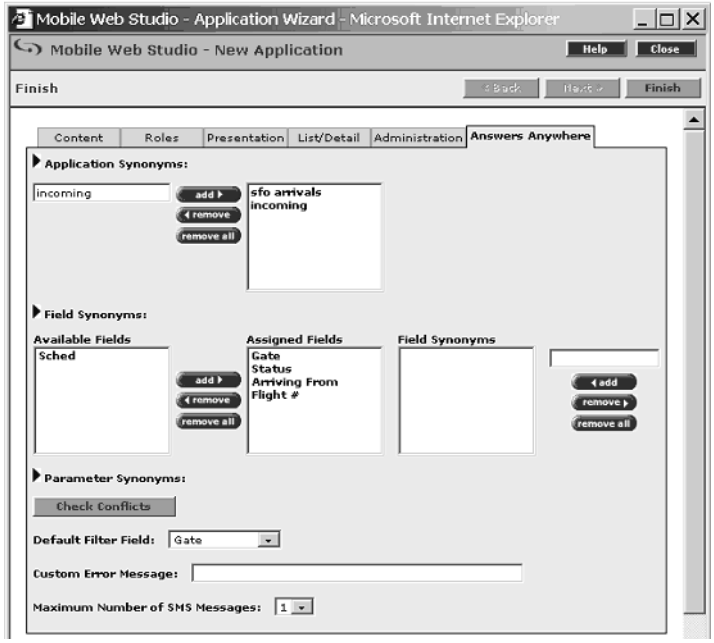
For Application Synonyms:

- 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.

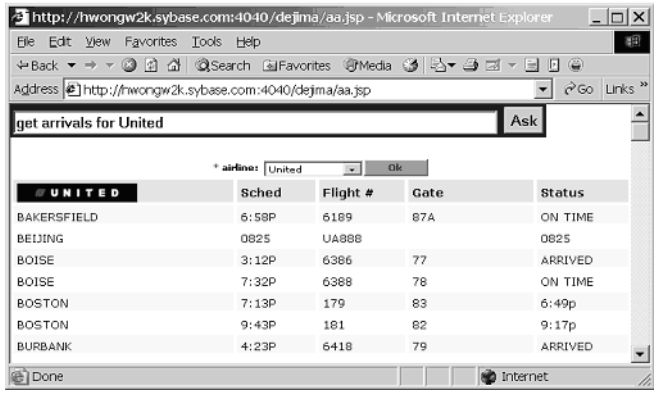
```
http://hostname.domain:port/onepage/askua.jsp
```

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 Anywhere 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 parameter definition 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 62.

M-Business Anywhere

This section discusses troubleshooting M-Business Anywhere.

Cannot manage M-Business 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%\UA65\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 Anywhere 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 118 for information about synchronizing.
- Try selecting a single application, and resyncing. See “Retrieving applications on the BlackBerry device” on page 118 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 122 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).

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	HyperText 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.
Parameter definition 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.
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 stylesheets are Java Server Pages (JSPs) and XSLT stylesheets.

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.

Index

Symbols

A

B

C

D

E

F

G

H

I

J

L

M

N

P

S

T

U

W