IBM WebSphere Development Studio Client for iSeries

The IBM WebFacing Tool

Version 6.0

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The IBM WebFacing Tool

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Introduction

This tutorial teaches you how to convert the DDS screens in an existing 5250 order entry application to a Web browser user interface. While creating a browser user interface, you will learn how to use the IBM® WebFacing Tool. You will also learn how to customize the output of the conversion process using the IBM WebFacing Tool and the CODE Designer. Next, you will learn how to run the WebFacing application in the WebSphere® Test Environment that is part of the product. You will also learn how to use Page Designer to customize the application start page and you will learn how to publish and deploy your WebFacing application to a remote WebSphere Application Server (this is an optional module).

Prerequisites

In order to complete this tutorial end to end, you should already have working knowledge of the following:

- Basic Microsoft® Windows® operations such as working with the desktop and basic mouse operations such as opening folders and performing drag-and-drop operations
- How Web applications work
- How to use a browser to navigate the Internet

It is also useful, but not necessary, for you to have basic knowledge of the following:

- DDS
- Servlets and Java™ Server Pages (to understand the generated output of the WebFacing Tool)

Time required

To complete the modules of this tutorial, you will need approximately **3 hours and 15 minutes**.

Learning objectives

This tutorial is divided into twelve modules, each with its own learning objectives. You can choose to complete one or all of the modules. Each module contains several exercises that must be completed in order for the tutorial to work properly.

Chapter 1, “Module 1. Reviewing the 5250 order entry application,” on page 1 teaches you about the 5250 order entry application before you start and use the WebFacing Tool to convert it. In this module, you will:

- Start a 5250 emulation session
- Call the order entry application
- View the customer selection screen
- Display help for the customer number field
- Display help for selecting a customer
- Display help for specifying a valid customer number
- Display extended help for the customer number field
- Display the customer selection list

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- Select a customer from the list
- Display the parts selection list
- Select a part from the list
- Specify the part quantity
- Accept the order
- Exit the application

Chapter 2, "Module 2. Creating the WebFacing project," on page 9 teaches you how to create a WebFacing project. In this module, you will:

- Start the product
- Set the default workspace
- Access unique views and tools targeted towards the WebFacing tasks
- Specify a name for your WebFacing Web Project
- Connect to an iSeries™ server
- Select DDS source members to convert
- Select UIM source members to convert
- Specify the CL command to invoke the application
- Specify the application signon values
- Select a Web style for your converted application
- Create the WebFacing Web Project without converting files

Chapter 3, "Module 3. Converting selected source members," on page 27 teaches you how to convert one or more DDS and UIM files. In this module, you will:

- Select members to convert
- Convert members
- Check reference keywords for errors
- Check the DSPF conversion log for errors
- Check the UIM conversion log for errors

Chapter 4, "Module 4. Running the WebFacing application," on page 33 teaches you how to run the Web application in the WebSphere Test Environment. In this module, you will:

- Set the WebSphere Test Environment to test the application locally
- Launch the WebFacing application
- Prompt for a customer
- Select a customer from a list of customers
- Prompt for a part
- Select a part from a list of parts
- Enter a quantity for a part
- Display help for the customer selection list

Chapter 5, "Module 5. Changing the user interface," on page 41 teaches you how to change certain aspects of the user interface related to the conversion process. In this module, you will:

- Locate a DDS source member
- Open a DDS source member with CODE Designer
  - Create a hyperlink action for the option field
  - Hide the option field

  - Hide the option heading for the option field
  - Hide the select instruction
  - Change the appearance of text
  - Close CODE Designer
- Open a DDS source member with the LPEX Editor
  - Create a hyperlink action for the option field
  - Hide the option field
  - Hide the option heading for the option field
  - Add a new WebFacing class and change a headings location
  - Hide the select instruction
  - Change the appearance of text
  - Close the LPEX Editor
- Reconvert the DDS source members
- Launch the reconverted WebFacing application
- Prompt for a customer and part
- Verify the changes in the customer selection window and the part selection window

Chapter 6, "Module 6. Changing the style of the Web user interface," on page 63 teaches you how to create a new style, change style settings, specify the new style to be used for the project and refresh the project with the new style. In this module, you will:

- Start the Style Properties dialog
- Change the DDS Field Display Attributes
- Locate the cascading style sheet file
- Edit the cascading style sheet file
- Check the new styles

Chapter 7, "Module 7. Adding command key rules and labels," on page 73 teaches you how to add your own command key recognition rules to the WebFacing conversion properties. In this module, you will:

- Start the Properties dialog
- Select Command Key Recognition Patterns
- Add a new command key rule
- Reconvert the DDS members
- Test the applied new rule
- Change the text for the F12 command key
- Reconvert the DDS members
- Test the new command key label

Chapter 8, "Module 8. Working with more style properties," on page 81 teaches you how to apply changes to windows, the look of push buttons, and subfiles. In this module, you will:

- Start the Properties dialog
- Change the window style
- Change the subfile style
- Change the command key style
- Test the changed properties

Chapter 9, “Module 9. Customizing the default style,” on page 89 teaches you how to customize that style, updating the look and feel for a fictional company. In this module, you will:

- Locate the existing style
- View the design of the existing style
- Import the company logo
- Edit the style sheet to include the company logo
- Edit PageBuilder.jsp to remove and resize fields for your logo
- Change the color

Chapter 10, “Module 10. Adding authentication,” on page 97 teaches you how to secure your application by forcing authentication before the application is called. In this module, you will:

- Start the Properties dialog
- Open the project run-time properties
- Change the signon properties for the order entry application
- Test the signon dialog appears

Chapter 11, “Module 11. Enhancing index.jsp page,” on page 101 teaches you how to take the plain index.jsp page generated by the WebFacing Tool and add color and some pictures to make the input page of the Web application more interesting. In this module, you will:

- Open index.jsp in Page Designer
- Change the window title to Order Entry
- Add a style to the Order Entry Web page
- Start WebArt Designer
- Add a logo
- Resize the logo
- Save the logo as a WebArt object
- Save the logo for a Web page
- Place the logo on the Design page
- Insert a heading below the logo
- Add a picture to the Order Entry Web page
- Add a marquee to the Order Entry Web page
- Change the color of the window title
- Remove default text added by the WebFacing Tool

Chapter 12, “Module 12. (Optional) Exporting to iSeries WebSphere Application Server Express 6,” on page 127 teaches you how to export files created by the WebFacing Tool to a remote WebSphere Application Server, to publish and deploy your application as you would when your application is ready for production. In this module, you will:

- Map a network drive
- Open the Export wizard
- Export the EAR file
- Start an existing HTTP server console

When you are ready, begin Chapter 1, “Module 1. Reviewing the 5250 order entry application,” on page 1.

Chapter 1. Module 1. Reviewing the 5250 order entry application

This module teaches you how the existing application green screens, command keys and help panels work and look before you start using the WebFacing Tool to convert it. You will become familiar with the 5250 screens and the behavior of the application so that after conversion with the WebFacing Tool you will then be able to compare the 5250 and the Web user interface.

Completing this module will also test your user profile setup. If you can run this application directly without changing the job environment on the iSeries, the WebFacing conversion and the WebFacing server will not have problems during the remaining exercises later.

You will use a 5250 emulation screen to start the sample Order Entry application. You will be prompted with the first screen for a customer number. You will work with the help panels this application provides. You will select a customer from the list of valid customers and then go through the steps of filling an order by specifying the quantity ordered. After all parts and their quantities for this order have been specified you complete the order by pressing a specific command key. The application will then prompt you for a new customer number to handle the next order.

Note: If you have problems make sure the library list for your job is setup correctly to include library WFLABXX at job start up.

In this module, you will:

- Start a 5250 emulation session
- Call the order entry application
- View the customer selection screen
- Display help for the customer number field
- Display help for selecting a customer
- Display help for specifying a valid customer number
- Display extended help for the customer number field
- Display the customer selection list
- Select a customer from the list
- Display the parts selection list
- Select a part from the list
- Specify the part quantity
- Accept the order
- Exit the application

Requirement: Before beginning this module, you should have the prerequisite knowledge outlined in “Introduction” on page v.

Exercises

The exercises within this module must be completed in order:

- “Exercise 1.1: Starting the 5250 application” on page 2

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- "Exercise 1.2: Accessing the online help"
- "Exercise 1.3: Selecting a customer" on page 4
- "Exercise 1.4: Filling the order" on page 6
- "Exercise 1.5: Completing the order" on page 7

Time required

This module will take approximately **5 minutes** to complete.

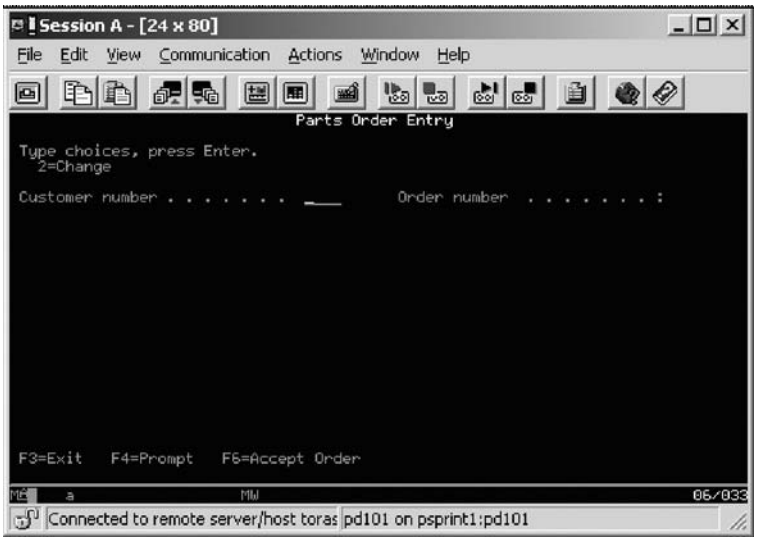
Exercise 1.1: Starting the 5250 application

You need a 5250 emulator on your workstation to start the order entry application.

To start the 5250 application:

1. Start a 5250 emulation session.
2. In the **User ID** field, type your user ID.
3. In the **Password** field, type your password.
4. On the command line of the 5250 screen, invoke the Order Entry Application:
   `CALL ORDENTR`

   The application starts and shows the first panel. This first screen prompts for a customer number. You have a choice of keying in the customer number directly or you can press command key **F4** to display a list of existing customers.



You have started a 5250 emulation session, invoked the order entry application and seen the customer selection screen and now you are ready to begin "Exercise 1.2: Accessing the online help."

Exercise 1.2: Accessing the online help

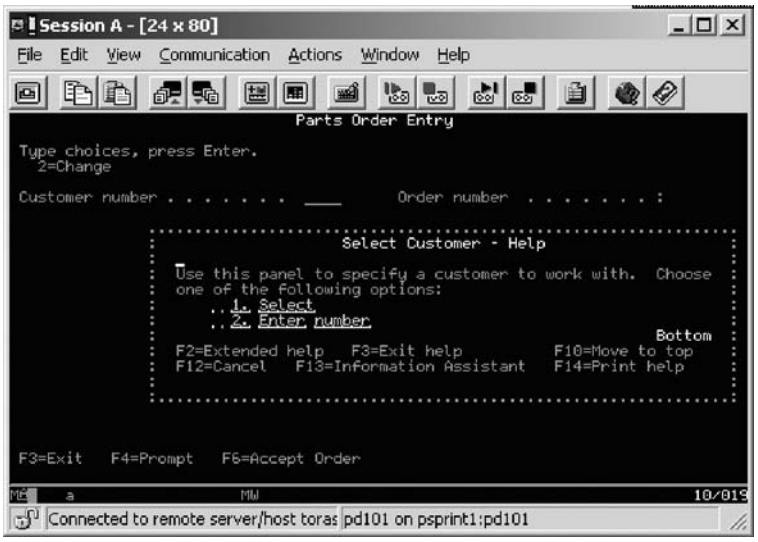
Before you begin, you must complete "Exercise 1.1: Starting the 5250 application."

Before you go ahead with the order entry process, try the help. This application uses User Interface Manager (UIM) help. You will also convert these UIM help panels with the WebFacing Tool. To understand the results of the UIM help conversion, try the help in the 5250 environment and then later in the browser.

1. Move the cursor to the **Customer number** field.

2. Press command key **F1**.

   Panel group help displays for the customer number.

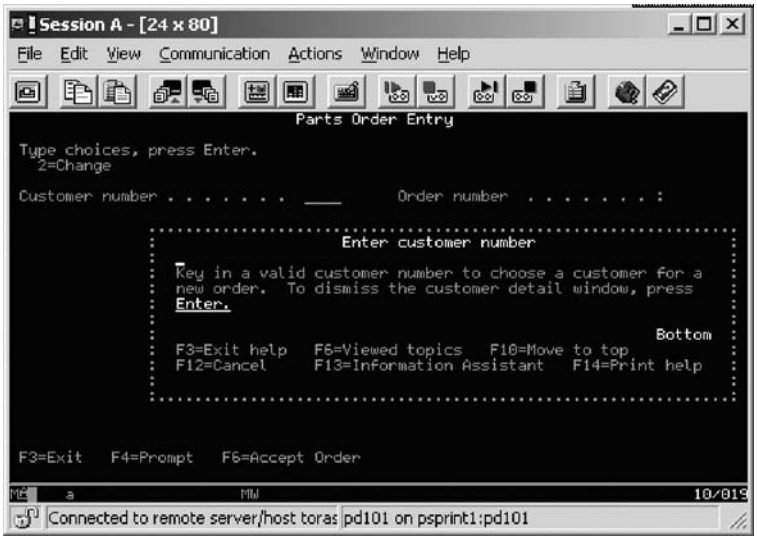


3. To see more help, move the cursor underneath the 1 in the help area and press the **Enter** key.

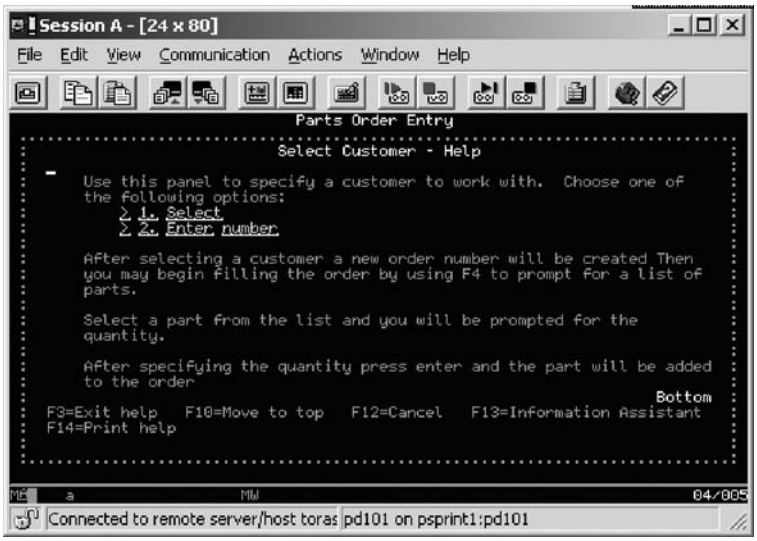
   Help for requesting a customer list displays.

4. Press command key **F12** to return to the help for the **Customer number** field.
5. To see help for the second choice, move the cursor underneath the **2** in the help area and press the **Enter** key.

   Now you see detailed help for specifying a valid customer number.



6. Press command key **F12** to leave the help for the **Customer number** field.
   The main help panel in the Select customer – Help area shows.
7. Press command key **F2** to get to the extended help.
   Here you see the extended help for the **Customer number** field.



8. Press command key **F12** to leave the extended help for the **Customer number** field.
9. Press command key **F12** again to leave the help for the **Customer number** field.

You have displayed help for the customer number field, for selecting a customer, for specifying a valid customer number and extended help for the customer number field and now you are ready to begin "Exercise 1.3: Selecting a customer."

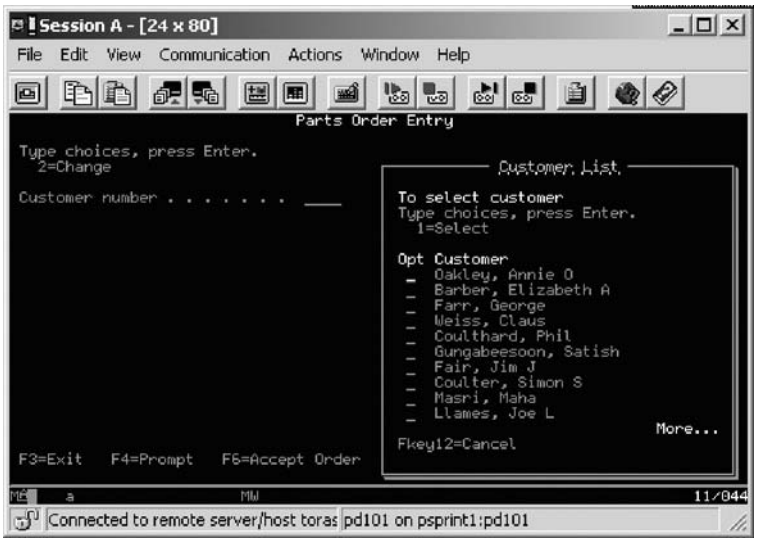
Exercise 1.3: Selecting a customer

Before you begin, you must complete "Exercise 1.2: Accessing the online help" on page 2.

Now you have an understanding how the help panels in this application work and look. Next you need to identify the customer related order. You have the choice of specifying a valid customer number, or you can get a selection list of valid customers. Use the selection list because it shows a record format that uses the WINDOW DDS keyword and so you can see how the WebFacing Tool converts a DDS window.

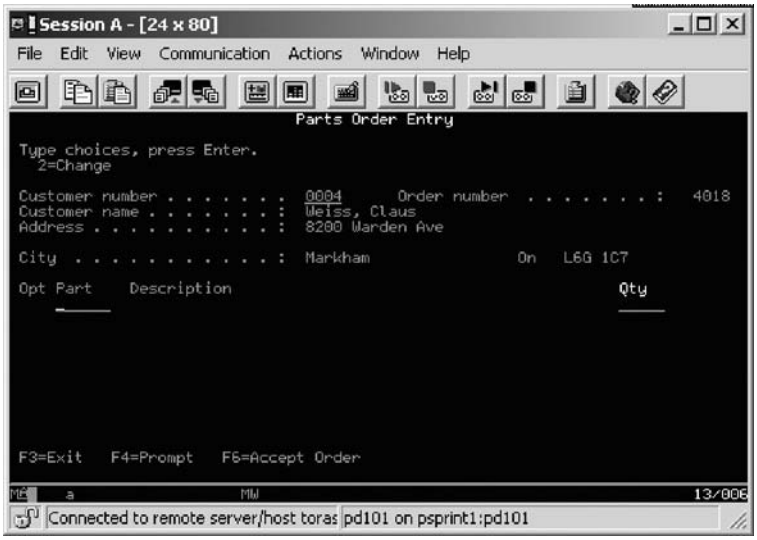
1. Press command key **F4** to display the customer selection list.

   A list of customers displays.



2. In the **Options** field, type 1 to select a customer.
3. Press the **Enter** key to proceed.

   This returns you to the initial panel now filled with detailed data for the selected customer.



   You'll notice that an order number has been assigned as well. You are ready to order some parts.

You have displayed the customer selection list and selected a customer from the list and now you are ready to begin "Exercise 1.4: Filling the order" on page 6.

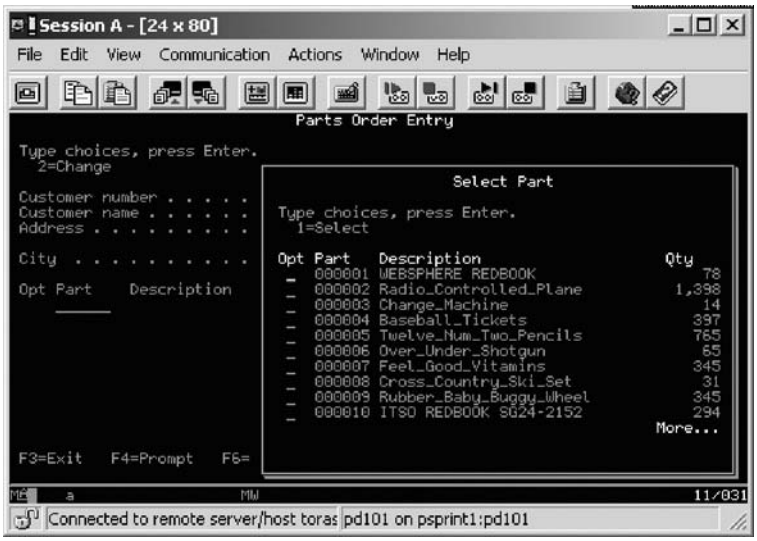
Exercise 1.4: Filling the order

Before you begin, you must complete “Exercise 1.3: Selecting a customer” on page 4.

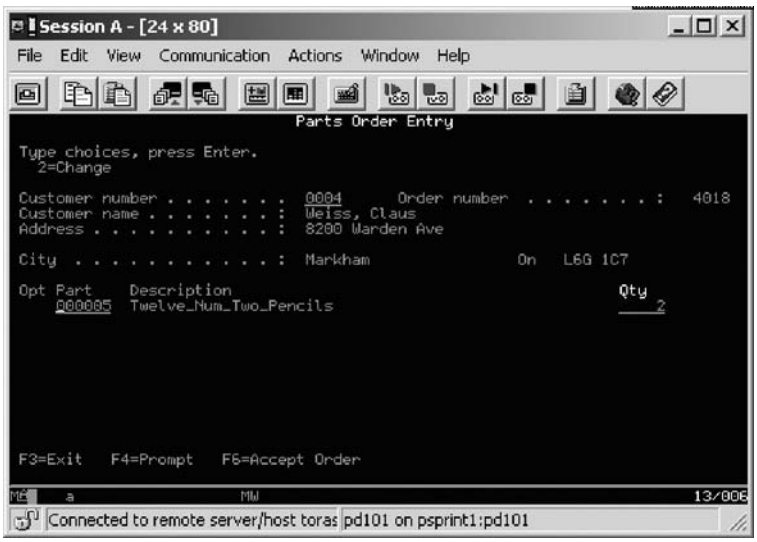
The process of selecting parts is similar to the way you selected a customer in the previous exercise. You are able to key in the part number directly or select the part from a selection list. Next you want to work with the parts selection list.

On the order entry panel:

1. Press command key **F4** to see a list of available parts.
   The Select Part panel opens.

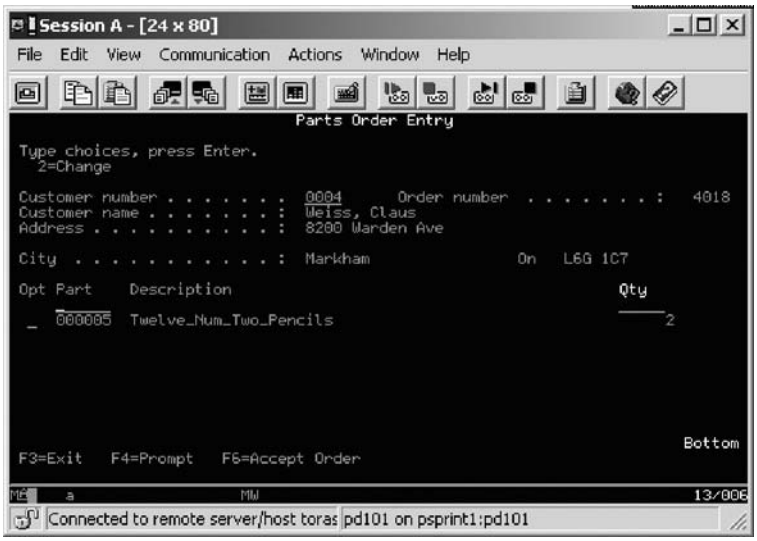


2. In the **Options** field, type 1 next to a part that has lots of quantity left.
   Back on the order screen, the part appears in the order; on the top line of the parts list.



   Next you order a certain quantity of this part.
3. Change the **Qty** field to a value, for example 2.
4. Press the **Enter** key to add the part and quantity ordered to the order.

The detail order line for this part, with the quantity specified, is now part of this order.



Add more parts until your order is complete.

5. Press command key **F4** to see a list of available parts.
6. Select a part from the parts list and press **Enter**.
7. Specify the part quantity and press **Enter**.

You have displayed the parts selection list, selected a part from the list and specified the part quantity and now you are ready to begin "Exercise 1.5: Completing the order."

Exercise 1.5: Completing the order

Before you begin, you must complete "Exercise 1.4: Filling the order" on page 6.

Now you are ready to accept the order. You use the Order Entry panel to complete the order.

To complete the order:

1. Press command key **F6** to accept the order.

   The order is added to the database and the next order can be filled. You return to the starting screen of the application.

   You have worked with all panels in this application:

   - The start order entry panel
   - Several help panels
   - The customer list window
   - The full order entry panel
   - The parts list window

   You can add more orders but if you understand how the user interface of this application works, stop adding orders.
2. Press command key **F3** to exit the application.

   You are now ready to put a brand new user interface onto this application.

You have accepted the order and exited the application.

Module recap

You have completed Chapter 1, "Module 1. Reviewing the 5250 order entry application," on page 1. You have learned how to:

- Start a 5250 emulation session
- Call the order entry application
- View the customer selection screen
- Display help for the customer number field
- Display help for selecting a customer
- Display help for specifying a valid customer number
- Display extended help for the customer number field
- Display the customer selection list
- Select a customer from the list
- Display the parts selection list
- Select a part from the list
- Specify the part quantity
- Accept the order
- Exit the application

Now that you know how the order entry application green screens, command keys and help panels work and look, you can continue to Chapter 2, "Module 2. Creating the WebFacing project," on page 9.

Chapter 2. Module 2. Creating the WebFacing project

Before you can use the WebFacing Tool to reface your application you need to create a WebFacing project in the workbench. The first step when starting with the WebFacing Tool is to create a WebFacing project. You will identify the project information, like the DDS source member names to be converted using the WebFacing Tool, and they will be stored in a workspace on your workstation. You will proceed through the process of identifying the DDS and UIM Panel Group source members to be converted by the WebFacing Tool and specify some of the runtime information you will need later when running the WebFacing application.

This module teaches you how to create a WebFacing project, something that you need before you can create a Web user interface for the Order Entry Application. You will then learn how to use this WebFacing project to facilitate the conversion of your DDS source and to test the generated output.

In this module, you will:

- Start the product
- Set the default workspace
- Access unique views and tools targeted towards the WebFacing tasks
- Specify a name for your WebFacing Web Project
- Connect to an iSeries server
- Select DDS source members to convert
- Select UIM source members to convert
- Specify the CL command to invoke the application
- Specify the application signon values
- Select a Web style for your converted application
- Create the WebFacing Web Project without converting files

Exercises

The exercises within this module must be completed in order:

- "Exercise 2.1: Starting the product" on page 10
- "Exercise 2.2: Opening the WebFacing perspective" on page 11
- "Exercise 2.3: Starting the WebFacing Web Project wizard" on page 13
- "Exercise 2.4: Selecting display file members to convert" on page 14
- "Exercise 2.5: Specifying the CL command to launch the application" on page 19
- "Exercise 2.6: Selecting a Web style" on page 21
- "Exercise 2.7: Completing the WebFacing project information" on page 22

Time required

This module will take approximately **25 minutes** to complete.

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Exercise 2.1: Starting the product

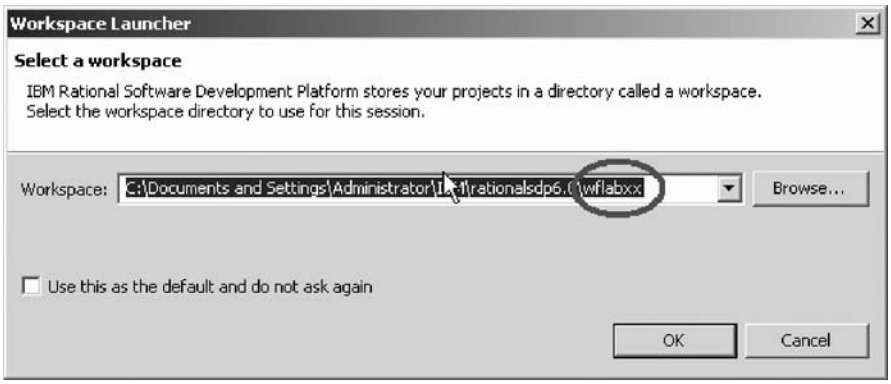
Now go ahead and start the product.

To start the product:

1. On the desktop task bar click **Start > Programs > IBM Rational® > IBM WebSphere Development Studio Client for iSeries V6.0 > WebSphere Development Studio Client for iSeries**.

   A dialog appears asking you for the workspace location, unless you used the product before and selected not to show this dialog again.

   The workspace contains all the information about your projects. You can accept the default or store the work related to this tutorial in a separate workspace. You can always start with a new workspace later, if you don't want to mix these exercise WebFacing projects with your real work.



2. Accept the default directory structure but change the name of the workspace directory to the name `WFLABxx` where XX is a unique number.
3. Click **OK**.

   After a few moments of loading, the workbench opens, and the initial window of the product opens.

Note: If you didn't reset the workspace, or you are working with the advanced version of the product, your environment will differ slightly from the screen captures in this tutorial.

You have started the product and set the default workspace and now you are ready to begin "Exercise 2.2: Opening the WebFacing perspective."

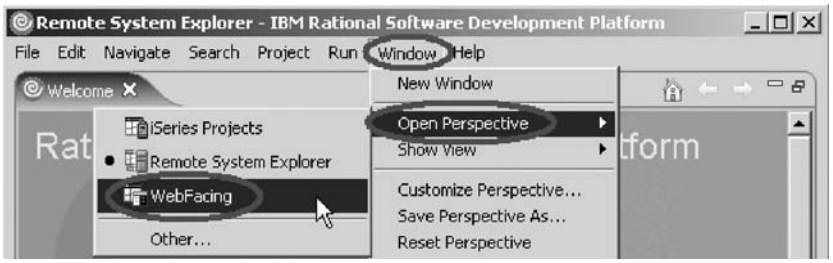
Exercise 2.2: Opening the WebFacing perspective

Before you begin, you must complete "Exercise 2.1: Starting the product" on page 10.

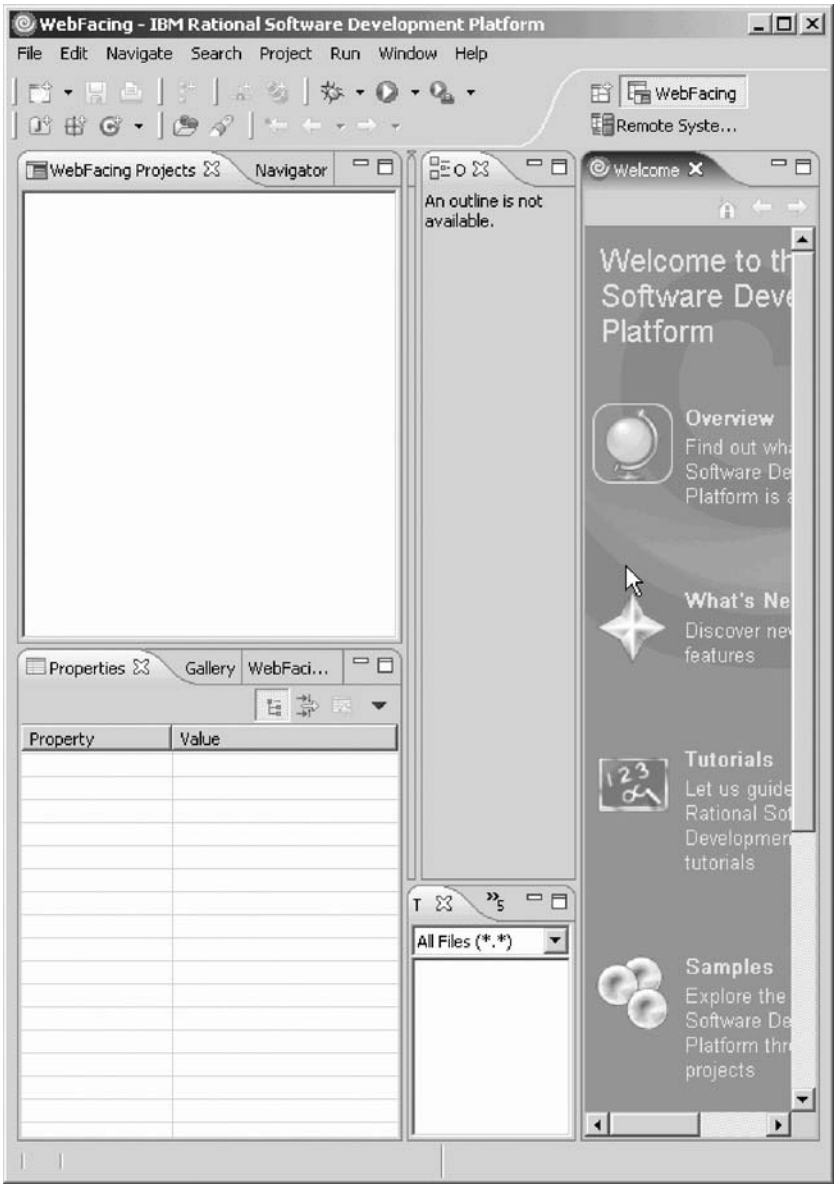
The workbench shows the Remote System Explorer (RSE) perspective by default. This is the perspective that you would use to work with iSeries objects. It allows specifying connections to iSeries servers and provides for the programmer a similar interface to iSeries objects as the Program Development Manager (PDM) does in a green screen environment.

The WebFacing Tool provides it's own perspective since it needs to give its users access to unique views and tools targeted towards the WebFacing task. To create a WebFacing project you first need to open the WebFacing perspective.

To open a WebFacing perspective:



1. Click **Window > Open Perspective > WebFacing** from the workbench menu.
   The workbench now shows the WebFacing perspective with the WebFacing Projects view open in the left pane of the workbench.



You are ready to start the WebFacing project wizard to create a WebFacing project.

You have accessed unique views and tools targeted towards the WebFacing tasks through the WebFacing perspective and now you are ready to begin “Exercise 2.3: Starting the WebFacing Web Project wizard.”

Exercise 2.3: Starting the WebFacing Web Project wizard

Before you begin, you must complete “Exercise 2.2: Opening the WebFacing perspective” on page 11.

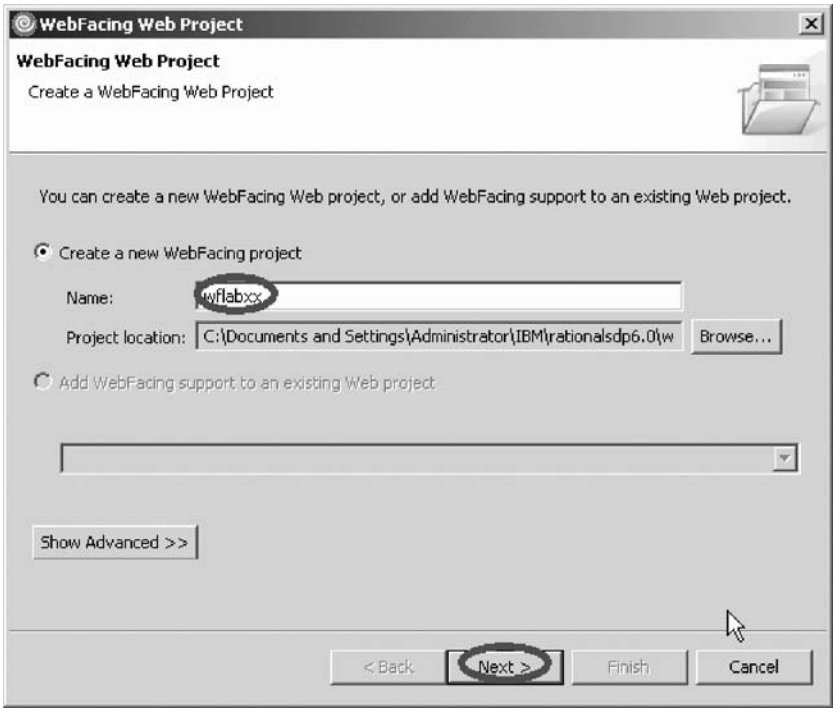
A WebFacing project is a complete Web project with the directory structure and files needed to conform to the Java 2 platform, Enterprise Edition (J2EE) standard of a Web application. It also contains additional information unique to WebFacing, like the source to be converted.

To start the WebFacing Web Project wizard:

1. In the WebFacing perspective, click **File > New > WebFacing Web Project** from the workbench menu.

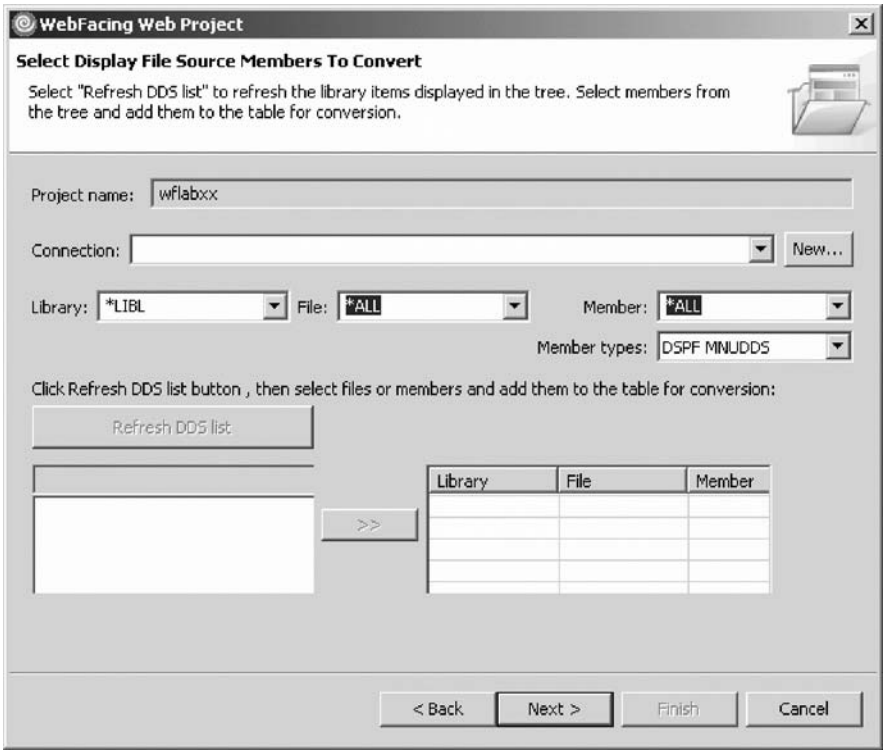
   This will start the WebFacing Web Project wizard.

2. In the WebFacing Web Project wizard you will be presented with the WebFacing Web Project page.



3. In the **Project name** field, type the project name `wflabxx` where XX is a unique number.
4. Click **Next**.

The Select Display File Source Members to Convert page opens.



You have specified a name for your WebFacing Web Project and now you are ready to begin "Exercise 2.4: Selecting display file members to convert."

Exercise 2.4: Selecting display file members to convert

Before you begin, you must complete "Exercise 2.3: Starting the WebFacing Web Project wizard" on page 13.

On this second page of the WebFacing project wizard you need to specify the name of the iSeries server that contains your display file DDS source, as well as which members of the source file you want to convert. Specifically, the WebFacing Tool needs to know these names:

- Server name
- Library name
- Source file name
- Member name

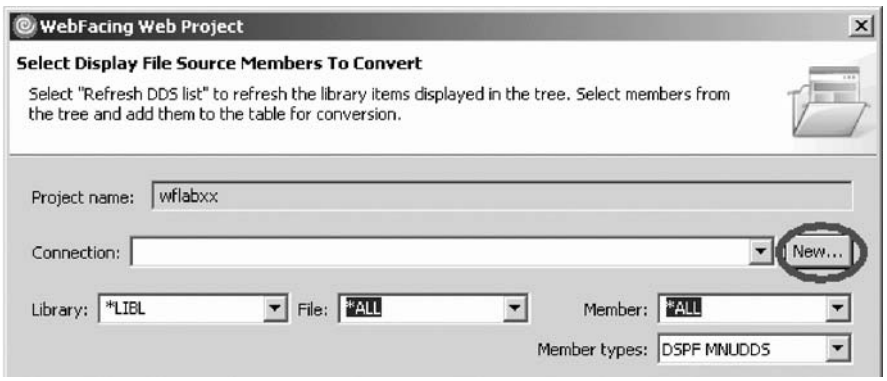
Note: You need to identify members for all record formats used in your application. If you miss one and at runtime the record format gets requested, your end user will get a Page not found error.

First since you are starting with a new workspace, you need to specify the iSeries server name to specify where the Data Description Source (DDS) is located.

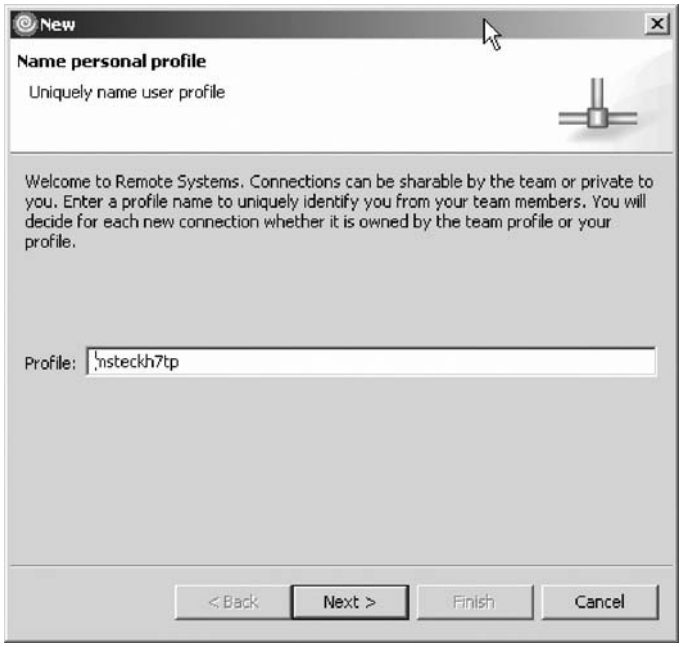
Connecting to an iSeries

To connect to an iSeries:

1. Click **New** beside the **Connection** list.

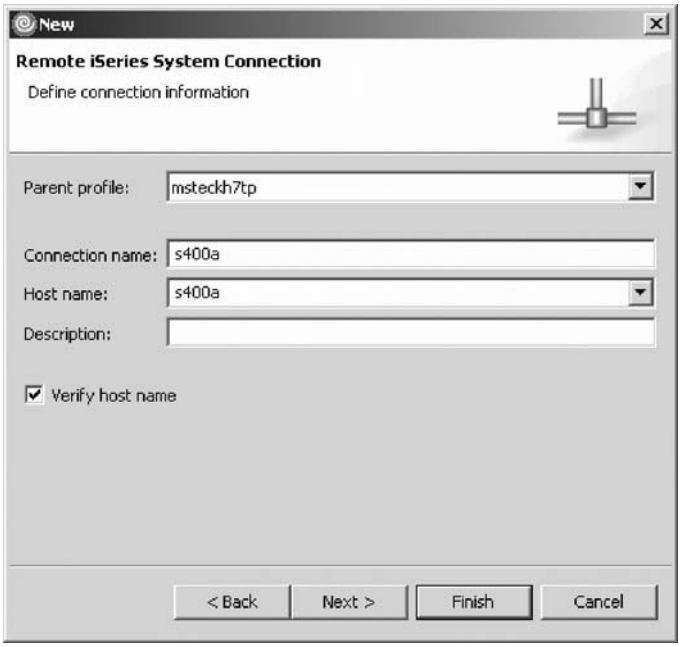


The Name personal profile page opens.



2. Accept the default profile name as this is your own private connection.
3. Click **Next**.

   The Remote iSeries System Connection page opens.



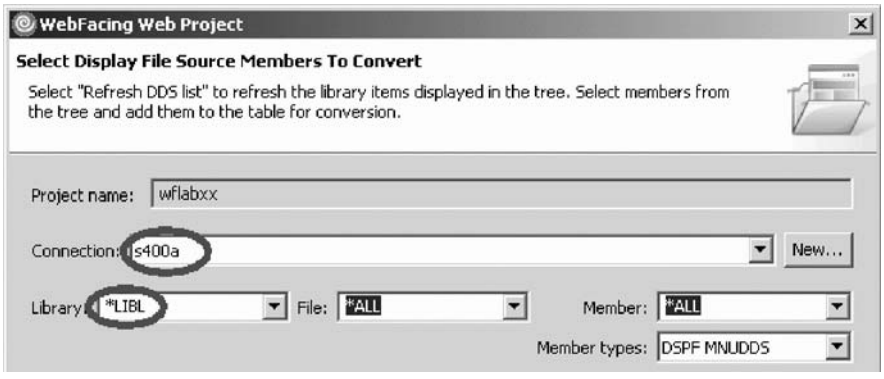
4. In the **Host name** field, type the name of the host system, for example `s400a`.

   Note: This is your iSeries server name; don't use the one shown unless your system is named s400a.

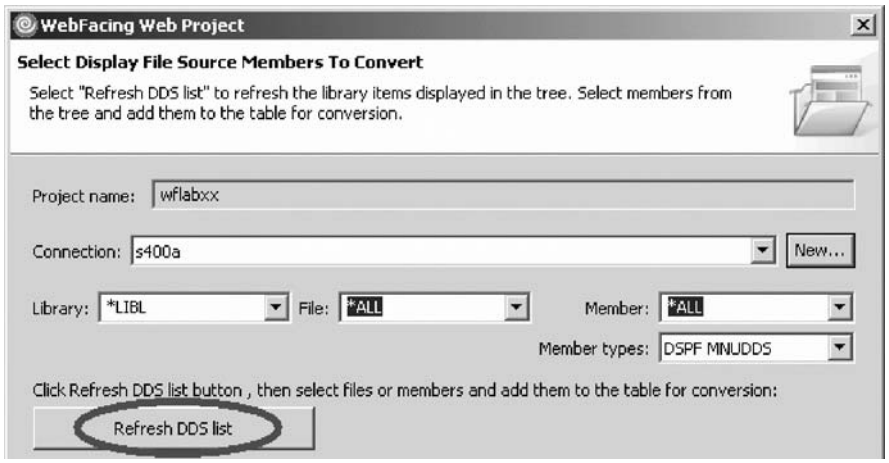
   The connection name will be filled automatically with the same value.
5. Leave the **Verify host name** check box selected to verify that the host name or IP address exists.
6. Click **Finish**.

   The connection is created and can be re-used by all tools in the workbench.

   The connection wizard also checks whether the iSeries host can be reached and if this test is successfully completed, you return to the Select Display File Source Members to Convert page.
7. Check that your iSeries server is selected in the **Connection** list.



8. Make sure that *LIBL is selected in the Library list.
9. Click **Refresh DDS list**.



A User ID and password dialog opens.

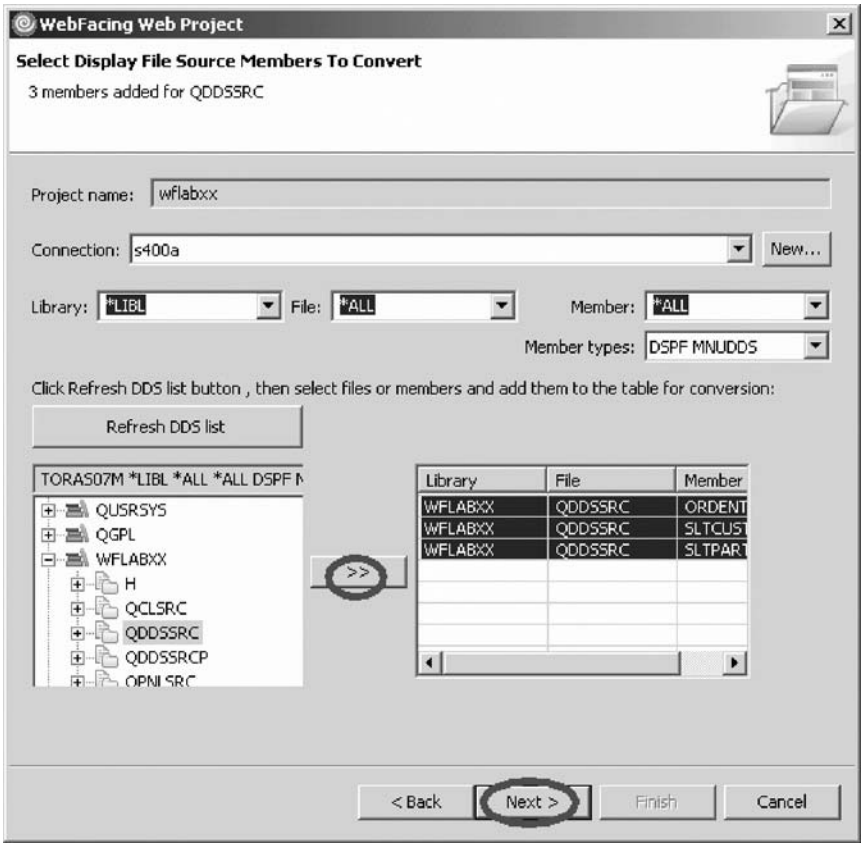
10. In the **User ID** field, type your user ID. Use the same user ID that you used when running the Order Entry application in Chapter 1, "Module 1. Reviewing the 5250 order entry application," on page 1.
11. In the **Password** field, type your password.
12. Select the **Save user ID** check box.
13. Select the **Save password** check box.
14. Click **OK**.

    A connection to the iSeries server gets established. The library list of your iSeries job is displayed under the **Refresh DDS list** button on the Select Display File Source Members to Convert page.

Selecting DDS source members

To select DDS members to convert:

1. Select the WFLABXX library from the list.
2. Click the plus sign (+) beside the WFLABXX library to expand it.



3. Select the QDDSSRC source file from the expanded list.
4. Expand QDDSSRC and select all members from the list.
5. Click >> push button in the middle of the page to copy the selected members over to the list of members to be converted at the right.

   Tip: To move all members in a source file you can select the source file icon itself and click the >> push button. This will add all members in a source file to the list of members to be converted.

   The WebFacing Tool now knows which DDS members to convert for this project. The conversion hasn't been done but the information is stored for future use.

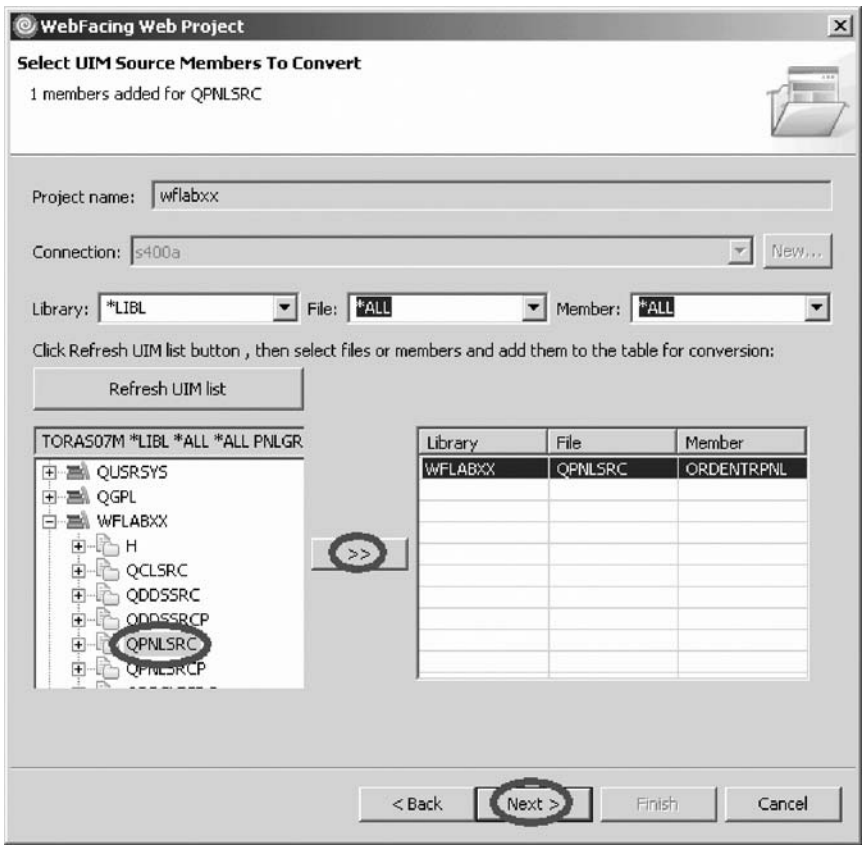
   Next you convert UIM source members.

Selecting UIM source members

To select UIM source members to convert:

1. Click **Next** to proceed to the next page of the wizard.

   The Select UIM Source Members to Convert page opens.



Now you have to identify the panel group source containing the help information for the Order Entry application.

2. Click **Refresh UIM list** push button.
3. Expand library WFLABXX.
4. Select the QPNLSRC source file from the expanded list of library WFLABXX.
5. Click >> push button in the middle of the page to copy all members over to the list of members to be converted at the right.

   There is actually only one panel group member ORDENTRPNL in this source file.
6. Click **Next** to proceed to the next page of the wizard.

   The Specify CL Commands page opens.

You have connected to an iSeries server, selected DDS source members and UIM source members to convert and now you are ready to begin "Exercise 2.5: Specifying the CL command to launch the application."

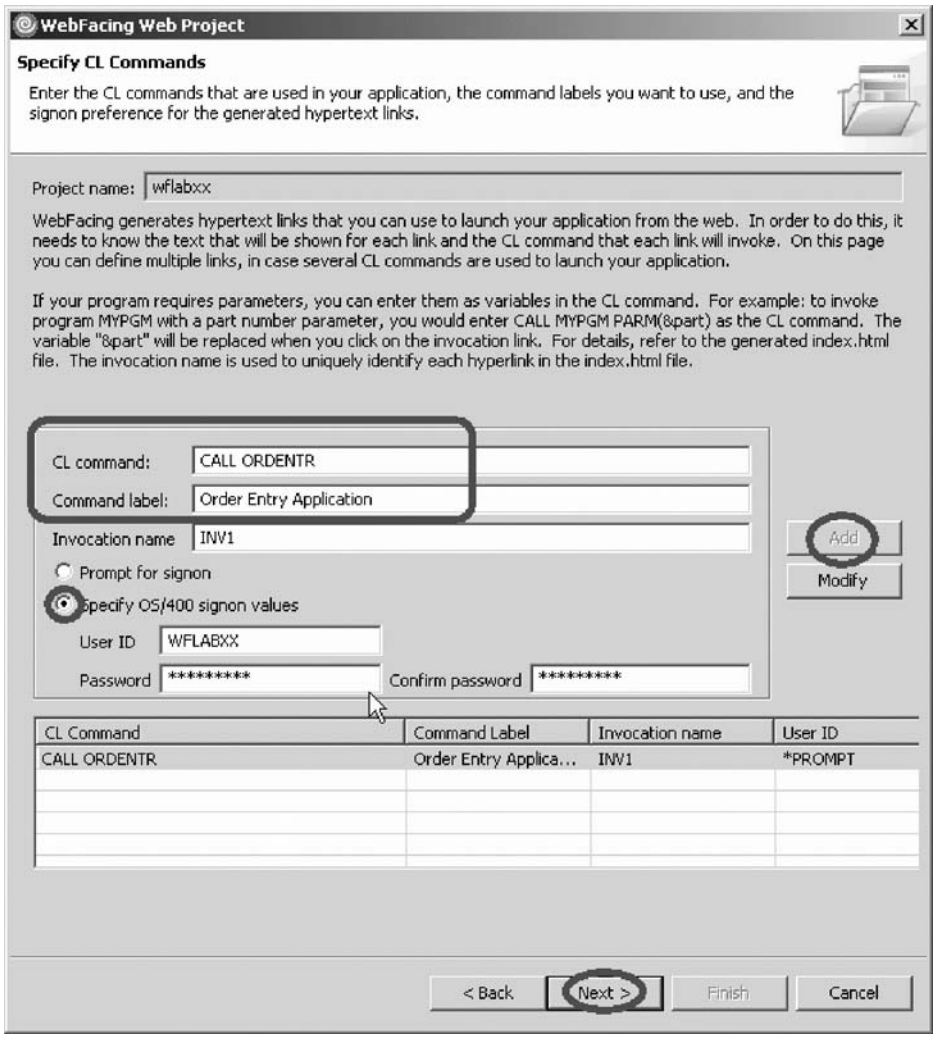
Exercise 2.5: Specifying the CL command to launch the application

Before you begin, you must complete "Exercise 2.4: Selecting display file members to convert" on page 14.

You will now provide the information that will allow the WebFacing Web Project wizard to create the initial index.jsp page to start the Order Entry application. Do you remember what you typed on the command line to start the Order Entry

application in the 5250 emulation session during the first exercise in Chapter 1, “Module 1. Reviewing the 5250 order entry application,” on page 1? In case you forgot; it was: CALL ORDENTR

Why should you remember? The WebFacing run time needs to know the invocation command for your application in order to send this invocation command to the iSeries server to start your application from the browser. The page in the WebFacing Web Project wizard will allow you to specify the necessary information CL command and Sign on information.



To specify the CL commands:

1. In the **CL command** field, type `CALL ORDENTR`
2. In the **Command Label** field, type `Order Entry Application`.

   Note: If you don’t type anything into the **Command Label** field, the CL command input will be copied into this field.
3. Leave the default value `INV1` in the **Invocation name** field.
4. Click the **Specify OS/400® signon values** radio button.

   This will automatically apply the user ID and password you used when you connected to your iSeries server in the previous dialog for selecting source members for invocation of this application. You will use this setup here for

testing purposes to make it easier for you to start the Order Entry application without specifying the authentication information. Don't worry about security in your production environment, this can be easily changed later and you will see how to do this later in this tutorial.

5. Click **Add** on the right side of the page.

   Note: Make sure the text and command you typed into the fields are actually shown in the CL Command table at the bottom of the page.

6. Click **Next** at the bottom of the wizard page.

   The Choose a Web Style page opens.

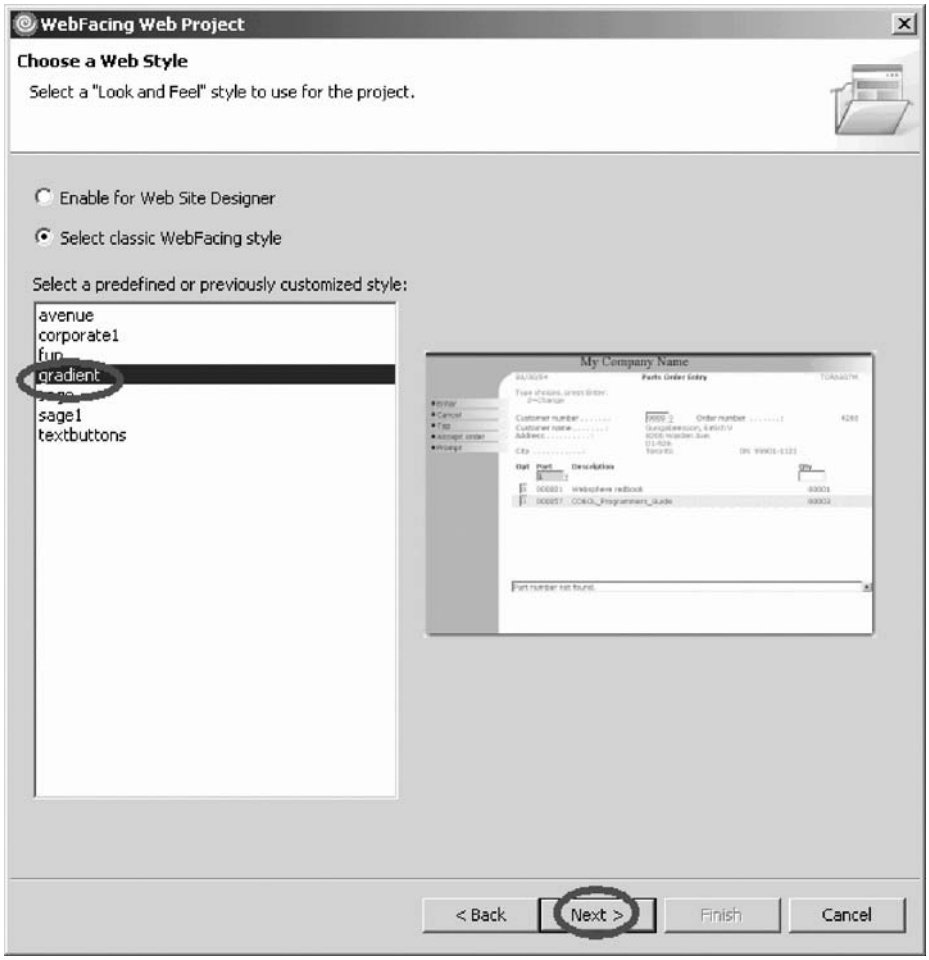
You have specified a CL command to invoke the application and the application signon values and now you are ready to begin "Exercise 2.6: Selecting a Web style."

Exercise 2.6: Selecting a Web style

Before you begin, you must complete "Exercise 2.5: Specifying the CL command to launch the application" on page 19.

Next you select a Web style for your converted screens.

To select a Web style:



1. Select the **gradient style** from the list of available styles.

2. Click **Next**.
   The Completing WebFacing Project page opens.

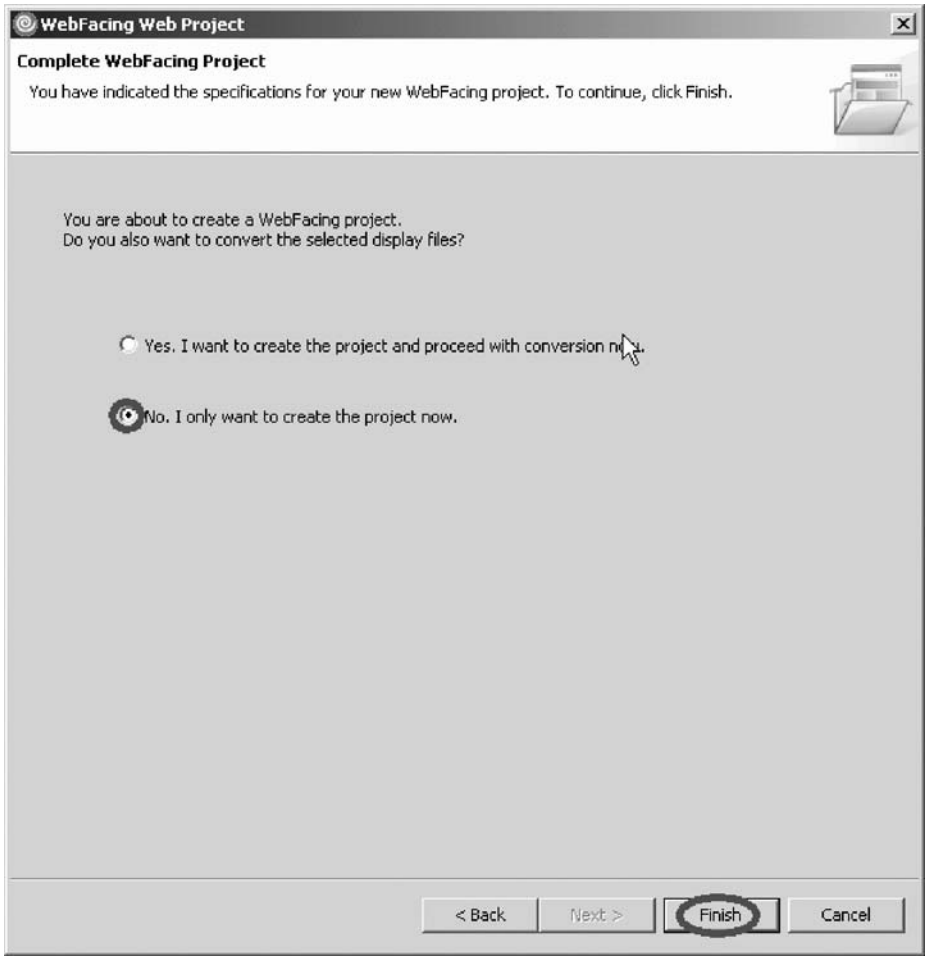
You have selected a Web style for your converted application and now you are ready to begin "Exercise 2.7: Completing the WebFacing project information."

Exercise 2.7: Completing the WebFacing project information

Before you begin, you must complete "Exercise 2.6: Selecting a Web style" on page 21.

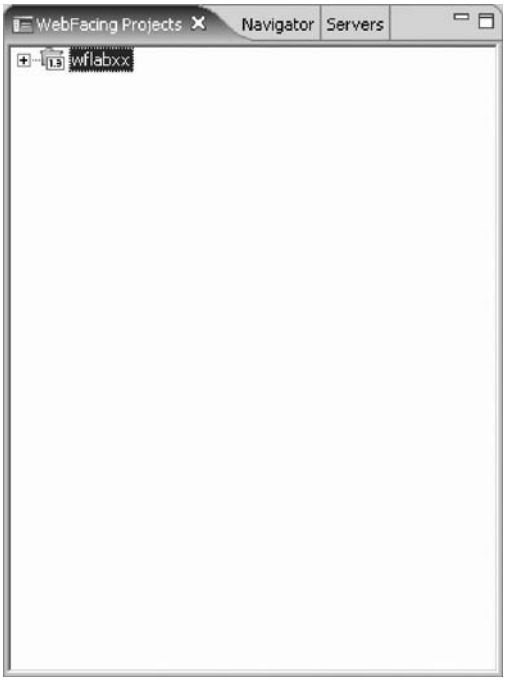
On this page you have choice of creating the project and converting the source in one step or only creating the WebFacing project.

You will just create the WebFacing project. You don't need to convert the source now. Conversion is part of the next module.



To complete the WebFacing project information:

1. Select the **No. I only want to create the project now** radio button.
2. Click **Finish**.
   The WebFacing project is created. The workbench opens in the WebFacing perspective with your new WebFacing project in the WebFacing Projects view.

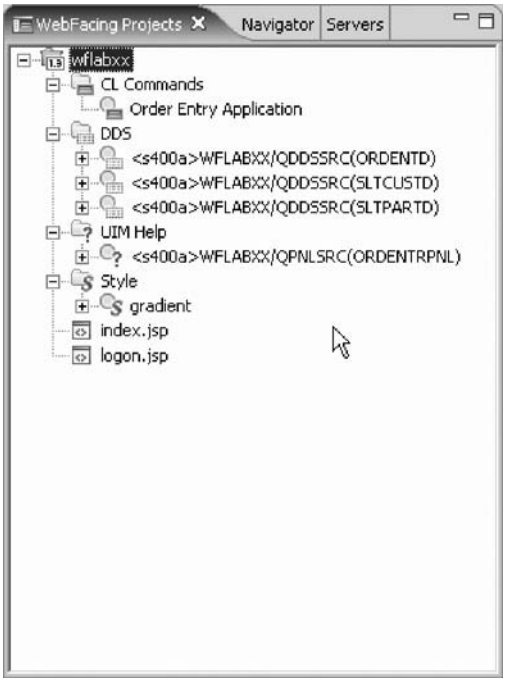


Notice that the WebFacing project icon indicates which J2EE level will be used for the project.

If you expand the **wflabxx** project you'll notice several files and folders have been added to this WebFacing project:

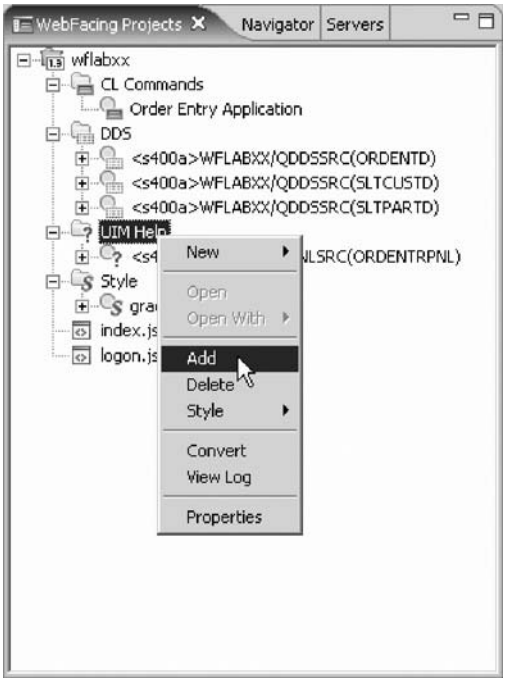
- The information for display file source members to be converted
- The information for panel group source members to be converted
- The CL Command that will be used to start the Order Entry application
- The style to be used for the converted screens.

When you expand the folders and files under your WebFacing project you can see the information that is captured for this project.



3. Click each folder or file. Click the plus + sign beside each file or folder.

   Tip: If you later need to add source members to the WebFacing project, right-click the DDS or UIM help icon and click **Add** on the pop-up menu. This will launch the WebFacing Web Project wizard and display the correct dialog.



You have created the WebFacing Web Project without converting files.

Module recap

You have completed Chapter 2, "Module 2. Creating the WebFacing project," on page 9. You have learned how to:

- Start the product
- Set the default workspace
- Access unique views and tools targeted towards the WebFacing tasks
- Specify a name for your WebFacing Web Project
- Connect to an iSeries server
- Select DDS source members to convert
- Select UIM source members to convert
- Specify the CL command to invoke the application
- Specify the application signon values
- Select a Web style for your converted application
- Create the WebFacing Web Project without converting files

You have created a WebFacing project and in this project you specified which display file source and panel group source to convert and which iSeries server these source members are located on. The WebFacing Tool will use this information during the conversion process. You have to specify in this next module whether you want to convert all source members belonging to this project or selected ones only. A word regarding security, in case you are wondering, why you don't have to logon to the iSeries server during conversion. Your user ID and password have

been stored during the WebFacing project setup and will be re-used here. Continue to Chapter 3, “Module 3. Converting selected source members,” on page 27.

Chapter 3. Module 3. Converting selected source members

This module teaches you how the WebFacing conversion creates the JSP files for the browser User Interface description, XML files for record format layouts, and several other files needed for the Web application. You will learn how to select the convert option, start the conversion and work with the conversion logs to check the results of the WebFacing conversion.

In this module, you will:

- Select members to convert
- Convert members
- Check reference keywords for errors
- Check the DSPF conversion log for errors
- Check the UIM conversion log for errors

Exercises

The exercises within this module must be completed in order:

- "Exercise 3.1: Selecting the project and source members"
- "Exercise 3.2: Starting the WebFacing conversion" on page 29
- "Exercise 3.3: Checking the conversion logs" on page 31

Time required

This module will take approximately **10 minutes** to complete.

Exercise 3.1: Selecting the project and source members

You will use the product to do the WebFacing conversion, if it is not up and running already, start it now. If it is still up and running on your workstation you are ready to go ahead.

If the WebFacing perspective with your project is not visible, you need to open the WebFacing perspective.

Opening the WebFacing perspective

To open the WebFacing perspective:

1. Check the taskbar of the workbench for the WebFacing perspective icon and if you find it, click on the icon to switch to the WebFacing perspective that is already open but not active at the moment.

   Tip: Avoid having too many instances of the same perspective open. It will improve performance of the workbench if you restrict yourself to one instance of a specific perspective being open. We have seen situations with 50 perspectives being open at the same time; this has caused severe performance impacts, so be careful.

   Here you see the icons on the taskbar of the workbench. The Remote System Explorer perspective is active. The workbench window title bar shows this. Four perspectives are open in the workbench.

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- The WebFacing perspective
- The Remote System Explorer perspective
- The Java perspective
- The Web perspective

2. To switch to the WebFacing perspective. Select its icon from the taskbar.

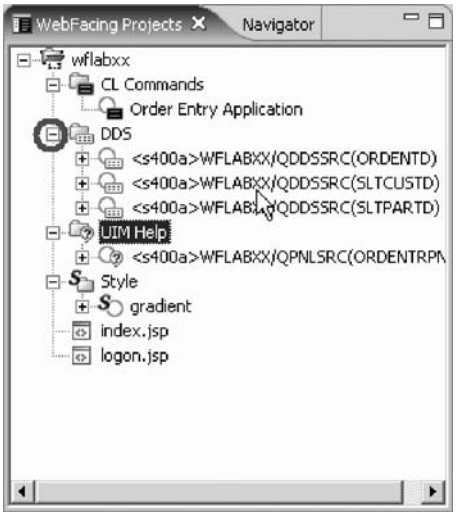
   Tip: The icon on top of the taskbar allows you to open a new perspective.

   Next you start the conversion in the WebFacing perspective.

Selecting members to convert

To select members to convert:

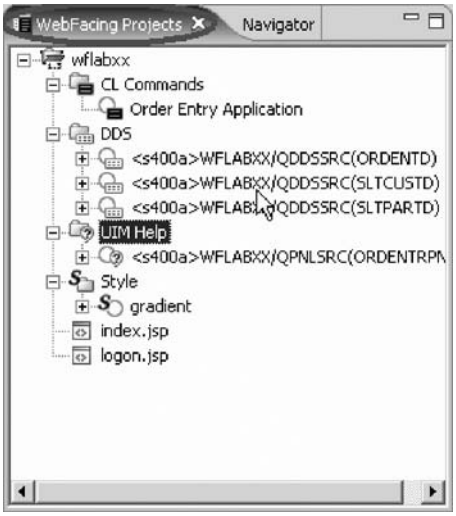
1. Select the WebFacing project you have been working on in the previous module, wflabxx.
2. Expand this project by clicking the plus sign (+) beside its icon in the WebFacing Projects view.



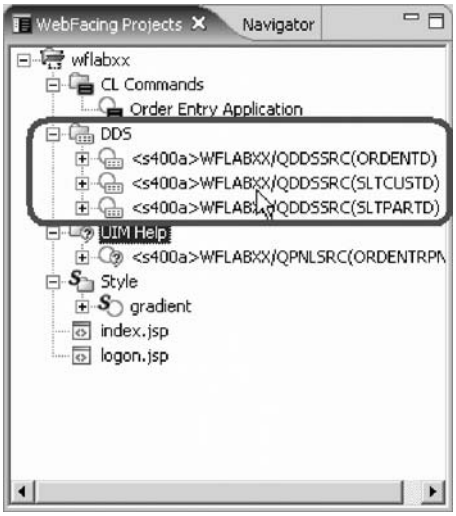
   You should see a DDS folder in the expanded view.

   If you don't see a DDS folder, you might be in the Navigator view and not in the WebFacing Projects view.

3. Check that the view title bar is not WebFacing projects.
4. Locate the **WebFacing Projects** tab at the top of the list view, and click it.



Now the WebFacing Projects view should be active and you should be able to find the DDS folder.



5. Expand the DDS folder, so that you can see all three of the members that you selected in the previous module.

   Next you convert these members.

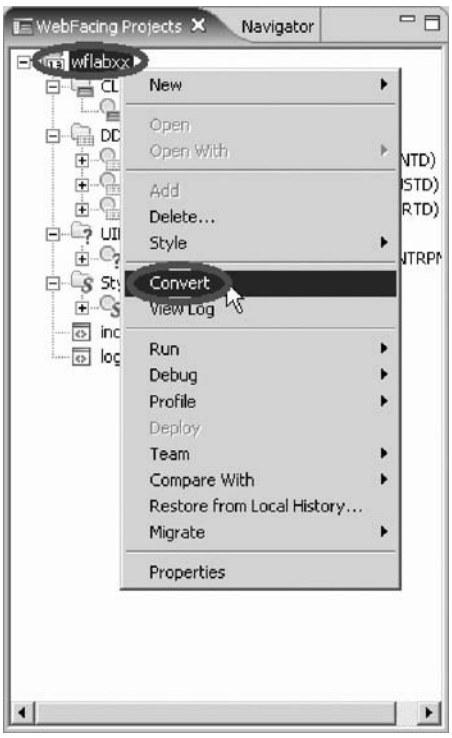
You have selected members to convert and now you are ready to begin "Exercise 3.2: Starting the WebFacing conversion."

Exercise 3.2: Starting the WebFacing conversion

Before you begin, you must complete "Exercise 3.1: Selecting the project and source members" on page 27.

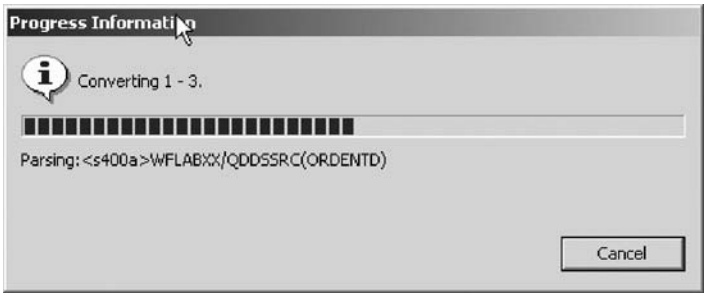
From here you can select individual members to convert or a collection of members. When you later in this tutorial change only one source member you will select a single member to be converted. Since you want to convert all members in the project, you can actually work with the WebFacing project icon to convert DDS and UIM panel group members.

1. Right-click the wflabxx WebFacing project.



2. Click **Convert** on the pop-up menu.

   The conversion process starts. You will see a progress dialog, indicating what members are being converted.



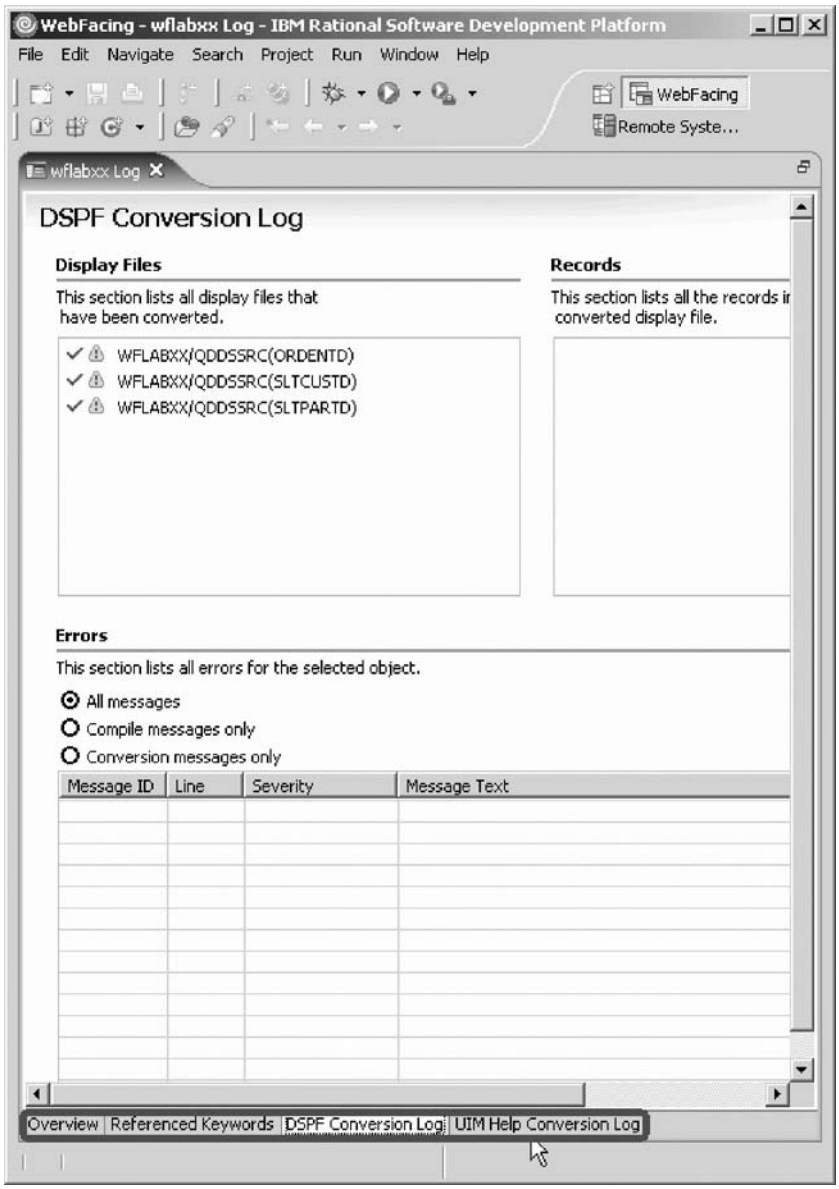
   Wait until the progress dialog disappears, indicating the WebFacing conversion has finished.

You have converted members and now you are ready to begin "Exercise 3.3: Checking the conversion logs" on page 31.

Exercise 3.3: Checking the conversion logs

Before you begin, you must complete “Exercise 3.2: Starting the WebFacing conversion” on page 29.

Notice the conversion log in the right pane of the workbench.



To check the conversion log:

1. Click the **Overview** tab.
2. Click the **Reference Keywords** tab.
3. Click the **DSPF Conversion Log** tab.
4. Click the **UIM Help Conversion Log** tab.

As you click each tab you will see more details about each log.

You have now converted the DDS display file and panel group source.

The DDS source and panel group source is now available in a form a browser understands. The first important step to move your application to the Web is done. Notice, the conversion itself was pretty easy, because you already did the hard part when you created the WebFacing project. Now that the project exists the WebFacing Tool has all the information readily available and even having to re-convert later because of changes in the original source is not a big problem.

You have checked the DSPF and UIM conversion logs for errors.

Module recap

You have completed Chapter 3, "Module 3. Converting selected source members," on page 27. You have learned how to:

- Select members to convert
- Convert members
- Check reference keywords for errors
- Check the DSPF conversion log for errors
- Check the UIM conversion log for errors

You have used the WebFacing Tool to convert the user interface of the Order Entry application and you now want to see the conversion results. The WebFacing Tool created a complete Web application that can be run in an Application Server. The WebSphere Application Server test environment and the Web project in the workbench are completely integrated and without publishing (copying) any of the files in the Web project they are known to the WebSphere Application Server test environment.

The index.jsp file that has been created by the WebFacing conversion routine is part of this Web project. It will be used as the default page for this Web application. When the application is up and running you will go through the same scenarios as in Chapter 1, "Module 1. Reviewing the 5250 order entry application," on page 1 when you went through the green screen panels of the Order Entry application but now you are using the new WebFacing user interface.

Next you will run your application with its new user interface. Continue to Chapter 4, "Module 4. Running the WebFacing application," on page 33.

Chapter 4. Module 4. Running the WebFacing application

You normally would now have to copy all the files of your Web project to a WebSphere Application Server and then run your application there. However, there is a WebSphere Application Server included with the product and it is called the WebSphere Test Environment (WTE). Using WTE makes the process of locally testing your WebFacing application easier than testing on a remote WebSphere Application Server.

In your real application development environment, you would test thoroughly in the test environment; then export the WebFacing project files to a remote WebSphere Application Server for final testing, before moving the Web-enabled application to your production WebSphere Application Server environment. Chapter 12, "Module 12. (Optional) Exporting to iSeries WebSphere Application Server Express 6," on page 127 shows you the steps required to deploy to a remote WebSphere Application Server environment. Until you are sure your WebFacing application is ready for public use, you can use the test environment on your workstation, which simplifies the testing of Web applications.

This module teaches you how to test your WebFacing application in the WebSphere Test Environment. You will learn how to specify in the WebFacing perspective that you want to run your project in the WebSphere Test Environment. From the initial Web page, you will learn how to select the link created by the WebFacing Tool to invoke the WebFacing Order Entry application.

In this module, you will:

- Set the WebSphere Test Environment to test the application locally
- Launch the WebFacing application
- Prompt for a customer
- Select a customer from a list of customers
- Prompt for a part
- Select a part from a list of parts
- Enter a quantity for a part
- Display help for the customer selection list

Exercises

The exercises within this module must be completed in order:

- "Exercise 4.1: Showing the index.jsp page" on page 34
- "Exercise 4.2: Testing the WebFacing application" on page 36
- "Exercise 4.3: Testing the help support" on page 39

Time required

This module will take approximately **15 minutes** to complete.

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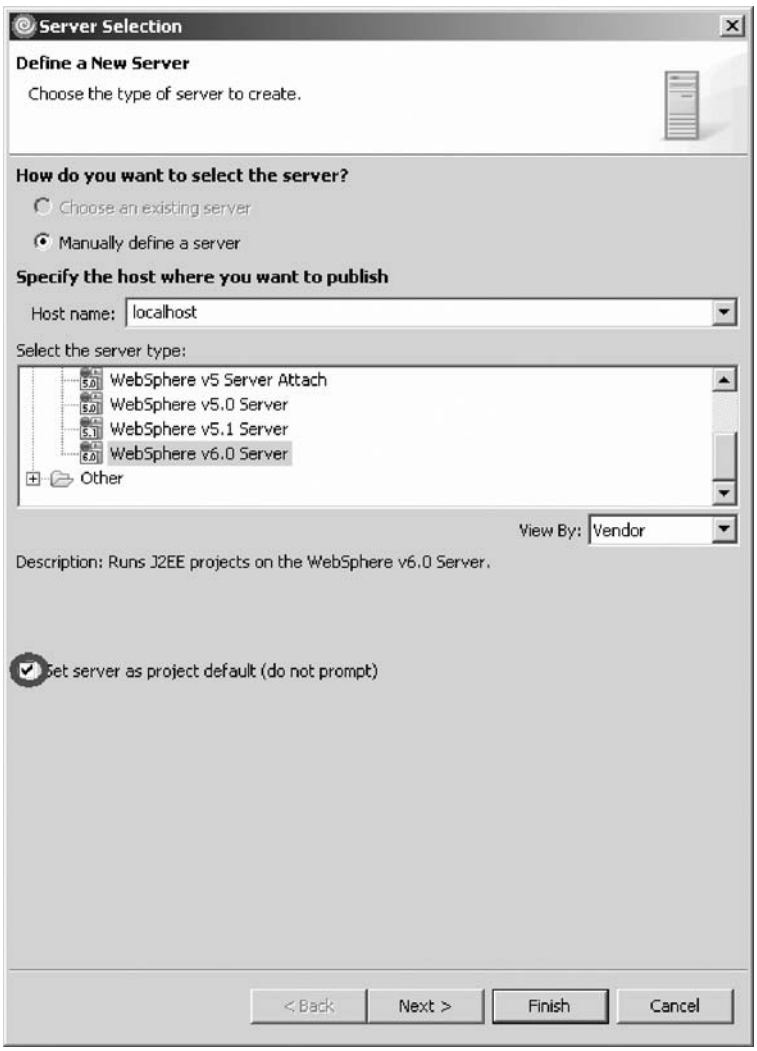
Exercise 4.1: Showing the index.jsp page

To show the index.jsp page:

1. Right-click index.jsp in the WebFacing Projects folder.

2. Click **Run > Run on server** on the pop-up menu.
   A Server Selection dialog opens.



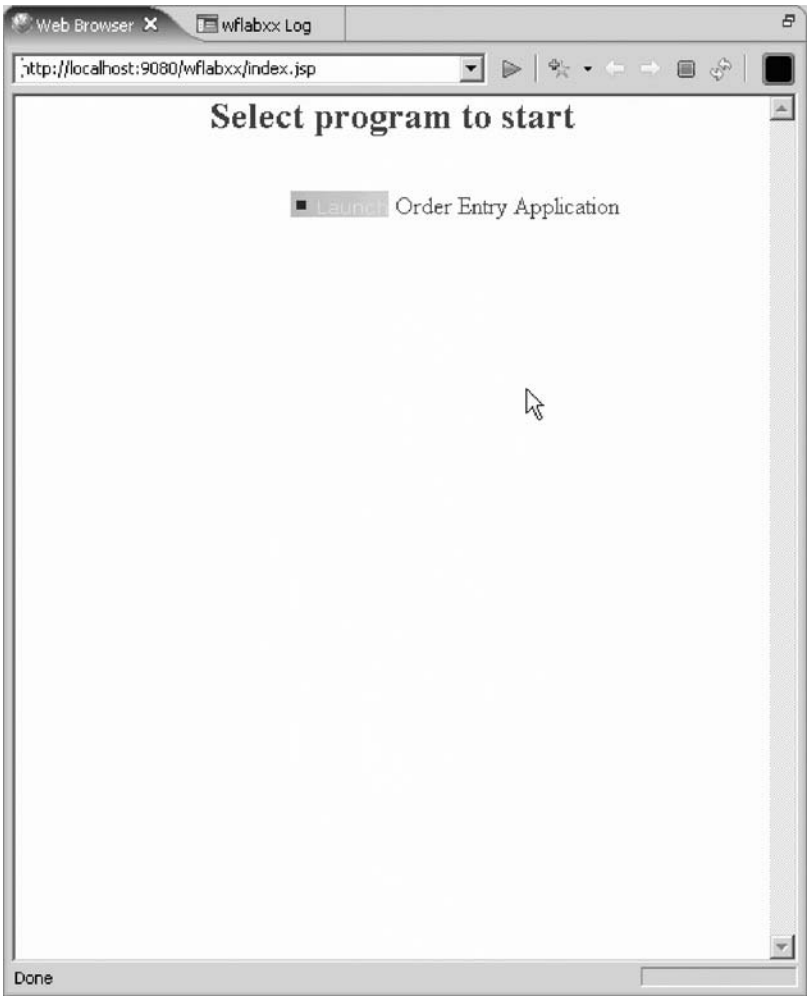
You can avoid having this dialog open every time you select run on server.

3. Leave the **Manually define a server** radio button selected.
4. Click the **WebSphere v6.0 Server** server. This is the WebSphere Test Environment for Version 6.0.
5. Select the **Set server as project default (do not prompt)** check box.
6. Click **Finish**.

   The WebSphere Application Server test environment starts. A Server Selection information message dialog opens. Click **Run in Background**. After a few moments the browser opens in the upper right view area of the workbench. Be patient; it takes time for the application server to start on your workstation.

   The minimum memory requirement for running the WebSphere Application Server test environment is 768 MB according to the IBM announcement letter for the product Version 6. You can run this WebFacing project successfully on systems with 256 MB. It will take more time for the application server to start if you are working on a workstation that has less than the required memory. The system speed will also have an impact on the application server start up time. Eventually you will see the index.jsp page that has been generated by the IBM WebFacing Tool opening in the workbench's built-in browser.

   Here you see the browser inside the workbench with the index.jsp page displayed.



Tip: To enlarge the browser window to the size of the workbench window, double-click the browser title bar. To get it back to its original size in the upper right hand workbench view area, double-click the enlarged browser window title bar.

You have a choice of running WebSphere Application Server Version 5, Version 5.1 or Version 6.0 in the workbench test environment. In this tutorial you will be using WebSphere Application Server Version 6.0 in the Test Environment and J2EE level 1.4.

You have set the WebSphere Test Environment to test the application locally and now you are ready to begin "Exercise 4.2: Testing the WebFacing application."

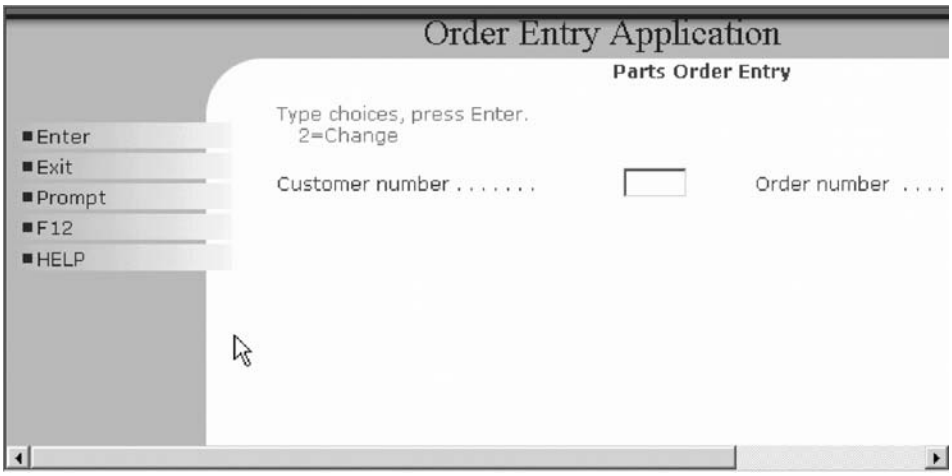
Exercise 4.2: Testing the WebFacing application

Before you begin, you must complete "Exercise 4.1: Showing the index.jsp page" on page 34.

To run the Web application:

1. In your browser pane, click the **Launch** link.

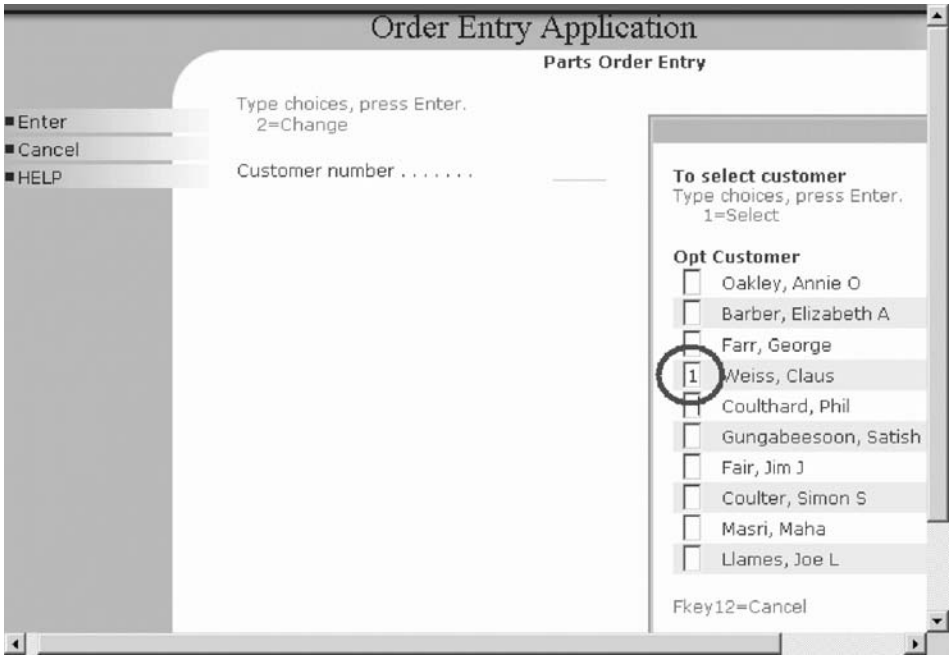
   After a few moments the first application page opens in the browser.



   If you find the response time slow, keep in mind that the first time the JSP file is requested, it has to be compiled into a servlet the first time. If you run the application a second time, you will see improved performance since the servlet already exists. This is normal application server behavior.

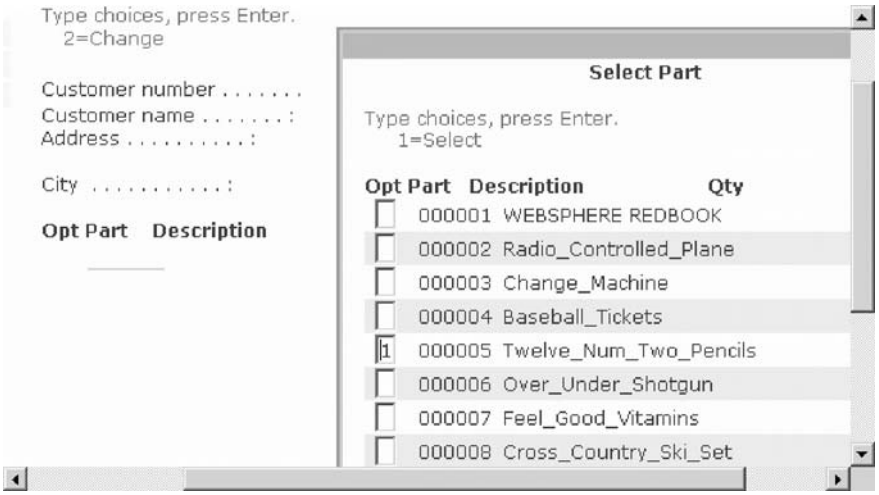
   Now you want you to go through the same steps as in Chapter 1, "Module 1. Reviewing the 5250 order entry application," on page 1 to review the results of the WebFacing conversion. This will give you a sense of how the default conversion will change your original application. You will then have a chance to improve the conversion results.

2. Click the **Prompt** button, or press command key **F4** to open the selection list window.

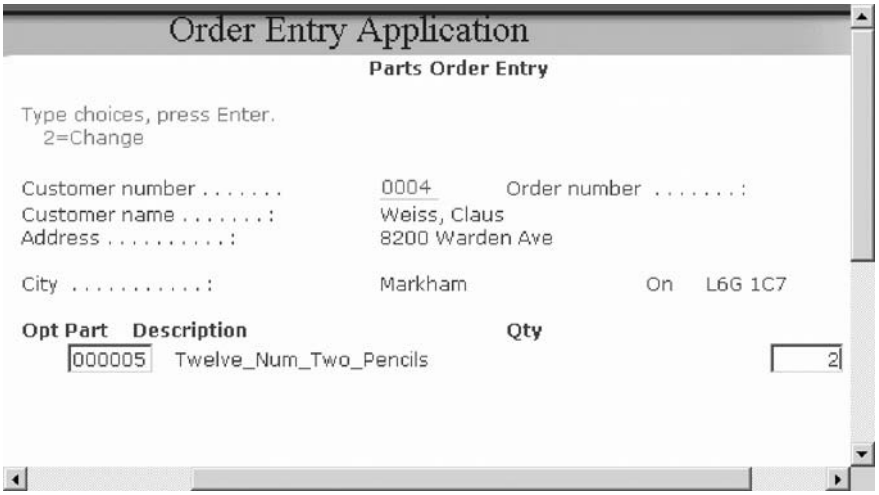


3. Select a customer from the list (this is your converted subfile).

4. Press the **Enter** key.
5. Click the **Prompt** button, or press command key **F4** to display the parts selection list.



6. Select a part.
7. Press the **Enter** key.
   The Parts Order Entry window opens.



8. Enter a quantity.
9. Press the **Enter** key.
10. Continue ordering one or two more parts.
11. Press command key **F6** to accept the order.
    The application works the same way as before in a 5250 environment; but the application now has a browser user interface.

You have launched the WebFacing application, prompted for a customer, selected a customer from the list of customers, prompted for a part, selected a part from a list of parts and entered a quantity for a part and now you are ready to begin "Exercise 4.3: Testing the help support" on page 39.

Exercise 4.3: Testing the help support

Before you begin, you must complete “Exercise 4.2: Testing the WebFacing application” on page 36.

To test the help:

1. Press the **F1** key.

   Another browser window opens with the help information.

2. Now try the links:
   - 1. Select
   - 2. Enter number
   - Extended help

   Your UIM based help panels are all available in the WebFacing application.
3. Close the help browser window and press **F3** to end the application.

You have displayed the help for the customer selection list.

Module recap

You have completed Chapter 4, “Module 4. Running the WebFacing application,” on page 33. You have learned how to:

- Set the WebSphere Test Environment to test the application locally
- Launch the WebFacing application
- Prompt for a customer
- Select a customer from a list of customers
- Prompt for a part
- Select a part from a list of parts
- Enter a quantity for a part
- Display help for the customer selection list

Next you want to improve the user interface generated by the WebFacing Tool. You want to improve the customer selection subfile. The Web user interface for selecting a record from this subfile does not work like a Web application. You have to key 1 into the options column to select a record; this is how the green screen application works. You want a Web user interface where you can click on a link to select a customer.

You will be guided through the Web Setting capabilities in CODE Designer to make the necessary modifications. You will change the second column in the customer selection subfile, which contains the customer name, from a simple text output field to a link. When you click on this new customer name link, the correct information your program expects is sent. You might ask what is the correct information? What is your program expecting? It is expecting a 1 in the subfile options field for the selected customer record. The program will receive the same information after you change the user interface.

The WebFacing conversion will add logic to the user interface, so that the options field is filled with a 1 and the Enter key event is invoked when the link is pressed. You enhance the user interface and don't have to change the application, this sounds pretty impressive doesn't it. Continue to Chapter 5, "Module 5. Changing the user interface," on page 41.

Chapter 5. Module 5. Changing the user interface

To enhance the results of the WebFacing Tool, you will use the feature Web Settings in the CODE Designer tool. CODE Designer is the GUI-based screen design tool for 5250 panels. It allows you to change certain aspects of the user interface related to the WebFacing conversion process. CODE Designer stores the Web Setting information as comment lines in the DDS source. When you convert the application using the IBM WebFacing Tool, these DDS source comment lines are picked up and applied to the new user interface.

This module teaches you how to change the user interface of your WebFacing application with CODE Designer. In the WebFacing perspective you will learn how to select a DDS source member to work with; start CODE Designer to open this DDS member; work with Web Settings in CODE Designer to change the Web look, and then reconvert the DDS member.

In this module, you will:

- Locate a DDS source member
- Open a DDS source member with CODE Designer
  - Create a hyperlink action for the option field
  - Hide the option field
  - Hide the option heading for the option field
  - Hide the select instruction
  - Change the appearance of text
  - Close CODE Designer
- Open a DDS source member with the LPEX Editor
  - Create a hyperlink action for the option field
  - Hide the option field
  - Hide the option heading for the option field
  - Add a new WebFacing class and change a headings location
  - Hide the select instruction
  - Change the appearance of text
  - Close the LPEX Editor
- Reconvert the DDS source members
- Launch the reconverted WebFacing application
- Prompt for a customer and part
- Verify the changes in the customer selection window and the part selection window

In order to accomplish these learning objects, there are several steps that are involved, including:

- "Exercise 5.1: Opening DDS display file source in CODE Designer" on page 42
- "Exercise 5.2: Applying Web Settings in CODE Designer" on page 42
- "Exercise 5.3: Opening DDS display file source in the LPEX Editor" on page 49
- "Exercise 5.4: Applying Web Settings in the LPEX Editor" on page 49
- "Exercise 5.5: Testing the changed application" on page 60

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The exercises within each module must be completed in order. Start with "Exercise 5.1: Opening DDS display file source in CODE Designer" when you are ready to begin.

Length of time:
This module will take approximately **30 minutes** to complete.

Exercise 5.1: Opening DDS display file source in CODE Designer

Since you will use the WebFacing perspective to invoke CODE Designer you start this exercise using the product in the WebFacing perspective.

Starting the product and opening the Web perspective (optional)

Skip this section if the product is already started and the Web perspective is already open.

To start the product and open the Web perspective:

1. Start the product and open the WebFacing perspective, if it is not up and running already.
2. In the WebFacing perspective, make sure that you are in the WebFacing Projects view and not the Navigator view.
3. Expand your project in the WebFacing Projects view by clicking on the plus sign (+) beside the WebFacing project icon if not already.

Opening CODE Designer

1. Locate the DDS display file source named STLCUSTD.
2. Right-click SLTCUSTD and click **Open with > CODE Designer** on the pop-up menu.

You have located the DDS source member and opened it with CODE Designer and now you are ready to begin "Exercise 5.2: Applying Web Settings in CODE Designer."

Exercise 5.2: Applying Web Settings in CODE Designer

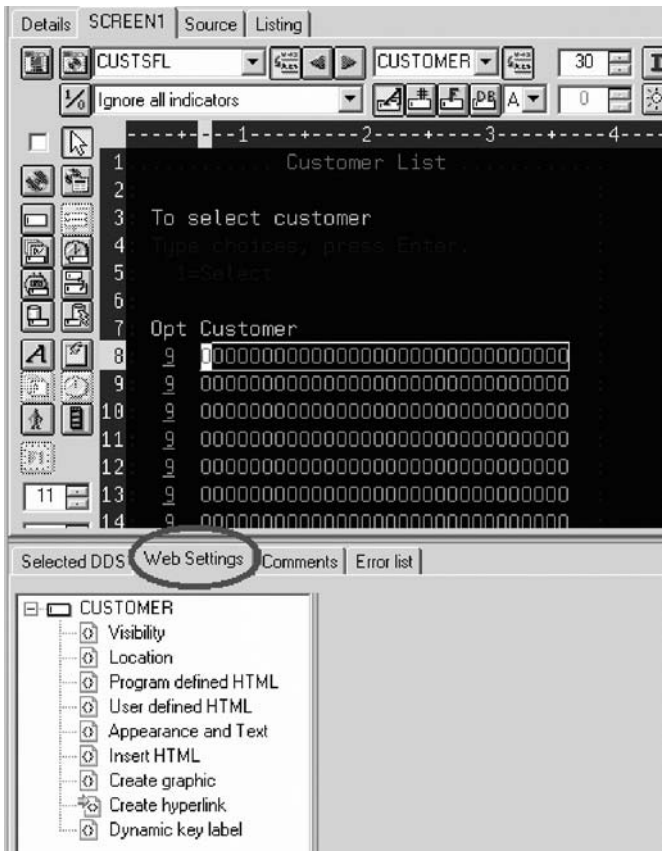
Before you begin, you must complete "Exercise 5.1: Opening DDS display file source in CODE Designer."

Now work with the Notebook underneath the Design page.

Creating a hyperlink for the option field

To create an hyperlink for the option field:

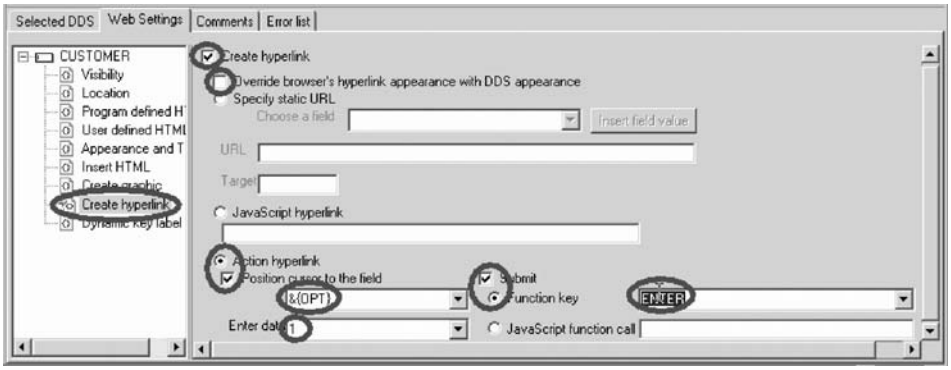
1. Click the **SCREEN1** tab.
2. Locate the **Web Settings** tab.



3. Place the cursor on line 8, column 7.
4. Click the **Web Settings** tab.

   The Web Settings page in the CODE Designer window opens.

5. On the Web Settings page, locate the list that shows the different Web Settings available for the **Customer** field.
6. If not all Web Settings show, scroll down to the bottom of the list.
7. Click **Create hyperlink** in the **Web Settings** list.



8. Select the **Create hyperlink** check box to the right of the list.
9. Clear the **Override browser's hyperlink appearance with DDS appearance** check box.
10. Click the **Action hyperlink** radio button.
11. Leave the **Position cursor to field** check box selected.
12. From the list under the **Position cursor to field** select the **&{OPT}** value.
13. In the **Enter data** list type 1.

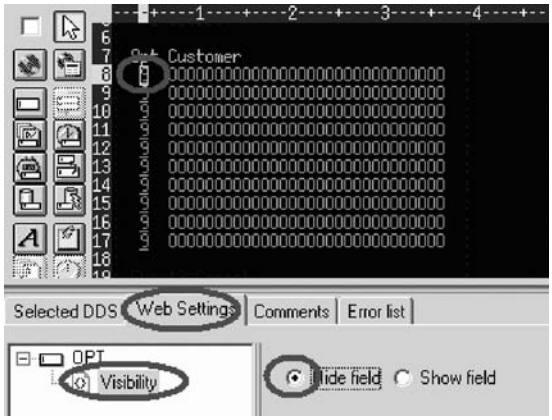
    This indicates that you want a 1 to be entered in the **Options** field when the hyperlink is clicked.
14. Select the **Submit** check box.
15. Leave the **Function key** radio button selected.
16. Select **ENTER** from the **Function key** list.

    Just to recap, you specified the following, when the application gets converted with the WebFacing Tool; the customer name cells in the subfile will be generated so they appear as links in the browser window. At run time, when the link is clicked, a 1 will be placed in the Option field. Also, a submit request will be initiated to generate the equivalent of pressing the Enter key and the cursor will be positioned in the Option field for the selected row.

    You have accomplished the basic task, but the user interface now has an Option column that doesn't belong there since it is useless with the new link. Also the instructions on the page on how to select a customer are wrong. You want you to fix this with Web Settings as well before you test this new feature.

Hiding the option field

On the Design page, you now need to select the Opt field to indicate that you want to work with it:



To hide the option heading:

1. Click the **Opt** column on the first record in the subfile to select it.
2. On the Web Settings page select **Visibility** from the list.
3. Select the **Hide field** radio button.
   Now this column in the subfile will be hidden.

Hiding the option heading for the option field

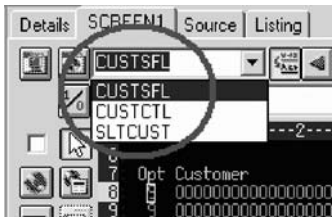
You need to hide the heading for the Opt field as well. The heading is not in the subfile record; it is located in the subfile control record. Therefore you need to give focus to a different record format in the Design page. What does this mean? It looks like one record format but there are three record formats in this view.

Lets look at some of the CODE Designer features. Normally in the iSeries green screen world, your screens are made up out of multiple record formats that at runtime get assembled by the RPG or COBOL program to present the real screen your end user sees.

To make it easier for you at design time to get a feel how the record formats you create would look like at runtime, CODE Designer has added the notion of a group. You can assemble several record formats in a group. This feature gives you the capability of mimicking what happens at runtime with your record formats. So a group resembles the runtime grouping of record formats for you at development time. In the sample you are working with, there are already assembled three record formats in group SCREEN1. The record formats are:

- CUSTSFL
- CUSTCTL
- SLTCUST

To get a list of record formats belonging to a group you can expand the list of record formats.



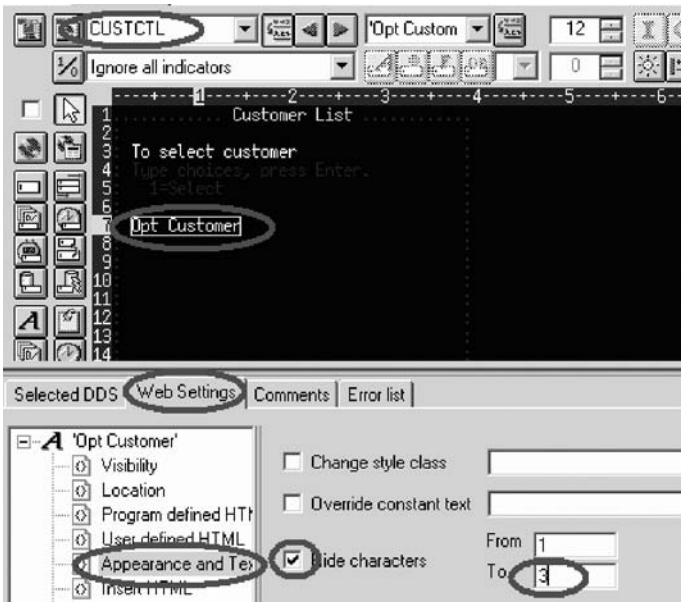
Only one record format in a group is active at a time. The record format name is listed in the top field of the record list. Also in the Design page all parts in the active record format are shown highlighted but the inactive record format content is half-intensity. You see this effect very clearly above. Until now you have been working with the subfile record format CUSTSFL only, but now you need to clean up the subfile control record format CUSTCTL, so you need to make it the active record format or another way to describe this, give it focus.

To hide the option heading Opt Customer:

1. To shift focus to another record format, at the top of the Design page, click the arrow.

   You will notice that the top area of the Design page is now highlighted, and the bottom one has only half-intensity. As mentioned before the highlighted area is the one you can work with.

   Next you clean up the subfile control record format.



2. On the Design page, select the **OPT Customer** constant.
3. On the Web Settings page, select **Appearance and Text** from the list.
4. Select the **Hide characters** check box.
5. Leave 1 in the **From** field.
6. Type 3 in the **To** field.

   This hides the heading Opt. Now you need to remove the instructions on the panel that guide the user to put a 1 into the **Opt** field to select a specific customer.

Hiding the select instruction

You don't have to give focus to a different record format since this constant is also located on the CUSTCTL subfile control record format.

To hide the select instruction:

1. Select the constant **1=Select** in the Design page.

2. On the Web Settings page select **Visibility** from the list.
3. Click the **Hide field** radio button.

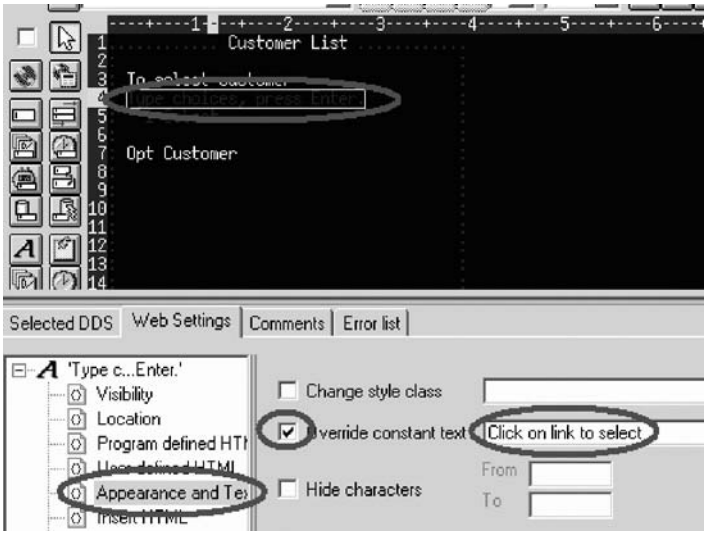
Changing the instruction (Type choice press Enter)

Now you need to add new instructions for the WebFacing page, so the end user knows to click the link to select a customer.

Note: Note you can't just change the 5250 constant because you might still use this screen in a 5250 environment, you have to use Web Settings to apply this change to the Web user interface only.

To change the instruction text:

1. Select the instruction constant **(Type choices press Enter)** on the Design page.



2. On the Web Settings page, select **Appearance and Text** from the list.

3. Select the **Override constant text** check box, and type the new text `Click on link to select` in the field to the right of the check box.

   Now all Web Settings are in place and you can go ahead and save the DDS source and reconvert this DDS member.

Closing CODE Designer and reconverting the DDS source member

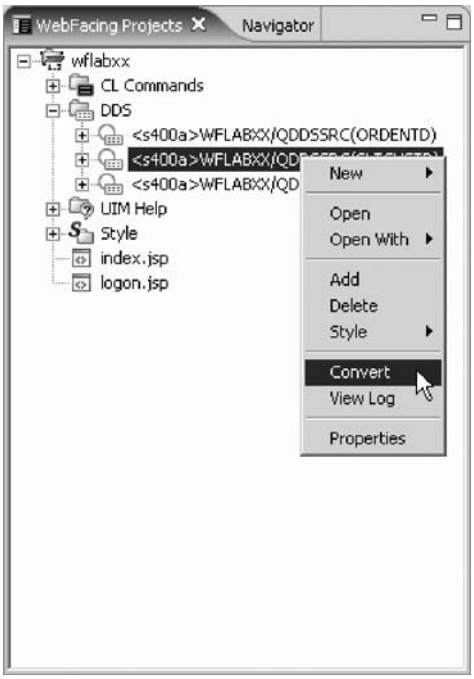
To close CODE Designer and re-convert the DDS member:

1. Click the **X** button at the top right corner of CODE Designer.

2. Click **Yes** to save, when asked to do so.

   You return to the WebFacing perspective in the workbench.

3. Select your project wflabxx in the WebFacing Projects view.
4. Expand the project by clicking on the plus sign (+) in front of its icon, if you can't see the DDS folder as part of the project.
5. Expand the DDS folder, if it is not expanded already, to show all members in this folder.



6. Select the member SLTCUSTD that you just changed.
7. Right-click SLTCUSTD member icon.
8. Click **Convert** on the pop-up menu.

   Only this member will be converted. A conversion report opens after the conversion is finished. Now you test the new user interface.

   You return to the WebFacing perspective in the workbench.

You have created a hyperlink action for the option field, hidden the option field, the option heading and the select instruction, changed the appearance of text,

closed CODE Designer and reconverted the DDS source member and now you are ready to begin "Exercise 5.3: Opening DDS display file source in the LPEX Editor."

Exercise 5.3: Opening DDS display file source in the LPEX Editor

Before you begin, you must complete "Exercise 5.2: Applying Web Settings in CODE Designer" on page 42.

Next, you open the DDS member in the Remote Systems LPEX Editor, locate the DDS source you want to change and then use the Web Settings tab to make the changes.

1. Locate the DDS display file source named SLTPARTD.
2. Right-click SLTPARTD and click **Open with > Remote Systems LPEX Editor** on the pop-up menu.

You have located the DDS source member and opened it with LPEX Editor and now you are ready to begin "Exercise 5.4: Applying Web Settings in the LPEX Editor."

Exercise 5.4: Applying Web Settings in the LPEX Editor

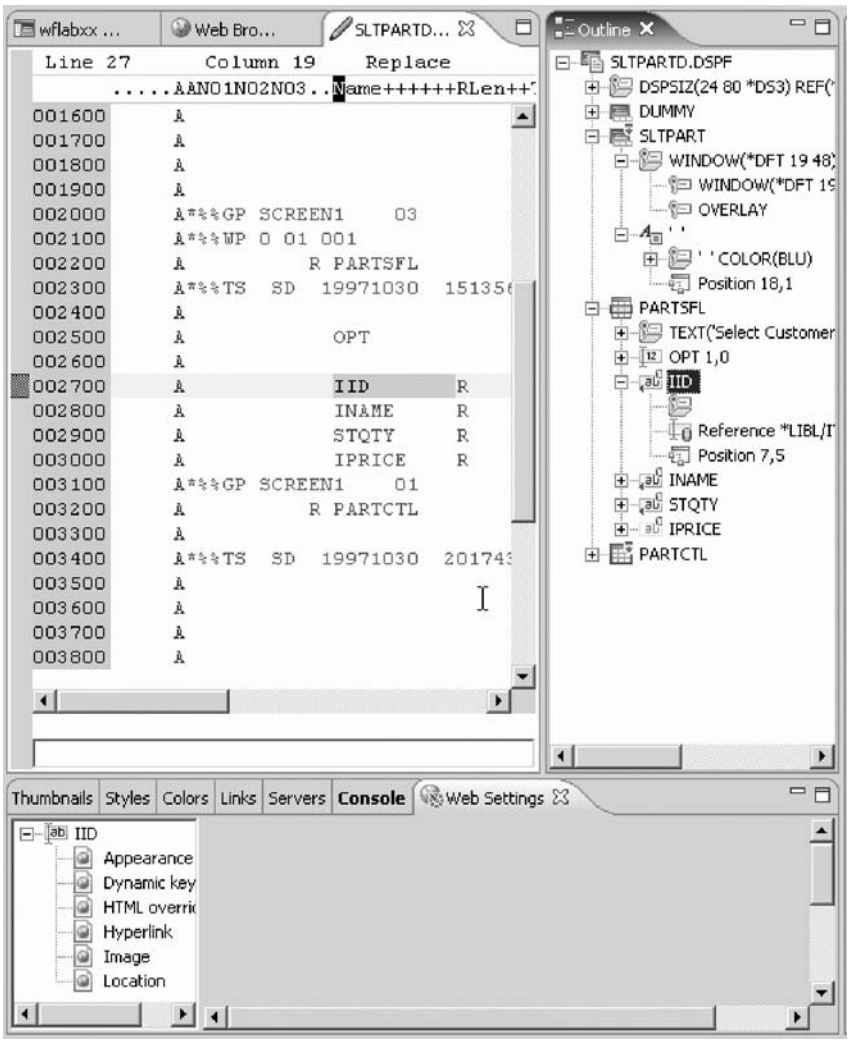
Before you begin, you must complete "Exercise 5.3: Opening DDS display file source in the LPEX Editor."

Creating a hyperlink for the Part field

First, let's add a hyperlink to the IID field. You use the Outline view to locate the IID field which represents the Part number.

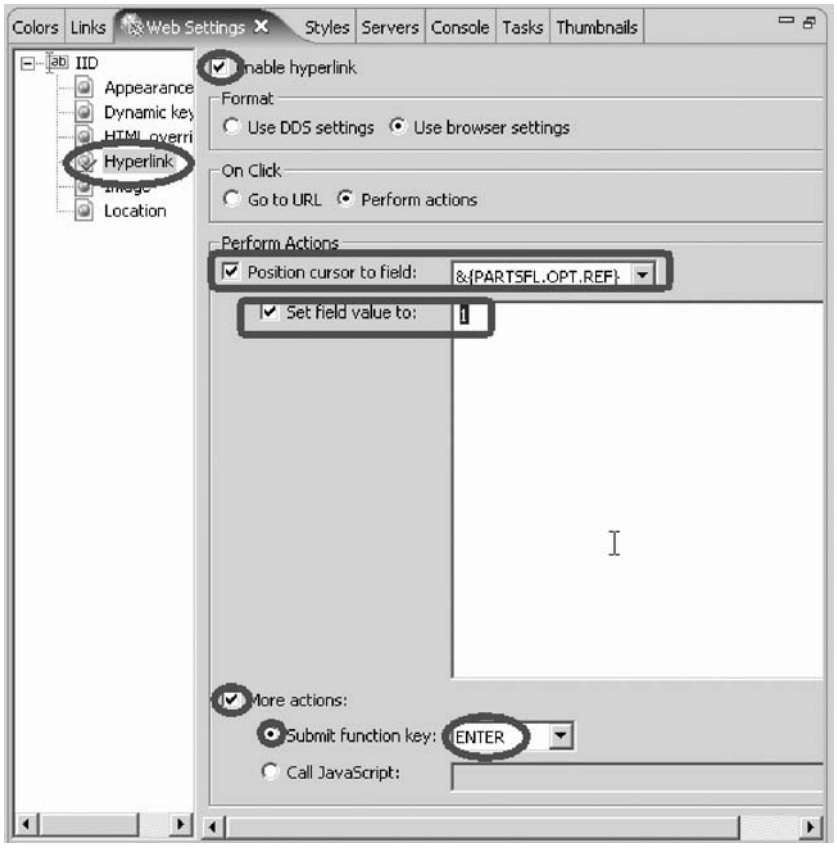
To create an hyperlink for the IID field:

1. In the Outline view, expand SLTPARTD and then PARTSFL and locate the IID field.



Notice the cursor is positioned on the IID field in the DDS source.

2. Click the **Web Settings** tab.
3. On the Web Settings page, locate the list that shows the different Web Settings available for the **IID** field.
4. Click **Hyperlink** in the **Web Settings** list.



5. Select the **Enable hyperlink** check box to the right of the list.
6. Select the **Use browser settings** check box.
7. Click the **Perform actions** radio button.
8. Select the **Position cursor to field** check box.
9. From the list under the **Position cursor to field** select the **&{PARTCTL.OPT.REF}** value.
10. Select the **Set field value to** check box and change the value to 1 in the field to the right of the check box.

    This indicates that you want a 1 to be entered in the **Options** field when the hyperlink is clicked.
11. Select the **More actions** check box.
12. Click the **Submit function key** radio button.
13. Select **ENTER** from the **Function key** list.

    Just to recap, you specified the following, when the application gets converted with the WebFacing Tool; the part number cells in the subfile will be generated so they appear as links in the browser window. At run time, when the link is clicked, a 1 will be placed in the Option field. Also, a submit request will be initiated to generate the equivalent of pressing the Enter key and the cursor will be positioned in the Option field for the selected row.

    You have accomplished the basic task, but the user interface now has an Option column that doesn't belong there since it is useless with the new link. Also the instructions on the page on how to select a customer are wrong. You want you to fix this with Web Settings as well before you test this new feature.

Hiding the option field

In the Outline view you now need to select the Opt field to indicate that you want to work with it.

To hide the option heading:

1. Click the **Opt** field in the Outline view to select it.
2. On the Web Settings page select **Appearance** from the list.
3. Click the **Hidden** radio button.
   Now this column in the subfile will be hidden.

Hiding the option heading for the option field

You need to hide the heading for the Opt field as well. The heading is not in the subfile record; it is located in the subfile control record. Therefore you need to give focus to a different record format. What does this mean? It looks like one record format but there are three record formats in the Outline view.

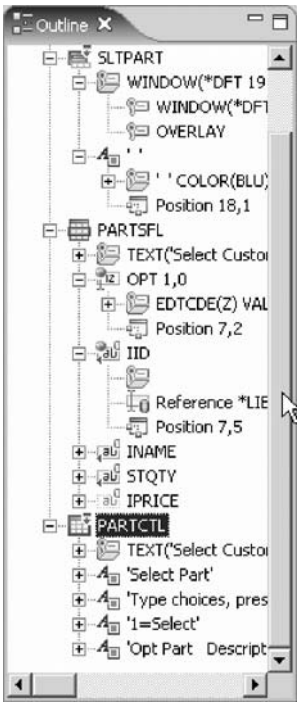
The record formats are:

- PARTSFL
- PARTCTL
- SLTPARTD

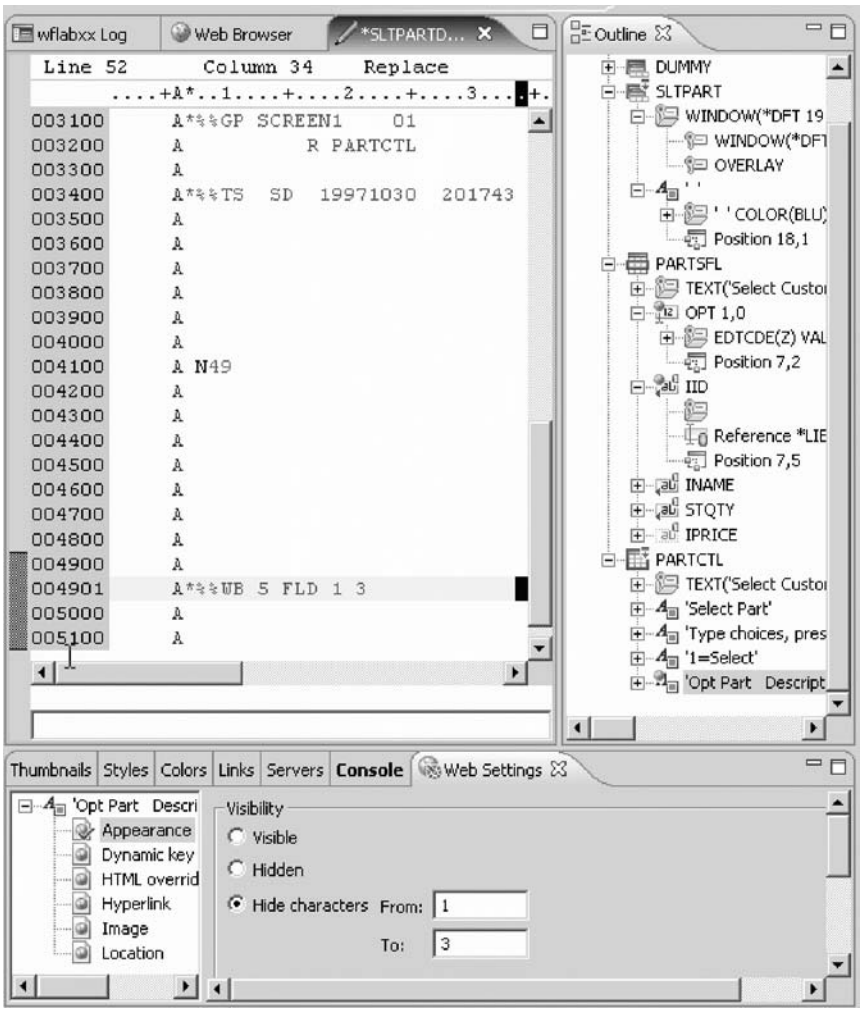
Until now you have been working with the subfile record format PARTSFL only, but now you need to clean up the subfile control record format PARTCTL, so you need to make it the active record format or another way to describe this, give it focus.

To hide the option heading Opt Customer:

1. To shift focus to another record format, click PARTCTL in the Outline view.



Next you clean up the subfile control record format.

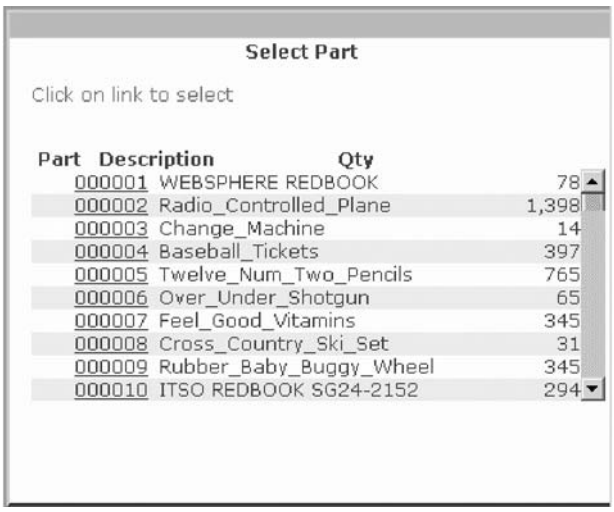


2. In the Outline view, expand PARTCTL and then select the **Opt Part Description Qty** constant.
3. On the Web Settings page, select **Appearance** from the list.
4. Select the **Hide characters** check box.
5. Leave 1 in the **From** field.
6. Type 3 in the **To** field.

   This hides the heading Opt.

Changing the Opt Part Description Qty constant to line up with data

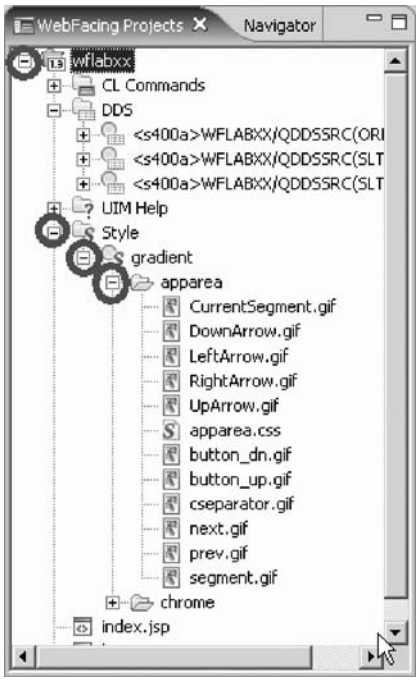
If you ran the finished application you would see that the headings Part, Description, and Qty do not align with their corresponding data.



To fix this alignment problem, you will edit the Cascading Style Sheet (.css file) that WebFacing uses to add a new WebFacing class. You will learn more about this style sheet in the next module. You will also change the location of the constant to further improve the alignment of these headings.

To locate the Cascading Style Sheet file:

1. Locate the apparea.css file in the WebFacing project.



   It is located in the following directory hierarchy:
   `wflabxx\Style\gradient\apparea\`

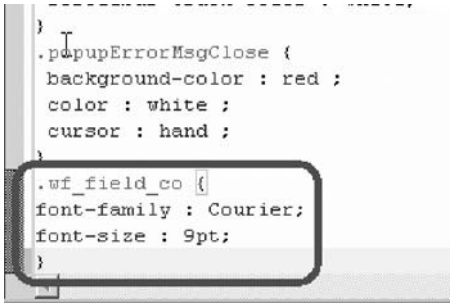
2. Double-click the apparea.css file icon to open an editor for this file.

   Next you add a new WebFacing font style class.

   The editor dialog will open and show the style source.

3. Scroll to the bottom of the source file.

4. Position the cursor at the end of the last line of the .popupErrorMsgClose class, after the ending curly (}) bracket.
5. Press the **Enter** key to insert a line.
6. Enter the following new class:

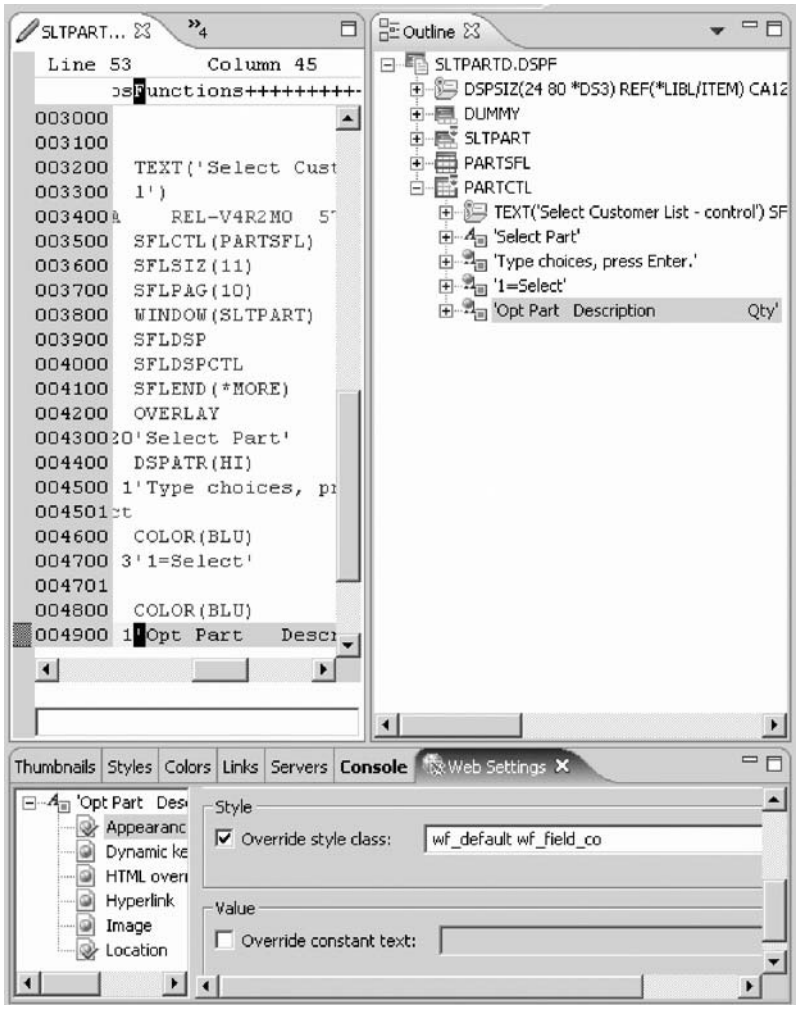


Note: Don't forget the semicolon to delimit the line and the ending curly (}) bracket.

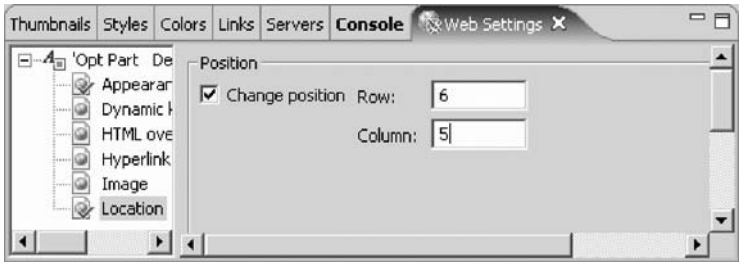
7. Save the change by clicking the Save icon in the workbench.

Now you need to update the Web Settings for the Opt Part Description Qty constant to use the new class.

8. In the Outline view, select the **Opt Part Description Qty** constant.
9. On the Web Settings page, select **Appearance** from the list.



10. Select the **Override style class** check box, and change the class name to `wf_default wf_field_co` in the field to the right of the check box.
11. On the Web Settings page select **Location** from the list.
12. Change the value in the **Column** field to 5.



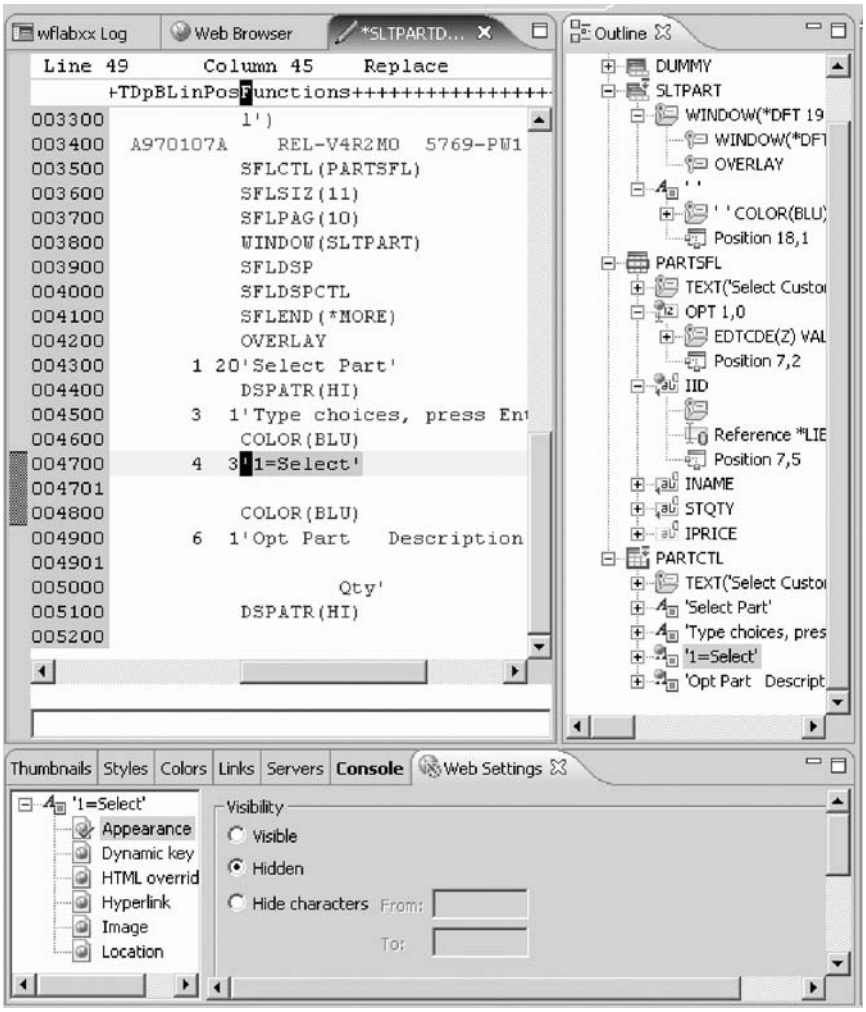
Now you need to remove the instructions on the panel that guide the user to put a 1 into the **Opt** field to select a specific part.

Hiding the select instruction

You don't have to give focus to a different record format since this constant is also located on the PARTCTL subfile control record format.

To hide the select instruction:

1. Select the constant **1=Select** in the Outline view.



2. On the Web Settings page select **Appearance** from the list.
3. Click the **Hidden** radio button.

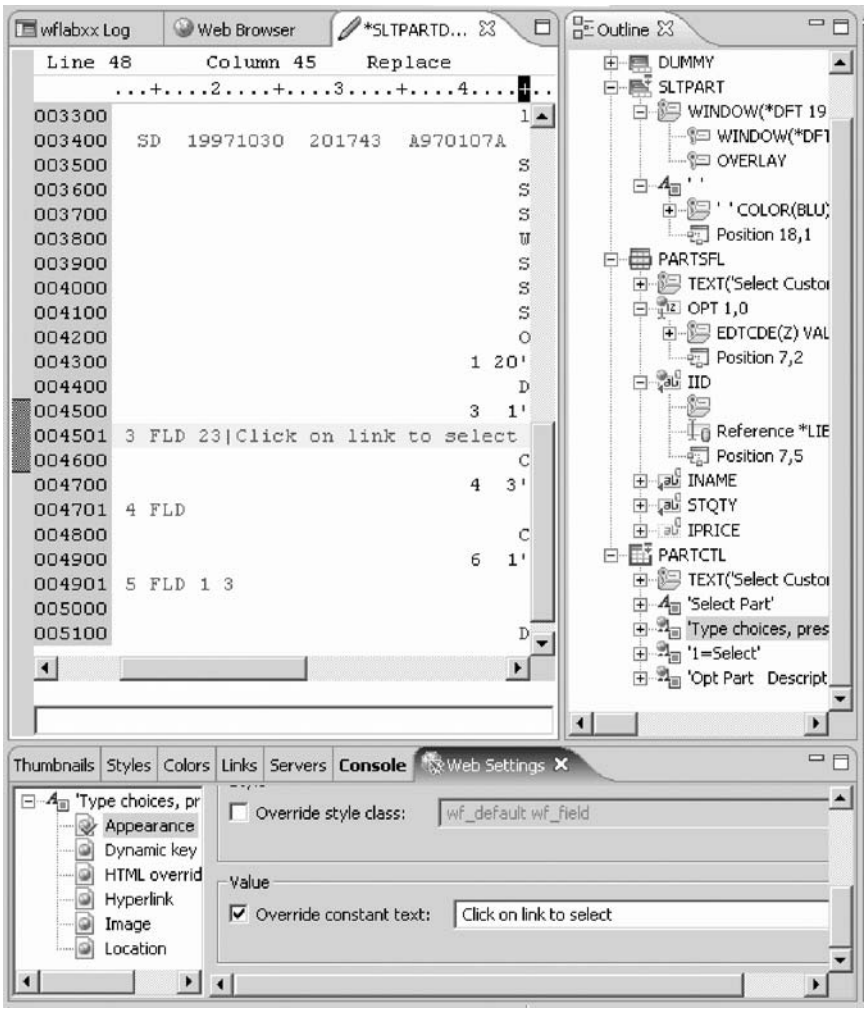
Changing the instruction (Type choice press Enter)

Now you need to add new instructions for the WebFacing page, so the end user knows to click the link to select a part.

Note: Note you can't just change the 5250 constant because you might still use this screen in a 5250 environment, you have to use Web Settings to apply this change to the Web user interface only.

To change the instruction text:

1. Select the instruction constant **(Type choices press Enter)** in the Outline view.



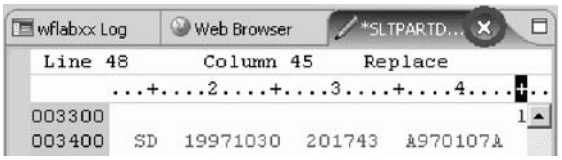
2. On the Web Settings page, select **Appearance** from the list.
3. Select the **Override constant text** check box, and type the new text `Click on link to select` in the field to the right of the check box.

   Now all Web Settings are in place and you can go ahead and save the DDS source and reconvert this DDS member.

Closing LPEX Editor and reconverting the DDS source member

To close LPEX Editor and re-convert the DDS member:

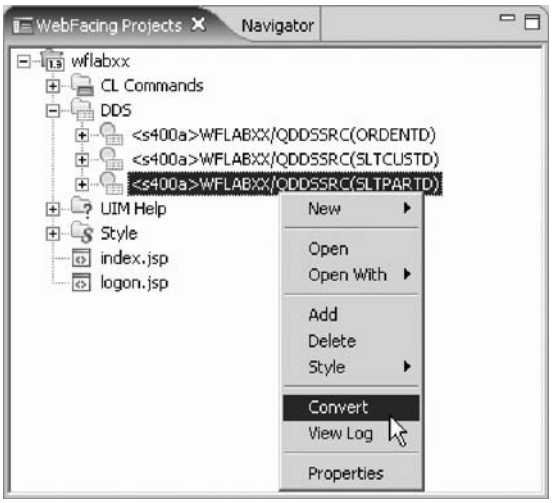
1. Click the **X** button at the top right corner of CODE Designer.



2. Click **Yes** to save, when asked to do so.

   You return to the WebFacing perspective in the workbench.
3. Select your project wflabxx in the WebFacing Projects view.
4. Expand the project by clicking on the plus sign (+) in front of its icon, if you can't see the DDS folder as part of the project.

5. Expand the DDS folder, if it is not expanded already, to show all members in this folder.



6. Select the member SLTPARTD that you just changed.
7. Right-click SLTPARTD member icon.
8. Click **Convert** on the pop-up menu.

   Only this member will be converted. A conversion report opens after the conversion is finished. Now you test the new user interface.

   You return to the WebFacing perspective in the workbench.

You have created a hyperlink action for the option field, hidden the option field, the option heading and the select instruction, changed the appearance of text, closed LPEX Designer and reconverted the DDS source member and now you are ready to begin "Exercise 5.5: Testing the changed application."

Exercise 5.5: Testing the changed application

Before you begin, you must complete "Exercise 5.2: Applying Web Settings in CODE Designer" on page 42.

Let's see the new user interface in your application.

To test the changed application:

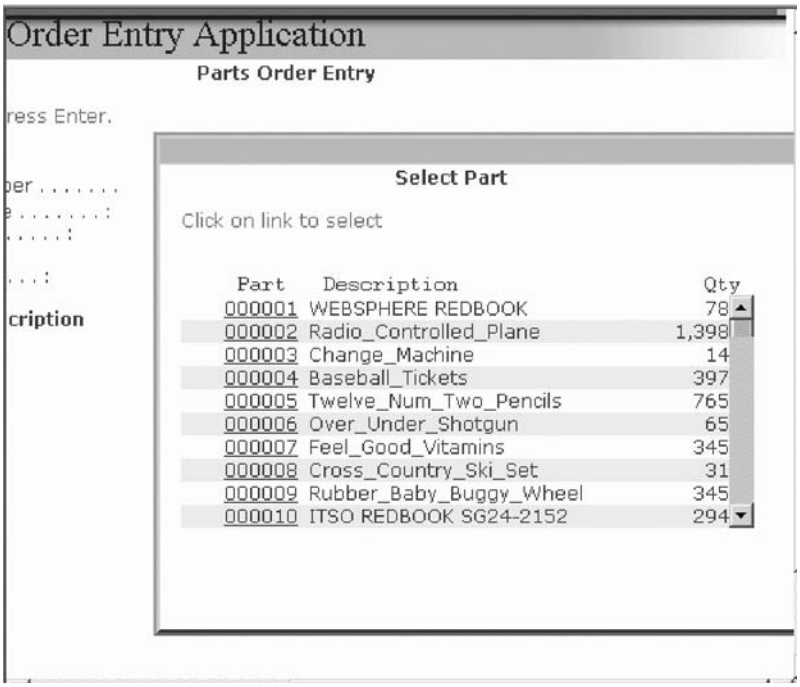
1. Right-click index.jsp in the WebFacing Projects view.
2. Click **Run > Run on Server** on the pop-up menu.
3. Go to the browser pane and click the **Launch** link.

   You will see the first screen of your application. Nothing has changed there.
4. Click the **Prompt** push button, or press command key **F4**.

The customer selection window appears and the customer fields are shown as links. Also notice the changed text and the non-visible option column.

Note: If the customer selection window is still showing the old option selections, most likely the browser has cached the page and you need to close the browser window, and restart the application. This will open a new instance of the browser without cached content.

5. Select a customer from the list by clicking on the link.
6. Click the **Prompt** push button, or press command key **F4** for the Part field.



The part selection window appears and the part fields are shown as links. Also notice the changed text and the non-visible option column.

Note: If the part selection window is still showing the old option selections, most likely the browser has cached the page and you need to close the browser window, and restart the application. This will open a new instance of the browser without cached content.

7. Go through the same steps as in Chapter 1, “Module 1. Reviewing the 5250 order entry application,” on page 1 to test the changed application.

You have launched a reconverted WebFacing application, prompted for a customer, verified the changes in the customer selection window, prompted for a part and verified the changes in the part selection window.

Module recap

You have completed Chapter 5, “Module 5. Changing the user interface,” on page 41. You have learned how to:

- Locate a DDS source member
- Open a DDS source member with CODE Designer
  - Create a hyperlink action for the option field
  - Hide the option field
  - Hide the option heading for the option field
  - Hide the select instruction
  - Change the appearance of text
  - Close CODE Designer
- Open a DDS source member with the LPEX Editor
  - Create a hyperlink action for the option field
  - Hide the option field
  - Hide the option heading for the option field
  - Add a new WebFacing class and change a headings location
  - Hide the select instruction
  - Change the appearance of text
  - Close the LPEX Editor
- Reconvert the DDS source members
- Launch the reconverted WebFacing application
- Prompt for a customer and part
- Verify the changes in the customer selection window and the part selection window

When you tested the changed application, you found that you didn’t like the way the WebFacing Tool mapped some of the display attributes to colors and text styles available in the browser. You wanted to change the default WebFacing style rules that determine how certain 5250 parts are displayed in a browser to give the Web user interface a better look. Now you will make these changes. Continue to Chapter 6, “Module 6. Changing the style of the Web user interface,” on page 63.

Chapter 6. Module 6. Changing the style of the Web user interface

This module teaches you how to change the user interface of your WebFacing application by using the WebFacing style properties dialog. The style changes are applied on a project level; so all pages in a project will be displayed with these changes applied. In this module you will change the text color and font for all highlighted fields. You will also locate the style file where these changes have been stored.

In this module, you will:

- Start the Style Properties dialog
- Change the DDS Field Display Attributes
- Locate the cascading style sheet file
- Edit the cascading style sheet file
- Check the new styles

Exercises

The exercises within each module must be completed in order:

- "Exercise 6.1: Changing the rules for highlighted fields"
- "Exercise 6.2: Changing styles directly" on page 66
- "Exercise 6.3: Testing the changed application" on page 70

Time required

This module will take approximately **5 minutes** to complete.

Exercise 6.1: Changing the rules for highlighted fields

During this exercise you will use the Style Properties dialog in the IBM WebFacing Tool to tailor your Web user interface. You will change the rules for highlighted fields in the 5250 panels so they appear more visible in the Web user interface. The style for highlighted fields will be altered so at runtime the text font will be different and a larger font size will be applied.

To change the rules for highlighted fields:

1. Start the workbench of the product and open the WebFacing perspective, if it is not up and running already.

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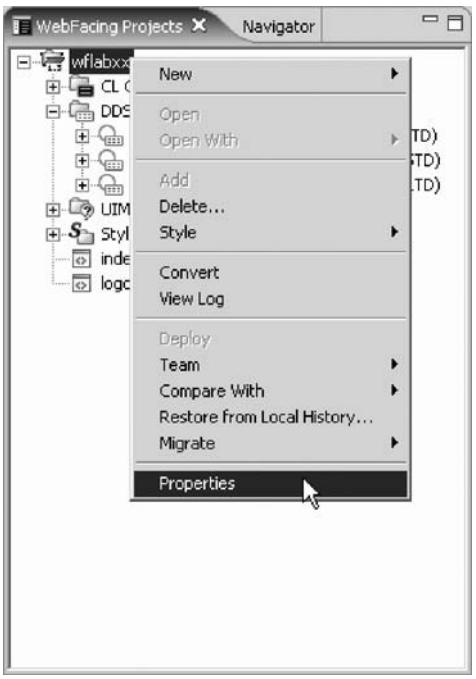
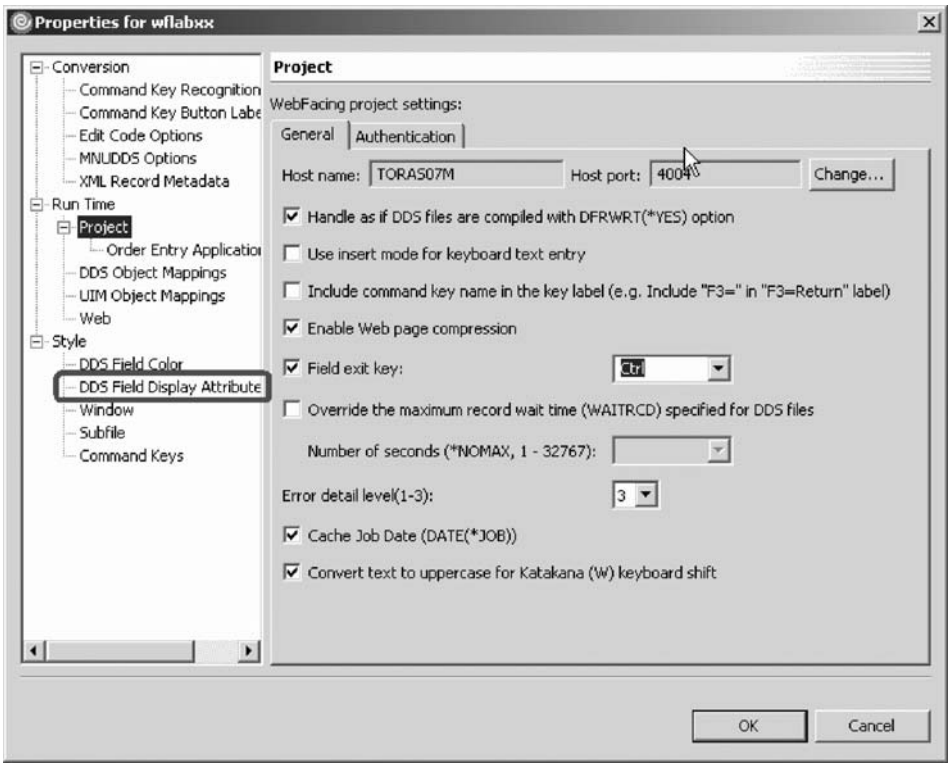
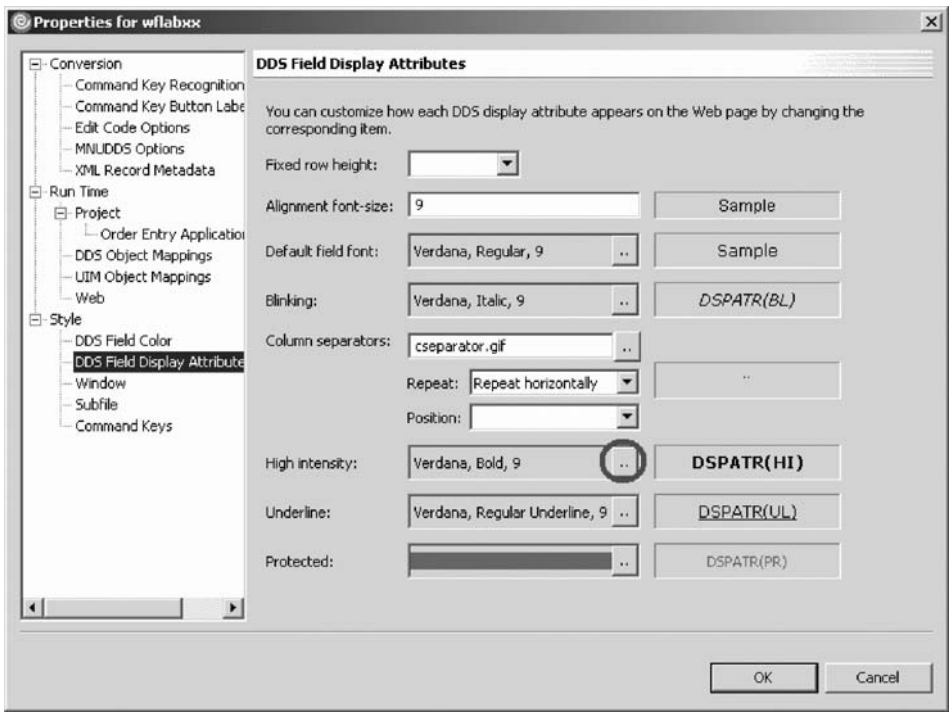


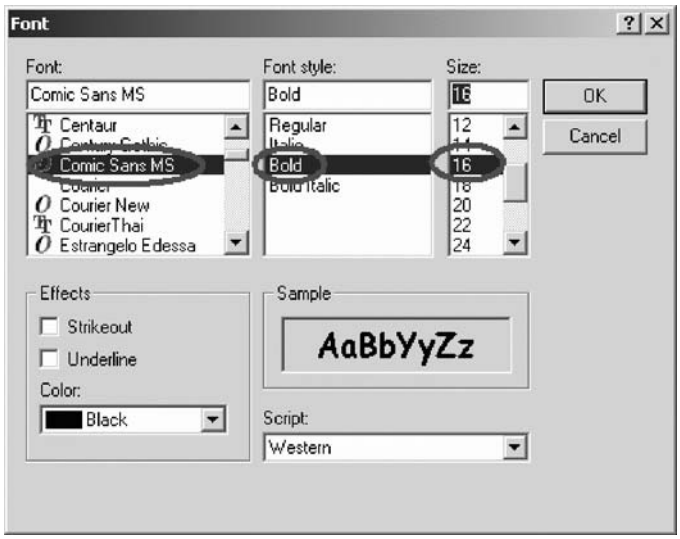
2. Right-click the wflabxx project.
3. Click **Properties** on the pop-up menu.
   The WebFacing project properties dialog opens.



4. Under **Style** in the left pane of the Properties for wflabxx, click **DDS Field Display Attributes**.
   In the right pane of the Properties for wflabxx, the DDS Field Display Attributes pane opens.



5. Click the **..** push button to the right of the **High intensity** field.
   The Font dialog opens.



6. Under the **Font** list, select **Comic Sans MS**.
7. Under the **Font style** list, select **Bold**.
8. Under **Size**, select **16**.

   Note: Don't try to change the color in this dialog, the color setting doesn't work, later in this module you will see how to change the color.

   This changes the font size and appearance for parts that have the high intensity attribute active.
9. Click **OK** on the Font dialog.
10. On the Properties page, click **OK**.

Checking the new style

Let's check the new style in your application.

To check the new style:

1. Right-click index.jsp in the WebFacing Projects view.
2. Click **Run > Run on Server** on the pop-up menu.
3. Go to the browser pane and click the Order Entry link.
   You will see the first screen of your application.

   Note: See the different font and font size of some of the text; these are the highlighted areas of your 5250 screen.
4. Prompt for the customer.
   The customer selection screen has highlighted text and this text should show in font Comic Sans MS and size 16.

   Note: If the text is still showing the old fonts, most likely the browser has cached the page and you need to close the browser window, and restart the application. This will bring up a new instance of the browser without cached content.
5. The Font dialog has a bug that makes it impossible to change the Font colors directly. Next you see how to directly change WebFacing style classes.

You have started the Style Properties dialog, changed the DDS Field Display Attributes and checked the new style and now you are ready to begin "Exercise 6.2: Changing styles directly."

Exercise 6.2: Changing styles directly

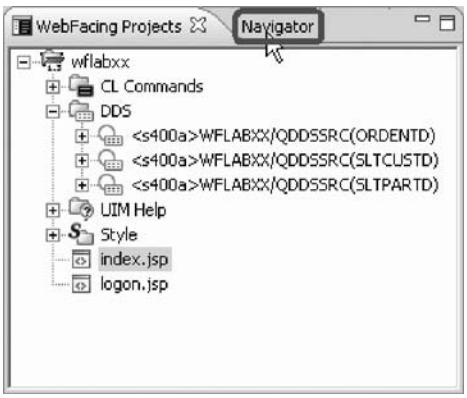
Before you begin, you must complete "Exercise 6.1: Changing the rules for highlighted fields" on page 63.

Instead of working with properties in the WebFacing project you can also change the styles being applied directly in the Cascading Style Sheet (.css) file that

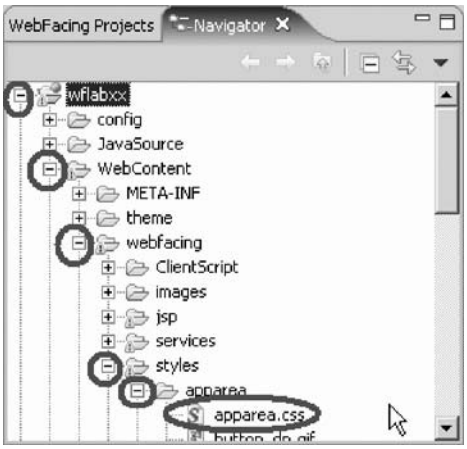
WebFacing uses. In this exercise you see where this file is located in the WebFacing Project structure and how to find your way around in this file.

To locate the Cascading Style Sheet file:

1. Click the **Navigator** tab to switch to the Navigator view.



2. Locate the apparea.css file in the WebFacing project.



   It is located in the following directory hierarchy:
   `wflabxx\WebContent\webfacing\styles\apparea\`

3. Double-click the apparea.css file icon in the Navigator view, to open an editor for this file.

   Next you change the WebFacing highlighted style class.

   The editor dialog will open and show the style source.

4. Scroll down the source file until you reach the **.wf-hi** class.

You'll notice your changes from the previous exercise are applied here. The WebFacing Tool has created style sheet classes for the different 5250 parts and attribute combinations and stored them here. Each of the lines starting with a dot is containing a style class name. The statements inside the curly brackets after the style class name describe the attributes of the class itself. For this WebFacing .css file, the name of the classes are self describing, for example .wf_hi defines how a part that has the highlighted attribute active gets displayed in the browser, wf_cs describes the column separator, etc. You can go in and change the display characteristics for any of the 5250 attributes.

Next you change the color attribute of the highlighted class.

5. Position the cursor at the end of the last line of the wf_hi class, before the ending curly (}) bracket.
6. Press the **Enter** key to insert a line.
7. Enter the color attribute you want to use, for example: `color: red;`

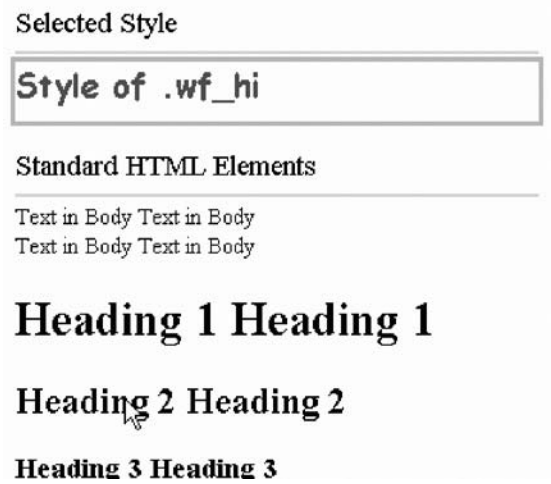
```
background-repeat : repeat-x;
background-position : 0% 120%;
}
.wf_hi
{
 font-style:normal;
 border-left-color:black;
 font-family:Comic Sans MS;
 border-top-color:black;
 font-weight:bold;
 font-size:16pt;
color: red;
}
SPAN.wf_ul {
text-decoration : underline;
}
.wf_pr {
    border-width: 0 0 2 0;
    color: #666666;
}
.wf_nd_pr{
    visibility: hidden
```

Note: Don't forget the semicolon to delimit the line.

8. Save the change by clicking the Save icon in the workbench.

There is a feature available in the Style sheet editor that allows you to look at the changes you have made to a class directly in the editor without actually invoking the page and showing in a browser.

9. Look at the left beside the Style sheet editor.



To see the changed user interface, run the application again.

You have located the cascading style sheet file and edited it and now you are ready to begin "Exercise 6.3: Testing the changed application" on page 70.

Exercise 6.3: Testing the changed application

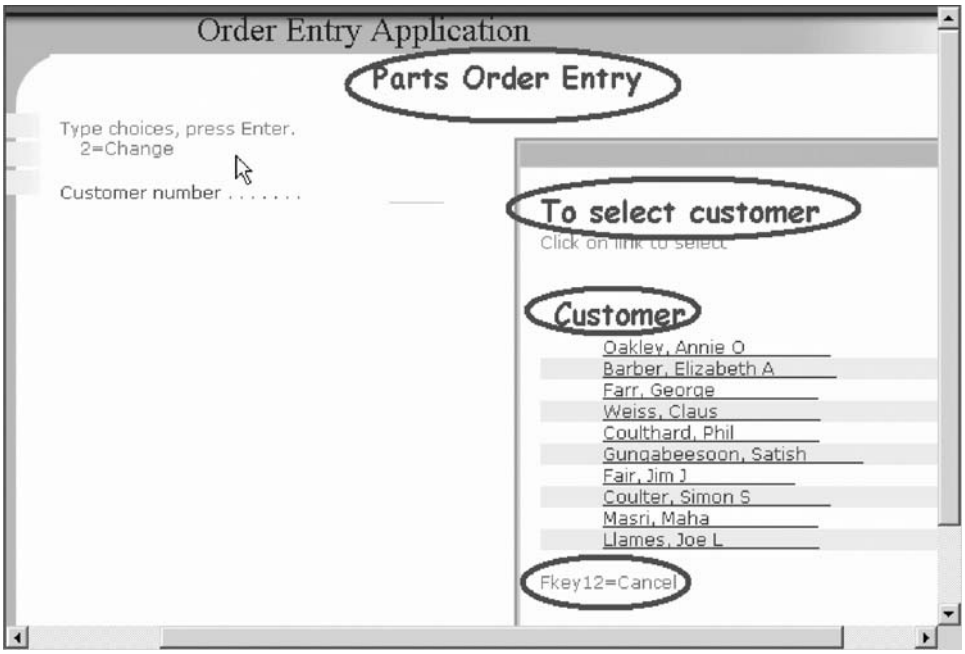
Before you begin, you must complete "Exercise 6.2: Changing styles directly" on page 66.

To test the changed WebFacing application:

1. Click the **X** in the Window bar of any editors or views still open at the right upper hand side of the workbench to close them all.

   Now let's check the new style attribute in your application.
2. Right-click index.jsp in the WebFacing Projects view or Navigator view in the WebFacing perspective.
3. Click **Run > Run on Server** on the pop-up menu.
4. Go to the browser pane and click the Order Entry link.

   You will see the first screen of your application. Notice the different color of the text in the highlighted areas of your Web page. Prompt for the customer. The customer selection screen will show the same changed attributes; remember style changes are applied to all pages as shown.



Note: If the text is still showing the old colors, most likely the browser has cached the page and you need to close the browser window, and restart the application. This will open a new instance of the browser without cached content.

You might not have noticed it before, but there is still a command key description at the bottom of the Customer Selection list window.

You might have guessed it; you will fix this in the next module.

Module recap

You have completed Chapter 6, "Module 6. Changing the style of the Web user interface," on page 63. You have learned how to:

- Start the Style Properties dialog
- Change the DDS Field Display Attributes

- Locate the cascading style sheet file
- Edit the cascading style sheet file
- Check the new styles

In the sample Order Entry application, the Customer Selection list window doesn't follow the CUA® rules for command key descriptions. The WebFacing Tool will by default not recognize these command key descriptions and will not delete them. The Order Entry main screen has a command key enabled that has no description associated with it. The WebFacing Tool by default can't handle this situation and puts a default string in the push button label representing this command key. Next you learn how to enable the WebFacing Tool to deal with these common green screen environments. Continue to Chapter 7, "Module 7. Adding command key rules and labels," on page 73.

Chapter 7. Module 7. Adding command key rules and labels

Most of the command key descriptions placed at the bottom of the original panels in the sample Order Entry Application have been removed from the WebFacing user interface. The removal happens automatically if the command key descriptions follow the Common User interface Access (CUA) rules (for example, F3=Exit). If they don't follow these rules you can supply the WebFacing Tool with the command key description rules you use in your user interface, and the WebFacing Tool will apply these rules to recognize your specific command key descriptions. One of the record formats in the sample application contains a command key description that doesn't follow the CUA rules.

This module teaches you how to use the WebFacing conversion properties dialogs to add your own command key description rule. Also in your user interface you might have enabled command keys without describing them in the user interface because they are only used for specific functions and your end user knows how they work. For example command key 3 for ending an application or command key 12 for canceling a task are well known to be enabled for these tasks. So your user interface might not list them explicitly at the bottom of the panel. The problem with this kind of user interface design, the WebFacing Tool doesn't have a string it can put in the label of the push buttons on the Web page. It will just put for example CF12 for an active command key 12 in the push button label. However there is an alterative, the WebFacing Tool allows you to specify labels for these common command keys so it can label the command key push buttons correctly. You just have to tell the WebFacing Tool in its conversion properties what the label is.

In this module, you will:

- Start the Properties dialog
- Select Command Key Recognition Patterns
- Add a new command key rule
- Reconvert the DDS members
- Test the applied new rule
- Change the text for the F12 command key
- Reconvert the DDS members
- Test the new command key label

Exercises

The exercises within this module must be completed in order:

- "Exercise 7.1: Adding a new command key description pattern" on page 74
- "Exercise 7.2: Adding command key button labels" on page 77

Time required

This module will take approximately **10 minutes** to complete.

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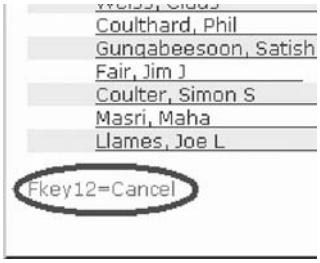
Exercise 7.1: Adding a new command key description pattern

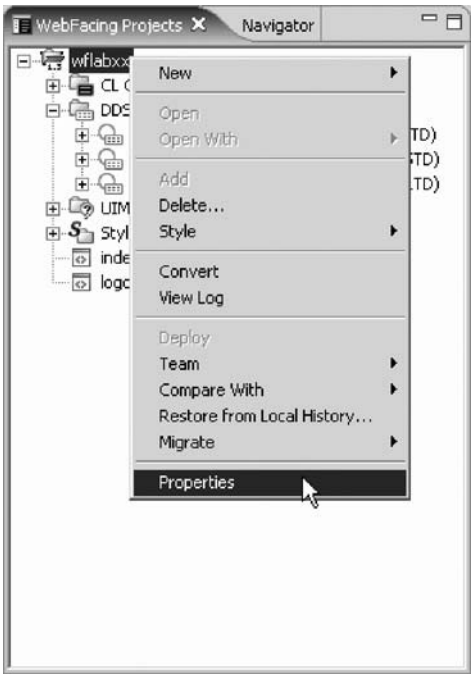
The prefix for the command key description in the SLTCUST record format is Fkey=.



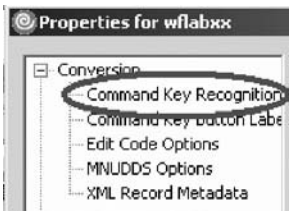
This doesn't follow the CUA rules normally used in iSeries user interfaces, so the WebFacing conversion does not recognize this pattern and does not hide it. You have to add this prefix pattern to the WebFacing Tool conversion rules in the WebFacing Properties dialog.

To add a new command key description pattern to WebFacing conversion rules:

1. In the WebFacing Projects view, right-click your WebFacing project wflabxx.
2. Click **Properties** on the pop-up menu.

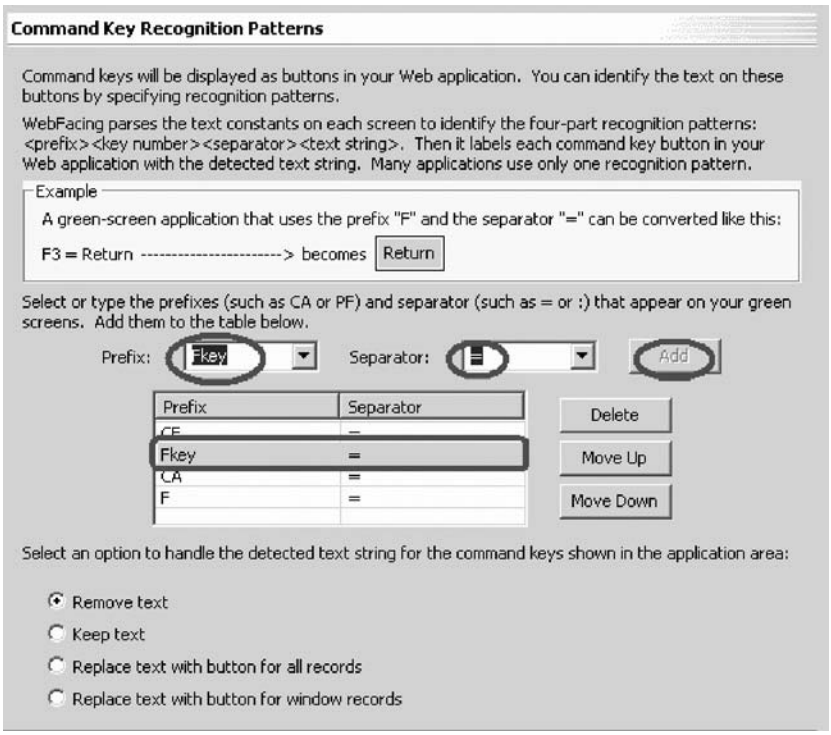


The Properties for wflabxx dialog opens.



3. In the left pane of the Properties for wflabxx, under **Conversion**, select **Command Key Recognition Patterns**.

   The right pane will switch to Command Key Recognition Patterns.



4. In the **Prefix** list, type Fkey
5. In the **Separator** list, leave =
6. Click **Add** to the right of these two lists.
   The additional rule is now part of this style.
7. Click **OK**.

Next, you will test this feature by converting the DDS member and running the application.

Reconverting DDS members

Since these are conversion properties you are changing and not style properties as in the previous module, you will need to reconvert all members that contain command key descriptions with this pattern. In the sample Order Entry application this is only member SLTCUSTD.

To reconvert DDS members:

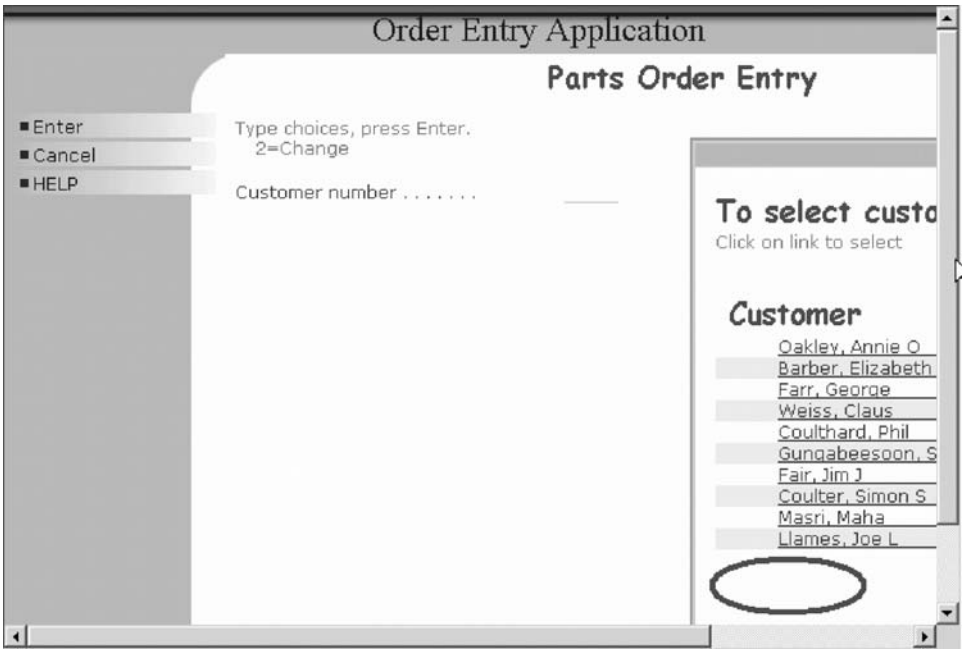
1. In the workbench in the WebFacing Project view, expand the wflabxx project, if not already expanded.
2. Expand the DDS folder, if not already expanded.
3. Right-click the SLTCUSTD member icon.
4. Click **Convert** on the pop-up menu.
   After the conversion, take a look at the change.

Testing the applied new rule

Let's see how the new rule is applied to your WebFacing application.

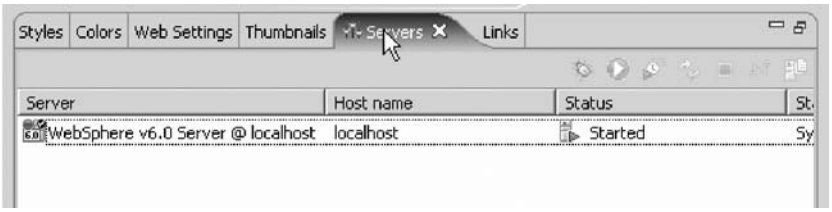
To test the applied new rule:

1. Right-click index.jsp in the WebFacing Projects view.
2. Click **Run > Run on Server** on the pop-up menu.
3. Go to the browser pane and click the Order Entry link.
   You will see the first screen of the sample application.
4. Click **Prompt** or press **F4**.
   The Customer Selection list window opens.

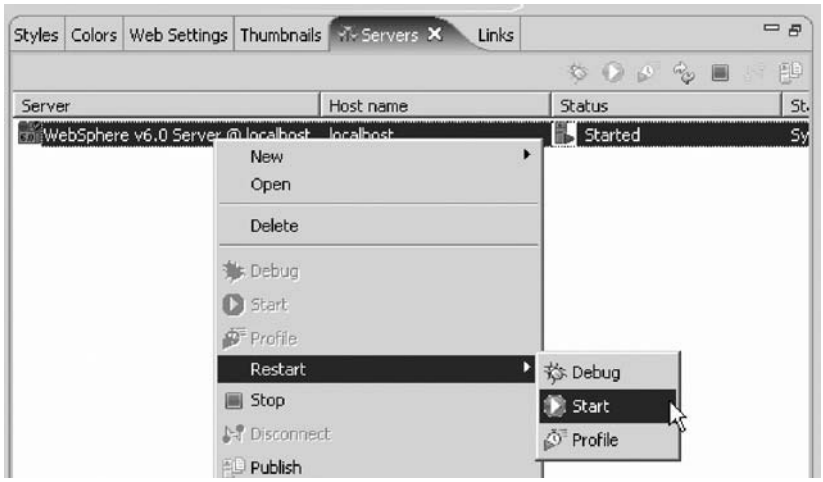


Note: Notice that the command key text Fkey12=Cancel is gone from the bottom of the window.

5. If the push button still shows, restart the Application server.
   a. Click the **Servers** tab at the bottom of the workbench.



   b. Right-click the server icon.
   c. Click **Restart > Start** on the pop-up menu.



d. Run the application again.

6. Select a customer or cancel by pressing **F12** to return to the Order Entry Application window.

Now that you know how to change the command key recognition patterns in the WebFacing Tool, you can add text to frequently used command keys that don't have a text description in the DDS source.

Back on the Order Entry panel, you can see that the push button for F12 does not have a description. Its label shows F12. You will learn how to fix the label in the next exercise.

You have started the Properties dialog, selected Command Key Recognition Patterns, added a new command key rule and reconverted the DDS members, tested the applied rule, and now you are ready to begin "Exercise 7.2: Adding command key button labels."

Exercise 7.2: Adding command key button labels

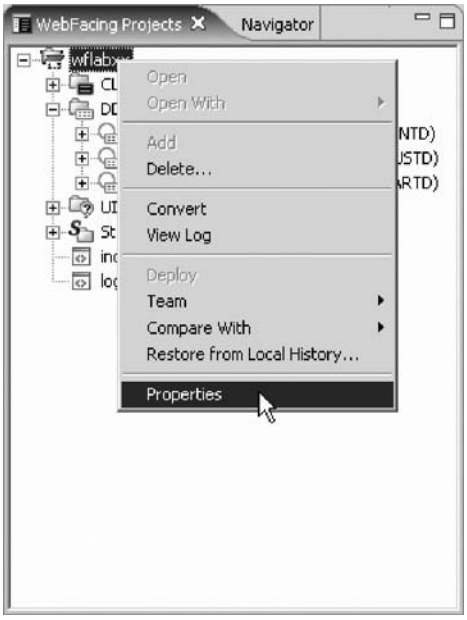
Before you begin, you must complete "Exercise 7.1: Adding a new command key description pattern" on page 74.

The WebFacing Tool allows you to specify command key descriptions for command keys that are commonly used in your application but not described in your DDS source and on your screens. This way the push button labels on the Web pages can automatically be changed during conversion to the correct text. You will

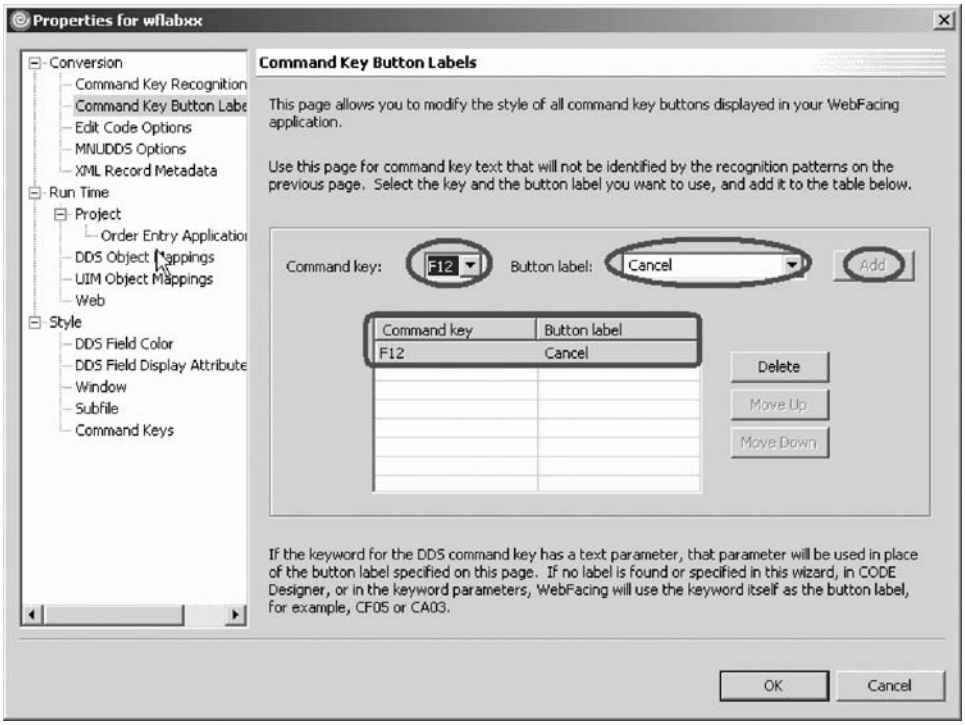
add the description Cancel to the WebFacing conversion properties so the push button will get created to show a Cancel label instead of F12.

To add command key button labels:

1. Right-click your WebFacing project wflabxx.



2. Click **Properties** on the pop-up menu.
   The Properties for wflabxx dialog opens.
3. In the left pane of this dialog, under **Conversion** select **Command Key Button Labels**.
   In the right pane of this dialog, the Command Key Button Labels opens.



4. Under the **Command key** list, select **F12**.

5. Under the **Button label** list, select **Cancel**.
6. Click **Add** to the right of these two lists.

   The additional label is now part of the WebFacing conversion properties for this WebFacing project.
7. Click **OK** at the bottom of the Properties dialog.

   Next, back in the workbench, convert the changed application.

Reconverting DDS members

To convert the application in the workbench:

1. Expand the wflabxx project if not already.
2. Expand the DDS folder if not already.
3. Right-click the ORDENTD member icon.
4. Click **Convert** on the pop-up menu.

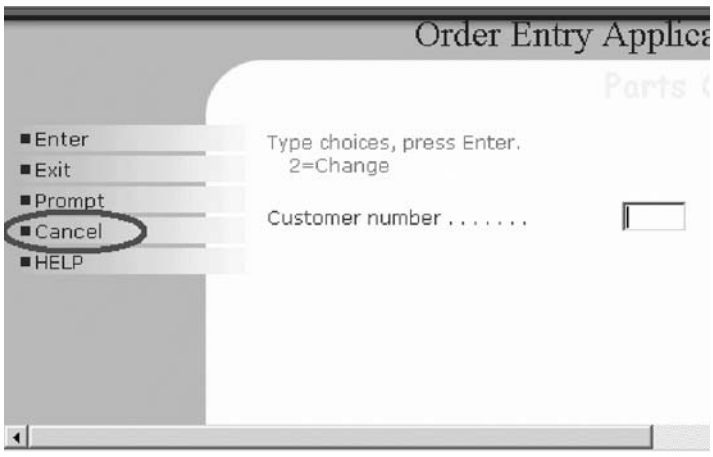
   After the conversion, take a look at the change.

Testing the new label

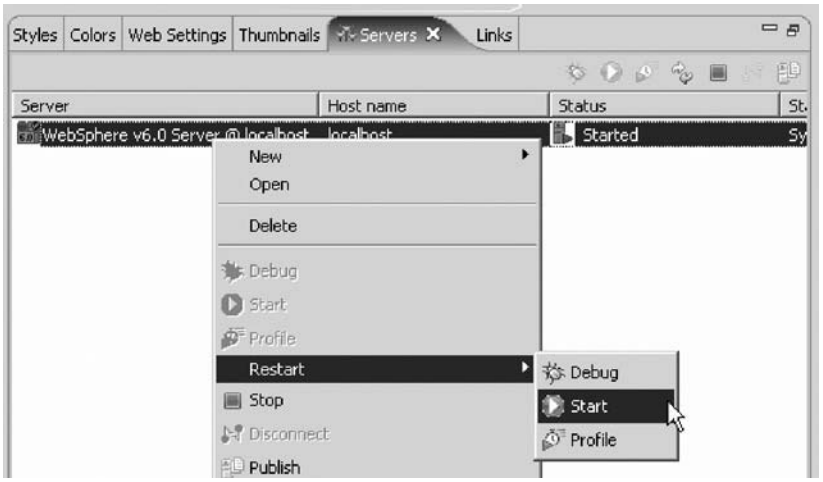
Let's see the new label for the F12 push button in your WebFacing application.

To test the new label:

1. Right-click index.jsp in the WebFacing Projects view.
2. Click **Run > Run on Server** on the pop-up menu.



3. Go to the browser pane and click the Order Entry link.
4. Check that the **Cancel** push button on the first page now shows the correct label as shown.
5. If the push button still has the old text, restart the Application server.
6. Click the **Servers** tab at the top view in the workbench.
7. Right-click the server icon.
8. Click **Restart > Start** on the pop-up menu.



9. Run the application again.

You have changed the text for the F12 command key, reconverted the DDS members and tested the command key label.

Module recap

You have completed Chapter 7, "Module 7. Adding command key rules and labels," on page 73. You have learned how to:

- Start the Properties dialog
- Select Command Key Recognition Patterns
- Add a new command key rule
- Reconvert the DDS members
- Test the applied new rule
- Change the text for the F12 command key
- Reconvert the DDS members
- Test the new command key label

Now that you have a Web user interface so the green screen look doesn't show through as much as after the first WebFacing conversion you did in Chapter 3, "Module 3. Converting selected source members," on page 27; you want to add some more refinements to the appearance of your Web pages. Continue to Chapter 8, "Module 8. Working with more style properties," on page 81.

Chapter 8. Module 8. Working with more style properties

This module teaches you how to change the user interface further, using style properties. You will learn to work with WebFacing Tool style properties and check the changes by refreshing the style and running the application.

In this module, you will:

- Start the Properties dialog
- Change the window style
- Change the subfile style
- Change the command key style
- Test the changed properties

Since a style is used on a project level, all Web pages in your project will contain the changes you apply to a particular style.

Exercises

The exercises within this module must be completed in order.

- "Exercise 8.1: Starting the WebFacing properties style dialog"
- "Exercise 8.2: Changing the appearance of the subfile" on page 83
- "Exercise 8.3: Customizing the appearance of command keys" on page 85
- "Exercise 8.4: Checking the new style" on page 86

Time required

This module will take approximately **10 minutes** to complete.

Exercise 8.1: Starting the WebFacing properties style dialog

First, you will use the WebFacing Style properties dialog to tailor your Web user interface. You will apply changes to the window layout of your screens, the subfile appearance will be changed, and you will enhance the command key push button looks.

To start the WebFacing properties dialog:

1. Start the product and open the WebFacing perspective, if it is not up and running already.
2. In the WebFacing Projects view, select the wflabxx project.
3. Right-click the wflabxx project, and click **Properties** on the pop-up menu.

   The Properties dialog opens.

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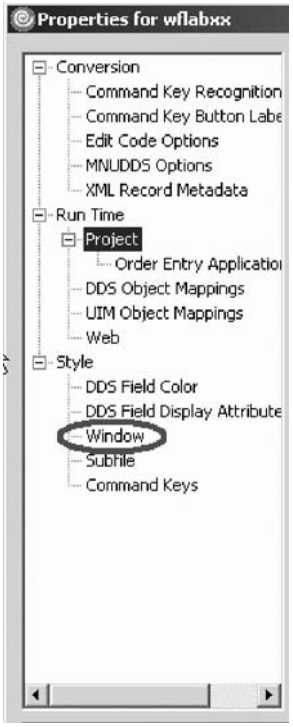
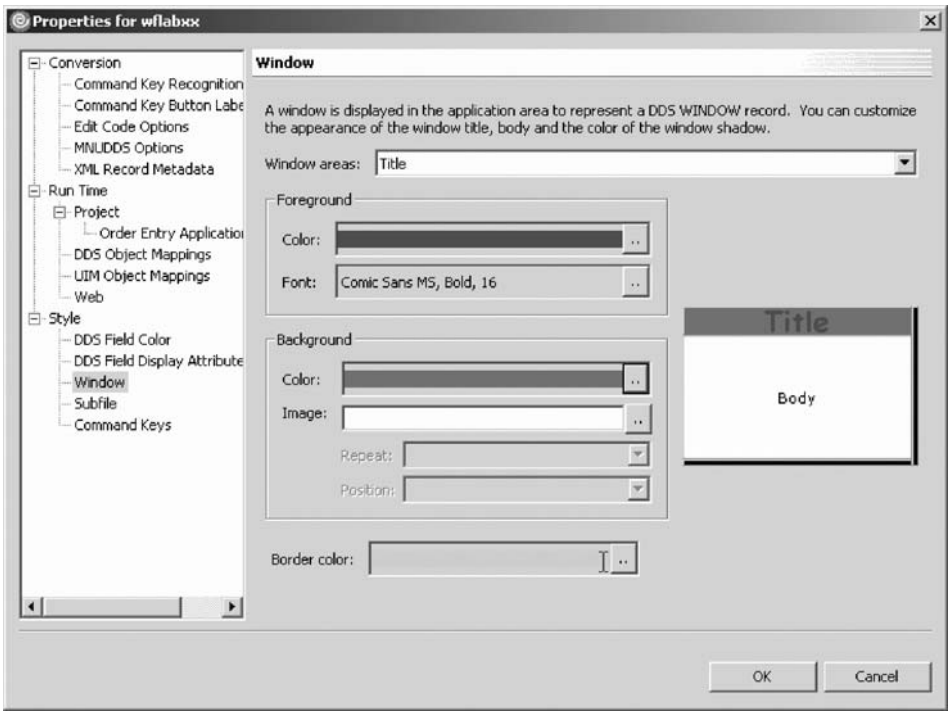
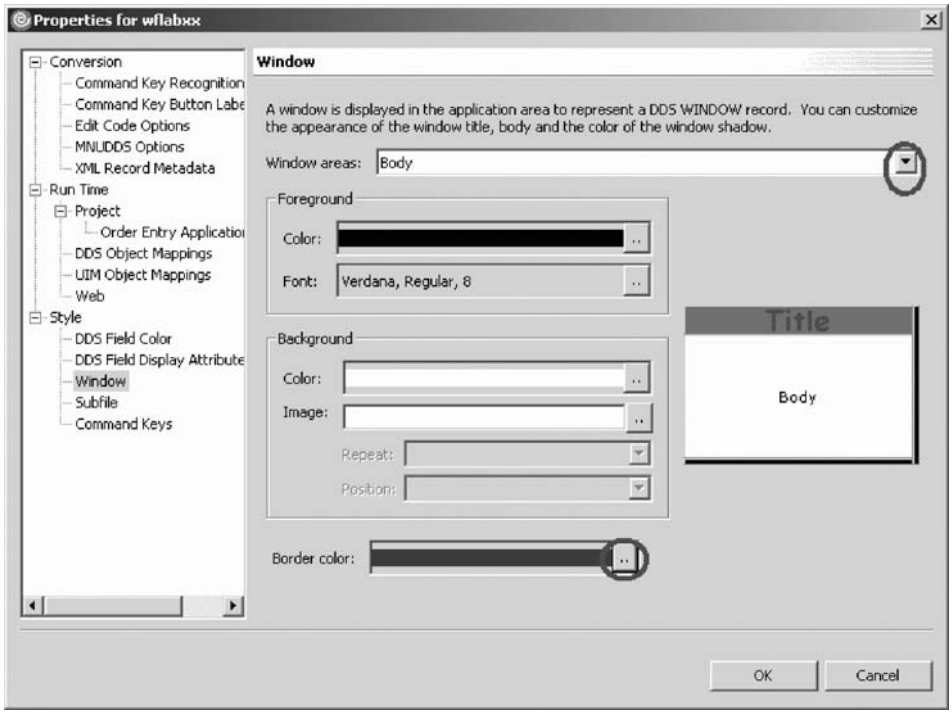


4. Under **Style** in the left pane of the Properties dialog, select **Window**.
   The right pane of the Properties dialog shows the Window properties.



5. Select **Title** from the **Windows areas** list.
6. Under **Foreground** click the **..** push button to the right of the **Color** field.
7. On the Color Chooser dialog, click **Red**.
8. Then click **OK** in the Color Chooser dialog.
   The Window Properties page reappears.

9. Click the **..** push button to the right of the **Font** field.
10. Select font **Comic Sans MS**, size **16**.
11. Click **OK** on the Font dialog.
12. Under **Background**, click the **..** push button to the right of the **Color** field.
13. On the Color Chooser dialog, click **Green**.
14. Click **OK** on the Color Chooser dialog.
    The Windows properties dialog reappears.
15. Select **Body** in the **Windows areas** list at the top of the page.



16. In the **Border color** field at the bottom of the page click the **..** push button to the right of the **Border color** field.
    The Color Chooser dialog opens.
17. Select **Blue**.
18. Click **OK** in the Color Chooser dialog.

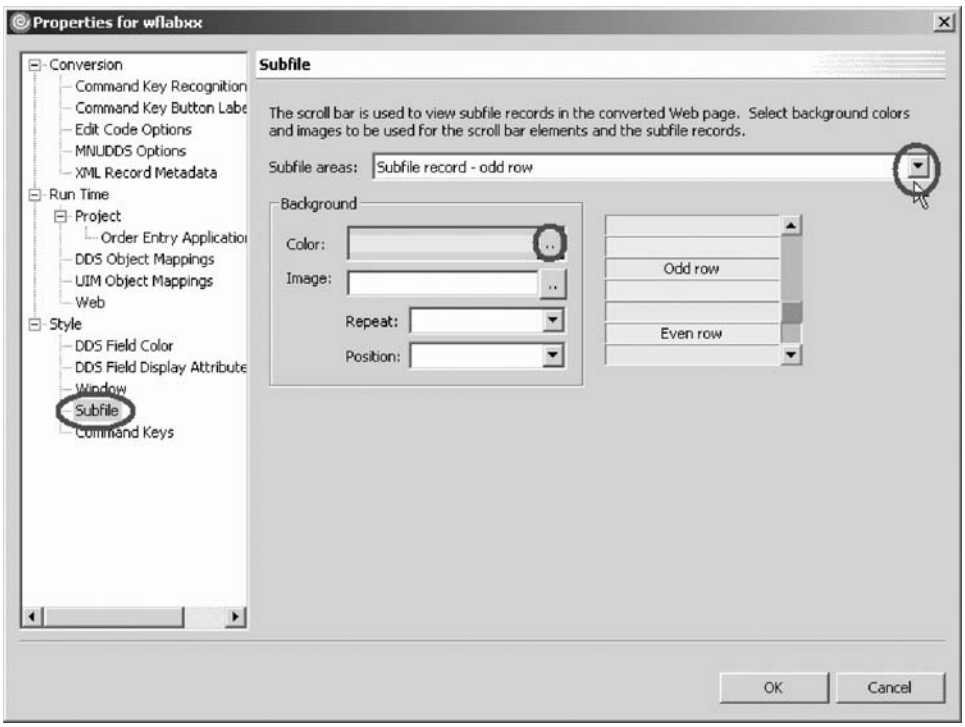
You have started the Properties dialog, changed the window style and now you are ready to begin "Exercise 8.2: Changing the appearance of the subfile."

Exercise 8.2: Changing the appearance of the subfile

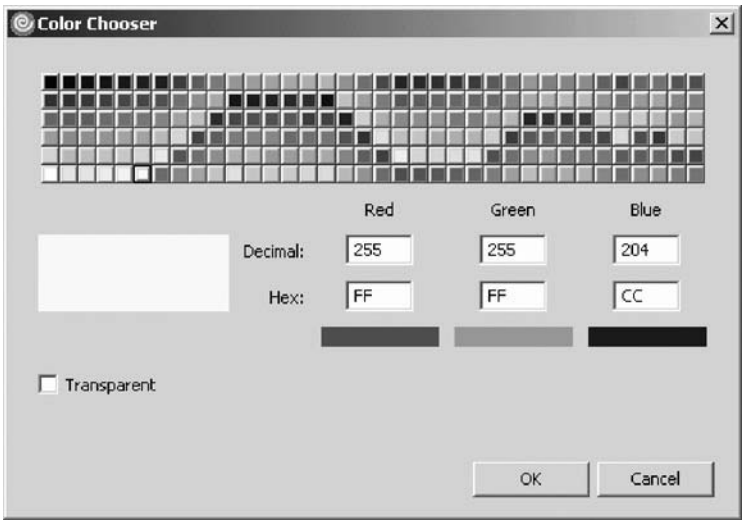
Before you begin, you must complete "Exercise 8.1: Starting the WebFacing properties style dialog" on page 81.

To change the appearance of the subfile:

1. Back in the Properties dialog, under **Style**, select **Subfile**.
   The Subfile properties page opens on the right pane of the dialog.

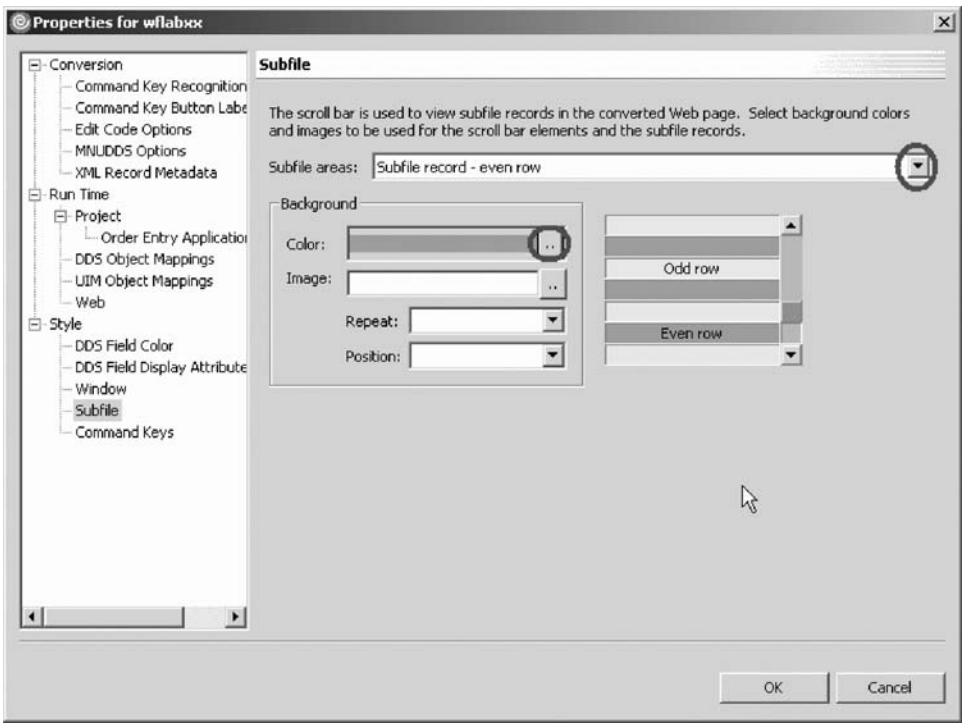


2. Select **Subfile record - odd row** in the **Subfile areas** list.
3. Under Background, click the **..** push button to the right of the **Color** field.
   The Color Chooser dialog opens.
4. Select **light yellow**.



Tip: If you are interested in the hex value of certain colors as they are used in the style classes, the Color Chooser dialog displays the hex values; see the value ″FF FF CC ″

5. Click **OK** in the Color Chooser dialog.
   You return to the Properties dialog.
6. Select **Subfile record - even row** in the **Subfile areas** list at the top of the page.



7. Under Background, click the **..** push button to the right of the **Color** field.
   The Color Chooser dialog opens.
8. Select a light green.
9. Click **OK** on the Color Chooser dialog.
   Now at runtime the odd and even records will be displayed with different background colors. Next you will customize the appearance of the command key push buttons.

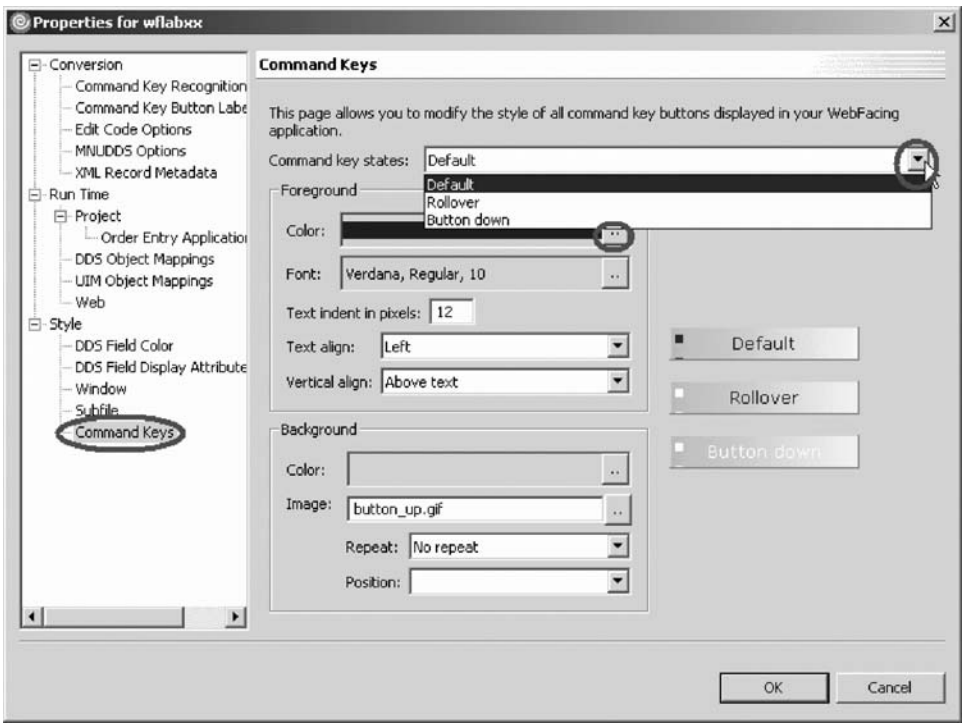
You have changed the subfile style and now you are ready to begin "Exercise 8.3: Customizing the appearance of command keys."

Exercise 8.3: Customizing the appearance of command keys

Before you begin, you must complete "Exercise 8.2: Changing the appearance of the subfile" on page 83.

To customize the appearance of command keys:

1. In the left pane of the Properties dialog under **Style**, select **Command keys**.
   The Command Keys properties opens on the right pane of the dialog.



2. Change the Foreground color for all three states of the buttons:
   - Default
   - Rollover
   - Button down

   Now you have finished customization.
3. Click **OK** on the Properties dialog.

You have changed the command key style and now you are ready to begin "Exercise 8.4: Checking the new style."

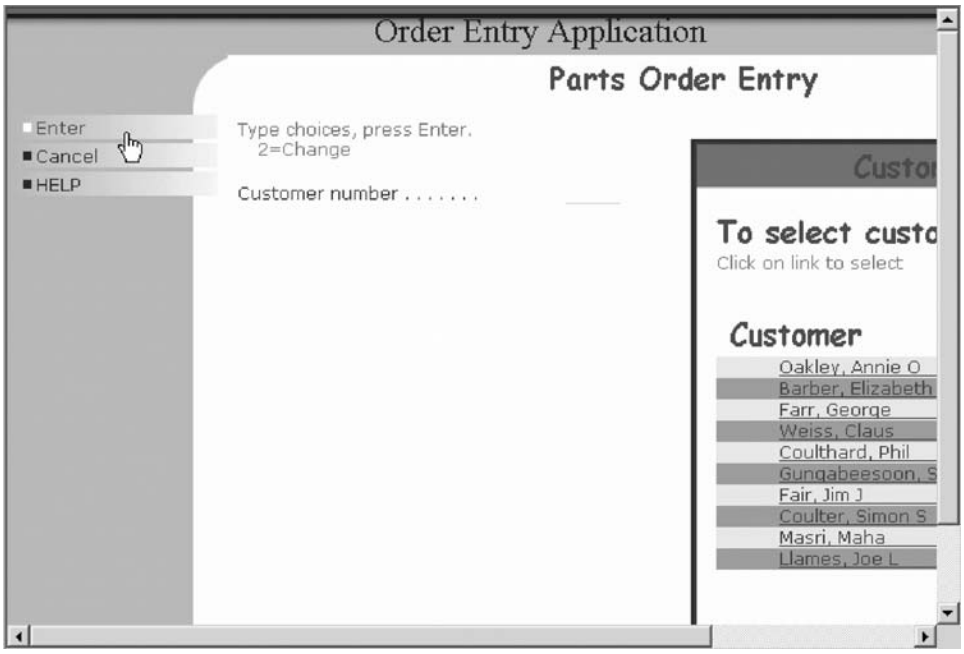
Exercise 8.4: Checking the new style

Before you begin, you must complete "Exercise 8.3: Customizing the appearance of command keys" on page 85.

Let's see the new look of your application.

To check the new style:

1. Right-click index.jsp.
2. Click **Run > Run on Server** on the pop-up menu.
3. Run the application.
4. Click **Prompt**.



The application window shows different colors, and the subfile records are colored. The command key push buttons change color, depending on their state.

Note: If the text is still showing the old colors, most likely the browser has cached the page and you need to close the browser window, and restart the application. This will open a new instance of the browser without cached content.

You have tested the changed properties.

Module recap

You have completed Chapter 8, "Module 8. Working with more style properties," on page 81. You have learned how to:

- Start the Properties dialog
- Change the window style
- Change the subfile style
- Change the command key style
- Test the changed properties

You have tested your WebFacing application with updated style properties and now you want to customize the style further by updating the look and feel for a fictional company. Continue to Chapter 9, "Module 9. Customizing the default style," on page 89.

Chapter 9. Module 9. Customizing the default style

Development Studio Client is built upon WebSphere Studio Site Developer. Site Developer contains editors for HTML and Cascading Style Sheet (CSS) files. When you created the WebFacing Web project, you selected a default style to your Web-enabled application.

This module teaches you how to customize that style, updating the look and feel for a fictional company. You will change the color of the application and add a company logo as shown below.

In this module, you will:

- Locate the existing style
- View the design of the existing style
- Import the company logo
- Edit the style sheet to include the company logo
- Edit PageBuilder.jsp to remove and resize fields for your logo
- Change the color

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Exercises

The exercises within this module must be completed in order:

- "Exercise 9.1: Opening Pagebuilder.jsp"
- "Exercise 9.2: Importing the company logo" on page 91
- "Exercise 9.3: Editing the style sheet and PageBuilder.jsp" on page 92

Time required

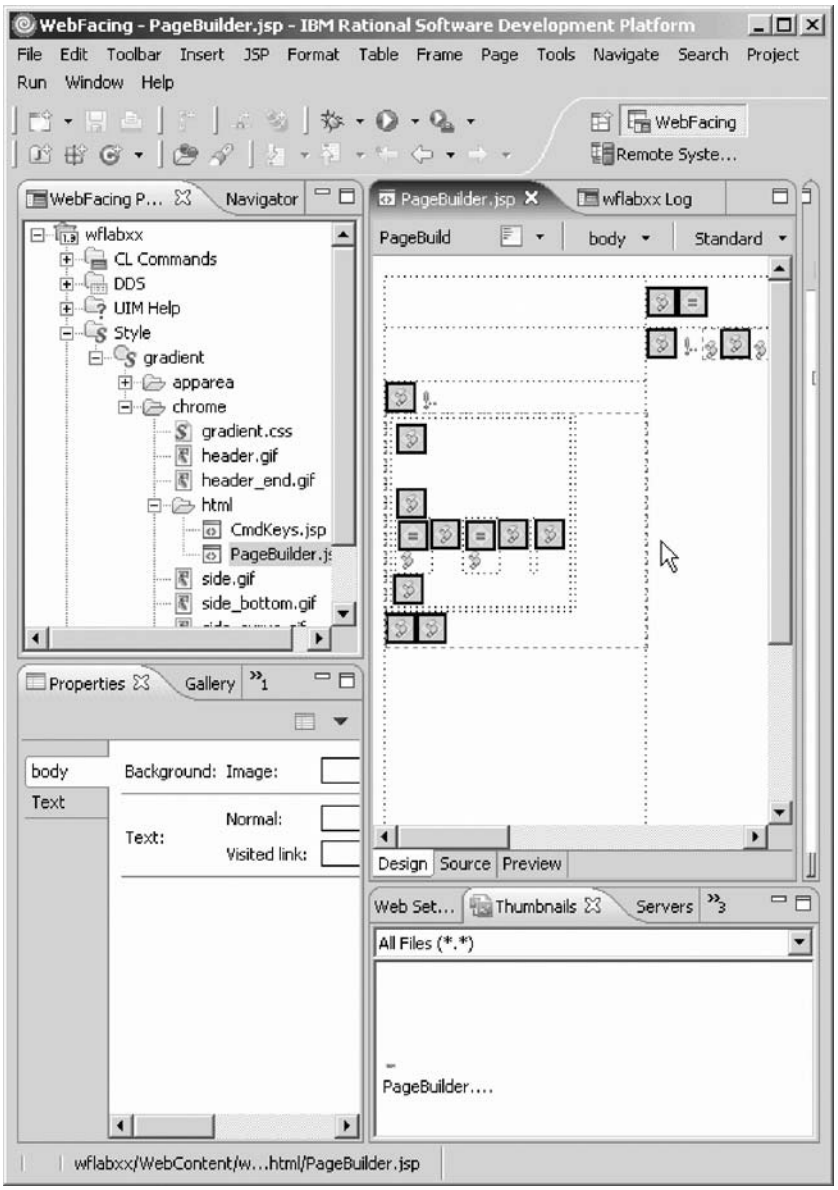
This module will take approximately **15 minutes** to complete.

Exercise 9.1: Opening Pagebuilder.jsp

First you open the JSP file called PageBuilder as you want to edit this file to add a new company logo in a follow-on exercise. PageBuilder.jsp is the main JSP for the WebFacing project.

To open the PageBuilder.jsp:

1. Open the product in the WebFacing perspective, if it is not already open.
2. Expand **wflabxx > Style > gradient > chrome > html** in the WebFacing Projects view.
3. Open PageBuilder.jsp by double-clicking the file.
4. Click the **Design** tab to see the existing style, shown below.



You will now change the style to reflect a fictitious XYZ Company.

You have seen the design of the existing style and now you are ready to begin "Exercise 9.2: Importing the company logo."

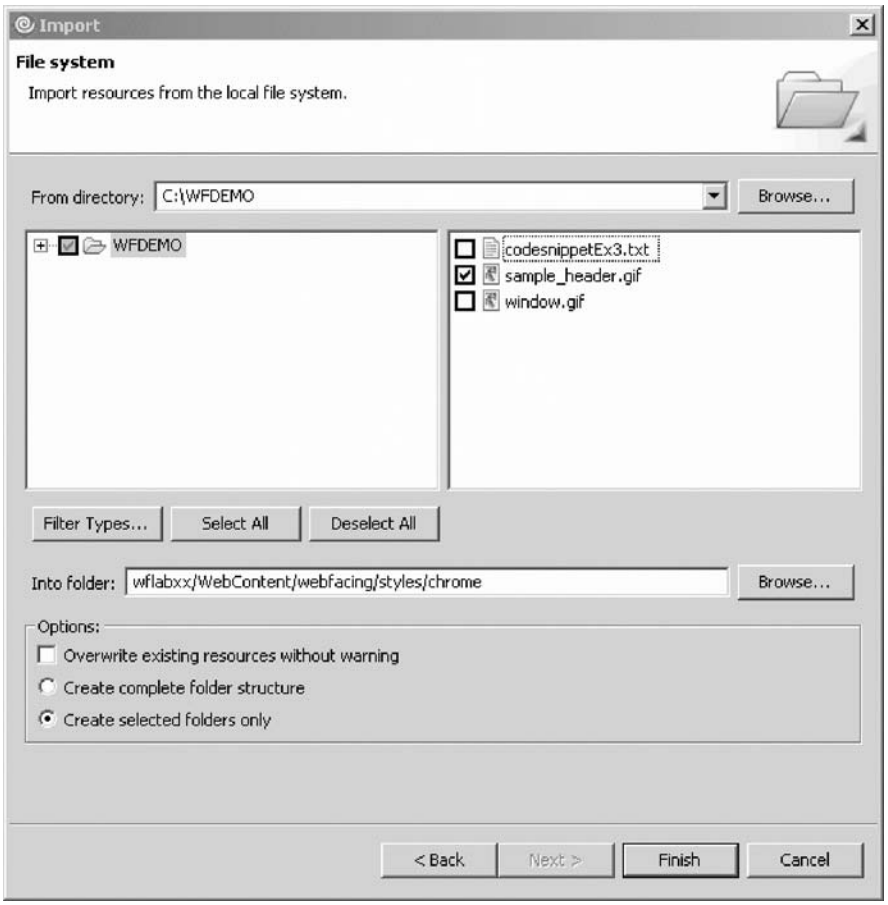
Exercise 9.2: Importing the company logo

Before you begin, you must complete "Exercise 9.1: Opening Pagebuilder.jsp" on page 90.

To import the company logo:

1. The first step is to import the company logo. Select **chrome** in the WebFacing Projects view, then click **File > Import** from the workbench menu.
2. Select **File System** in the Import wizard, and click **Next**.
3. On the next page of the wizard, click **Browse** and go to the C:\WFDEMO folder and click **OK**.
4. Select the check box next to **sample_header.gif** in the right list.

5. Make sure that the destination folder is set to **wflabxx/WebContent/webfacing/styles/chrome**, where xx is replaced by your unique team number.



6. Click **Finish**. To import the header you must now edit the style sheet to configure the header to include this image.

You have imported the company logo and now you are ready to begin "Exercise 9.3: Editing the style sheet and PageBuilder.jsp."

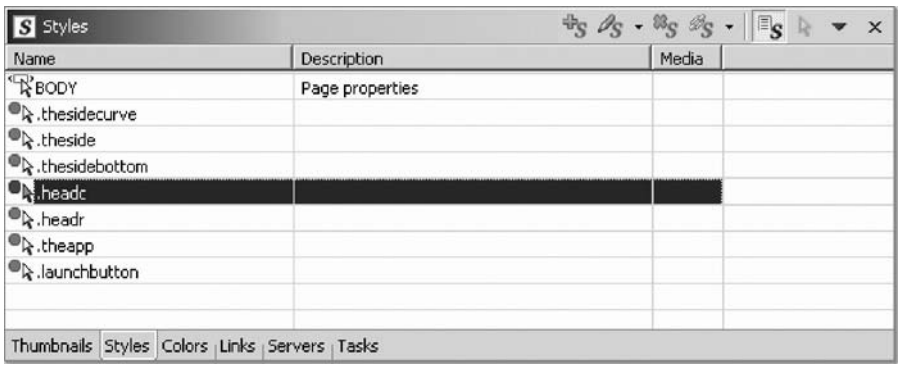
Exercise 9.3: Editing the style sheet and PageBuilder.jsp

Before you begin, you must complete "Exercise 9.2: Importing the company logo" on page 91.

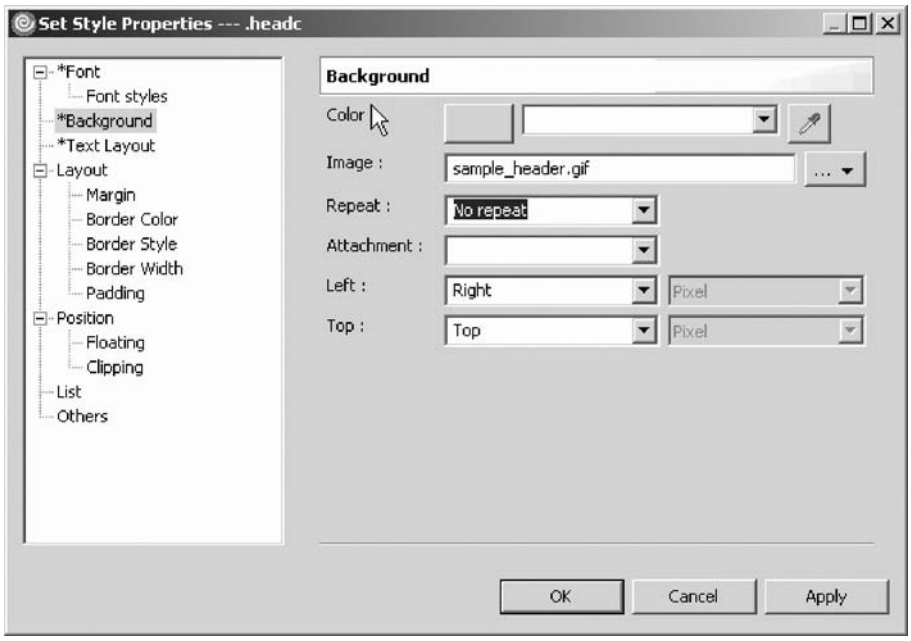
You must now edit the style sheet to configure the header to include the company logo that you just imported. Then you edit PageBuilder.jsp to resize the table to add the new company logo. Finally you make further changes to the style sheet to remove existing images (side_curve.gif and side.gif) and to change the color of these areas of your application.

To edit the style sheet and then PageBuilder.jsp

1. Expand **wflabxx > Style > gradient > chrome** in the WebFacing Projects view, right-click gradient.css and click **Open** from the pop-up menu.
2. In the Styles view, double-click **.headc** to edit that style.



3. Select ***Background**.
4. Update the **Image** field to `sample_header.gif` and change the **Repeat** field to **No repeat** as shown.



5. Click **OK**.
6. Save gradient.css by pressing **CTRL-S**.
7. Now you must edit PageBuilder.jsp.
8. Click the **PageBuilder.jsp** tab. Then go to the **Source** tab.
9. Change the table height to 100 and width to 1024.
10. Delete the first <td>...</td>.
11. Change:

    ```
    <td class=headc colspan=4 rowspan=1 width="441" height="33">
    ```

    to:

    ```
    <td class=headc colspan=6 rowspan=1 width="100%" height="100">
    ```

12. Delete the next <td>...</td>.

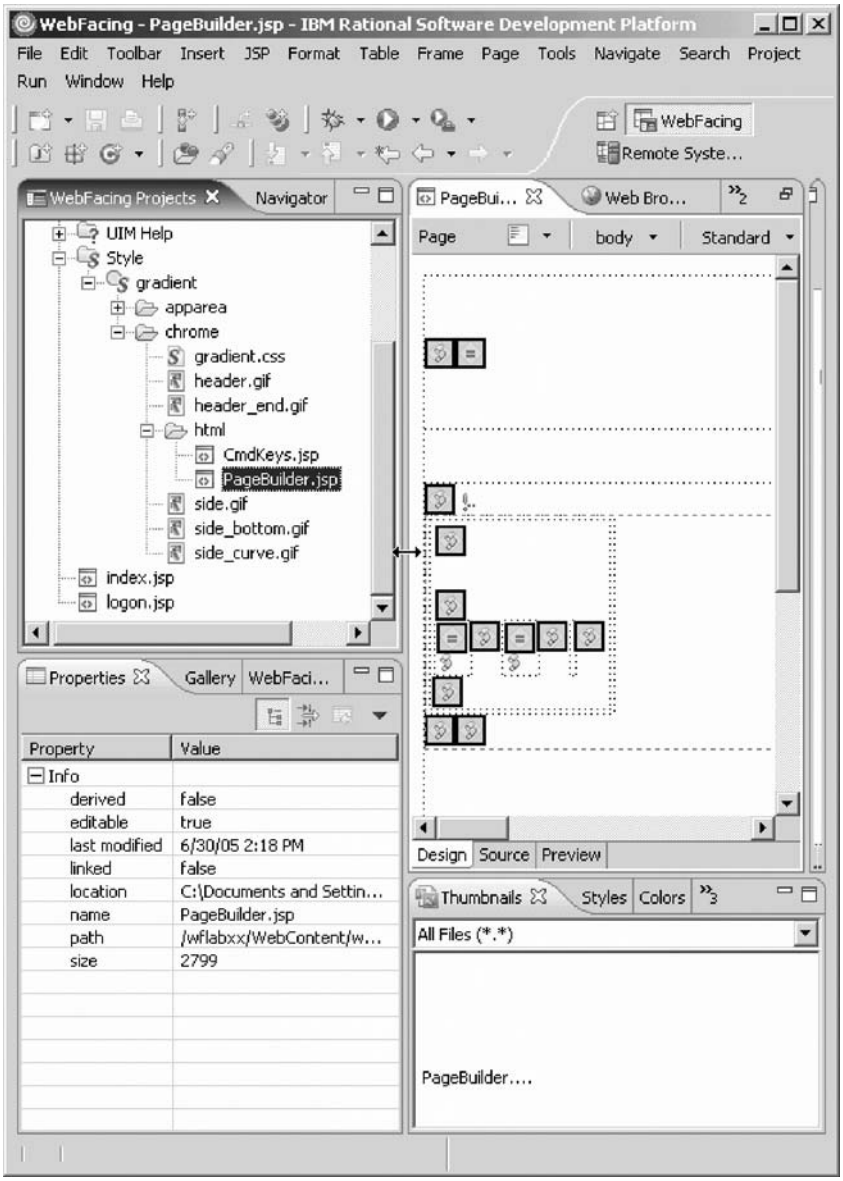
    This removes the extra fields in the table and resizes the remaining ones for your logo.

    Your code should now look like this:

```
<table id="<%=(String)session.getAttribute("UniqueId")%>_Table"
 border="0" cellspacing="0"
 cellpadding="0" frame="box" height="100" width="1024">
  <tbody>
  <tr>
    <td class=headc colspan=6 rowspan=1 width="100%" height="100">
      <%=request.getAttribute("ApplicationTitle")%>
    </td>
```

13. Save PageBuilder.jsp.
14. Click the **Design** tab.

    It should look as shown below:



15. Now update the color of the side by selecting the **gradient.css** tab again.
16. In the Styles view, double-click **.thesidecurve**.
17. Select ***Background**.
18. Remove **side_curve.gif** from the **Image** field, leaving it blank.
19. From the drop-down list next to the **Color** field, select the color gray.
20. Click **OK** again to update the Style property.

21. Open **.theside** style from the Styles view.
22. Remove **side.gif** from the **Image** field, leaving it blank.
23. From the drop-down list next to the **Color** field, select the color blue.
24. Click **OK** again to update the property.
25. Save gradient.css by pressing **CTRL-S** .
26. Run the wflabxx application on the test server to see the new style, shown below:

You will now update another style sheet to make changes to the buttons and text.

You have edited the style sheet to include the company logo and edited PageBuilder.jsp to remove and resize fields for your logo.

Module recap

You have completed Chapter 9, "Module 9. Customizing the default style," on page 89. You have learned how to:

- Locate the existing style
- View the design of the existing style
- Edit the style sheet to include the company logo
- Edit PageBuilder.jsp to remove and resize fields for your logo

- Change the color

You have customized the default style to update the look and feel for a fictional company. Now you need to move the application into production and you need the WebFacing application to prompt the users for signon information when it starts. Continue to Chapter 10, “Module 10. Adding authentication,” on page 97.

Chapter 10. Module 10. Adding authentication

This module teaches you how to secure your application by forcing authentication before the application is invoked.

In this module, you will:

- Start the Properties dialog
- Open the project run-time properties
- Change the signon properties for the order entry application
- Test the signon dialog appears

Exercises

The exercises within this module must be completed in order:

- "Exercise 10.1: Removing the default user ID and password"
- "Exercise 10.2: Testing the authentication dialog" on page 99

Time required

This module will take approximately **5 minutes** to complete.

Exercise 10.1: Removing the default user ID and password

You will use the CL command properties page of the runtime to remove the default user ID and password information.

In the WebFacing perspective in the WebFacing Projects view:

1. Right-click wflabxx project.
2. Click **Properties** on the pop-up menu.
   The Properties for wflabxx dialog opens.
3. Under **Run Time** in the left pane of the Properties dialog, select **Order Entry Application**.

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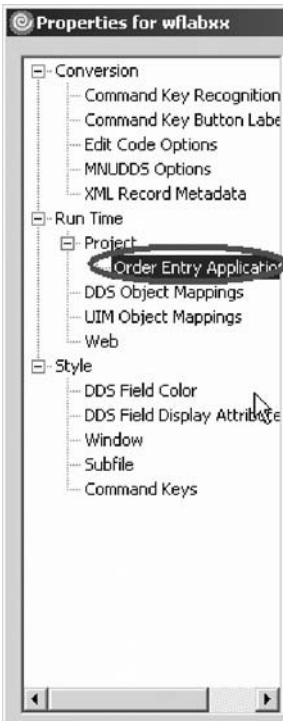
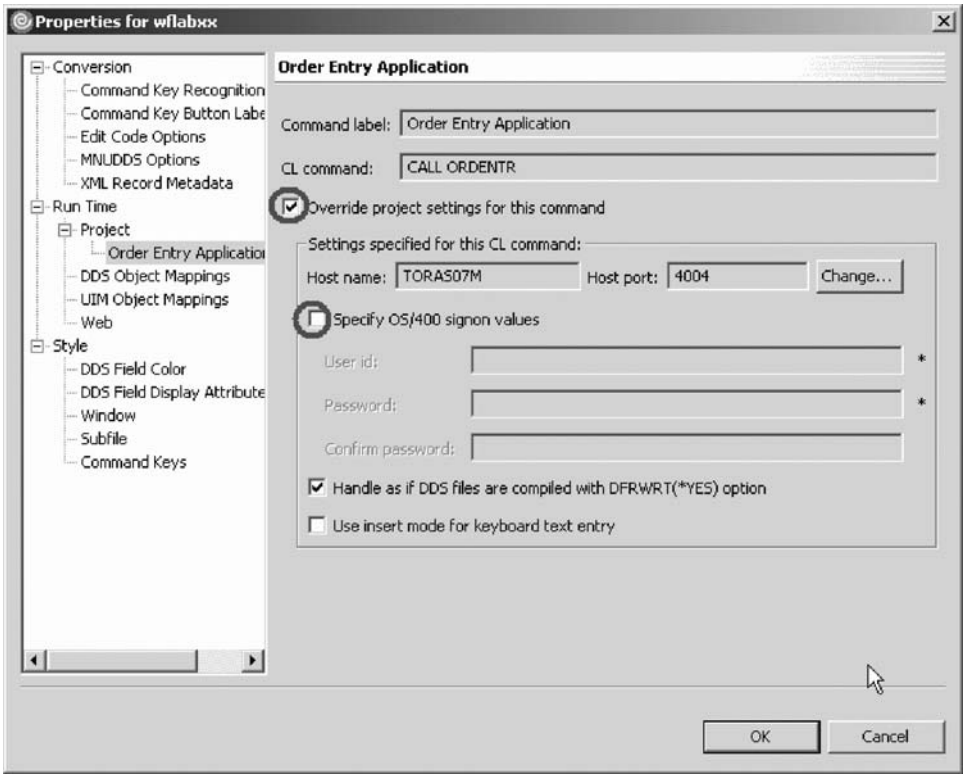


The Order Entry application properties pane opens.



4. Make sure the **Override project settings for this command** check box is selected.
5. Uncheck the **Specify OS/400 signon values** check box.
6. Click **OK** at the bottom of the Properties dialog.

You are back in the WebFacing Projects view. You have changed the authentication behavior for this link (application). In this WebFacing project you only have one link, but imagine that you have multiple entry points into your application like a menu. You could specify a different authentication behavior for each of these links. On the other hand, if you have multiple links in a WebFacing project and the authentication should be the same for each different link, then you can specify an authentication rule on the project level. To do this, just go to the project properties page instead of the CL command properties page and specify the desired authentication behavior there.

You have started the Properties dialog, opened the project run-time properties and changed the signon properties for the order entry application and now you are ready to begin "Exercise 10.2: Testing the authentication dialog."

Exercise 10.2: Testing the authentication dialog

Before you begin, you must complete "Exercise 10.1: Removing the default user ID and password" on page 97.

As before, you run your application in the WebSphere Application Server Test Environment.

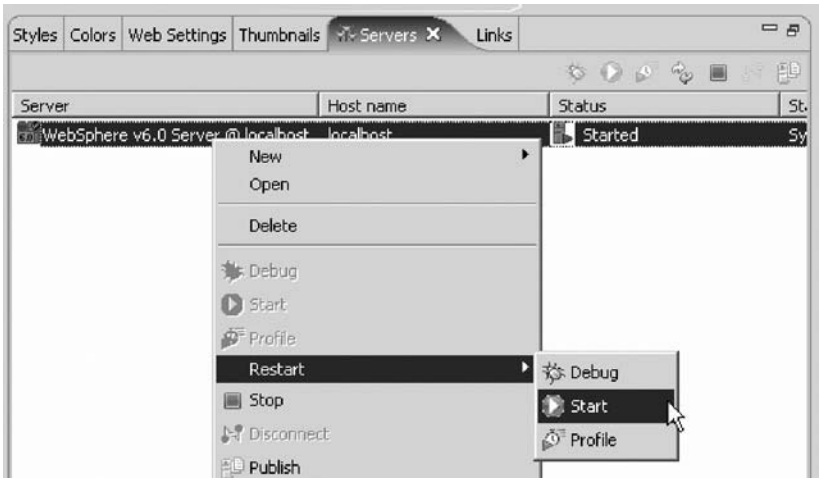
To test the authentication dialog:

1. Right-click index.jsp.
2. Click **Run > Run on Server** on the pop-up menu.
3. Click the **Launch** link.

   You will see the authentication dialog.

4. Specify your **User Name** and **Password**.
5. Click the **Logon** push button on the Authentication dialog.

   The application will run like before, if the job environment for the user ID you specified is setup correct for this application.
6. If the LOGON dialog doesn't appear, restart the Application server.
   a. Click the **Servers** tab at the top view in the workbench.
   b. Right-click the server icon.



c. Click **Restart > Start** on the pop-up menu.
d. Run the application again.

You have tested that the signon dialog appears.

Module recap

You have completed Chapter 10, "Module 10. Adding authentication," on page 97. You have learned how to:

- Start the Properties dialog
- Open the project run-time properties
- Change the signon properties for the order entry application
- Test the signon dialog appears

You have created a WebFacing application and now want to enhance the look of the index.jsp page to give the start page of this application a professional appearance. The workbench contains several tools to design and enhance Web pages. Also with the workbench you have access to sample pictures, icons, animations, and more. You will use some of these tools and samples and enhance the page so it becomes more attractive. Continue to Chapter 11, "Module 11. Enhancing index.jsp page," on page 101.

Chapter 11. Module 11. Enhancing index.jsp page

This module teaches you how to use the Web tools in the workbench to update the index.jsp file. The index.jsp file created by the IBM WebFacing Tool that allows you to start your WebFacing application is plain. In this module you will add some color to it, as well as some pictures to make it a more interesting Web page.

In this module, you will:

- Open the application start page (index.jsp) in Page Designer
- Change the window title to Order Entry
- Add a style to the Order Entry Web page
- Start WebArt Designer
- Add a logo
- Resize the logo
- Save the logo as a WebArt object
- Save the logo for a Web page
- Place the logo on the Design page
- Insert a heading below the logo
- Add a picture to the Order Entry Web page
- Add a marquee to the Order Entry Web page
- Change the color of the window title
- Remove default text added by the WebFacing Tool

Exercises

The exercises within this module must be completed in order.

- "Exercise 11.1: Opening Page Designer"
- "Exercise 11.2: Working with page properties" on page 103
- "Exercise 11.3: Linking a cascading style sheet to a Web page" on page 104
- "Exercise 11.4: Designing and adding a logo" on page 106
- "Exercise 11.5: Adding a heading 1 tag to the page" on page 115
- "Exercise 11.6: Adding a picture to the page" on page 117
- "Exercise 11.7: Adding moving text to the page" on page 118
- "Exercise 11.8: Changing the text color" on page 124
- "Exercise 11.9: Deleting default text from the page" on page 125

Time required

This module will take approximately **30 minutes** to complete.

Exercise 11.1: Opening Page Designer

To open Page Designer:

1. Open the WebFacing perspective, if not already open.

   You should now have the WebFacing Projects view in your workbench environment.

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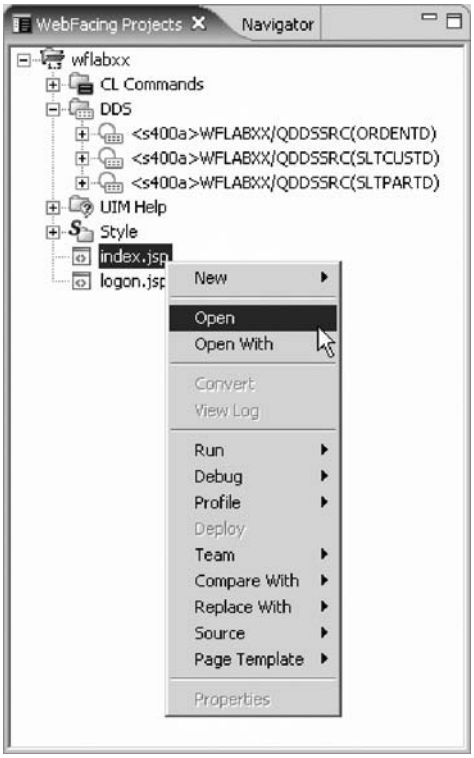
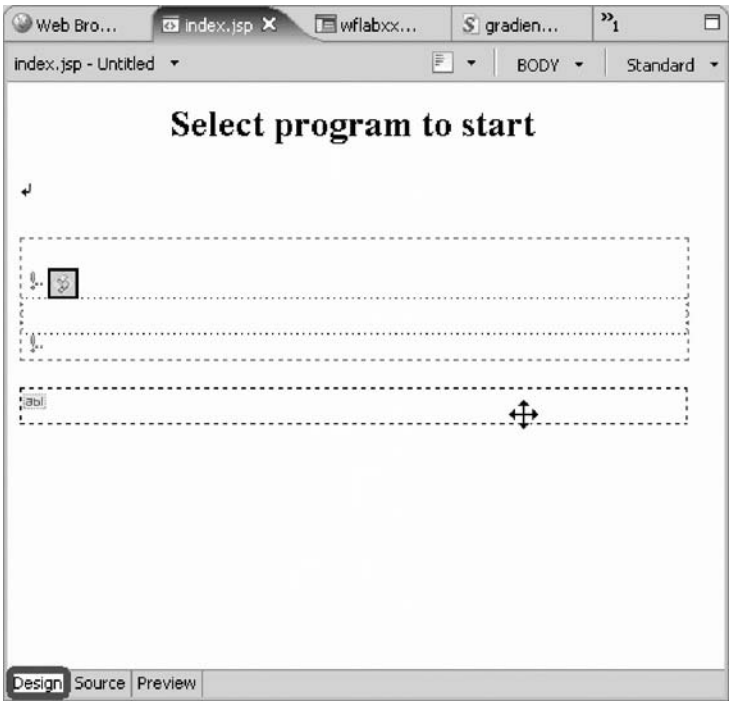


2. Expand the wflabxx WebFacing project.
3. Right-click the index.jsp icon.
4. Click **Open** on the pop-up menu.

   The Page Designer opens in the upper right pane of the workbench and shows the index.jsp page as the WebFacing Tool created it.



   Make sure that you are on the Design page in Page Designer.
5. Click the **Design** tab.

You have opened the application start page (index.jsp) in Page Designer and you are ready to begin "Exercise 11.2: Working with page properties."

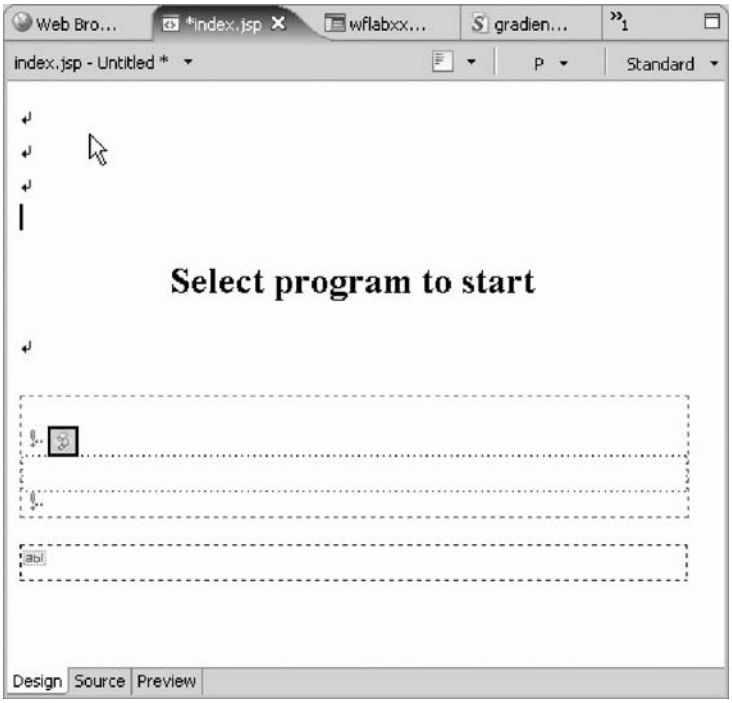
Exercise 11.2: Working with page properties

Before you begin, you must complete "Exercise 11.1: Opening Page Designer" on page 101.

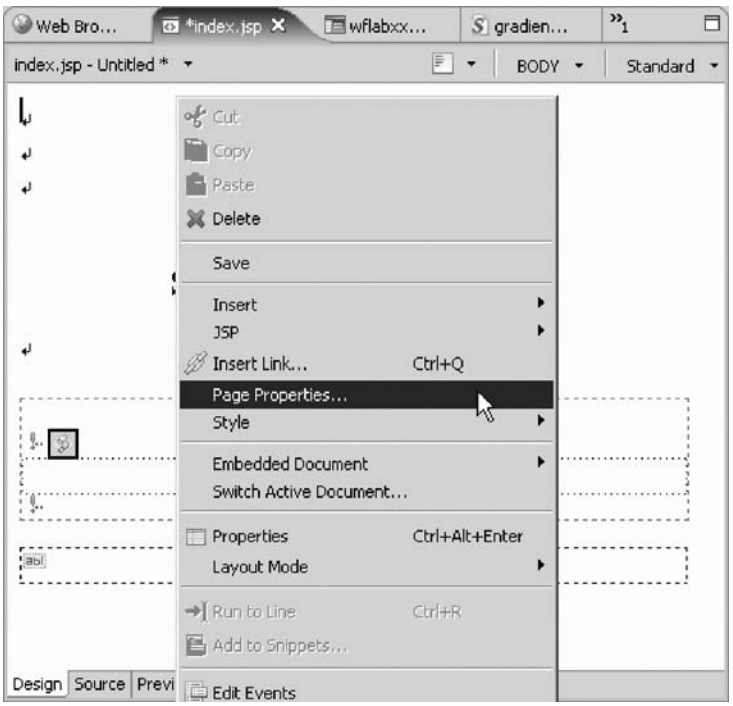
Next you move the links down.

To work with page properties:

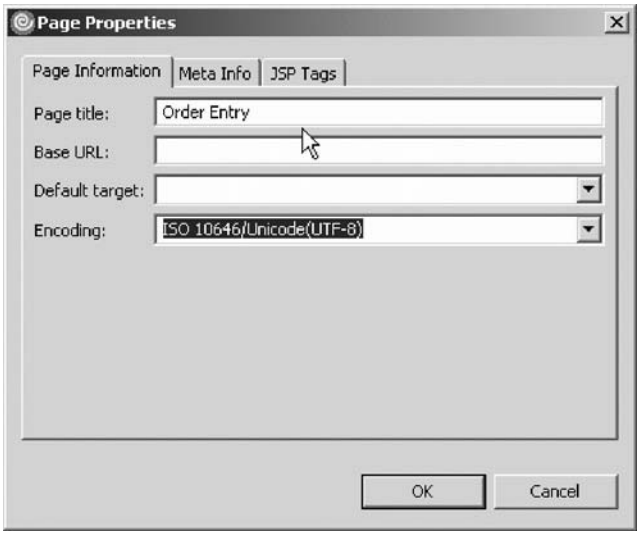
1. Click before the Select program to start title.
2. Press the **Enter** key a number of times.



3. Right-click the background of the index.jsp page in Page Designer.
4. Click **Page Properties** on the pop-up menu.



The Page Properties dialog opens.



5. In the **Page title** field, type `Order Entry`.
6. Click **OK** on the Page Properties dialog.

   When this page is shown in a browser, the Window title bar of the browser will now display Order Entry.

You have changed the window title to Order Entry and now you are ready to begin "Exercise 11.3: Linking a cascading style sheet to a Web page."

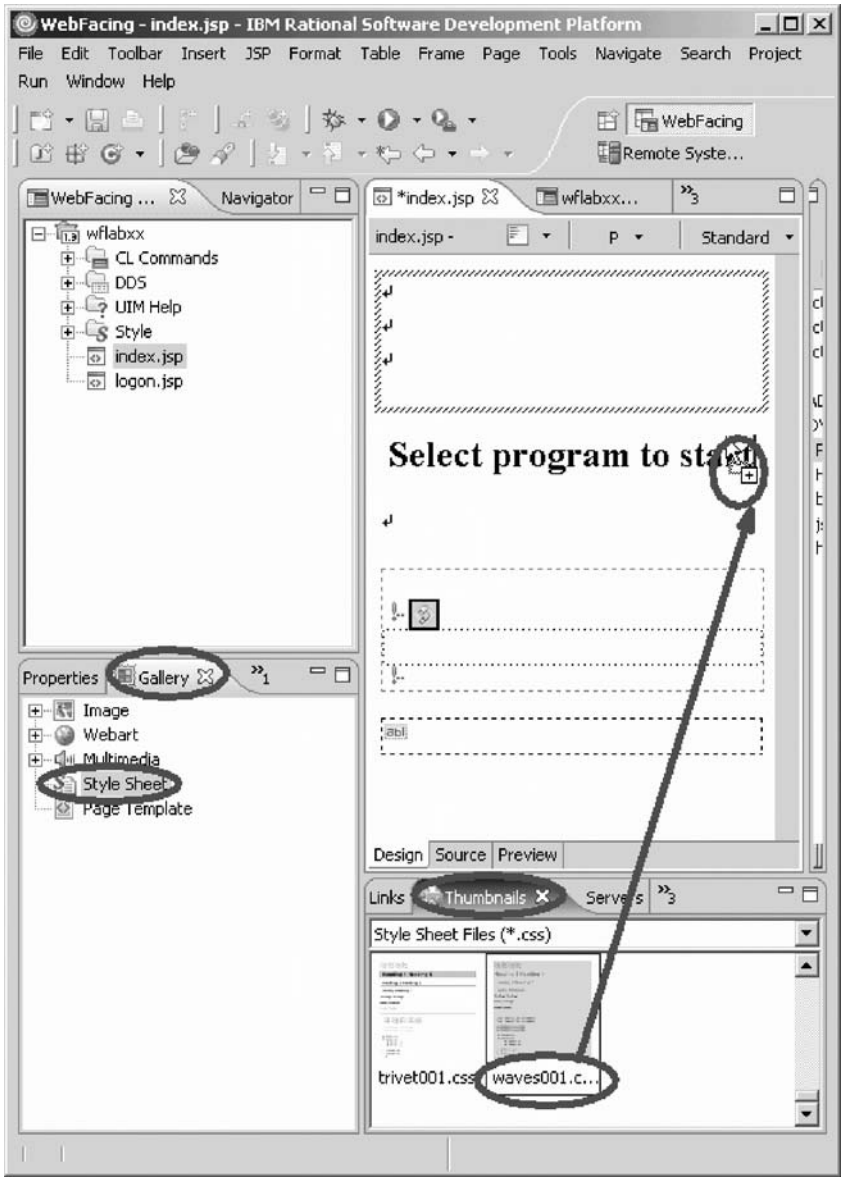
Exercise 11.3: Linking a cascading style sheet to a Web page

Before you begin, you must complete "Exercise 11.2: Working with page properties" on page 103.

Now you will add a style to the Web page. You can use a style that is used in your company or you can use one of the sample style sheets that are provided in the product.

Next you open the Gallery view in the workbench.

To link a style sheet:

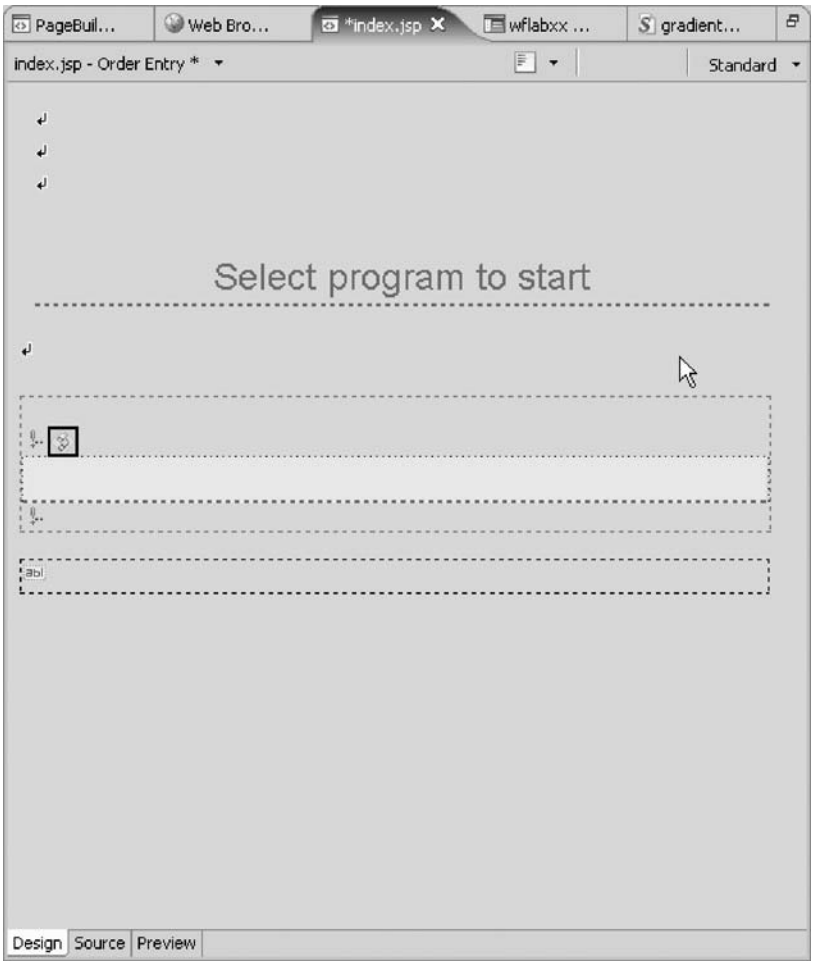


1. Click the **Gallery** tab, if the Gallery view isn't already displayed.
2. Scroll to the bottom of the Gallery view, until you can see the **Style Sheet** icon.
3. Click the **Style Sheet** icon, to select it.
4. Click the **Thumbnails** tab on the right bottom pane in the workbench.
   You should see thumbnail icons of all the styles available.
5. In the thumbnail view, scroll down to the bottom, until you see style sheet waves001.css in the list, or select a style sheet that you like best.
6. Click the thumbnail picture of waves001.css with the left mouse button.

7. Hold the left mouse button down and drag the cursor to the Page Designer window.

8. The cursor will change from this shape , to this shape . When the latter cursor shape appears in the Page Designer window, release the left mouse button.

   After a short while the Style sheet properties will be applied and the colors in the page will change to the style sheet definitions.



You have added a style to the Order Entry Web page and now you are ready to begin "Exercise 11.4: Designing and adding a logo."

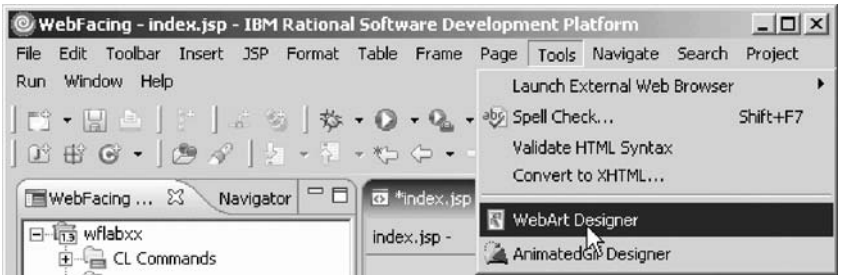
Exercise 11.4: Designing and adding a logo

Before you begin, you must complete "Exercise 11.3: Linking a cascading style sheet to a Web page" on page 104.

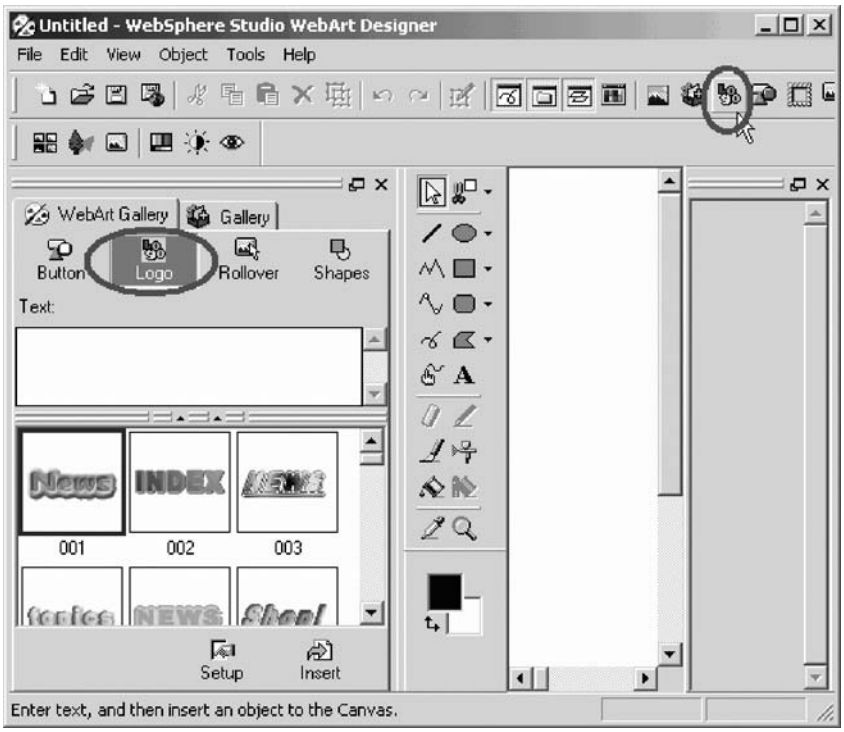
Now that you have the overall Web page look specified, you will use the WebArt Designer to create a Logo that you then will add to this page.

Starting the WebArt Designer

To start the WebArt Designer:



1. Click **Tools** in the workbench menu.
2. Click **WebArt Designer** on the pop-up menu.
   The WebArt Designer opens.

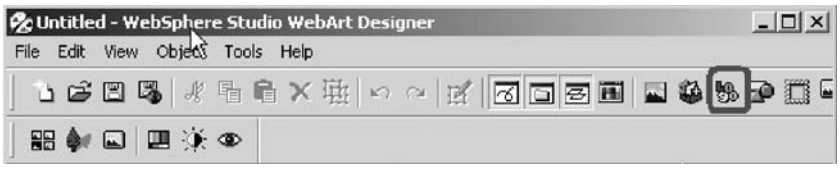


The WebArt Designer shows the Template Gallery on the left, where you find samples of logos, buttons, rollovers, images and more. The big white area in middle of the dialog is the canvas that is used to work with objects that you want to create or change. Although you could select a logo from the template gallery as the base for your own logo, you will instead create you own.

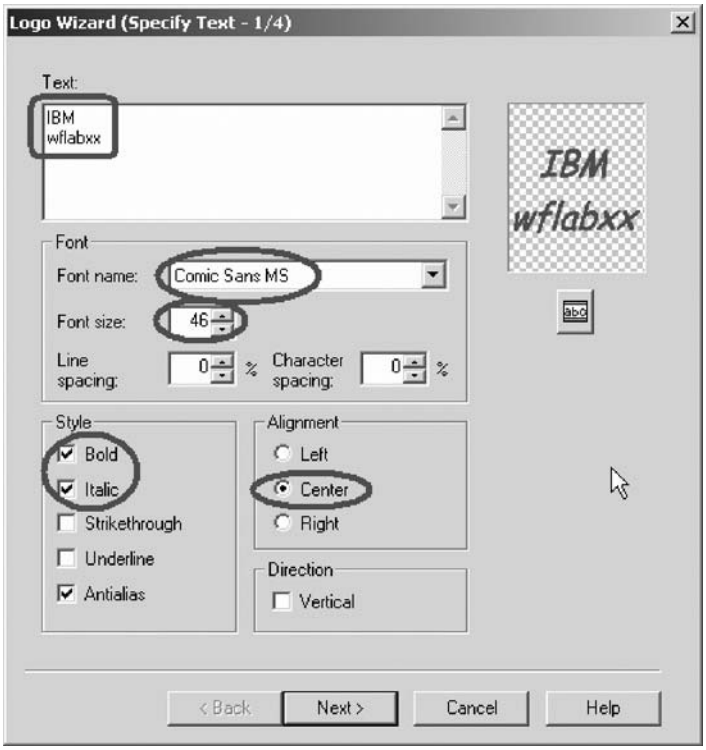
Creating the logo

To create the logo:

1. Click the **Create Logo** button above the canvas or use the **Object > Create Logo** menu options.



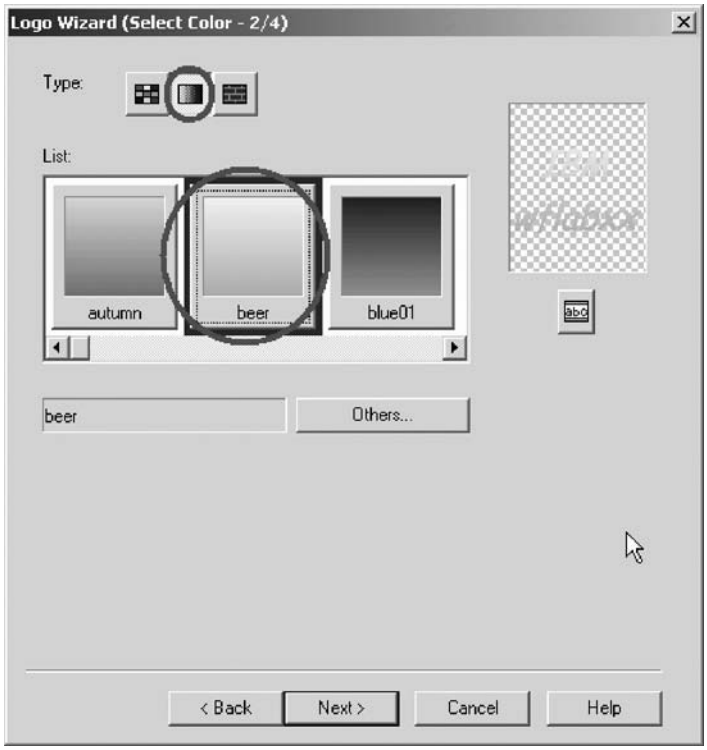
The Logo Wizard opens.



2. Enter your company name in the **Text** field and in the next line of the **Text** field enter the project name.
3. Select **Comic Sans MS** in the **Font name** list.
4. Select **46** in the **Font size** list.
5. Under **Style**, select **Bold** and **Italic** check boxes.
6. Leave the **Antialias** check box selected.
7. Click the **Center** radio button under **Alignment**.

   Notice in the upper right corner of the dialog, a sample of the logo is displayed.
8. Click **Next** to go to the next page of the wizard.

   The Select Color page of the wizard opens.



9. Click the gradation **Type** push button, the middle one of the three type push buttons.

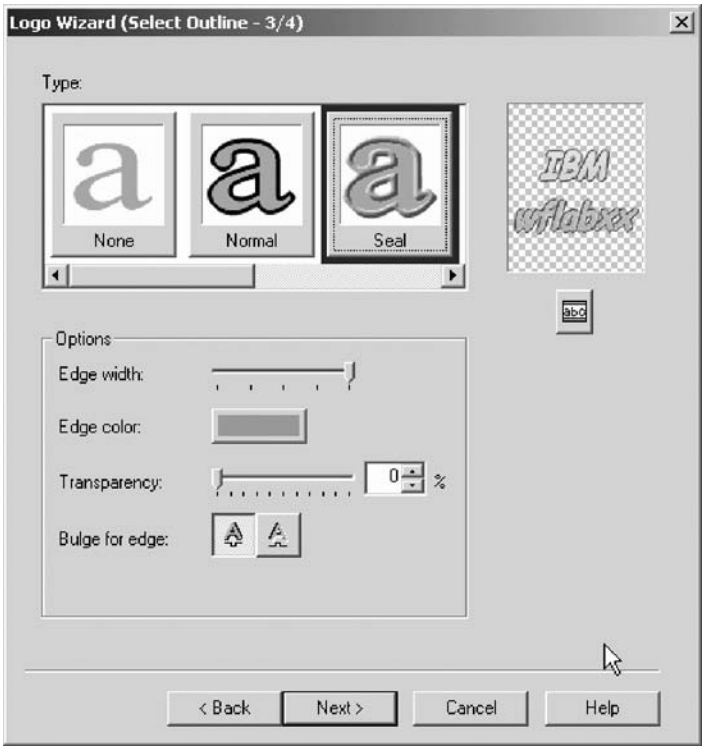
   Note: The other push buttons select color types: solid and textured.

10. Select **beer** from the colors available, or any other color you like best, just scroll through the list to find a gradation you like.

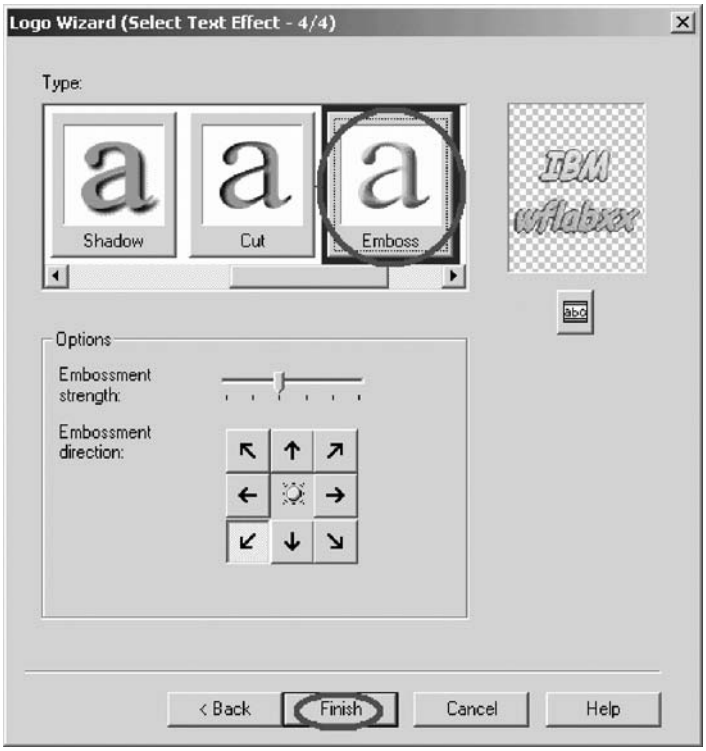
    Tip: You can change the colors by clicking the **Others** push button on this dialog and create your own gradation.

11. Click **Next** to move forward to the next page.

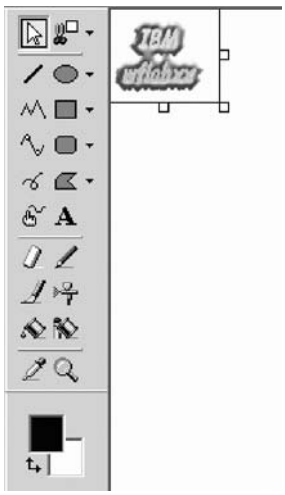
    The Select Outline page opens.



12. Select the **Seal** outline from the list, or any outline you like best.
13. Click **Next**.
    The Select Text Effect page opens.



14. Select the **Emboss text effect** or one that you like best.
15. Click **Finish**.
    You return to the WebArt Designer window with the new logo object.



Resizing the logo

To resize the logo object on the canvas:

1. Click the logo object to select it.
2. Move the cursor to the rectangle at the right bottom corners of the object, watch the cursor changing shape.
3. Drag the rectangle up and to the left so the object becomes smaller.

   Now you need to save this object. First you want save it as a WebArt object, that allows you later on to work with the object again in WebArt Designer. However you can't use that format for your Web page, so you will also save it in another format.

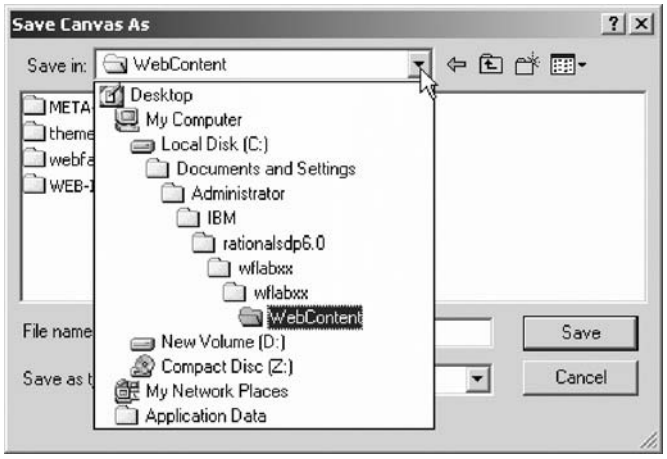
Saving the logo as a WebArt object

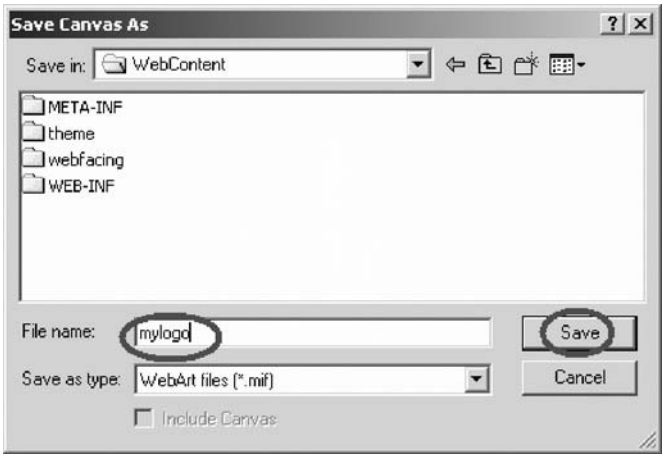
To save the logo as a WebArt object:

1. Click **File** on the WebArt Designer menu.
2. Click **Save Canvas As** on the pop-up menu.

   The Save Canvas As dialog opens.

   Note: Make sure you save the canvas in your workspace.



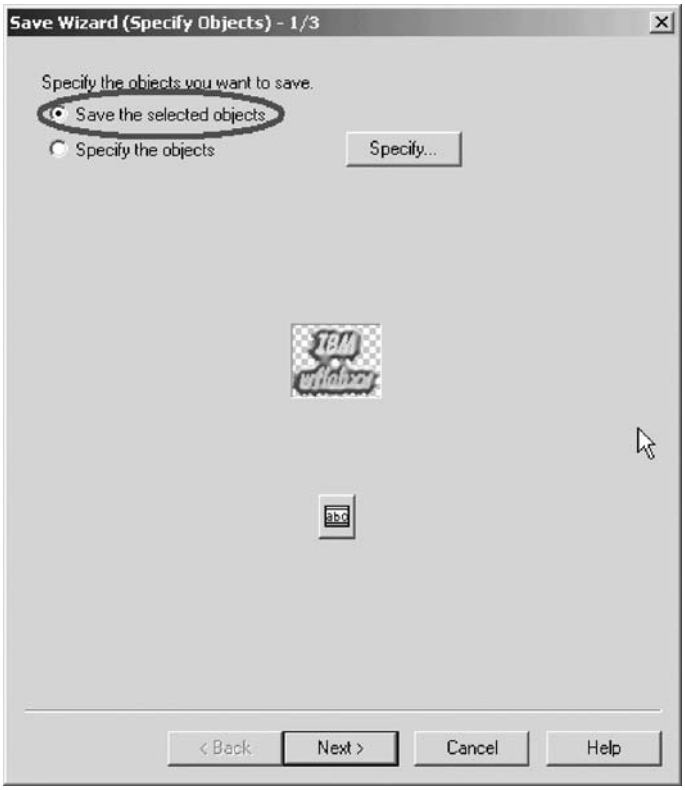


3. Type `mylogo` in the **File name** field.
4. Click **Save**.
   Now you save the object in a form that can be displayed on a Web page.

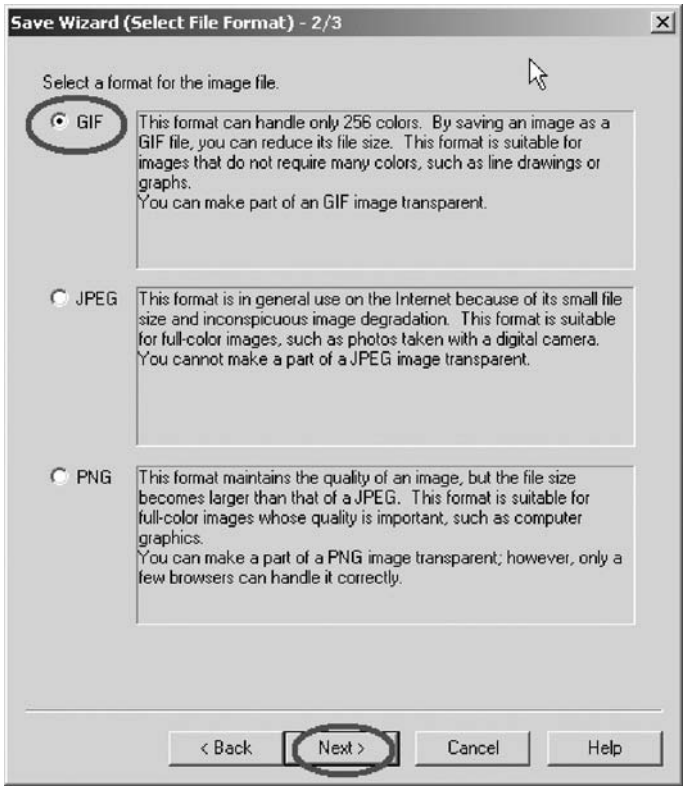
Saving the object for a Web page

To save the logo object for a Web page:

1. Click **File** from the WebArt Designer menu again.
2. Click **Save Wizard for Web** on the pop-up menu.
   The Save Wizard dialog opens.

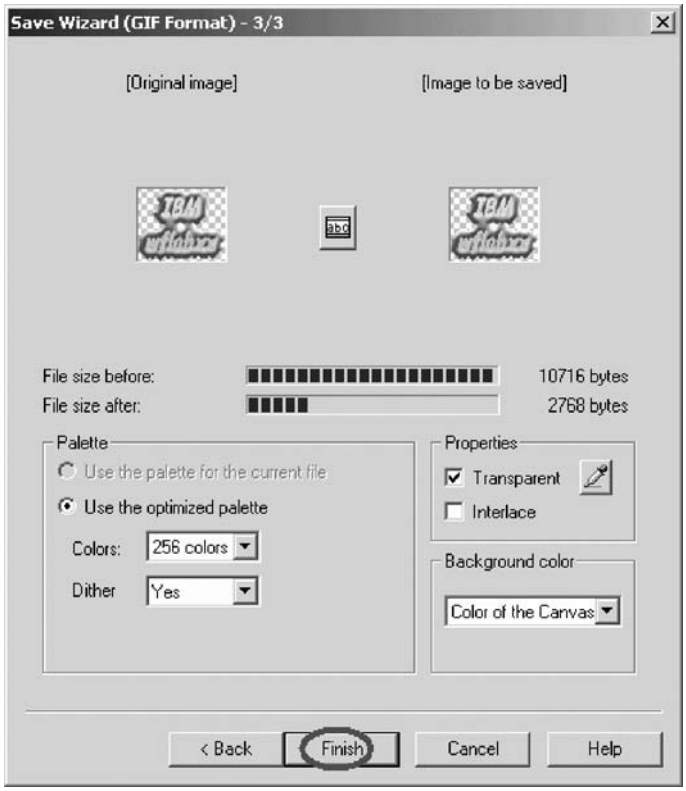


3. Leave the **Save the selected objects** radio button selected.
4. Click **Next**.
   Now the Select File format page opens.



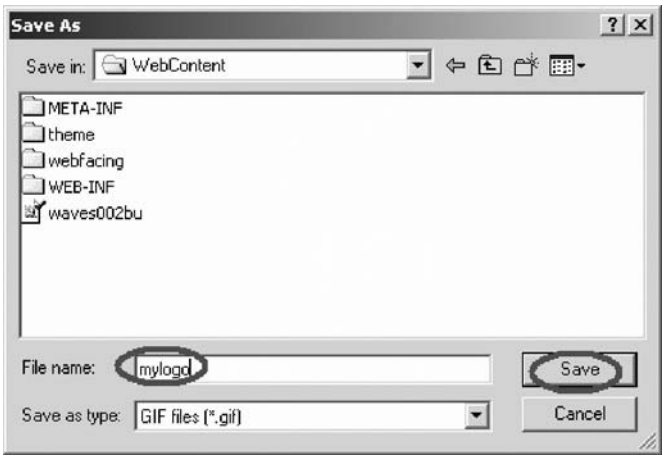
5. Leave the **GIF** radio button selected.
6. Click **Next**.

   The GIF Format page opens.



7. Click **Finish**.

The Save As dialog opens.



8. Type `mylogo` in the **File name** field.
9. Click **Save**.

   Next you close the WebArt Designer.
10. Click **File** from the menu.
11. Click **Exit** on the pop-up menu.

    You are back in the workbench in the WebFacing perspective showing the WebFacing Projects view.

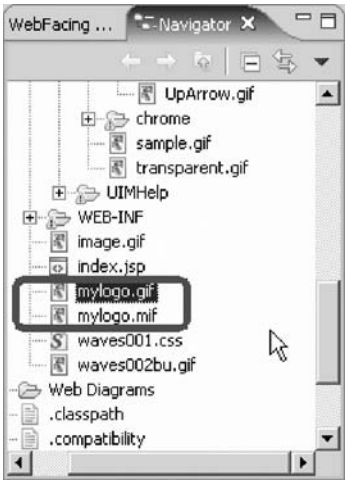
    Next you switch to the Navigator view to locate the logo object mylogo.gif and to place the logo on the Design page.

    Note: You may have to click **Window > Show view > Navigator** from the workbench menu.

Placing the logo on the Design page

To place the logo on the Design page:

1. Click the **Navigator** tab.
2. Expand the wflabxx Web project if not already expanded.
3. Expand the **WebContent** folder if not already expanded.



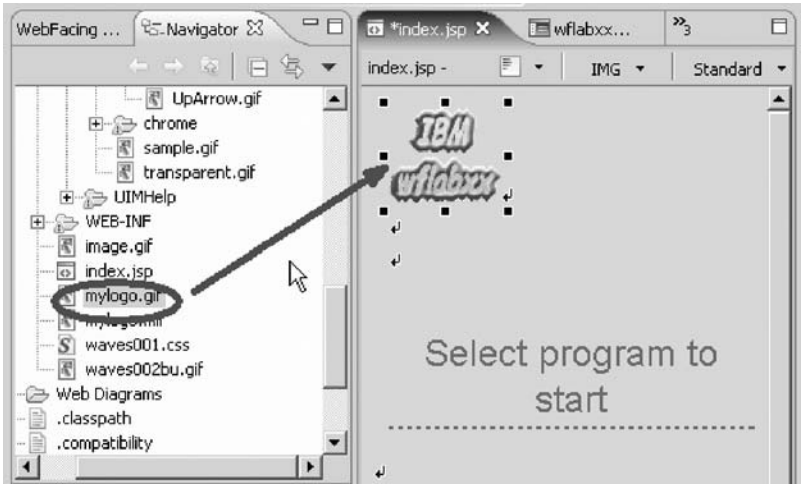
The mylogo.gif file should appear in the list. If it doesn't appear, refresh the list.

4. Right-click the WebContent folder icon.
5. Click **Refresh** on the pop-up menu.

   Hopefully you can see the file now in the Web Content folder; if not, go to Windows Explorer and search for the mylogo.gif on your hard drive. Move it to the Web Content folder in the product workspace. If you didn't use the default workspace location, do a search for the workspace and the wflabxx directory in it. Move the mylogo.gif into the WebContent directory under the wflabxx directory. Refresh the Navigator view again.

   Now you can take the logo and put it on your Web page that is still open in Page Designer. If Page Designer has been closed just open the index.jsp file. Make sure you are on the Design page, not the Preview page.
6. In the Navigator view, select the mylogo.gif file.
7. Hold the left mouse down.
8. Drag the file to the upper left corner in the Page Designer window.
9. Release the mouse button.

   The logo is placed on the Design page.



You have started WebArt Designer, added a logo, resized the logo, saved the logo, and placed the logo on the Design page, and now you are ready to "Exercise 11.5: Adding a heading 1 tag to the page."

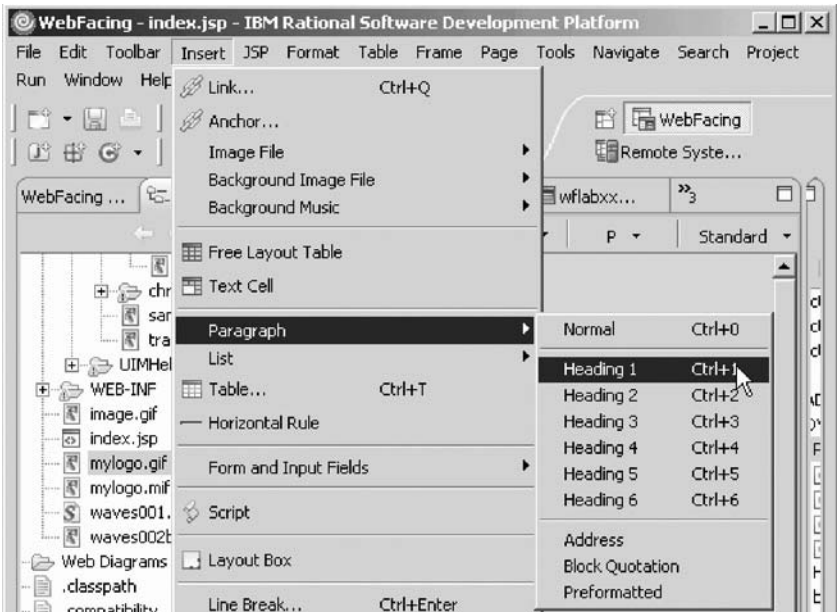
Exercise 11.5: Adding a heading 1 tag to the page

Before you begin, you must complete "Exercise 11.4: Designing and adding a logo" on page 106.

Now you want to insert a heading below the logo.

To add a heading 1 tag:

1. Position the cursor just below the Logo at the first BR tag.



2. Click **Insert** from the workbench menu.
3. Click **Paragraph > Heading 1** on the pop-up menu.
   A frame appears that allows you to enter text.
4. Enter your `company name Order Entry Application`.

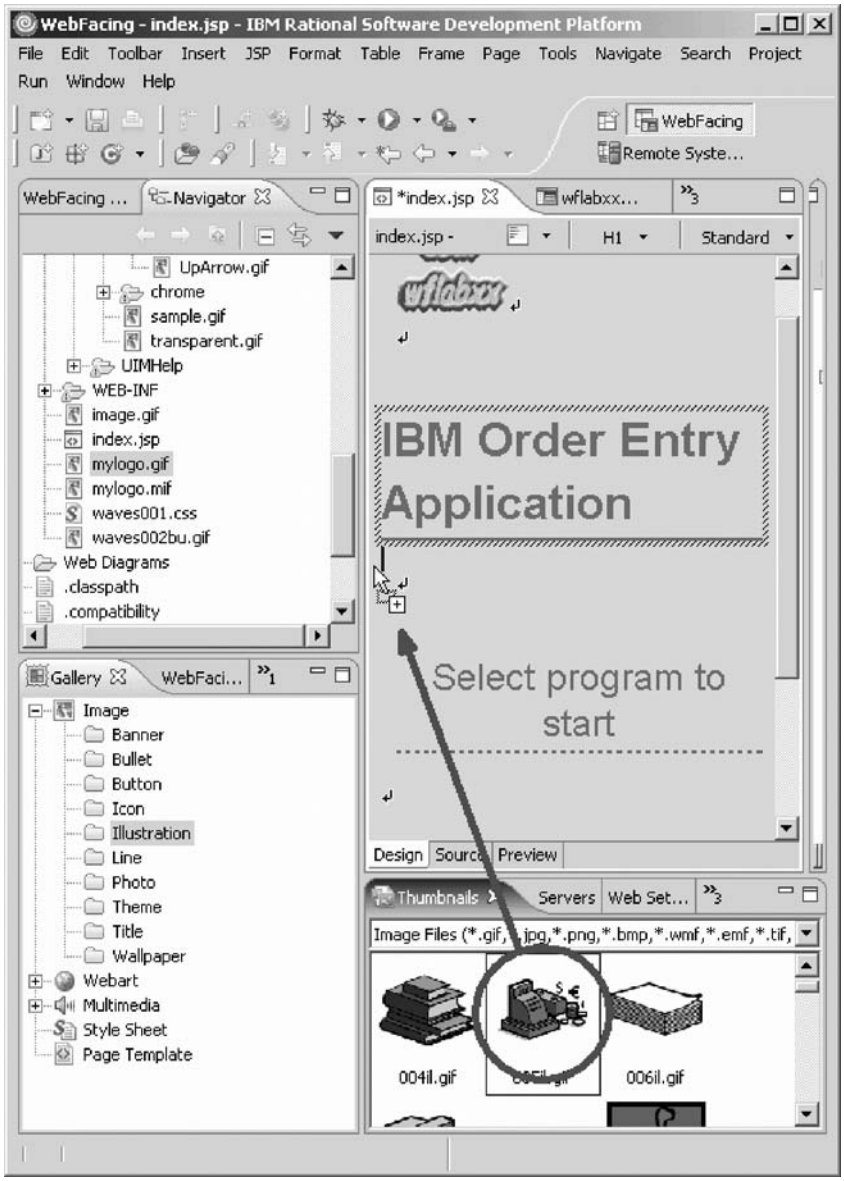
Now you want to use one of the sample pictures included with the product and place this picture on the page.

You have inserted a heading below the logo and now you are ready to begin "Exercise 11.6: Adding a picture to the page."

Exercise 11.6: Adding a picture to the page

Before you begin, you must complete "Exercise 11.5: Adding a heading 1 tag to the page" on page 115.

To add a picture to the page:



1. In the workbench in the Navigator view, select the **Gallery** tab.
2. Expand the **Image** folder.
3. Select the **Illustration** folder.
4. In the Thumbnails view beside the Gallery view, select one of the sample illustrations, for example, use file 005il.gif.

Note: The sample illustrations change from release to release so 005il.gif might not be available in your environment.

5. Drag a picture onto the Design page below the heading.

   The Design page now contains a picture.

   You are almost done. Next you add moving text to the page.

You have added a picture to the Order Entry Web page and now you are ready to begin "Exercise 11.7: Adding moving text to the page."

Exercise 11.7: Adding moving text to the page

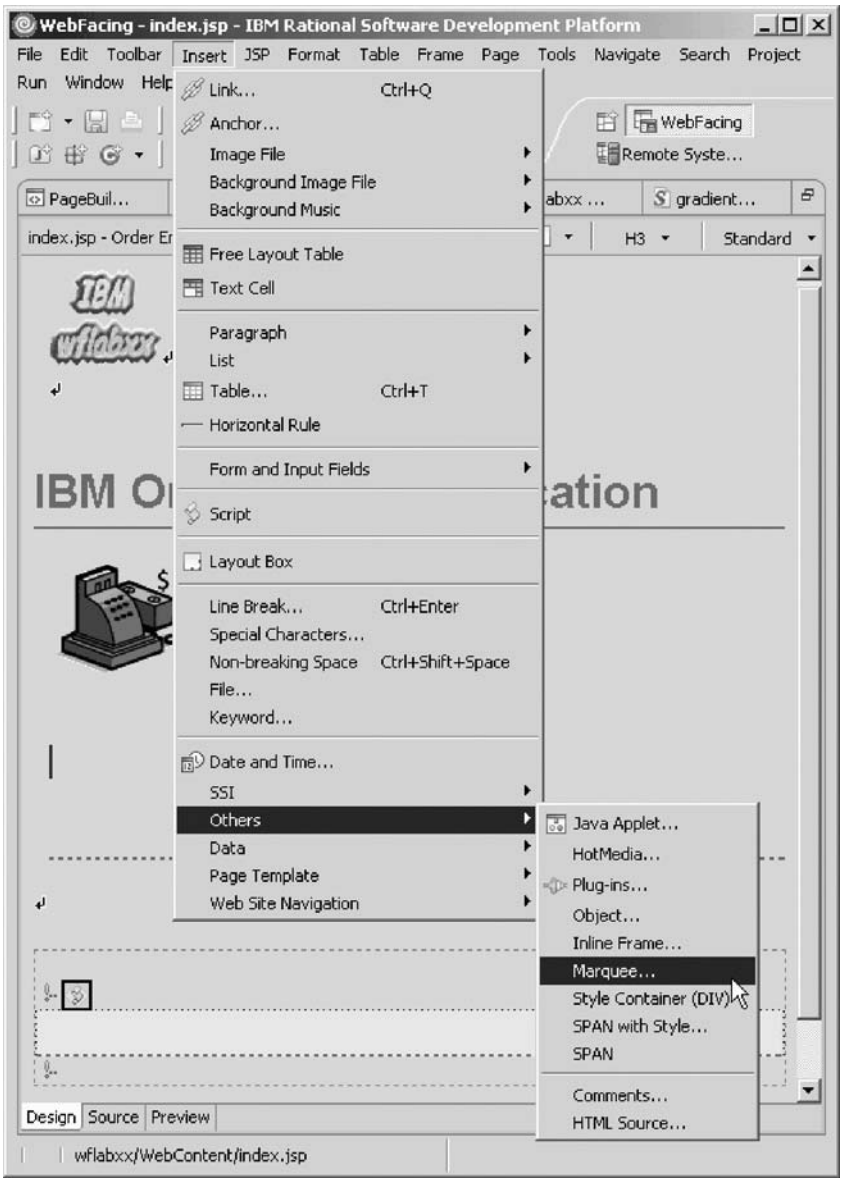
Before you begin, you must complete "Exercise 11.6: Adding a picture to the page" on page 117.

Now you add moving text to the page.

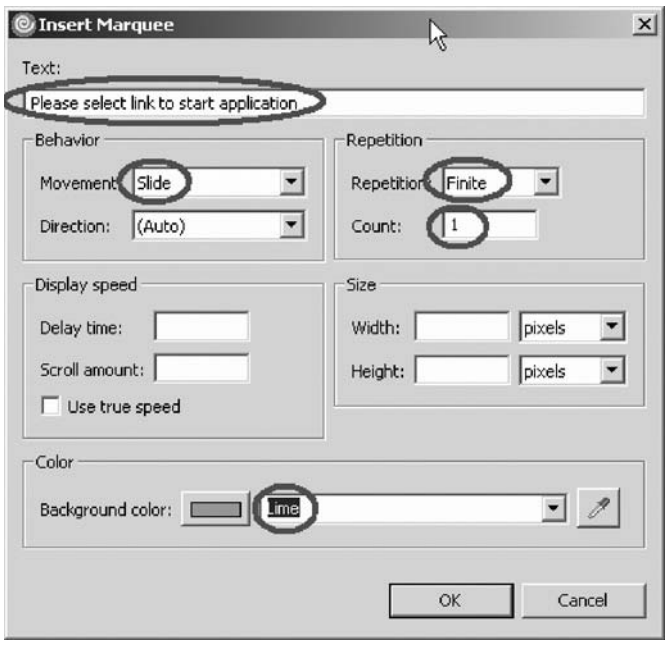
To add moving text:

1. Position the cursor in the Design page underneath the picture.
2. Click **Insert** from the workbench menu.
3. Click **Paragraph > Heading 3** on the pop-up menu.

4. Leave the cursor positioned inside the heading 3 frame.



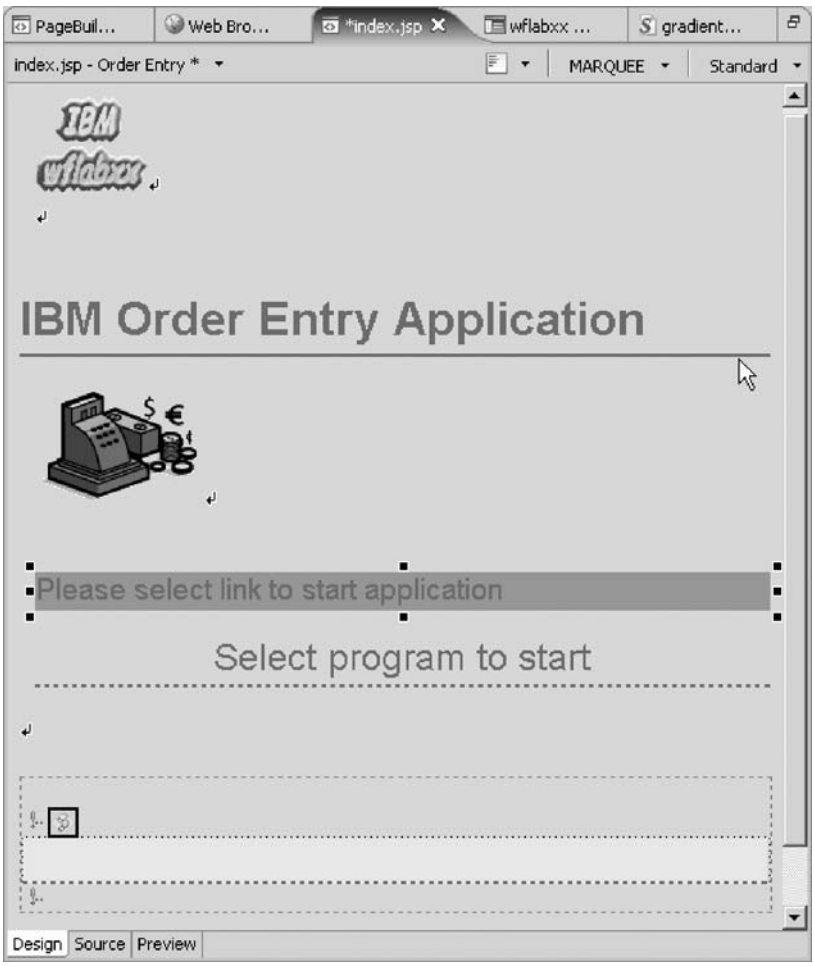
5. Click **Insert** from the workbench menu.
6. Click **Others > Marquee** on the pop-up menu.
   The Insert Marquee dialog opens.



7. Enter into the **Text** field, `Please select link to start application.`
8. Under **Behavior**, select **Slide** in the **Movement** list.
9. Under **Repetition**, select **Finite** in the **Repetition** list.
10. Under **Repetition**, type 1 in the **Count** field.

    The two last selections just avoid the text sliding in forever and not standing still. If you want more movement on the page you can change these settings.
11. Select **Lime** in the **Background color** list. Click **OK** on the Color palette.
12. Click **OK** on the Insert Marquee dialog.

    The Design page should look like this.

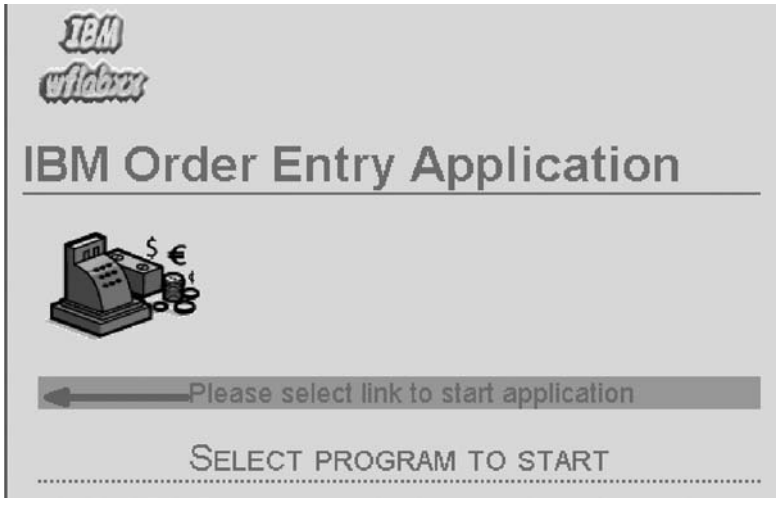


Next you save some space by removing some of the line break tags.

13. Position the cursor on the BR tag.
14. Press the **Delete** key until the SELECT PROGRAM TO START title appears on your page.

Next you look at the page, as it would appear in a browser.

15. Click the **Preview** tab at the bottom of the Design page.
    You will notice that your heading 3 text is sliding in.



You have added a marquee to the Order Entry Web page and now you are ready to begin "Exercise 11.8: Changing the text color" on page 124.

Exercise 11.8: Changing the text color

Before you begin, you must complete "Exercise 11.7: Adding moving text to the page" on page 118.

You notice that the Text color and the background are not easy to distinguish from each other. One way of changing this, is to apply another color to a certain area of the text. To do that you return to the Design page.

To change the text color:

1. Click the **Design** tab.

2. Select the company text (IBM) you want to change color on, by selecting the text area with the mouse cursor.
3. Under the Design page, select the **Colors** tab.
4. In the Colors view, select a color with your mouse cursor.
5. Click the down arrow next to the **Text Color** from the Colors view.
6. Click **Set as Text Color** on the pop-up menu.

   You are done; now the selected text will be displayed with the color you selected for it.

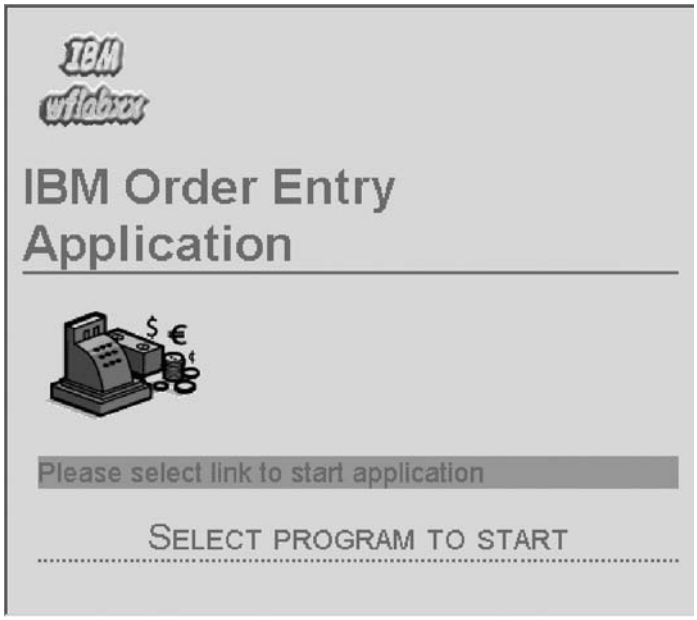
You have changed the color of the window title and now you are ready to begin "Exercise 11.9: Deleting default text from the page" on page 125.

Exercise 11.9: Deleting default text from the page

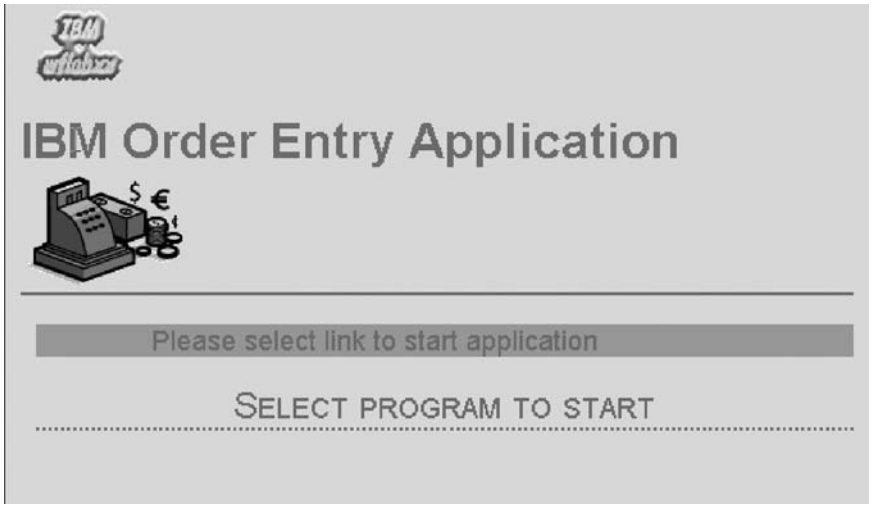
Before you begin, you must complete “Exercise 11.8: Changing the text color” on page 124.

Now you want to remove the default text that was added by the WebFacing Tool.

To delete default text from the page:

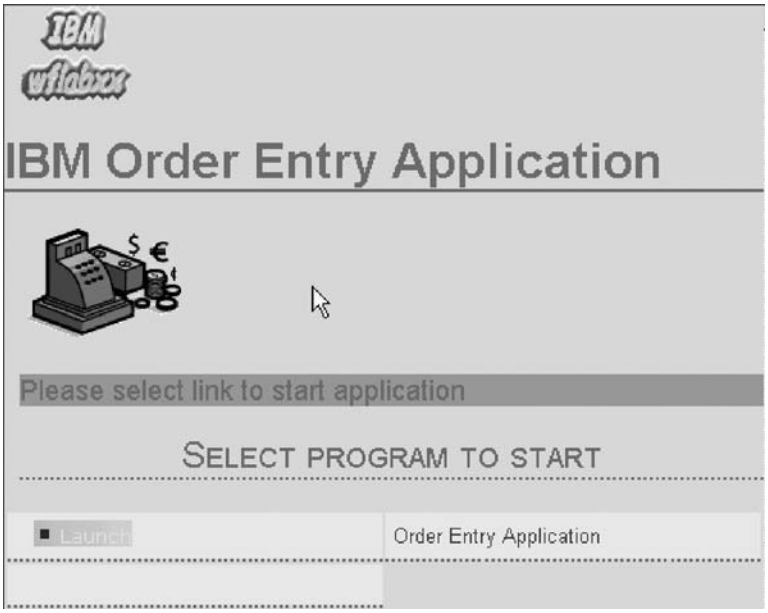


1. Select the text.
2. Press the **Delete** key.
3. Select the **Preview** tab to view your completed page.



4. Close the file index.jsp.
5. Click **Yes** to save the changes.
   Page Designer is closed.
6. In the Navigator view or WebFacing Projects view, right-click index.jsp.
7. Click **Run > Run on Server** on the pop-up menu.

Your new designed index.jsp page opens and you can run your application.



You have removed the default text added by the WebFacing Tool.

Module recap

You have completed Chapter 11, "Module 11. Enhancing index.jsp page," on page 101. You have learned how to:

- Open the application start page (index.jsp) in Page Designer
- Change the window title to Order Entry
- Add a style to the Order Entry Web page
- Start WebArt Designer
- Add a logo
- Resize the logo
- Save the logo as a WebArt object
- Save the logo for a Web page
- Place the logo on the Design page
- Insert a heading below the logo
- Add a picture to the Order Entry Web page
- Add a marquee to the Order Entry Web page
- Change the color of the window title
- Remove default text added by the WebFacing Tool

After creating and testing your completed WebFacing application, you can deploy the WebFacing application, if you have WebSphere Application Server Express installed on your iSeries server. If you want to deploy your WebFacing application, continue to Chapter 12, "Module 12. (Optional) Exporting to iSeries WebSphere Application Server Express 6," on page 127.

Chapter 12. Module 12. (Optional) Exporting to iSeries WebSphere Application Server Express 6

You have tested the WebFacing application in the WebSphere Application Server Test Environment and you are ready to move it to your iSeries WebSphere Application Server production environment. You are running WebSphere Application Server Express Version 6 on your iSeries server.

This module teaches you how to publish your WebFacing files to a remote WebSphere Application Server Express 6 environment on an iSeries host. In this module, you will learn how to:

- Map a network drive
- Open the Export wizard
- Export the EAR file
- Start an existing HTTP server console
- Install and manage the application
- Run the application on the production server

Exercises

The exercises within this module must be completed in order:

- "Exercise 12.1: Mapping a network drive"
- "Exercise 12.2: Exporting your EAR file" on page 128
- "Exercise 12.3: Installing the application" on page 130
- "Exercise 12.4: Testing the WebFacing application" on page 136

Time required

This module will take approximately **30 minutes** to complete.

Exercise 12.1: Mapping a network drive

First you copy the WebFacing project files to a WebSphere Application Server, Version 5.1. These first steps are the same for WebSphere Application Server for iSeries, Version 5.1 and the WebSphere Application Server for iSeries Express, Version 5.1.

Before you export any files, you must map a network drive to the Root file system on the iSeries where WebSphere Application Server is installed.

To map a network drive:

1. Right-click the **Network Neighborhood** or (**My Network Places**) icon on the desktop.
2. Select **Map Network drive** on the pop-up menu.

   The Map Network Drive dialog opens.

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3. In the **Folder** field, enter two backslashes \\ and the Netserver name of your Web server, and then \QIBM, for example: \\S400A\QIBM.
4. Click **Finish**.

   You now have an additional drive available on your workstation and are ready to export your WebFacing project files.

You have mapped a network drive and opened the Export wizard and now you are ready to begin "Exercise 12.2: Exporting your EAR file."

Exercise 12.2: Exporting your EAR file

Before you begin, you must complete "Exercise 12.1: Mapping a network drive" on page 127.

The J2EE standard has the concept of an Enterprise Archive File (EAR). This file is a zip file that contains all information about your Web application. In the workbench, this file is built automatically for Web projects. Since your WebFacing project is a Web project, the wflabxxEAR file exists already. You only have to move it to the application server, point to it, and then install the application. There is no need to know about the structure of the application. Everything is handled in the workbench.

To export your EAR file:

1. Return to the workbench.
2. In the WebFacing perspective, click **File** from the workbench menu.
3. Click **Export** on the pop-up menu.

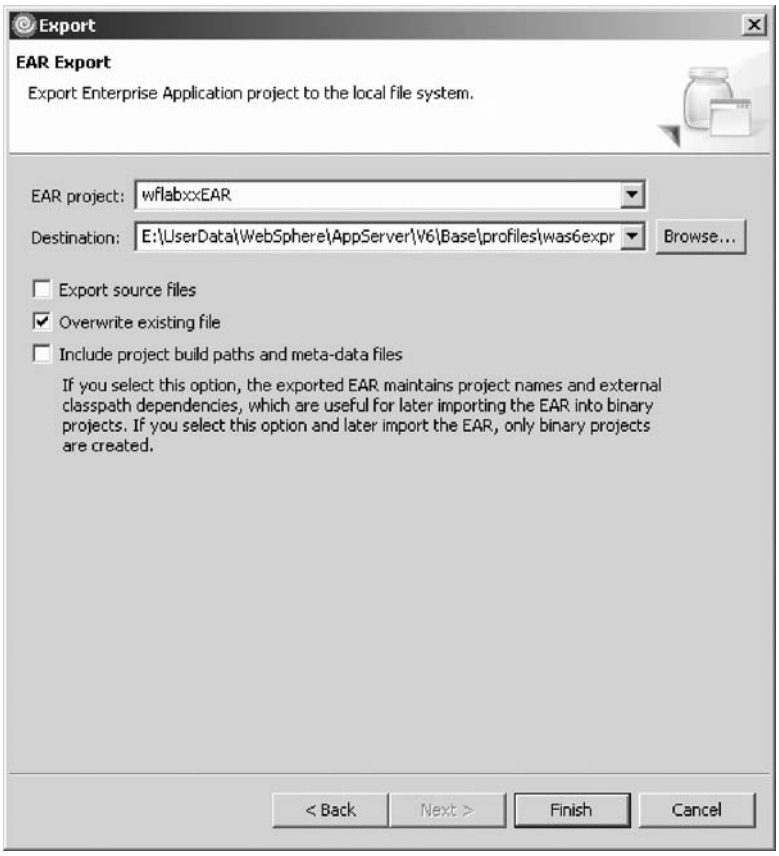
   The Select page of the Export wizard opens.

4. Select the **EAR file** icon.

   An EAR file is a compressed Enterprise Application Archive, and it contains all the files needed for the Web application.

5. Click **Next**.

   The EAR Export page opens.



6. Select the name of the resources you used when creating your WebFacing project. This should be wflabxxEAR from the **Enterprise Application project name** list.
7. In the **Destination** field, specify where you want to put the EAR file by entering the drive and directory structure of the IFS drive you mapped in the steps before. For example, use the default directory structure for installable applications for WebSphere Application Server Express:

   ```
   x:UserData\Websphere\AppServer\V6\Base\profiles\was6express\installableApps
   ```

   where `x:` is the drive letter mapped from your iSeries host in the previous steps.
8. Select the **Overwrite existing files without warning** check box.
9. Click **Finish**.

   If you see a message asking you to create a directory or delete an existing file, Click **OK** or **Yes** and continue. Now you can install the application in WebSphere Application Server.

You have exported the EAR file and now you are ready to begin "Exercise 12.3: Installing the application."

Exercise 12.3: Installing the application

Before you begin, you must complete "Exercise 12.2: Exporting your EAR file" on page 128.

At this point, you already need to have set up and started the WebSphere Application Server and an associated HTTP server on your iSeries server. You also

need to find the port number of the HTTP servers Administrative Console (referred to as port#a) and the port number to run your application (referred to as port#b) The second one is the port number of your HTTP server that is set up to work with your application server.

To install the application:

1. Open any Web browser and type: `http://servername:port#a/` in the **Address** field.

   Note: The default administrative port number for the HTTP server is 2001.

   The Login dialog appears.
2. Type your iSeries user ID in the **user ID** field.
3. Type your iSeries password in the **password** field.
4. Click **OK**.

   The browser opens.

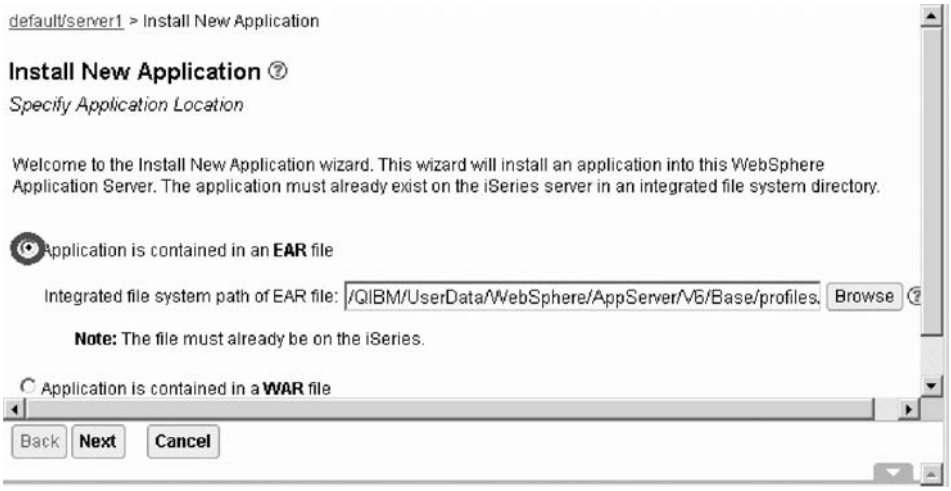
5. Click **IBM HTTP Server for iSeries** from the iSeries Tasks menu.

   The Administration pages for the HTTP and application servers display.
6. Select the **Manage** tab then the **Application Servers** tab.

   The Manage Application Server – Express page displays.

7. Select your WebSphere Application Server Express server instance from the **Server** list.
8. Click **Install New Application** in the right pane.

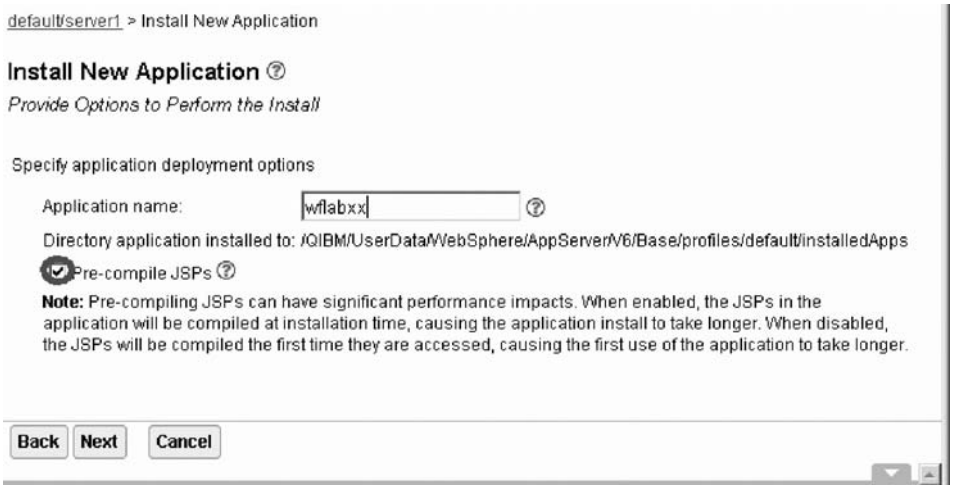
   The Install New Application page displays.



9. Click the **Application is contained in an EAR file** radio button.
10. Specify the location of your EAR file; (the file that you exported in the previous step).

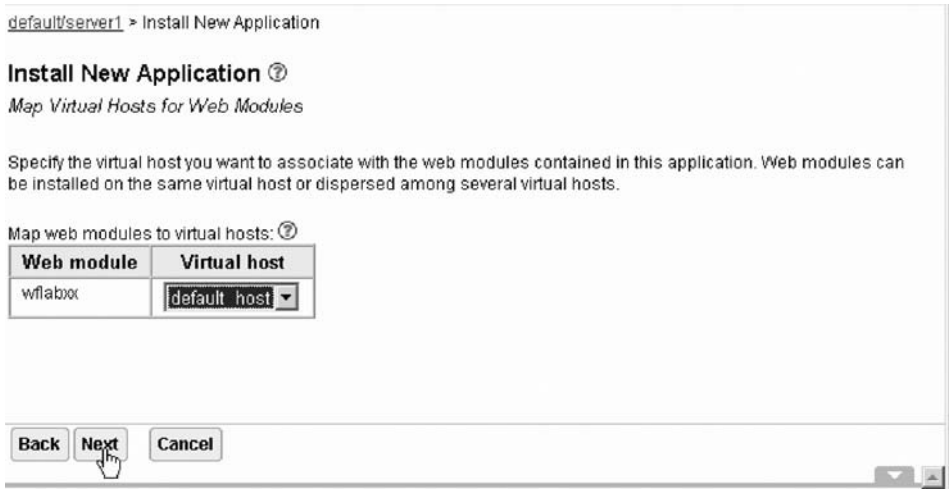
    You can use the **Browse** push button to locate the file.
11. Click **Next**.

    A page appears with options for application installation.



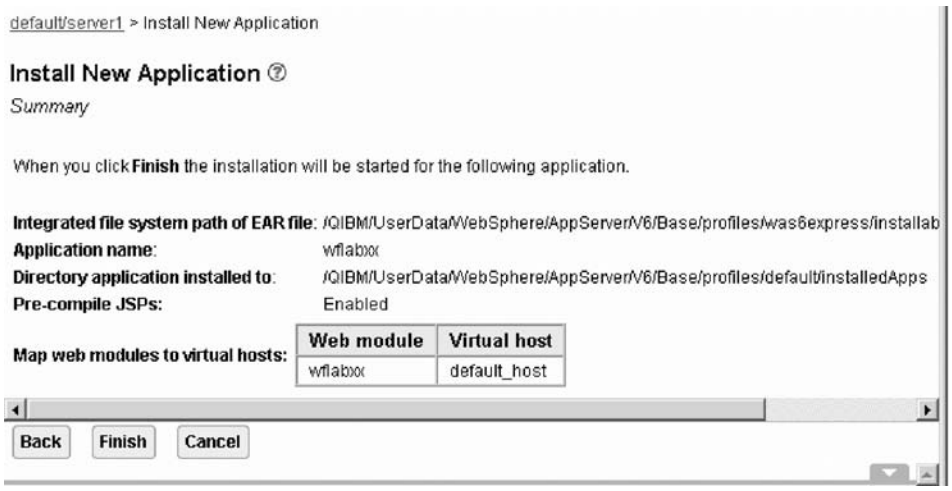
12. In the **Application name** field, type `wflabxx`.
13. You can select the **Pre-compile JSPs** check box to speed up the process of showing the page the first time. (JSPs are compiled into Servlets when first generated.)
14. Click **Next**.

    The Map Virtual Hosts Page appears.



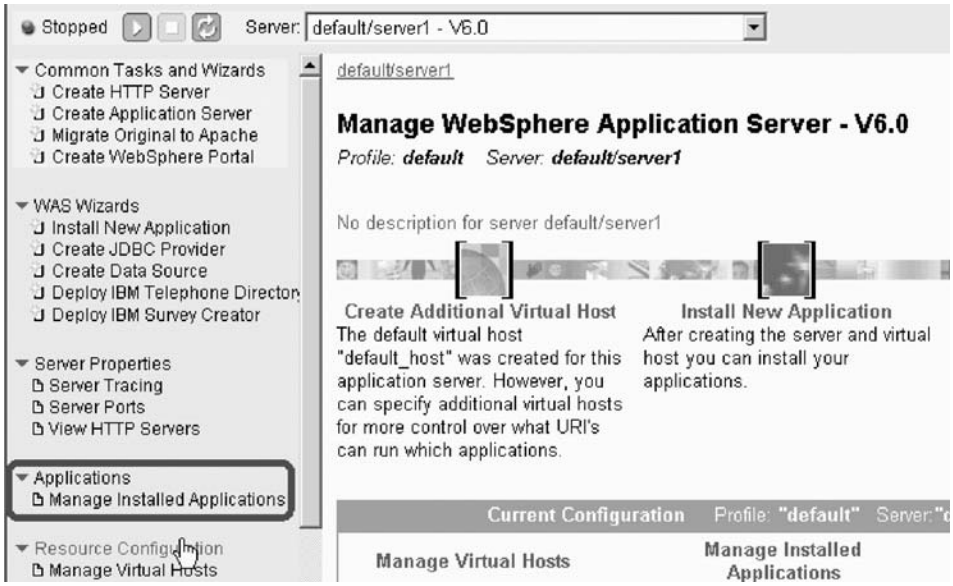
15. Select the **virtual host** to be associated with the Web module.
16. Select a **virtual host** of your choice, or leave the default host selected.
17. Click **Next**.

    The application summary page displays.



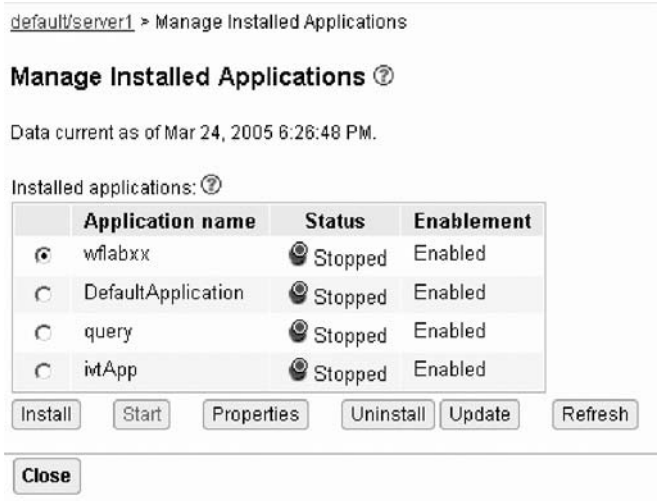
18. Click **Finish**.

    After the successful installation you see a page where you can manage the installed applications.

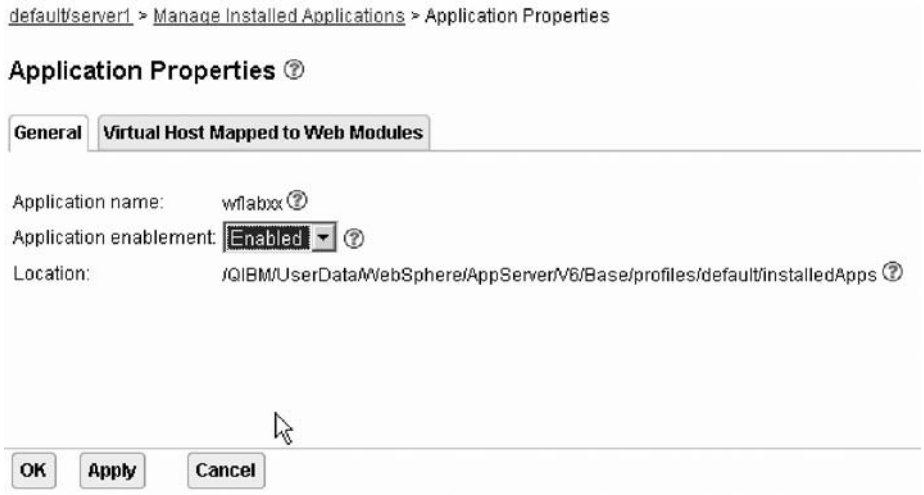


19. Click **Manage Installed Applications** under **Applications**.

    A page with the installed applications displays.

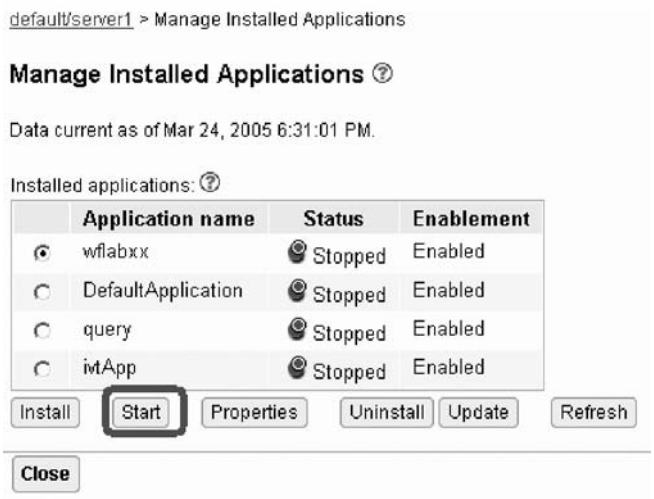


20. Click the **wflabxx** radio button in the list of installed applications.
21. If the wflabxx application is disabled, click the **Properties** push button to enable the application.



22. Select **Enabled** from the **Application enablement** list.
23. Click **OK**.

    Next you start the application with wflabxx in the enabled state.



24. Click the **wflabxx** radio button.
25. Click **Start**.

    If the Start button is not enabled, start the server first.

    Now you are ready to test your WebFacing application.

You have started the existing HTTP server, installed and managed the application and now you are ready to begin "Exercise 12.4: Testing the WebFacing application."

Exercise 12.4: Testing the WebFacing application

Before you begin, you must complete "Exercise 12.3: Installing the application" on page 130.

To test the Web application:

1. Open the Internet Explorer and type `Http://servername:port#b/wflabxx` in the **Address** field.

   Note: This is the HTTP port name, most likely 80, not the application bootstrap port.

   Your application index.jsp page should open. If it does not, double-check the URL and the port number. Also try restarting the HTTP server and the application server. Refer to the Administrative Console Web site if you are having problems starting and running the HTTP server or the WebSphere Application Server. If you still encounter problems, there are troubleshooting guides, FAQs, and newsgroups on the Web where you can find an explanation of your situation with more detailed information.

You have run the application.

Module recap

You have completed Chapter 12, "Module 12. (Optional) Exporting to iSeries WebSphere Application Server Express 6," on page 127. You have learned how to:

- Map a network drive
- Open the Export wizard
- Export the EAR file

- Start an existing HTTP server console
- Install and manage the application
- Run the application on the production server

Finish your tutorial by reviewing the materials in Chapter 13, “Summary,” on page 139.

Chapter 13. Summary

This tutorial has taught you how to convert the DDS screens in an existing 5250 order entry application to a Web browser user interface. While creating a browser user interface, you learned how to use the IBM WebFacing Tool. You also learned how to customize the output of the conversion process using the IBM WebFacing Tool and the CODE Designer. Finally, you learned how to run the WebFacing application in the WebSphere Test Environment that is part of the product.

If you have completed all of the modules, you should now be able to:

- Create a WebFacing Web Project
- Convert one or more DDS and UIM files
- Run the application in the WebSphere Test Environment
- Customize the WebFacing application
- Secure your application by forcing authentication before the application is called
- Make the input page of the application more interesting
- Deploy the WebFacing application to a production server (optional)

More information

For more information on the product and the IBM WebFacing Tool, see http://ibm.com/software/adwtools/iseries.

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