IBM WebSphere Development Studio client for iSeries

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Explore the WebFacing tool
Move a 5250 Application to the web

Student Exercises

For WDSc V5 GA   WAS 4.0

Course Code

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Overall Lab Guide

The objective of the WebFacing tool lab is to have the students work with an existing 5250 application and use the WebFacing tool to create a browser based user interface, and then run this application as an *e*-business application. At the end of the lab, the student should know how to use the WebFacing tool and how to customize the WebFacing environment to meet his/her requirements for an *e*-business application. The Lab will guide the student through most of the steps involved in the process of using the WebFacing tool. Using the WebFacing tool Wizards and the CODE Designer will allow you to customize the outcome of the conversion process.
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> **Note:** *The pictures in these labs show a similar application being built. Some of the names and icons may be different from the environment you are working with.*

The Steps in this Lab

- Familiarize yourself with the 5250 application
- Start WDSc and open the WebFacing tool perspective
- Use the WebFacing tool project wizard to create a project for this application
- Convert the DDS source to web definitions
- Run the WebFaced application in the WAS test environment
- Customize the WebFaced application with CODE designer
- Customize the WebFaced application by changing WebFacing project properties
- Add dynamic authentication to the WebFaced application
- Optional exercises
  - Create a Web Application in WebSphere Application Server (WAS) on iSeries
  - Run the WebFaced application using the iSeries WAS environment

Prerequisites

Although not required, familiarity with the DDS language is preferred. Also it will be helpful to understand how Web applications work. Knowledge of the concepts of Servlets and Java Server Pages is not required but will be helpful in understanding the generated output of the WebFacing tool.

Also, it is helpful if the student is familiar with basic MS Windows Graphical User Interface (GUI) operations such as working with the desktop and basic mouse operations such as opening folders and performing drag-and-drop operations. The student should also be familiar with a browser and know how to navigate through the Internet.

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Exercise: A Look at the Green Screen User Interface

In order to be able to complete this exercise, you need the sample *Order Entry* application on your iSeries server. The installation and setup has been done in this Lab by the instructor previous chapter

REVIEWING the 5250 APPLICATION

You are ready to have a look at the sample application that you will use for the WebFacing exercise soon. You are going to explore the application by invoking it from a 5250 session and working with the applications green screens and command keys. This 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. If you have problems make sure the library list for your job is setup correctly to include library WFLABXX at job start up.

The Goal of the Exercise

The goal of this exercise is to provide you the opportunity to explore the 5250 application, before you start and use the WebFacing tool to convert it. This will allow you to become familiar with the 5250 screens and the behavior of the application. After the conversion with WebFacing tool you can then easily compare the 5250 and the Web user interface.

At the end of the exercise, you should be able to:

- Invoke the application
- Know what screens the application provides
- Know how the application works in its 5250 environment
- Know what command keys are supported and what functions they allow

Scenario

You use a 5250 emulation screen to start the sample *Order Entry* application. In this 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 a list of valid customers and then go thru the exercise of filling an order for this selected customer. You will fill the order by selecting a part from a list and adding it to the 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

Starting the 5250 application

To start the order entry application you need a 5250 emulator on your workstation. Please start a5250 emulation screen.

Signing on to the iSeries system and calling the Order Entry application

On the 5250 emulation screen on your desktop, displaying the sign-on screen.

- Enter User ID and password, which you setup in the steps before, for this WebFacing sample. It will start a job that has library *WFLABXX* in its library list.

On the command line of the 5250 screen

- Invoke the *Order Entry* Application by typing: `CALL ORDENTR`

The application starts and shows the first panel as shown in Figure 0-1. This first screen prompts for a customer number, you have choice of keying in the customer number d irectly or you can display a window that shows a selection list of existing customers by pressing function key 4.

Figure 0-1: Order Entry application first panel

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

Using online help

- Move the cursor to the *customer number* entry field
- Press *command key 1*
  Panel group help will be displayed, see Figure 0-2
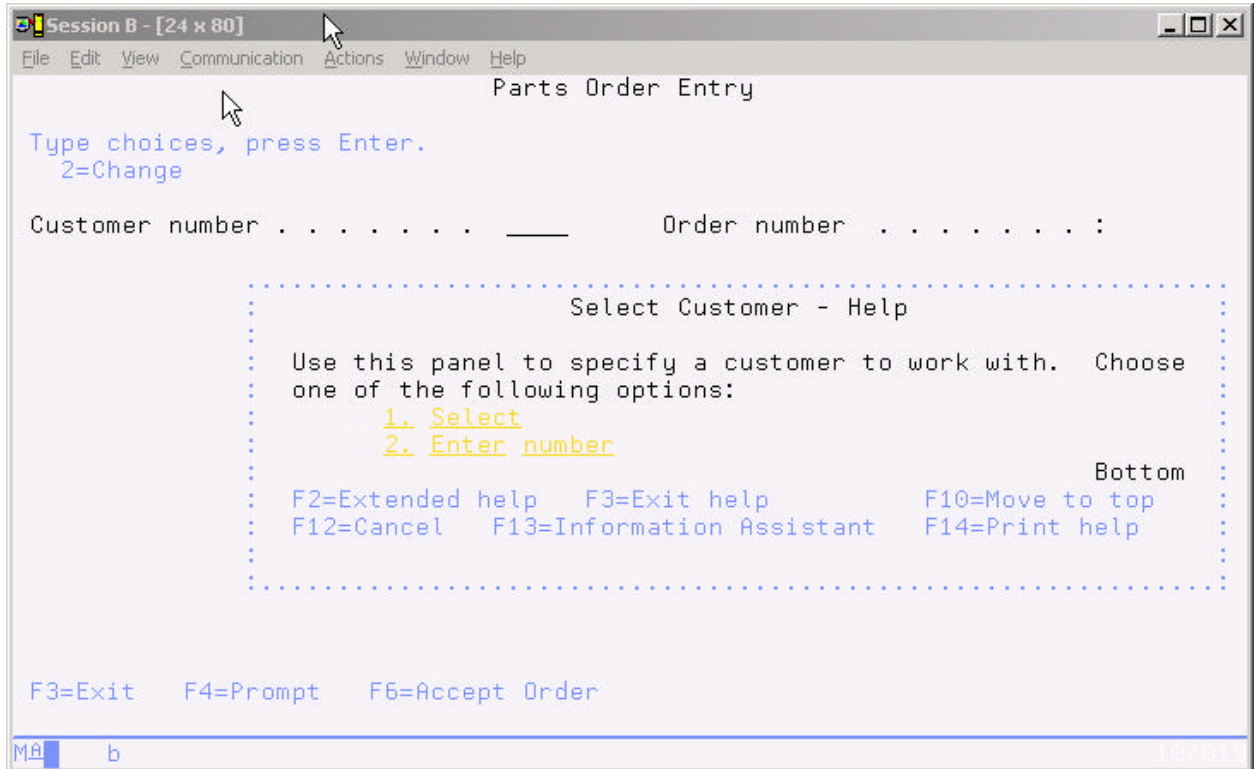
Figure 0-2:UIM help panel for customer number

- To get more help, move the cursor underneath the *1* in the help area and press the *enter key*

    Figure 0-3 shows a sample of the panel that appears
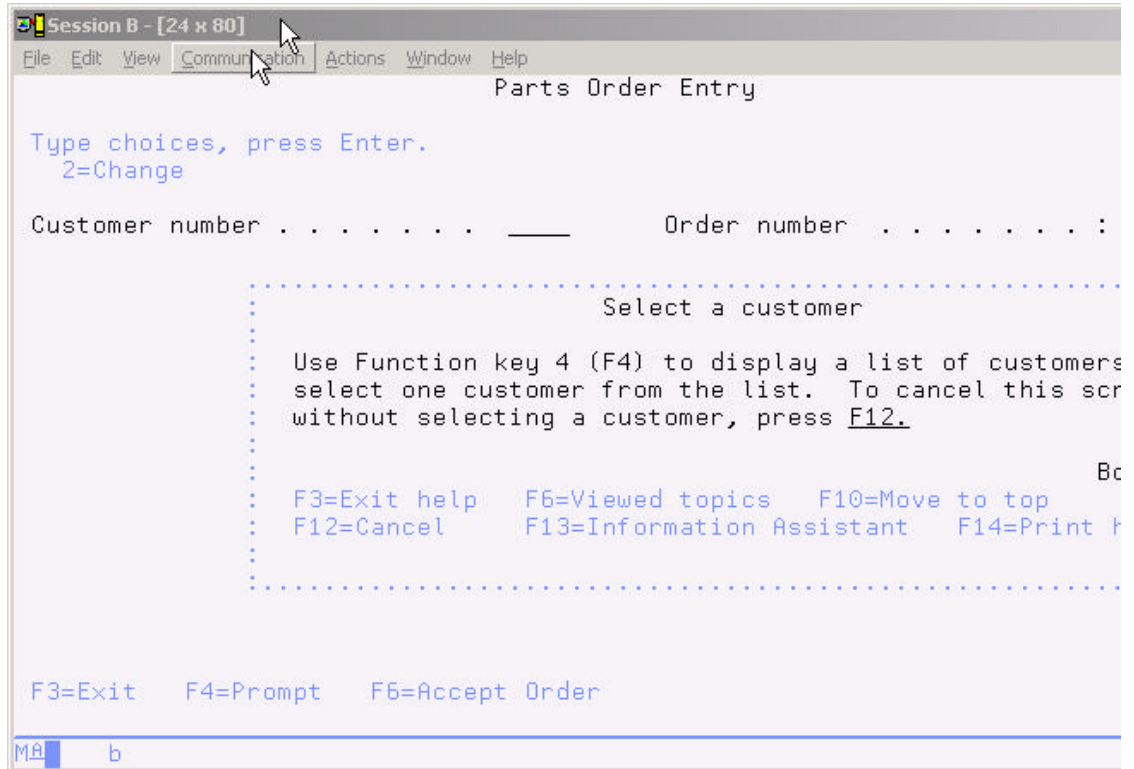
Figure 0-3:Help for requesting a customer list

- Press *command key 12* to get back to the help for the customer number field
- To get 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 keying in the customer number, see Figure 0-4
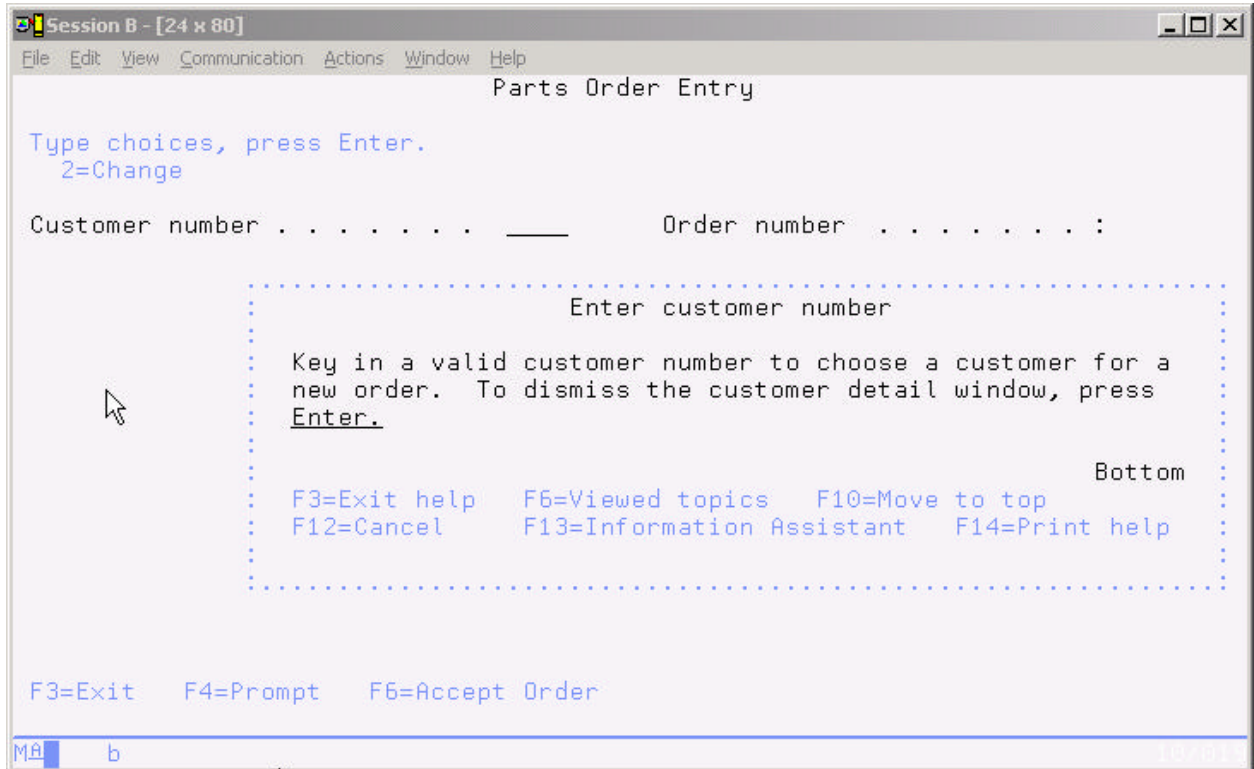
Figure 0-4: Detailed help for specifying a valid customer number

- Press *command key 12* to get out of the help for the customer number field
    - On the main help panel in the *Select customer – Help* area
- Press *command key 2* to get to the extended help
  Figure 0-5 shows the extended help for the customer number field
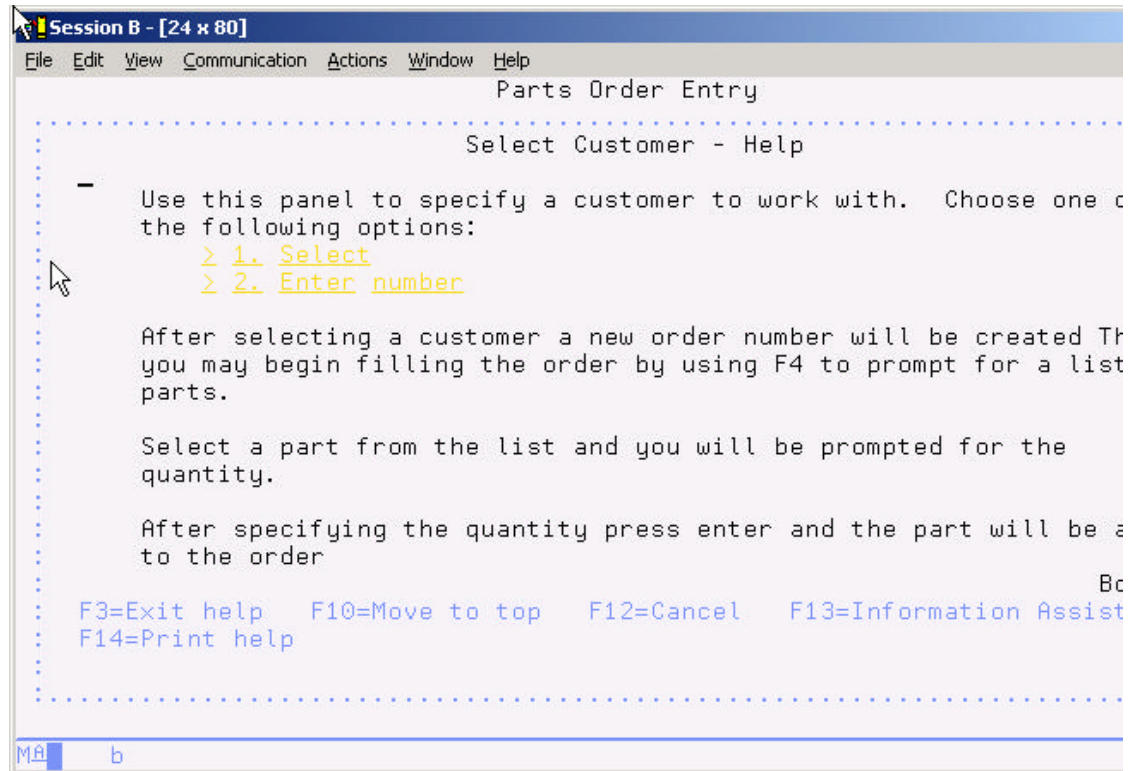
Figure 0-5:Extended help panel for customer number

- Press *command key 12* to get out of the extended help for the customer number field
- Press *command key 12* again to get out of the help for the customer number field
    On the application customer number input panel:
- Move the cursor near the *order number* field
- Press *command key 1*
    Context sensitive help for this area will be displayed, as shown in Figure 0-6
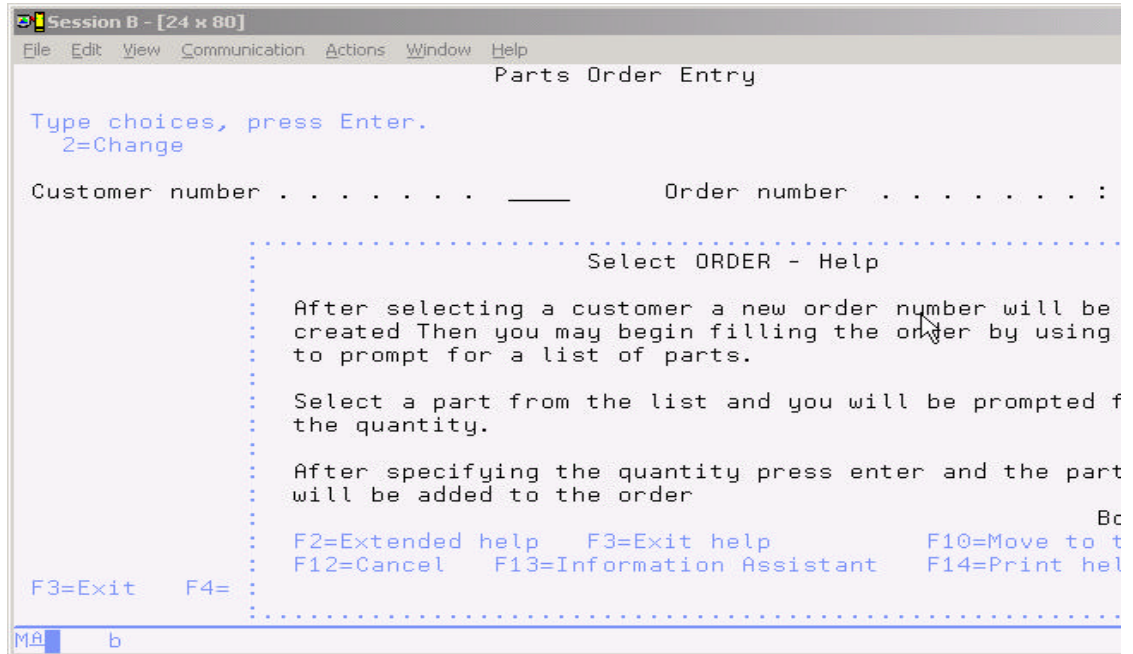
Figure 0-6:Help for order number

- Press *command key 12* to get out of the help for the order number field

Selecting a customer

Now you have an understanding how the help panels in this application work and look. You now need to identify the customer this order is related to. You have the choice of specifying a valid customer number, or you can get a selection list of valid customers. I want you to use the selection list to because it uses the WINDOW DDS keyword and I want to illustrate to you how the WebFacing tool converts a DDS window.

- Press *command key 4* to display the customer selection list.
  A list of customers gets displayed in a window, as shown as in Figure 0-7.
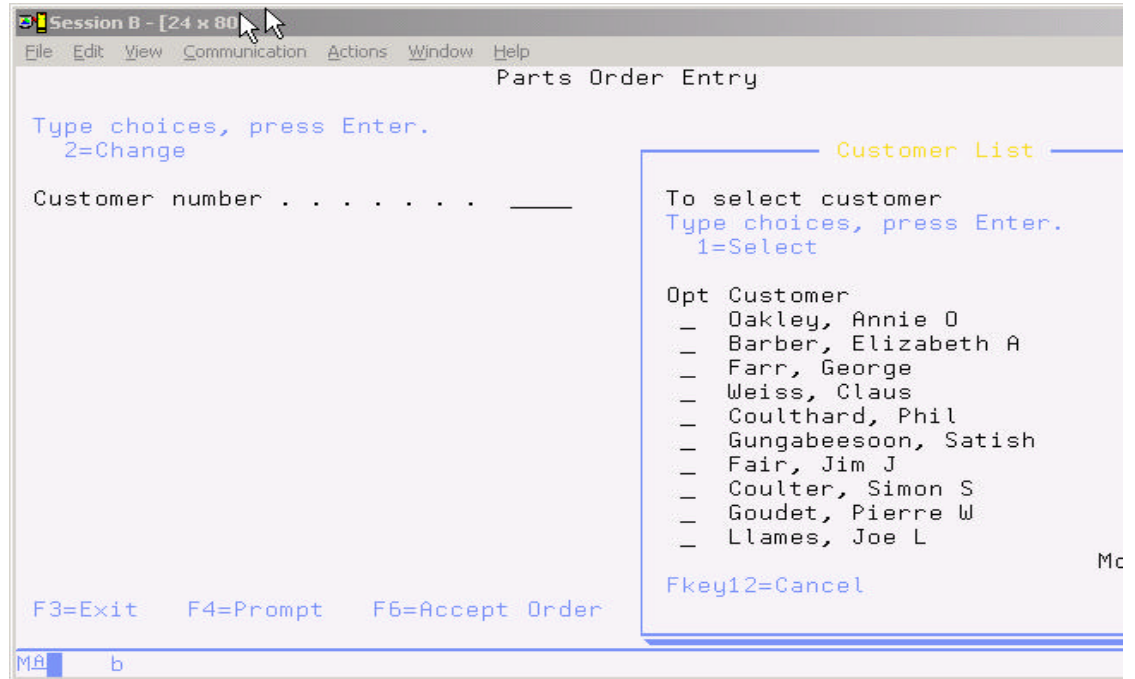
Figure 0-7:Customer list panel

- Select a customer by typing *1* in the *Options* field.
- Press the *Enter* key to proceed.

  This brings you back to the initial panel now filled with detailed data for the selected customer, as shown in Figure 0-8. You'll notice that an order number has been assigned as well. You are ready to order some parts.
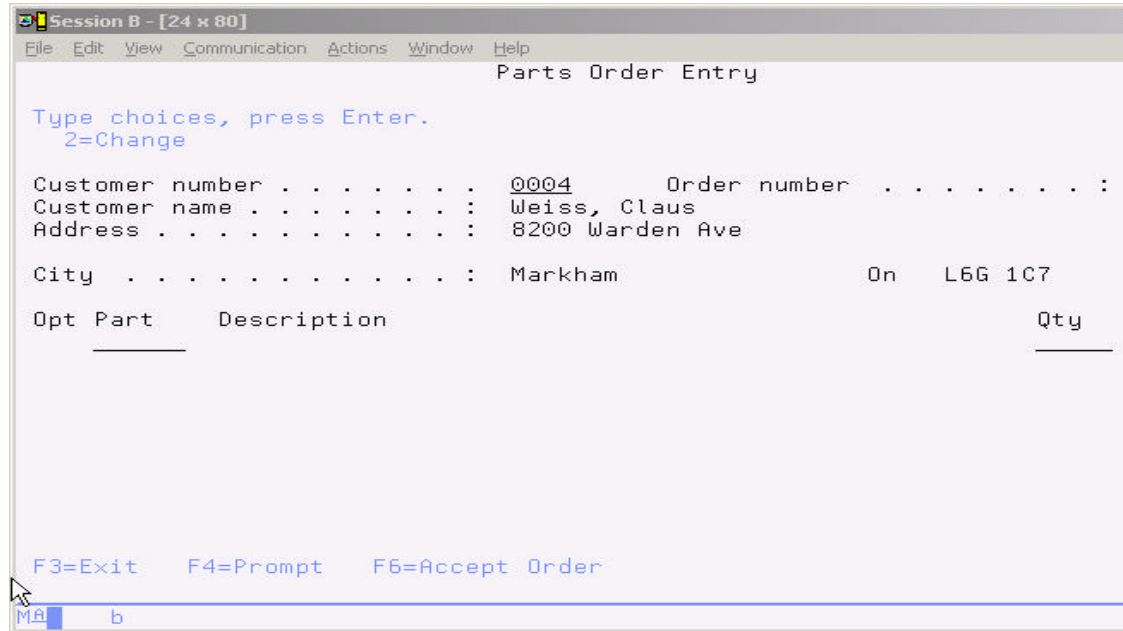
Figure 0-8:Order entry panel with detail customer data

Filling the order

The process of selecting parts is similar to the way you selected a customer
in the previous step. You are able to key in the part number directly or select
the part from a selection list. I want you to thru the parts selection list.
On the order entry panel,

- Press *command key 4,* to get a list of available parts

You get a parts list in a window as shown in Figure 0-9.
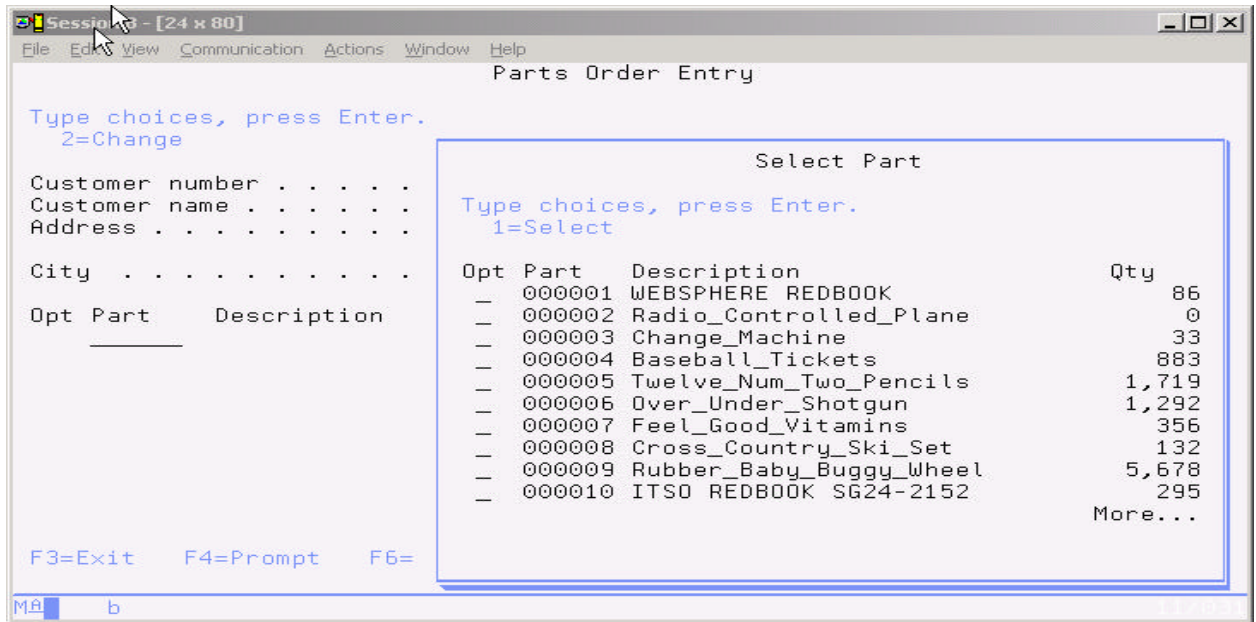
Figure 0-9:Part selection list

- Select a part that has lots of quantity left by typing *1* in the *Options field*.

  Back on the order screen, the part appears in the order; on the top line of the parts list, as shown in Figure 0-10
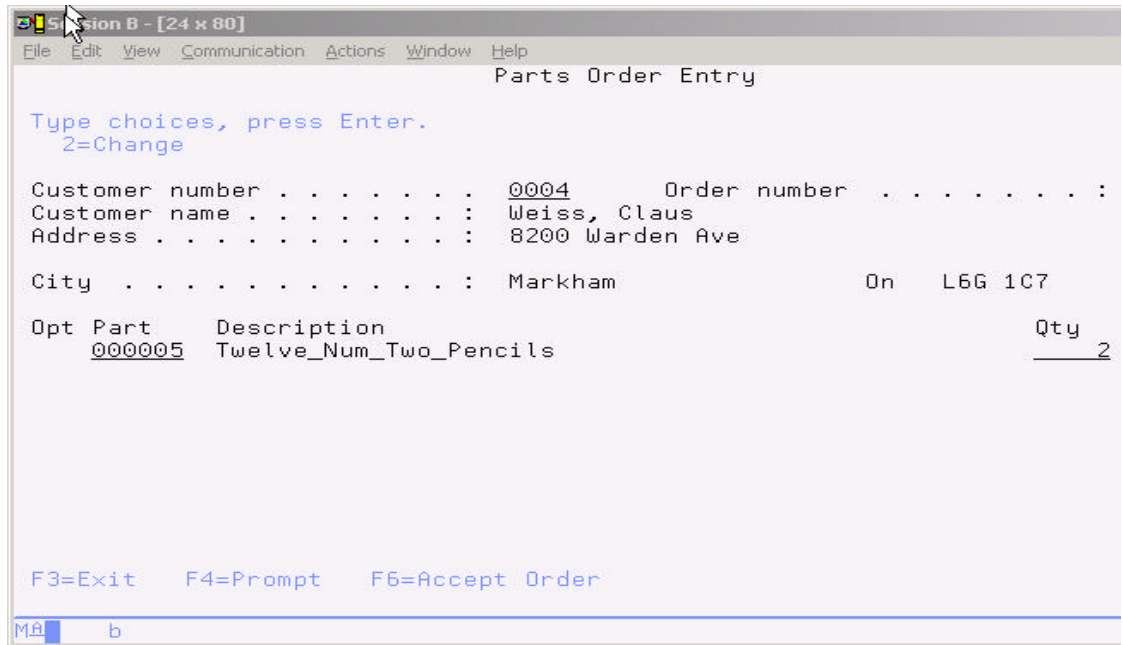
Figure 0-10:Specify parts quantity

To order a certain quantity of this part

- Change the *quantity* field to a value, for example two as in figure 2-10.
- 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, as shown in Figure 0-11.

```
                              Parts Order Entry
  ⟍
  Type choices, press Enter.
    2=Change

  Customer number . . . . . . .    0004      Order number  . . . . . . . :
  Customer name . . . . . . . :    Weiss, Claus
  Address . . . . . . . . . . :    8200 Warden Ave

  City  . . . . . . . . . . . :    Markham              On   L6G 1C7

 ▸Opt Part    Description                                           Qty

         ____
    _   000005  Twelve_Num_Two_Pencils




  F3=Exit    F4=Prompt    F6=Accept Order
```

Figure 0-11:One item added to order

Add more parts, by going to thru the part selection again, go thru the
following three steps until you have added all parts that belong to this fictive
order:

1. Go to the parts list, by pressing *command key 4* on the order panel,

2. Select a part from the parts list,

3. Specify the parts quantity

After you feel the order is complete go the next step

Completing the order

On the order entry panel:

- Press *command key 6,* to accept the order.

The order gets added to the database and the next order can be handled, you are back on
the starting screen of the application.

You have worked with all panels in this application,
1. The start order entry panel

2. Several help panels

3. The customer list window

4. The full order entry panel

5. The parts list window

> I leave it up to you, whether you want to add more orders.
> If you think you understand how the user interface of this application works,
> stop adding orders.
> - Press *command key 3* to exit the application.
> You are now ready to put a brand new user interface onto this application.

Analysis

> You completed exercise: A look at the green screen user interface. Here is
> what you did:

1. Started a 5250 emulation session,

2. Signed onto the iSeries system,

3. Started the order entry application.

4. Used the help panels in this application
5. Selected a customer from the customer selection window

6. Selected parts from the parts selection window

7. Ordered a certain quantity of parts for the order

8. Completed the order

9. Exited the application.

> You are ready to move on.
> Next you will create a WebFacing project.

3

EXERCISE: CREATING A WEBFACING PROJECT

Before you can create a Web user interface for the Order Entry Application, you need to create a WebFacing project. 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.

The Goal of the Exercise

The goal of this exercise is to practice using the WebFacing project wizard inside the WebSphere Development Studio Client (WDSC) workbench to create a new WebFacing project. You will then use this WebFacing project to facilitate the conversion of your DDS source and to test the generated output.

At the end of the exercise, you should be able to:

- Start the Development Studio Client workbench
- Start the WebFacing tool project wizard
- Step through the project wizard pages
- Provide the correct input to the project wizard
- Browse through the new project

Scenario

Before you can use the WebFacing tool to reface your application you need to create a WebFacing project in the Development Studio Client workbench. The first step in a when starting with the WebFacing is to create a WebFacing project You will identify the project information, like the DDS source member names to be WebFaced, and they will be stored in a workspace on your workstation. This exercise guides you thru the process of identifying the DDS and Panel Group source members to be converted by the WebFacing tool. It also goes thru specifying some of the runtime information you will need later when running the WebFaced application.

Before you start

To run this exercise you need WebSphere Development Studio Client for iSeries Version 5 or 4 installed on your workstation. Short instructions on how to install the product are provided in Chapter 1.

The figures in this book show sample user interface snapshots based on a workspace that has not been used before, if you already used the product your environment will be slightly different and you need to adjust for that fact when following my instructions or comparing my screen shots with your real desktop environment.

Starting the Development Studio Client workbench
Now go ahead and start Development Studio Client:

Figure 0-1: Starting WebSphere Development Studio Client Version 5

On your desktop task bar,

- Click: *Start > Programs > IBM WebSphere Studio >Development Studio Client for iSeries*

  A dialog as shown in Figure 0-2, will appear asking you for the workspace location, unless you used the Development Studio Client before and selected not to show this dialog again. The workspace contains all the information about your Development Studio projects, you can accept the default or store the work related to the WebFacing exercises in this book, 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.
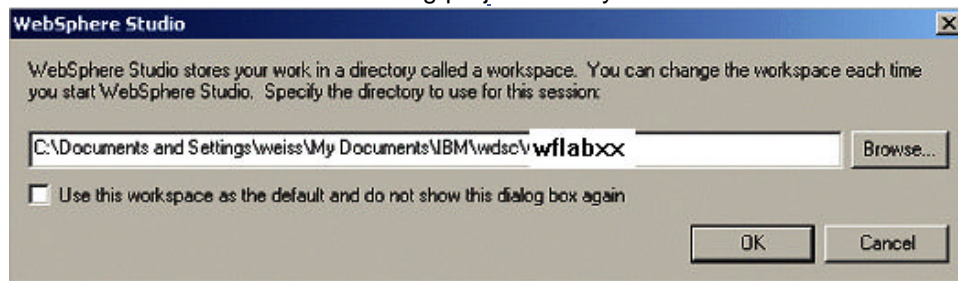

Figure 0-2: Dialog for workspace selection

- Name the directory of the **workspace** as shown in Figure 0-2, use the directory name **wflabxx** (**xx** being your team number)
- Click the *OK* push button

  After a few moments of loading, the workbench opens, and a window similar to the one shown in Figure 0-3 will appear on your desktop
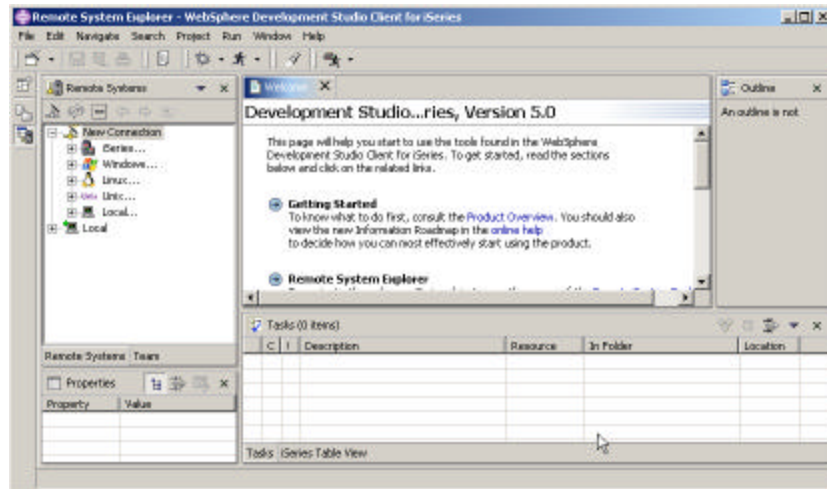
Figure 0-3:Initial window of Development Studio Client

Note: If you didn't reset the workbench, or you are working with the advanced version of Development Studio Client, or you are working with Development Studio Client Version 4, your environment will differ slightly from the screen captures in this book.

Opening the WebFacing perspective

The Development Studio Client 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.

Figure 0-4: Workbench Menu structure for opening a perspective
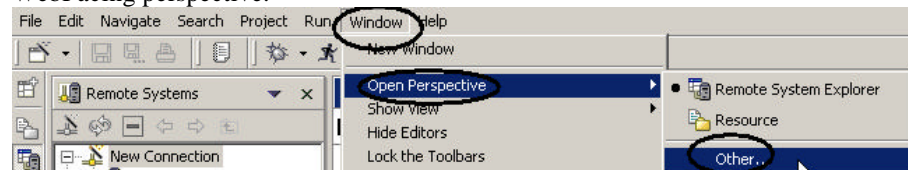
Do this by:

- Selecting the *Window* menu item on the workbench menu bar.
- Then select *Open Perspective*
- Select the *Other* option from the submenu
- *Window > Open Perspective > Other...*

Note: Version 4 users, instead of using the *Window* option on the menu bar, use the *Perspective* option

Perspective > Open > Other

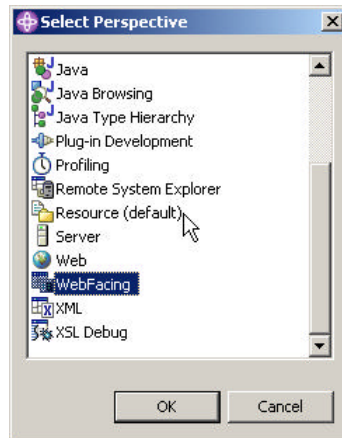A dialog similar to Figure 0-5 opens.

Figure 0-5: Select Perspective dialog

- Select *WebFacing* from the list.
- Click the *OK* push button.

  The workbench will now show the WebFacing perspective with the WebFacing Projects view open on the left hand side. You are ready to create a WebFacing project.

Creating a WebFacing project

In the workbench now:

- Select the *File* option on the workbench menu bar to display the File menu.
- Select the *New* option from the File menu,
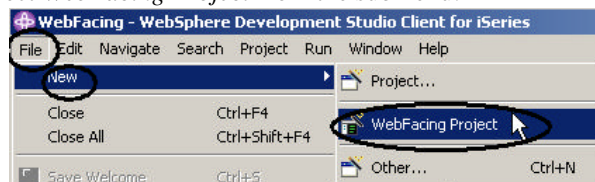- Select *WebFacing Project* from the submenu.

Figure 0-6: Menu structure to create a new WebFacing project

This will start the WebFacing project wizard

Completing the WebFacing Project page

In the WebFacing project wizard you will be presented with the initial page On the WebFacing Project page:
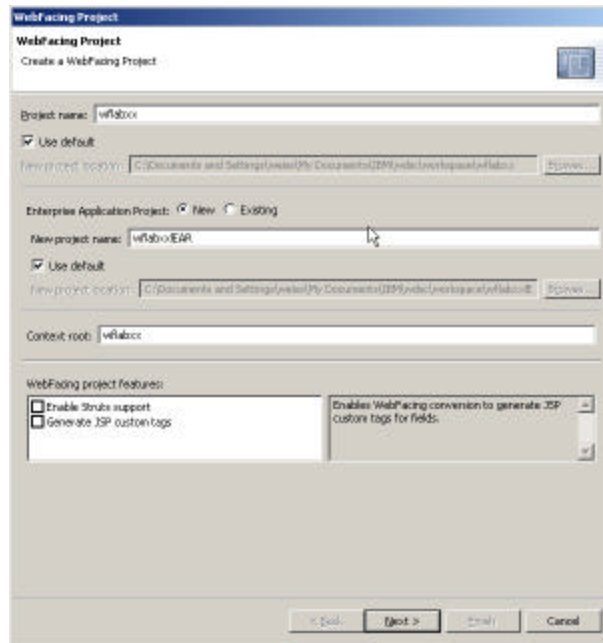
Figure 0-7: WebFacing project wizard, first page

- Type the project name **wflabxx**
- Change the *Enterprise Application project name* to wflabxxEAR
  This will create a unique Application file for this WebFacing project
- Click the *Next>* push button.
     The *J2EE Setting* page opens.

J2EE Setting

Note: Version 4 users, the *J2EE Settings* page will not appear in your environment,
       skip to the *Select display file source members to convert* page.

This page allows you to specify the J2EE level you want the WebFacing tool
to use when creating the files for your WebFacing project. You might
wonder what that means to you. If you plan to use the WebSphere
Application Server version 5 only then I recommend you select J2EE level
1.3, if you are using previous versions of WAS in you environment and are
planning to deploy the WebFaced application to these versions then I

recommend to use J2EE level 1.2 since these older version of WAS don't support the J2EE level 1.3. In this exercise you will use the WebFaced application in the WebSphere Test environment, which is version 5, so you will use J2EE level 1.3.
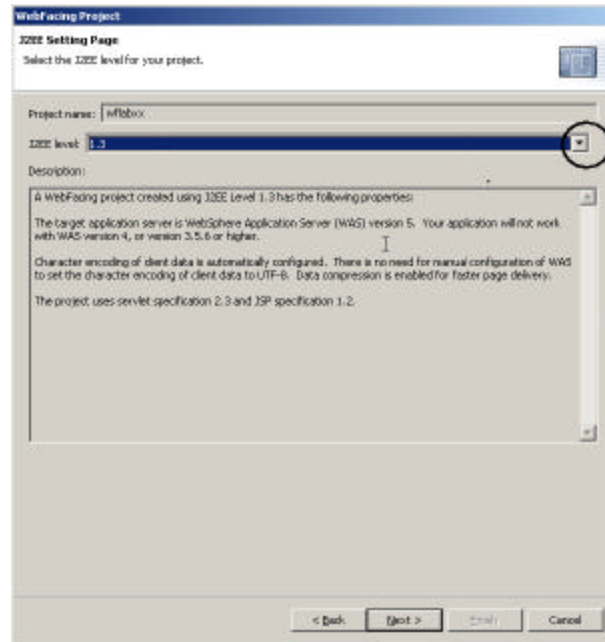
Figure 0-8: Page to select JSP level

- Click on the *little arrow* beside the *J2EE level* combination box

- Select *1.3* from the list

- Click the *Next >* push button

  The *Select display file source members to convert* page opens as shown in: Figure 0-9

  Selecting display file source members to convert
  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 wh ich members of the in 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

Tip: 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 you need to specify the iSeries server name to specify where the Data Description Source (DDS) is located

Creating a new connection in the Development Studio Client

Since you are starting with a new *workspace*, you need to specify your connection information

- Click the *New* push button (on the right side of the page beside the *Connection* comb ination box) as shown in Figure 0-9.
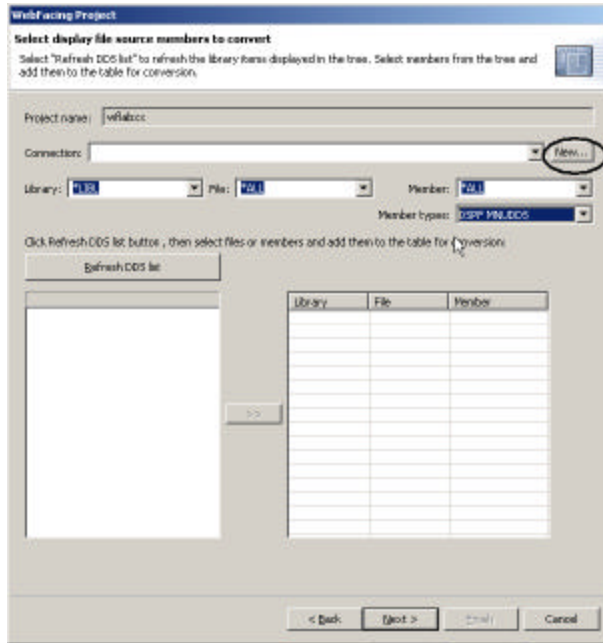
Figure 0-9: WebFacing project wizard, select DDS source members

The *New Personal Profile* dialog opens as shown in figure 3-6:
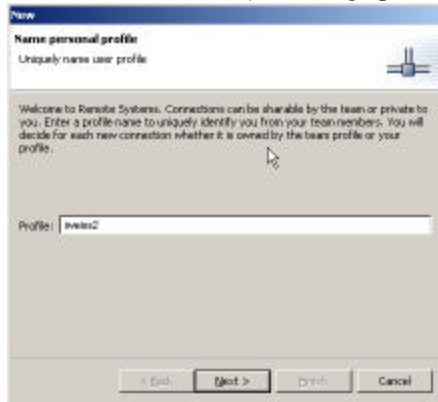

Figure 0-10:New personal profile

- Accept the default profile name

- Click the *Next >* push button
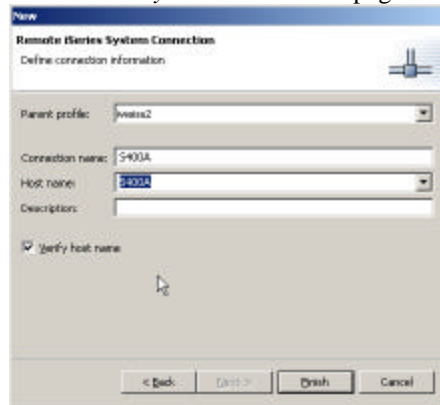- On the *Remote System Connection* page as shown in Figure 0-11

Figure 0-11: New connection dialog, second page

- Enter the *Host name,*

Important**:** This is your iSeries server name; don't use the one in Figure 0-11, unless your system is named S400A

The connection name will be filled automatically with the same value

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Note: Version 4 users, key in your userid in the userid entry field, use the same that you used in the emulation session when you ran the Order Entry application first to familiarize yourself with the order entry application. During conversion this user id and when testing the application this user ID will be re-used.

- Check the *Verify host name check box*
- Click the *Finish* push button.
    The connection gets 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 successful completed, you should be returning to the *Select display file source members to convert page*
- Check that your iSeries server is selected in the *Connection* combination box.
- Make sure that **LIBL* is selected in the *Library filter* combination box.

- Click the *Refresh list* push button.
  A user ID and password dialog opens, as shown in Figure 0-12
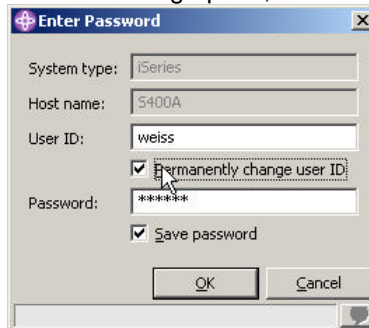
Figure 0-12: Logon dialog to access iSeries server

- Key in your *User ID*, use the same user ID that you used when running the *Order Entry* application in the beginning of this book.
- Check the *Permanently change user ID* check box
- Key in your *password*.
- Check the *Save password* check box
- Click the *OK* push button on the *Enter password* dialog
  A connection to the iSeries server gets established. The library list of your iSeries job is displayed in the tree view list on the WebFacing project wizard page:
- Select the *WFLABXX* library from the list.

Figure 0-13: WebFacing project wizard, showing expanded library WFLABXX

- Expand it by clicking the plus sign (+) beside the library name.
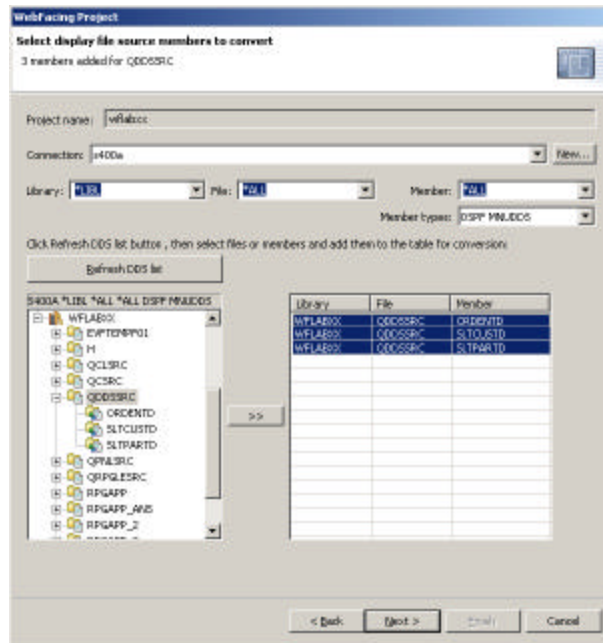- Select the *QDDSSRC* source file from the expanded list.
- Expand *QDDSSRC,* and select all members from the list.
- Click the `>>` push button in the middle of the page to copy the selected members over to the list of members to be converted at the right.

Note: 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

---

- Click the *Next>* push button at the bottom of the page to proceed to the next page of the wizard.
    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

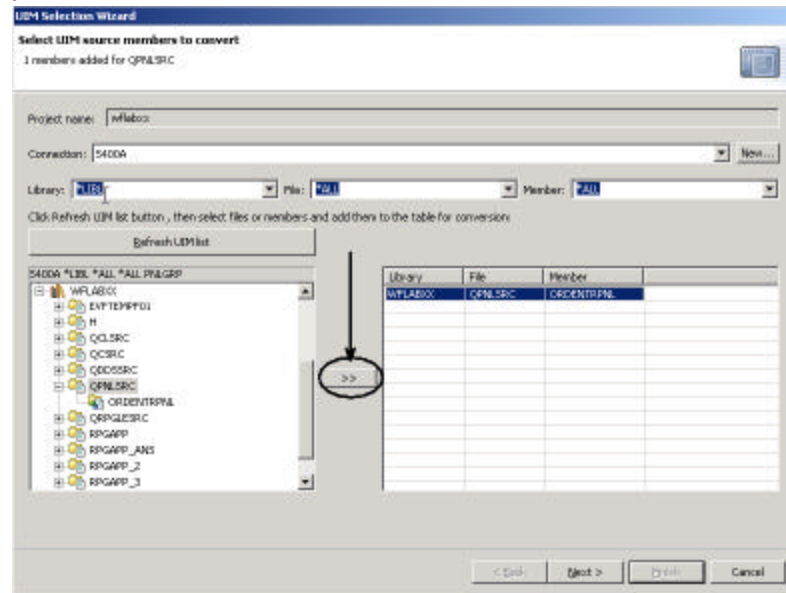The *Select UIM source members to convert* page opens as shown in figure 3-9

Figure 0-14: WebFacing project wizard, select UIM source members

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

- Click the *Refresh UIM list* push button
- Expand library *WFLABXX*
- Select the *QPNLSRC* source file from the expanded list of library *WFLABXX*
- Click the >> *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
- Click the *Next>* push button at the bottom of the *Select UIM source* page, to proceed to the next page of the wizard.

Completing the Specify CL commands page

You will now provide the information that will allow the WebFacing wizard to create the initial *index.html* 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 two?

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 as shown in Figure 0-15 in the WebFacing project wizard will allow you to specify the necessary information.

Figure 0-15:WebFacing project wizard, specify CL command and Sign on information page

- Type *CALL ORDENTR* into the *CL command* entry field.
- Type *Order Entry Application* into the *Command Label* entry field

Tip: If you don't type anything into the *command label field*, the *command label* input will be copied into this entry field

- Select the *Sign-on with specified 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 life easier for you when starting the *Order Entry* application without having to specify the authentication information. Don't worry about security in your production environment, this can be easily changed later and I will show you how later in the book.
- Click the *Add* push button on the right side of the page.

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

- Click the *Next>* push button at the bottom of the wizard page.

Choosing a web style

On this wizard page, as shown in Figure 0-16, you can select a Web style for your converted screens.
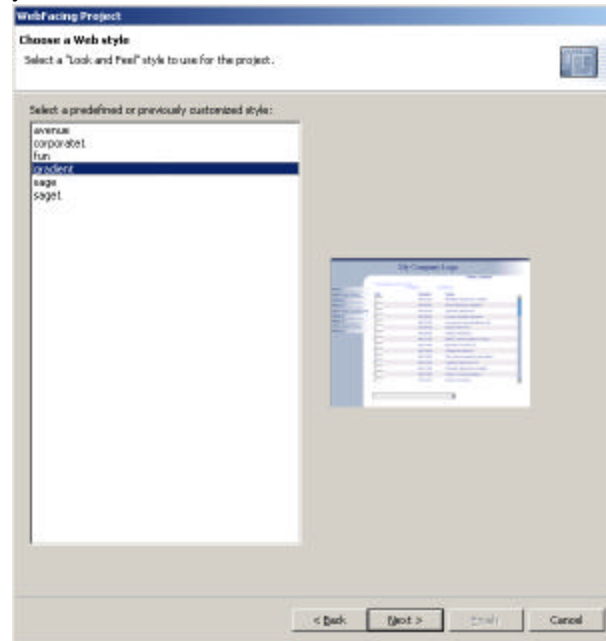
Figure 0-16:WebFacing project wizard, style selection page

- Select the *gradient* style from the list of available styles.
- Click the *Next>* push button.

Completing the WebFacing Project information

On this page shown in Figure 0-17 you have choice of creating the project and converting the source in one step or only creating the WebFacing project. At this point I want you to just create the WebFacing project. You don't need to convert the source now. Conversion is part of the next exercise.
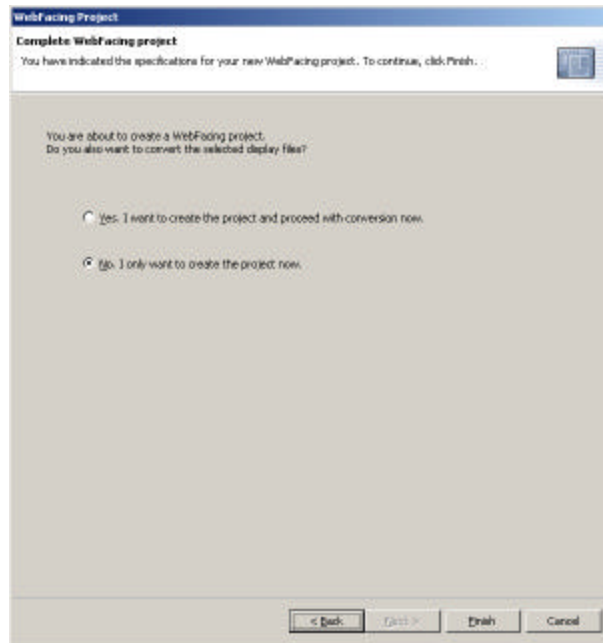
Figure 0-17:WebFacing project wizard, last page

- **Select the** *No, I only want to create the project now* radio button.
- Click the *Finish* push button.

  The WebFacing project is getting created, after a while the workbench will appear with the WebFacing perspective showing your new WebFacing project in the WebFacing Projects view as shown in Figure 0-18
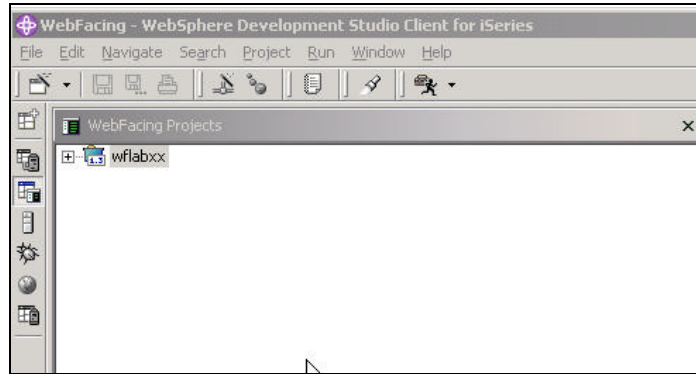
Figure 0-18: WebFacing Project view with wflabxx project icon

The WebFacing project environment

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 a couple of nodes have been added to this WebFacing project:

1. The information which display file source members should be converted,
2. The information which panel group source members should be converted
3. The CL Command that will be used to start the Order Entry application

4. The style to be used for the converted screens.
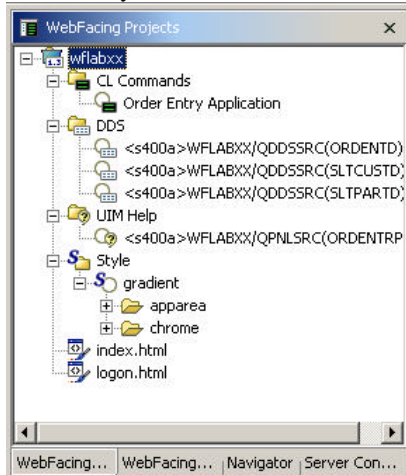
Figure 0-19: Tree view of new WebFacing project

When you expand the nodes in the tree view of your WebFacing project you can see the information that is captured for this project.

•   Expand the nodes by clicking on the + sign beside them

Figure 0-19 shows the expanded WebFacing project tree view

Tip: If you later need to add source members to the WebFacing project, right mouse click on the *DDS* or *UIM help* icon and select the Add menu option from the popup menu, this will launch the WebFacing wizard and display the correct dialog.

You are now ready to convert and run your application.

Analysis

You completed Exercise: **Creating a WebFacing Project**.
Here is what you did:

•   First you started Development Studio Client.

•   Next you launched the WebFacing project wizard.

- You then completed the pages of this wizard in order to create a new WebFacing project called *wflabxx*.
- You added to this WebFacing project the following information:

    o Which DDS display file source members to use for the WebFacing conversion

    o Which UIM panel group source me mbers to convert

    o The CL command which will be used to create the initial index.html page to start the *Order Entry* application,

    o The Web style to be used for the resulting web pages

- You inspected the WebFacing project, to verify that all information entered in the WebFacing project wizard has been captured

    You are ready to move on. Next you will convert and run your application.

4

CONVERTING SELECTED SOURCE MEMBERS

The conversion creates the JSP files, XML files for record format layouts, and several other files needed for the Web application you are creating using the IBM WebFacing Tool.

The Goal of the Exercise

The goal of this exercise is to practice the conversion of a WebFacing project in this case project *wflabxx* you created in the previous exercise (Exercise: Creating a WebFacing Tool Project). In the previous exercise you specified the complete information the WebFacing tool needs to successfully convert your application, now you'll do the conversion itself.

On the WebFacing Project icon you will select the convert option, to start the conversion, and you'll work with the conversion logs to check the results of the WebFacing conversion.

At the end of this exercise, you should be able to:

- Use the WebFacing Tool to select certain source members for conversion

- Use the WebFacing Tool to start the conversion process

- Analyze the conversion logs

Scenario

You have created a WebFacing project in the Development Studio Client, 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 exercise 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.

Converting iSeries source members to Web files

You will use Development Studio Client 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.

Selecting the project and source members

If the *WebFacing perspective* with your project is not visible you need to:

- Open the *WebFacing perspective*.

Tip: Check the side bar 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. 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 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.

The picture as shown in Figure 0-1, depicts the icons on the sidebar of the workbench. In the picture the remote explorer perspective is active. The workbench window title bar shows this fact.

.
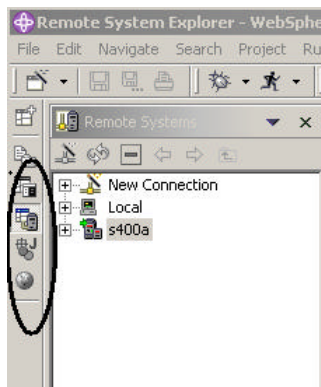
Figure 0-1: Open perspectives on workbench sidebar

In Figure 0-1 I show the workbench with four perspectives open:

1. The WebFacing perspective

2. The Remote System Explorer perspective

3. The Java perspective

4. The Web perspective

To switch to the WebFacing perspective, which is already open, select its icon from the sidebar

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

To start with the conversion, in the WebFacing perspective:

- Select the WebFacing project you have been working on in the previous exercise, *wflabxx*.
- Expand this project by clicking the plus sign (+) beside its icon in the *WebFacing projects* tree view. You should see a DDS folder in the expanded tree.

If you don't see a *DDS* folder, you might be in the *Navigator* view and not in the WebFacing project view.
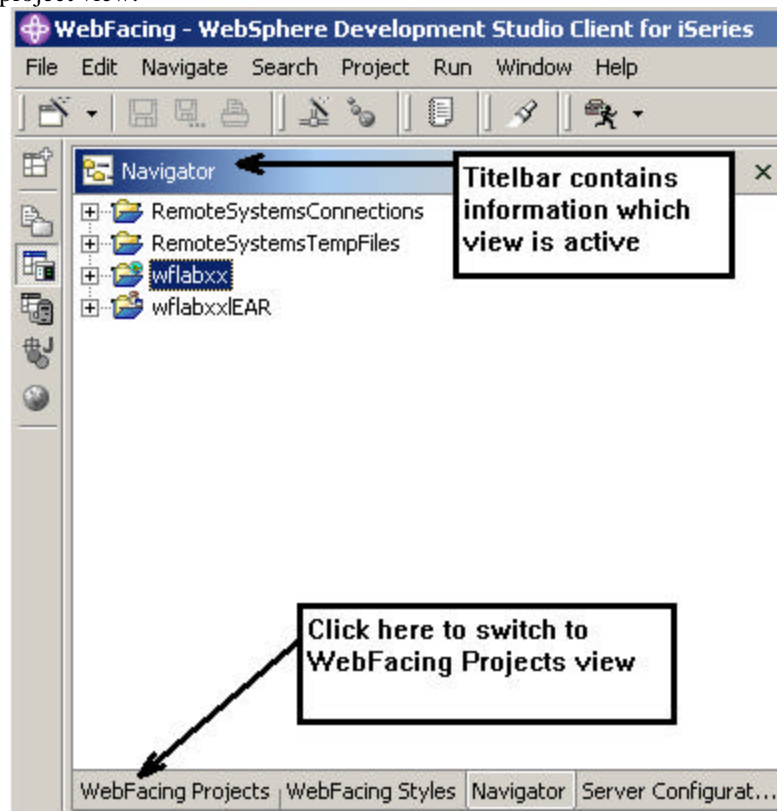
Figure 0-2: Navigator view is active

    i   Check that the view title bar is not *WebFacing projects*

    ii   Locate the *WebFacing Projects* tab at the bottom of the list pane, and click it.

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

- Expand the DDS folder, so that you can see all three of the members that you selected in **chapter 3: Creating a WebFacing Tool Project** as shown in Figure 0-3.

Starting the WebFacing conversion

From here you can select individual members to convert or a collection of members.
When you later in this book 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 *Panel group* members**.**

- Right-click the *wflabxx* project icon.
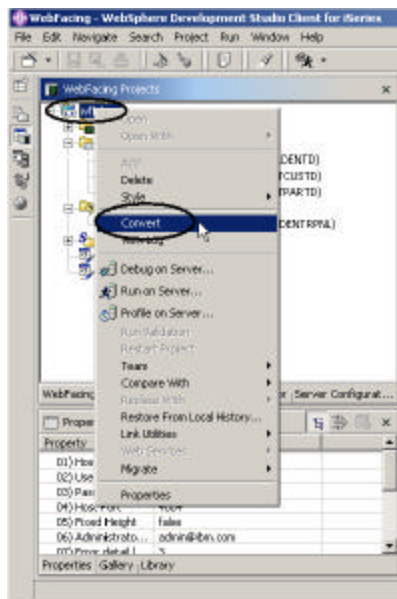
Figure 0-3 WebFacing project ready to convert

- Select *Convert* from the pop-up menu.

  The conversion process starts. This will take some time, be patient.

  You will see a progress dialog, indicating what members are being converted, as shown in Figure 0-4

Figure 0-4 Conversion Progress dialog box

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

Analyzing the conversion logs

Notice the conversion log in the right pane as shown in Figure 0-5:
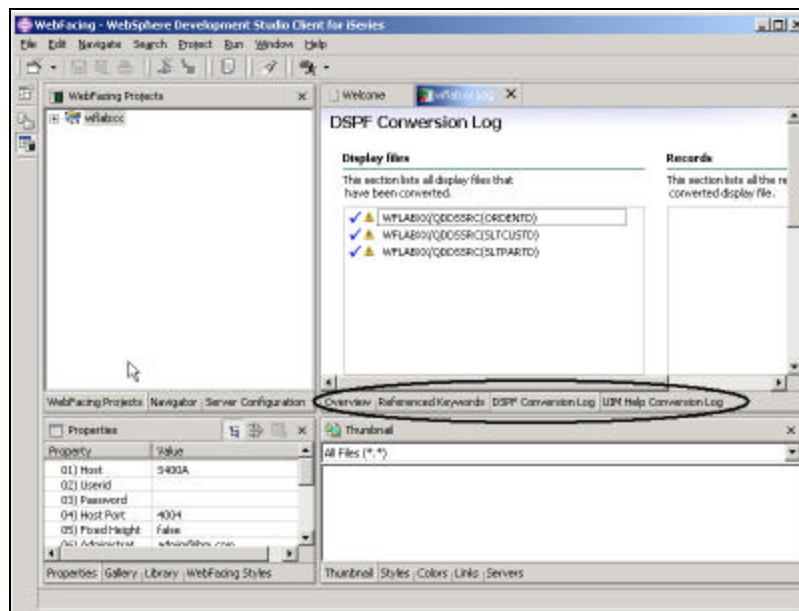
Figure 0-5 Conversion Log

Checking the conversion log.

At the bottom of the log are the following tabs:
- Overview
- Referenced Keywords
- DSPF Conversion Log
- UIM Help Conversion Log

Click each tab to see more details about the conversion. You have now converted the DDS display file and panel group source.

Analysis

You did it, the *DDS* source and *panel group* source is now available in a form a browser understands. The first important step to move you 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 completed the exercise: CONVERTING SELECTED SOURCE MEMBERS
Here is what you did:
- You selected the WebFacing project to convert, all DDS source members and all panel group source members that are part of this WebFacing project.
- You started the WebFacing conversion process.
- You analyzed the conversion logs to ensure no errors have occurred during conversion.

You are ready to move on. Next you will run your application with its new user interface. Proceed to the exercise: Running the Web-enabled application.

5

RUNNING THE WEB-ENABLED APPLICATION

Introduction

You are ready to test the WebFaced application. You normally would now have to copy all the files of your web project to a WebSphere Application Server (WAS) environment and then run your application there. Luckily there is a WebSphere Application Server imbedded in WebSphere Development Studio Client it is called the WAS test environment. Using the test environment makes the process of testing your WebFaced application a lot easier than testing in a remote WAS environment. Later on for your production environment you would copy all files needed to your production application server and I'll tell you later on how to go thru this process for the various versions of WAS. In your real application development environment, you would test thoroughly in the test environment; then export the WebFacing project files to a remote WAS for final testing, before moving the Web-enabled application to your production WAS environment.
Later exercises in this book show you the steps required to deploy to a remote WebSphere Application Server environment. Until you are sure your WebFaced application is ready for public use, you can use the test environment on your workstation, which simplifies testing tremendously.

The Goal of the Exercise

The goal in this chapter is to practice testing your Web-enabled application in the WAS test environment. You will specify in the WebFacing perspective that you want to run your project in the Development Studio Client test environment. From the initial Web page, you will select the link created by the WebFacing Tool to invoke the WebFaced *Order Entry* application.

At the end of this exercise, you should be able to:

1. Setup the WebSphere Application Server test environment

2. Run the Web application in the WebSphere Application Server test environment

3. Select the link on the invocation Web page to invoke the RPG application
4. Step through the Web-enabled application using the HTML-based user interface

Scenario

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 WAS 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 WAS test environment. The index.html 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 thru the same scenarios as in chapter two when you went thru the green screen panels of the *Order Entry* application but now you are using the new WebFaced user interface.

Showing the index.html page

Follow these steps to show the index.html page for your web-enabled application.

- Select your WebFacing project icon in the WebFacing perspective.

- Right-click the *wflabxx* project folder.

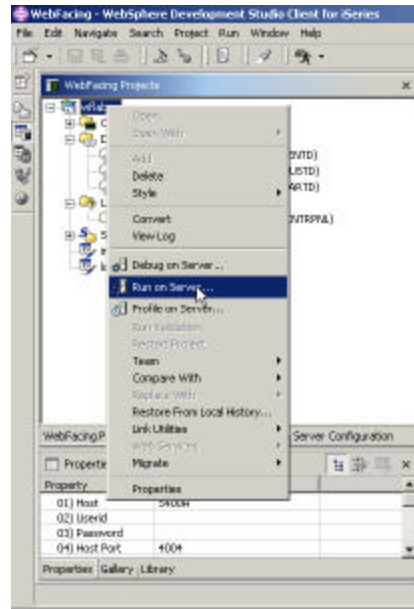*Figure 0-1: Pop up menu for WebFacing project icon with run on server selected*

- Select *Run on server* from the pop-up menu.

A server selection dialog comes up as shown in Figure 0-2
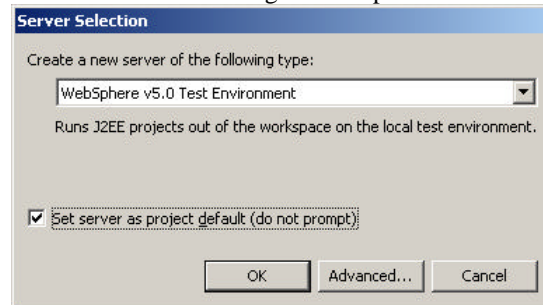

Figure 0-2: Server selection dialog

To avoid having this dialog come up every time you select run on server,

- Select the check box *Set server as project default (do not prompt)*
- Click on the *OK* push button

The WAS test environment gets started now, after a few moments the browser opens in the right pane of the workbench. Be patient; it takes time for the application server to start on your workstation. The minimum memory requirement for running the WAS test environment is 768 MB according to the IBM announcement letter for Development Studio Client Version 5. I have been running 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.html page that has been generated by the IBM WebFacing Tool coming up in the workbench's build-in browser.

Note: Version 4 users: You will also notice the active perspective is now the Server perspective.

Figure 0-3 shows the browser inside the workbench with the index.html page being displayed.
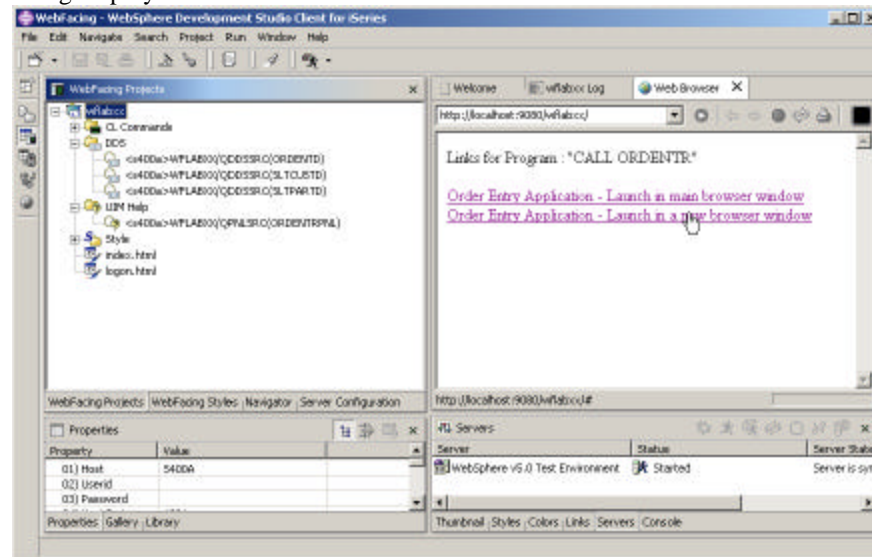

Figure 0-3: Browser with index page

Tip: To enlarge the browser window to the size of the workbench window, double click on the browser title bar. To get it back to its original size in the upper

right hand workbench view area, double click on the enlarged browser window t itle bar.

Setting up the Test Environment for WAS version 4

You have a choice of running WAS version 4 or version 5 in the workbench test environment. If you have followed my instruction and use Development Studio Client Version 5, you are using WAS Version 5 and the next sentence applies to you

If you are using WAS Version 5 you can skip this topic and move on to heading: Running the Web application.

If you have selected to use WAS Version 4, or are working with Development Studio Client Version 4, you will need to follow the steps under this topic to setup WAS correctly

Before you can use the WAS Version 4 test environment for your WebFaced application you will need to change the default application server settings. The WebFacing applications have been generated with support for UTF-8. UTF-8 is a Unicode encoding that is used in WebFaced to be able to support green screens containing characters from any n ational language in the world. WAS version 4 is not using UTF-8 encoding by default; it has to be enabled for UTF-8 by changing its properties. The WAS property changes are performed by using the WAS administration console. This setup has to be done once for the server instance. In WAS Version 5 the encoding can be specified as a parameter value to in form the server what encoding is being used, for this reason you don't have to specify the UTF-8 encoding when working with WAS version 5.

If you are using WAS version 4 or version 3.5.6 on your remote server you will have to set up your remote WAS environment as well. The WebFacing help describes the steps for these environments in detail, so I will not go thru the remote server WAS setup in this book.

If you are working with WAS version 4

- Switch to the *Navigator* view by clicking on the Navigator tab in the WebFacing Projects view
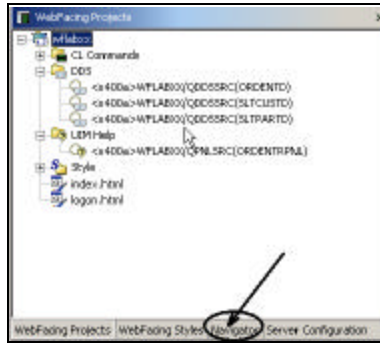
Figure 0-4: WebFacing Projects view with Navigator tab highlighted

- Expand the *Servers* folder in the *Navigator view*, as shown in: Figure 0-5
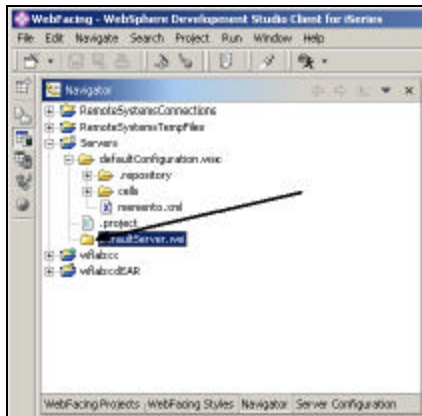
Figure 0-5 Expanding the Servers folder

- Double click on the *defaultServer.wsi* file

Note: For Development Studio Client Version 4 users, this file has the name
        defaultInstance.wsi in your environment

The WebSphere 4.0 Test Environment properties dialog is displayed, as
shown in Figure 0-6

Figure 0-6 The WebSphere version 4 properties dialog

- Click the *Environment* tab, the arrow in Figure 0-6 points to the tab.
  The Environment properties page will show as shown in Figure 0-7
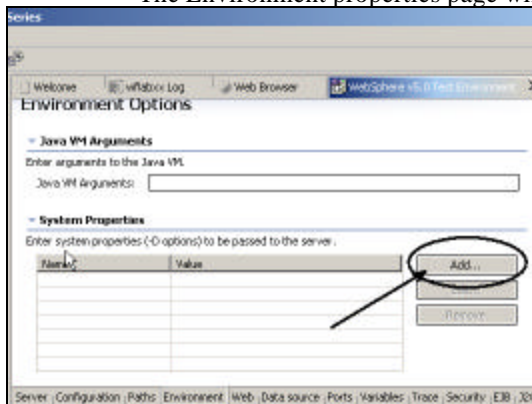
Figure 0-7: The environment properties page

- Click the *Add...* push button
  In the *Add System Property* dialog that appears, as shown in Figure 0-8
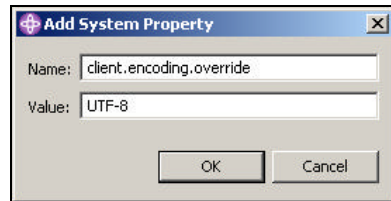
Figure 0-8 Add system properties dialog

- Enter `client.encoding.override` in the *Name* entry field
- Enter *UTF-8* in the *Value* entry field
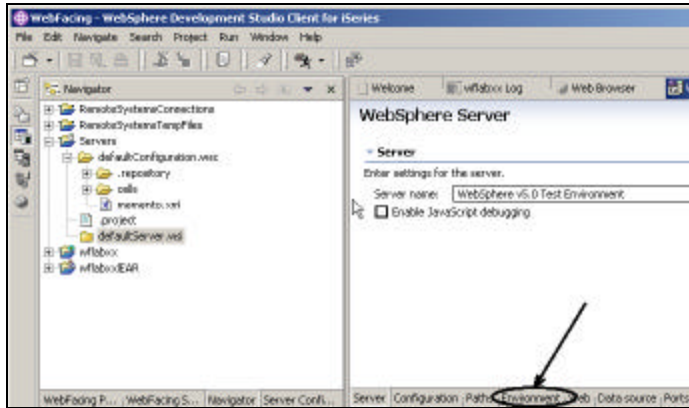
Tip: Make sure that you use the exact spelling and that upper and lower case
     characters are used exactly as shown. Using different case will cause
     problems later when you run the application.

- Click the *OK* push button

Back in the workbench
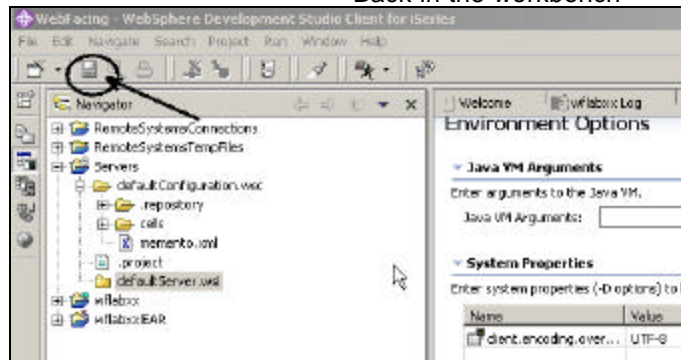
Figure 0-9: Saving the changes

- Select the *Save icon* on the toolbar or use the *File→ Save* option on the menu
  bar to save the changes.

In Development Studio Client version 5

- Click on the *Applications* tab
- Select *Module* in the *WAR classloader* policy combination box, as shown in
  figure 5-10

Figure 0-10: Changing the classloader policy to MODULE

- Save this setting by clicking on the *Save icon* on the toolbar or select the *File* →
  Save option from the workbench menu bar.

  ## In Development Studio Client version 4

- Expand the *defaultConfiguration.wsc* folder in the Navigator view under the
  Servers folder.
- Double click on the *server-cfg.xml* file.

  In the dialog that is coming up, as shown in Figure 0-11
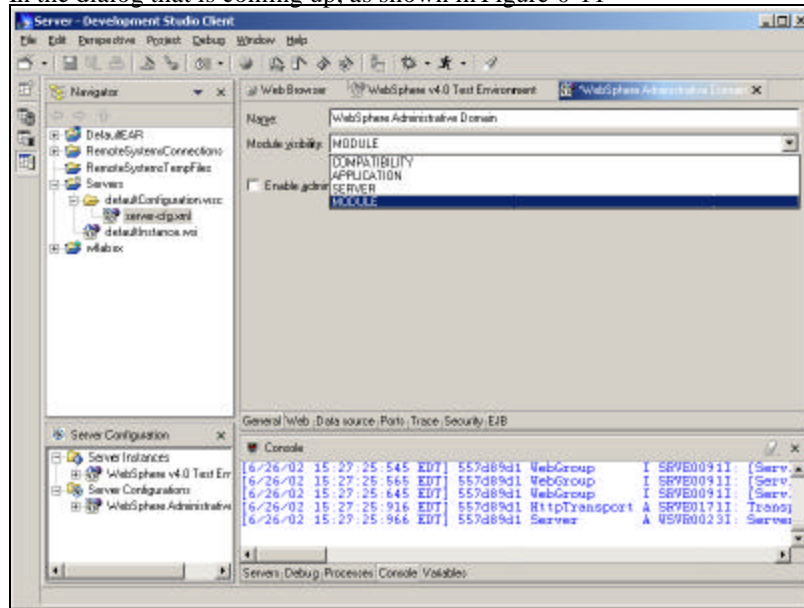
Figure 0-11 Module visibility

- Click on *the down arrow button* in *the Module visibility* combo box
- Select *Module* from the select list in the combo box
- Save this setting by clicking on the *Save icon* on the toolbar or select the *File* →
  Save option from the workbench menu bar.

Continuing for both Development Studio Client Version 4 and 5

Close the editor windows and browser windows that have been opened in the workbench. It is important to close the browser window so cached information is discarded.
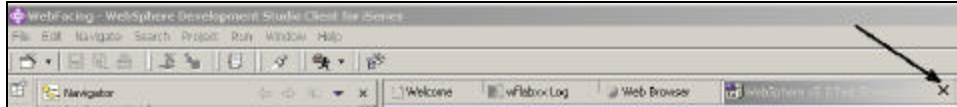
Figure 0-12 Closing the editor dialogs

- Clicking on the *X push buttons* on the editors Windows Title bar, as shown in Figure 0-12.

  The application server is setup. To apply these changes to the server setting, you need to restart the application server.

  At the bottom of the workbench on the right side:

-

Figure 0-13: The Servers page and the pop up menu for a server instance

- Click on the *Servers* tab as indicated by the arrow in the Figure 0-13
- Right mouse click on the *Server instance* in the Servers list as shown in Figure 0-14

-
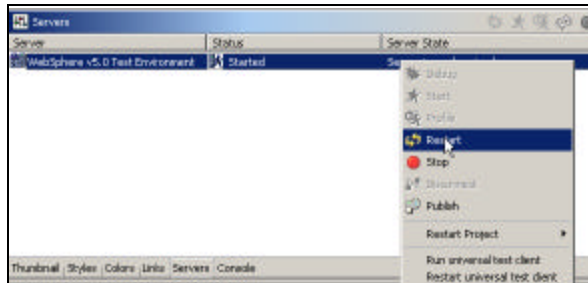
Figure 0-14: Popup menu for application server
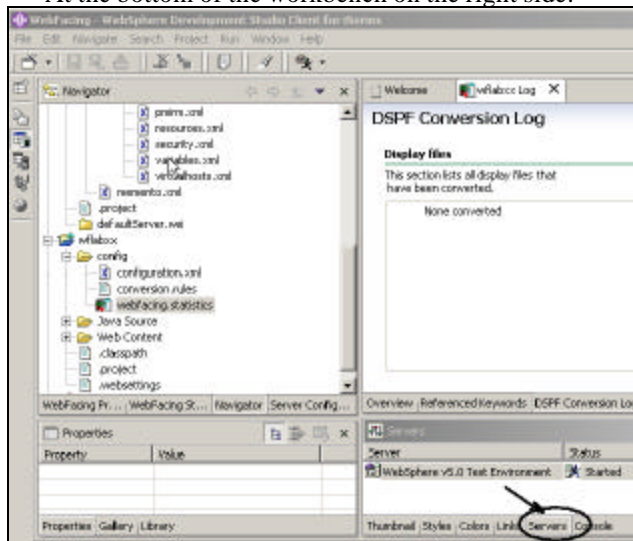
- Select *Restart* from the pop up menu

    After the Console view displays a message that the server is *open for e-business* you can go back to the WebFacing perspective to the browser view in the workbench.

Running the Web application

In the browser window as shown in Figure 0-3 you will see two links for the *Order Entry* application because the IBM WebFacing Tool creates two links automatically.

1. The top link will invoke a complete browser window with all the toolbars and buttons available.

2. The second link starts a new browser session for the application. This new browser session displays just the window frame, but none of the browser menus or toolbars are visible. This second link was added because many WebFacing users felt the normal browser window could overwhelm some end users and offer too many capabilities like the *Back* button on the toolbar.

- In your browser pane, click the top *Order Entry Application* link.

Tip: For Development Studio Client Version 4 users, you have to click twice on the link. The first click will give the browser focus; the second click will actually send the click event.

After a few moments the first application page will appear in the browser, as shown in Figure 0-15.
 If you find the response time a bit slow, keep in mind that the first time the JSP file is requested, it has to be compiled into a servlet at first touch. 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 I want you to go thru the same steps as in chapter 2: Reviewing our 5250 application, to review the results of the WebFacing conversion. This
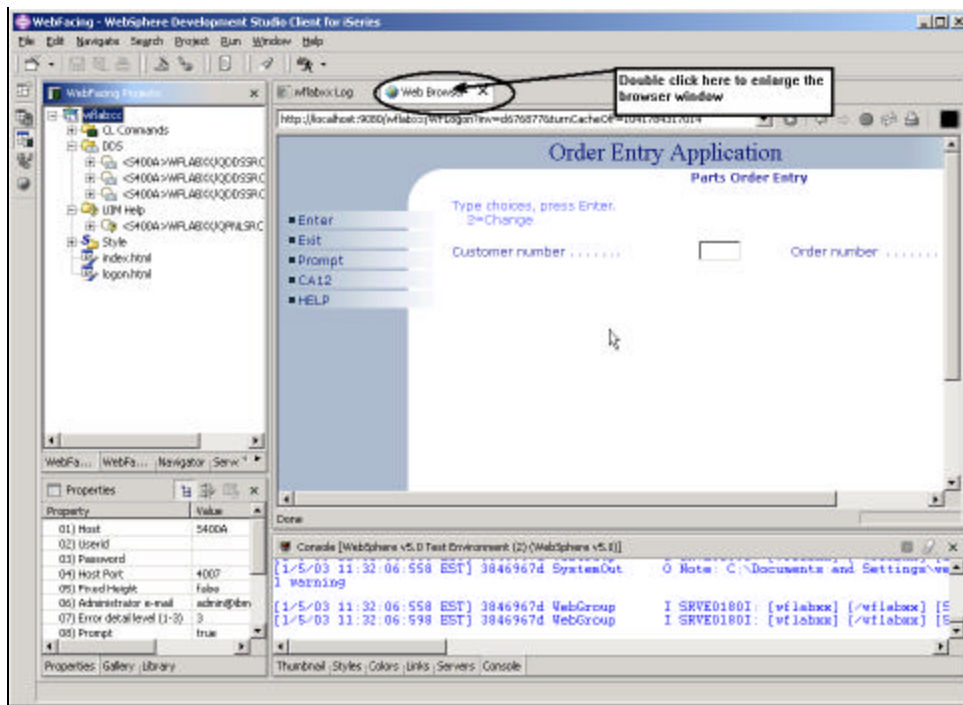
Figure 0-15 First application page in browser window

will give you a sense how the default conversion will change your original application. You will then have a chance to improve the conversion results. The one area that you can't test in the built in browser, is the Help support, you will have to start the application from an external browser, I will show you how to do this at the end of this chapter. If you press the F1 key in the internal browser you will get an error message as shown in Figure 0-16 .
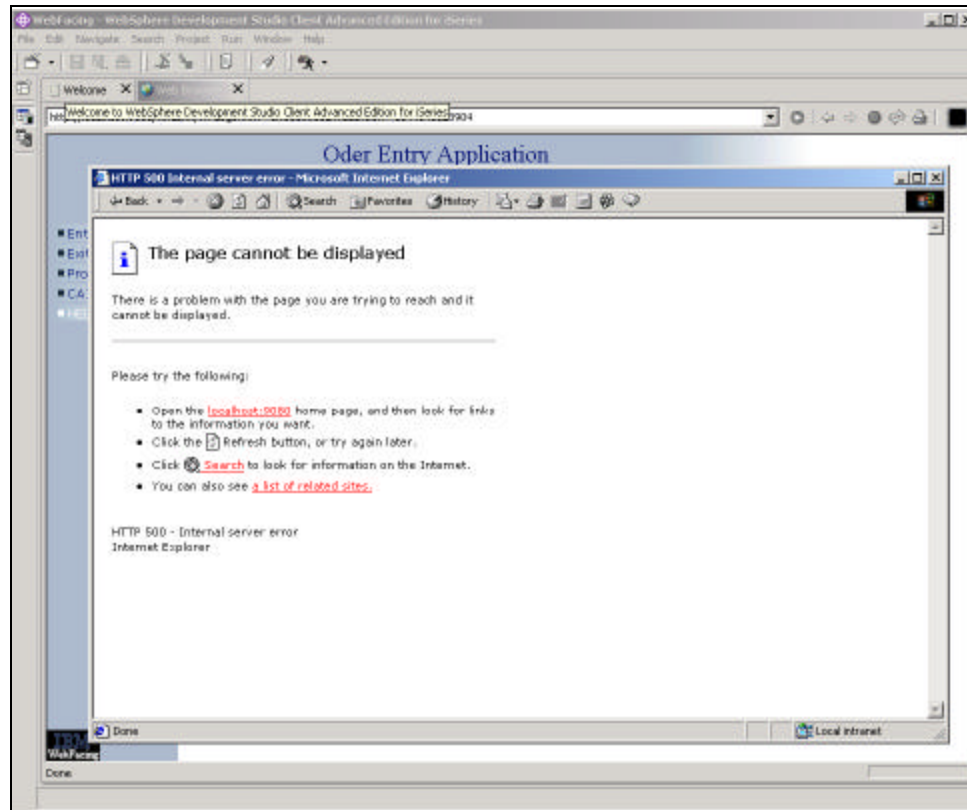
Figure 0-16: Help panel error message in built in workbench browser

- Click the *Prompt* push button, or press *command key four,* to get the selection list window.
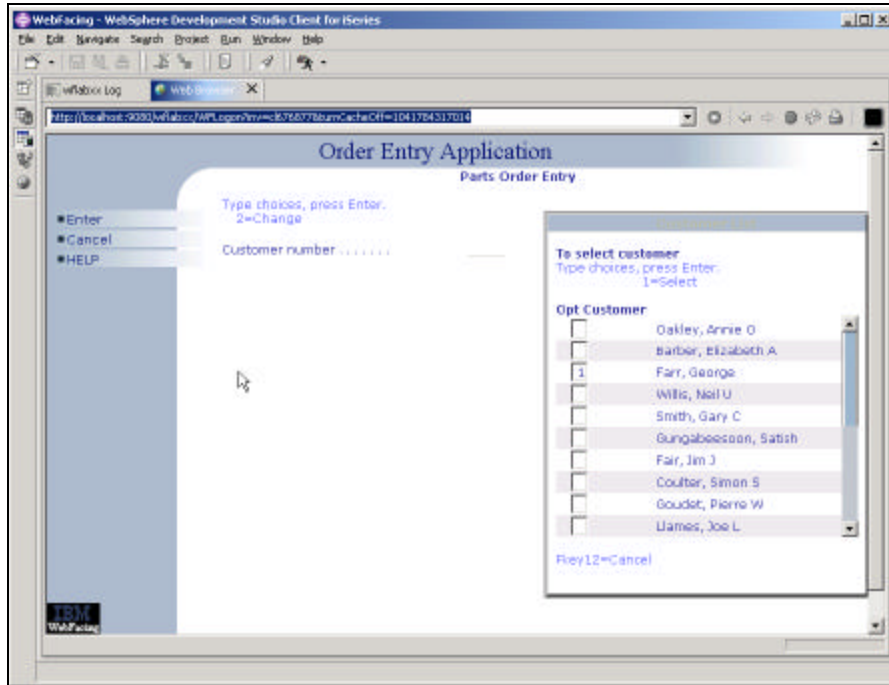
Figure 0-17: Customer selection list

- Select a *customer* from the subfile.

●
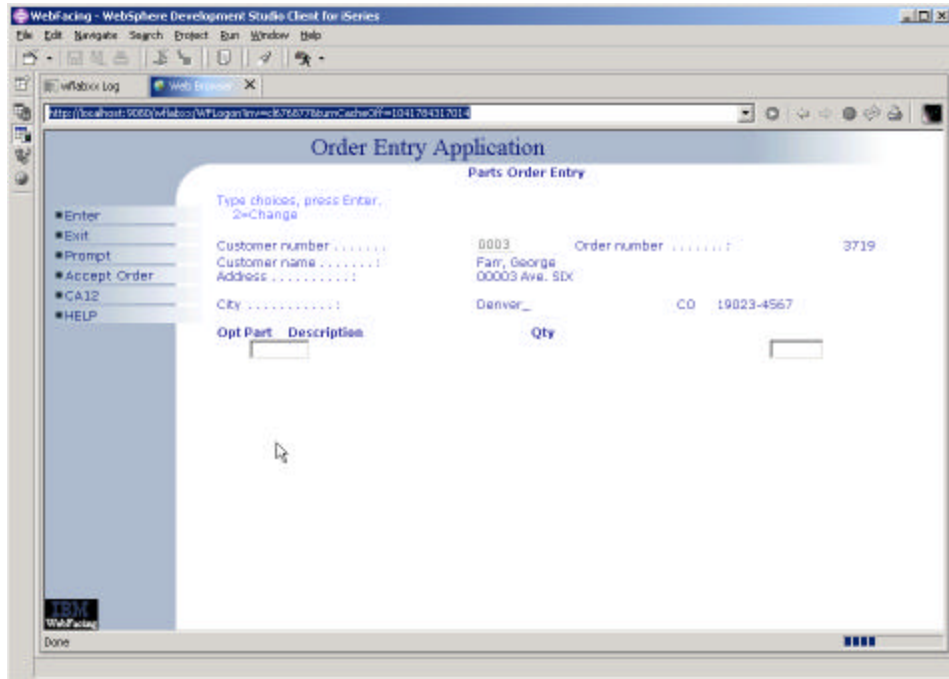
Figure 0-18: Order entry screen with customer details

Back on the *Order Entry* screen

● Click the *Prompt* push button, or press *command key four* to display the parts selection list

-
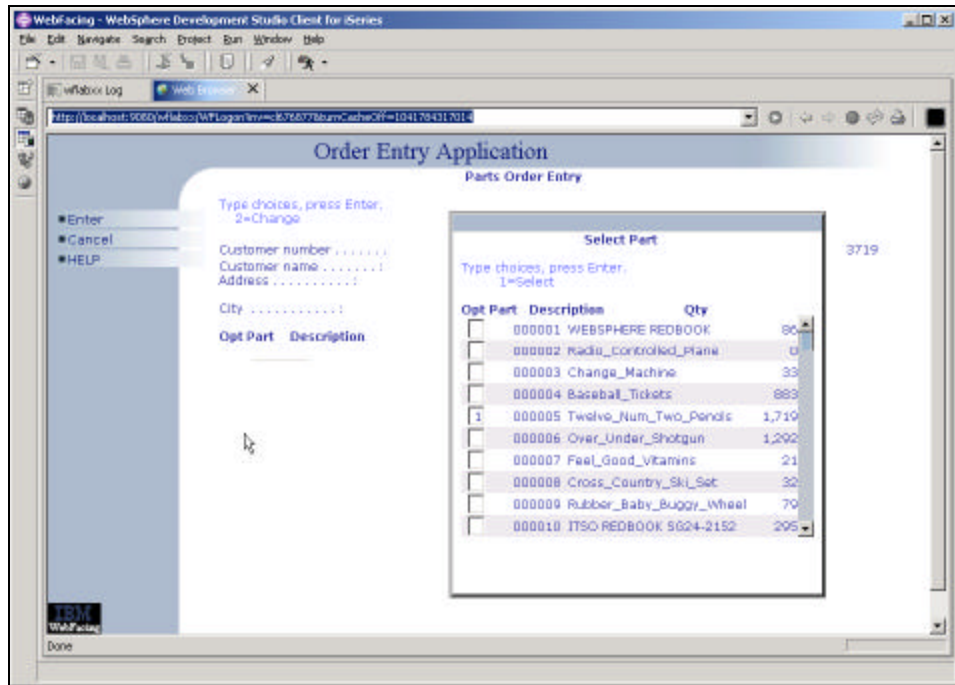
Figure 0-19: Parts selection list

- Select a *part*

- Press the *Enter* key

    Back on the *Order Entry* screen
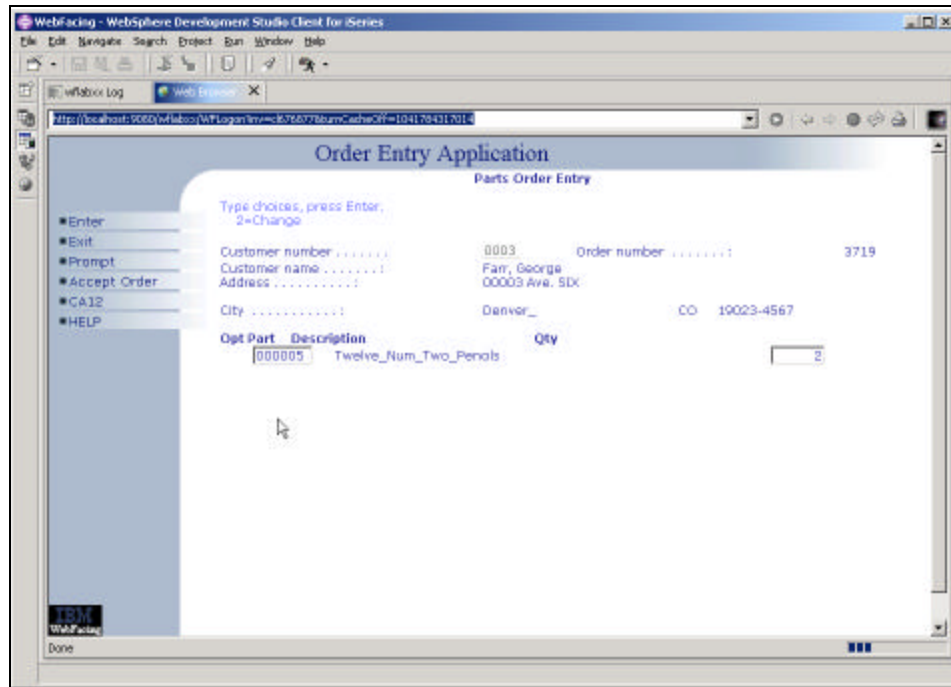
Figure 0-20: Order entry screen with quantity specified

- Enter a *quantity*
- Press the *Enter* key

Continue ordering one or two more parts

Press *command key F6* to accept the order

The application works the same way as before in a 5250 environment it just got a browser user interface.

Testing the help support

As I mentioned before, the help support will only work when you run the application in an outside browser. Start Internet Explorer on your desktop and key in the following URL:

http://localhost:9080/wflabxx/

You could also copy it from the internal browser URL field and paste it in here.

Internet Explorer will show the index.html page as shown in
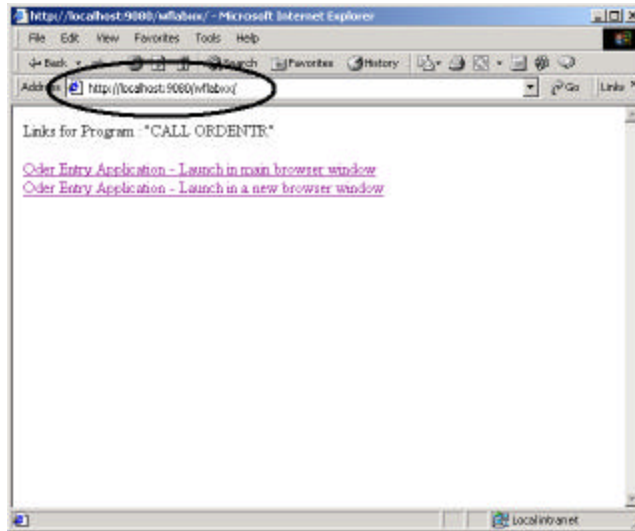
Figure 0-21: Internet Explorer with index.html page for wflabxx

- Click the first link on this page

  The application will come up in the browser, to get help:
- Press the *F1* key

Another browser window comes up with the help information as shown as in figure
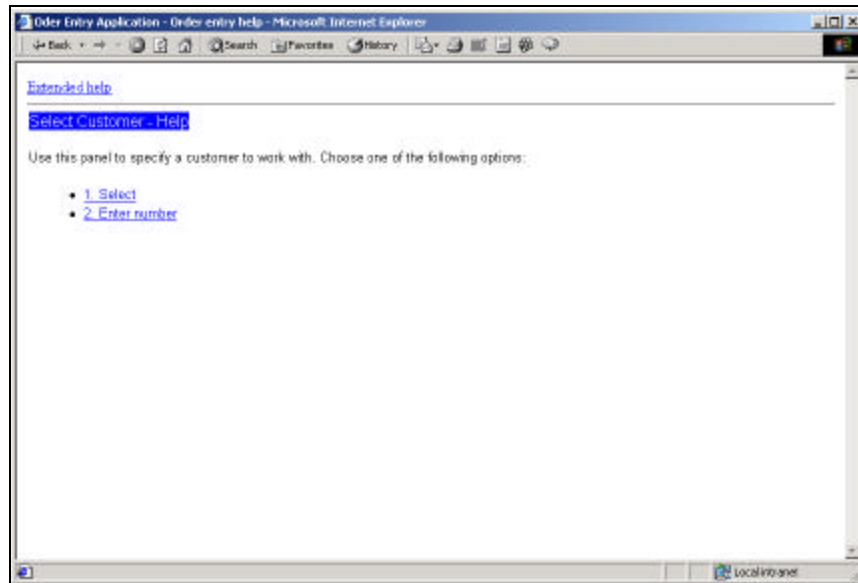
Figure 0-22: Help panel in browser

Now try the links:

1. Select

2. Enter number
3. Extended help

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

Analysis

You have completed Exercise: Running the Web-enabled application.
Here is what you did: First you set up the WAS Test Environment. Then you
started the application in the WAS Test Environment. Next you selected a link
on the index.html page to start the Web-enabled application. Finally, you
used the Web-enabled application as you did in Exercise: Reviewing our
5250 application.
You are ready to move on. Next you will improve the look of your
application. In the next exercise I will guide you through some customization

steps to enhance the pages of your Web-enabled application. Proceed to the next exercise: Changing the User Interface.

6

Changing the user interface

Introduction

To enhance the results of the WebFacing Tool, IBM has added a new function to the CODE Designer tool, called Web Settings. 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.

Tip: You cannot use Screen Design Aid SDA on DDS source members that have Web Settings applied. This restriction had to be imposed because SDA will change the location of comment lines or delete comment lines, which would invalidate the WebFacing Web Settings

---

The Goal of the Exercise

The goal of this exercise is to practice changing the user interface of your Web-enabled application with CODE Designer. In the WebFacing perspective you will 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.

At the end of this exercise, you should be able to:

- Access DDS source from within the WebFacing perspective using CODE Designer
- Change the web user interface with Web settings
- Reconvert the changed DDS display file source member

Scenario

You want to improve the user interface that got generated by the WebFacing tool. In particular, you want to improve the customer selection subfile. At the moment the web user interface for selecting a record from this subfile does not have the web behavior you would like it to have. It requires to key in a 1 into the options column to select a record, this mimics exactly how the green screen has worked in the past. You would like it to behave more like a web user interface where you select by clicking on a link.

I will guide you thru using 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 the end user clicks on this new customer name link, magic will happen and 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. It will exactly get the same information after you changed the user interface. The WebFacing conversion will add logic to the user interface, so that the *options* field gets 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.

Lets start and see what Web Settings in CODE Designer can do for you.

Accessing DDS display file source

Since you will use the WebFacing perspective to invoke CODE designer you start this exercise using Development Studio Client in the WebFacing perspective.

- Start WebSphere Development Studio Client and open the WebFacing perspective, if it is not up and running already.

    In the WebFacing perspective, make sure that you are in the *WebFacing Projects* view and not the *Navigator* view.

- Expand your project in the tree view by clicking on the plus sign (+) beside the WebFacing project icon.

-
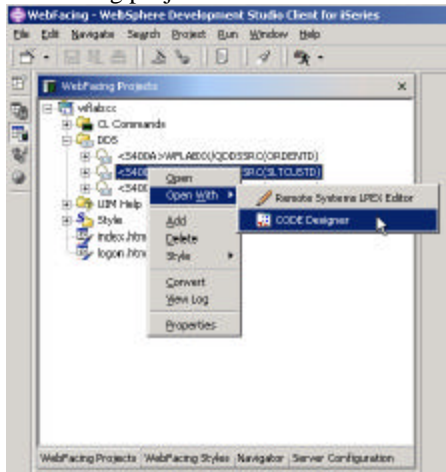
Figure 0-1:Pop up menu for DDS source member

Start CODE Designer with the following steps:

- Expand the *DDS* folder.
- Right-click the *SLTCUSTD* source member inside the DDS folder.
- Select *Open With >CODE Designer* from the pop-up menu.

Figure 0-1 shows the menu structure

CODE Designer loads the DDS member.

This takes a moment.

The DDS member loaded in CODE Designer opens:
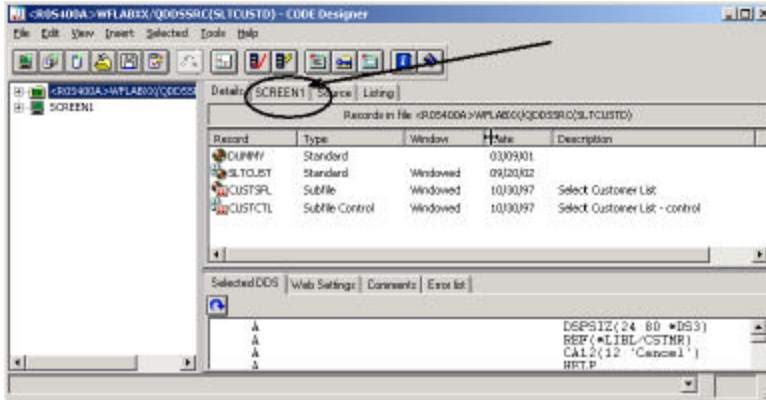
Figure 0-2 CODE Designer select group Screen1

- Select the *SCREEN1* tab on the notebook.

     The arrow in Figure 0-2, points to the tab.

     You should now see a dialog similar to Figure 0-3
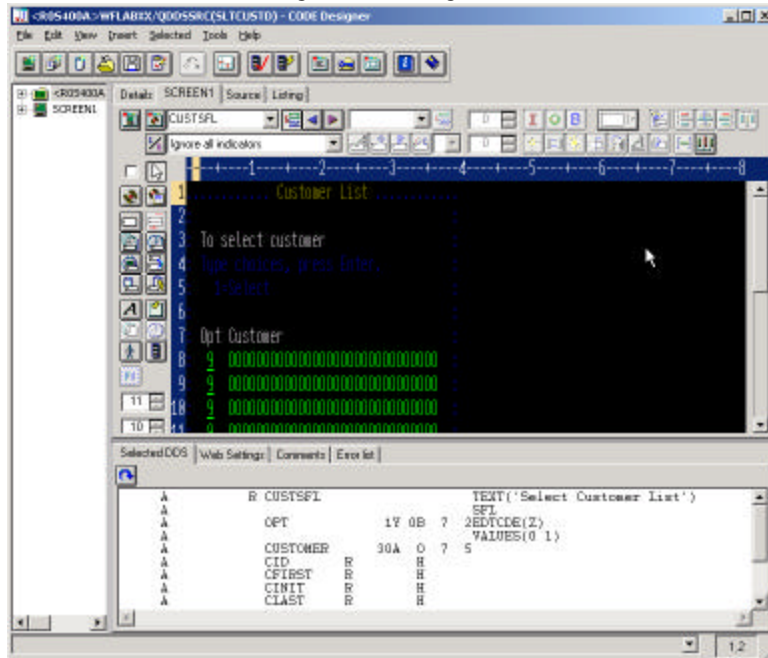
Figure 0-3 CODE Designer

As you see, you are working with the green screen image in CODE Designer. Do you recognize the screen? It is the customer selection list. This is the screen I want you to change, so it will appear more web-like to the end user after it has been WebFaced.

- Click the second column of the first row in the subfile (*the customer name* field) as shown in Figure 0-4
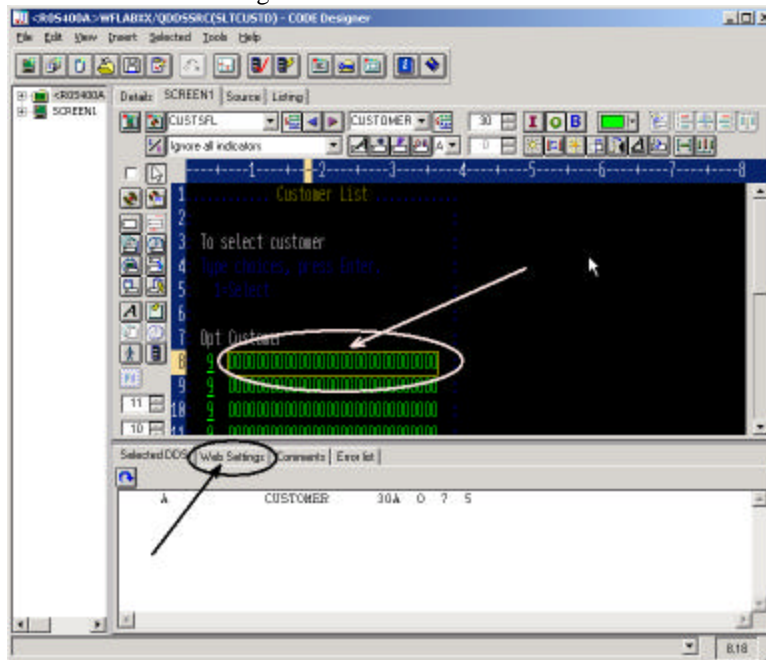
Figure 0-4 Selecting the subfile second column

Applying Web settings

Now work with the Notebook underneath the design window, locate the Web Settings tab as shown in Figure 0-4

- Select the *Web Settings* tab by clicking on it.
  The Web Settings page in the CODE Designer window should look similar to **Error! Reference source not found.**
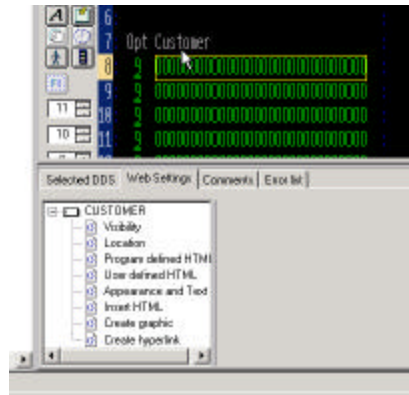
Figure 0-5 Create hyperlink page

- On the Web Settings page, locate the list that shows the different Web settings
  available for the customer field,
     If not all Web Settings show.
- Scroll down to the bottom of the list, and select *Create hyperlink* .
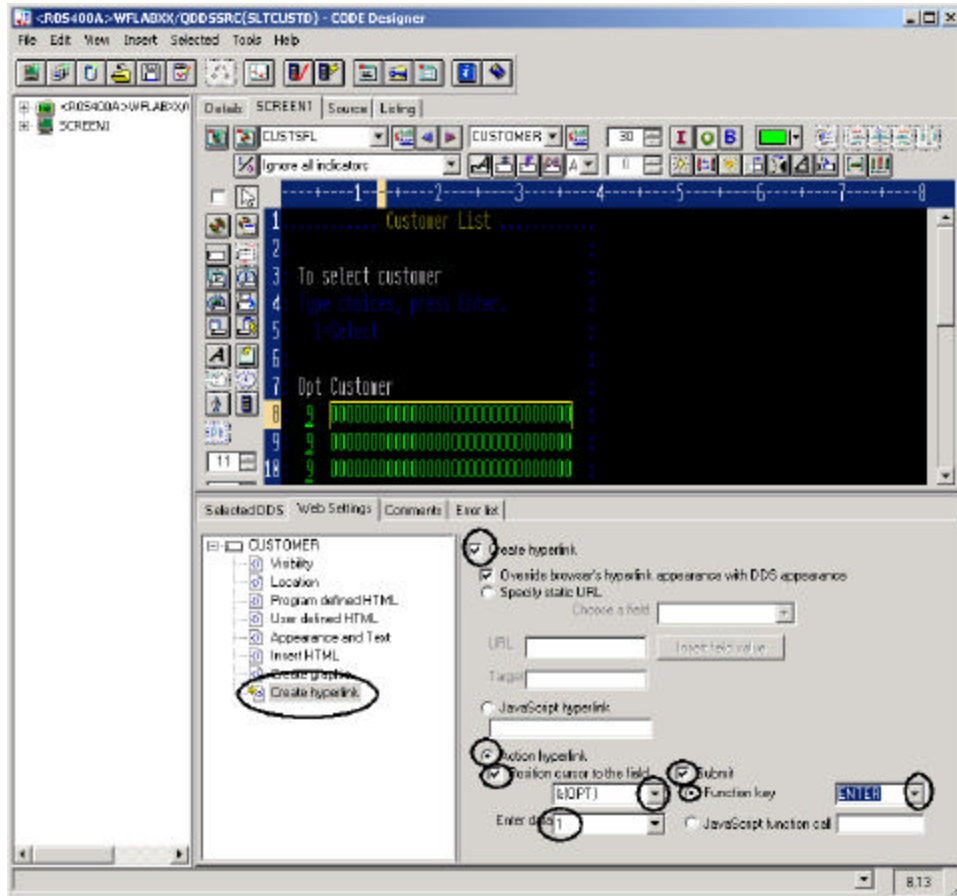
Figure 0-6: Web Settings for Hyperlink

- Check the *Create hyperlink* check box to the right of the list.
- Select the *Action hyperlink* radio button
- Select the *Position cursor to Field* check box
- From the Combination box underneath, select the *&{OPT}* value
- In the *Enter data* combination box, enter 1
  This indicates that you want a one to be entered in the options field when the hyperlink is clicked on.
- Select the *Submit* check box.

- Select the *Function key* radio button
- Select *Enter* from the *Function key* combination box.

  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.

  The basic task I wanted you to accomplish is done, 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 how to select a customer are wrong. I want you to fix this with Web Settings as well before you test this new feature

Hiding the Option column

  On the design pane, you now need to select the option field to indicate that you want to work with it.

- Click the *Opt* column on the first record in the subfile to select it.
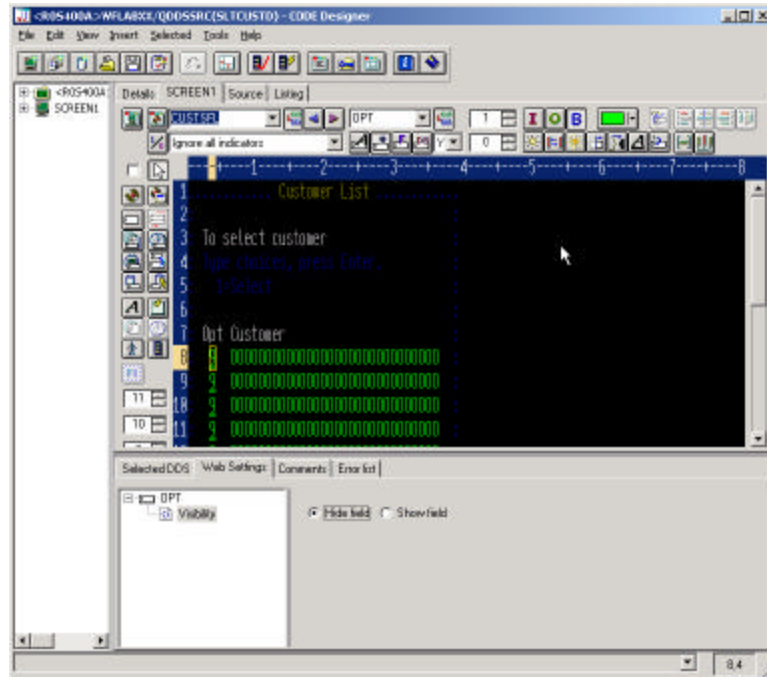
Figure 0-7 Web Settings visibility page

On the Web Settings page,
- Click *Visibility* in the Web Settings list box.
- Select the *Hide field* radio button.
  Now this column in the subfile will be hidden.

Hiding the Option heading

You need to hide the heading for the option 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 screen.
You might think what is he talking about, this looks like one record format and how did I get two record formats into 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, I have already assembled three record formats into group *SCREEN1*. The record formats:

- CUSTSFL

- CUSTCTL
- SLTCUST

To get a list of record formats belonging to a group you can expand the combo box on top of the design window as shown in Figure 0-8
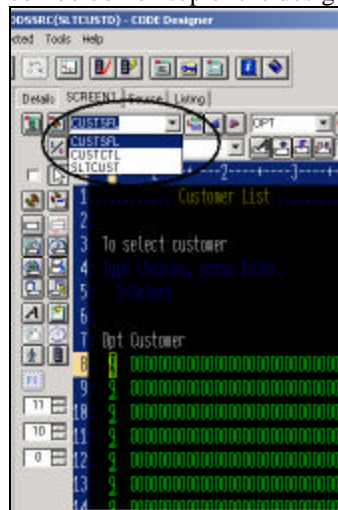
Figure 0-8: Group SCREEN 1 and list of record formats

Only one record format in a group is active at a time. The record format name is listed in the top field of the combo box. Also in the design window all parts in the active record format are shown in regular density but the inactive record format content is dimmed. You see this effect very clear in Figure 0-8
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 shift focus to another record format:

- At the top of the design pane, click the *arrow*, as shown in Figure 0-9
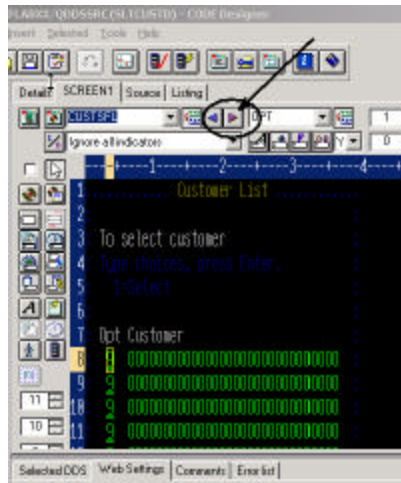
Figure 0-9 CODE Designer switching record formats in a group

You will notice that the top area of the design window is now highlighted, and the bottom one has only half intensity. As mentioned before the highlighted area is the one you can work with. Figure 0-10 shows the subfile control record being in focus. Follow the next steps to clean up the subfile control record format.
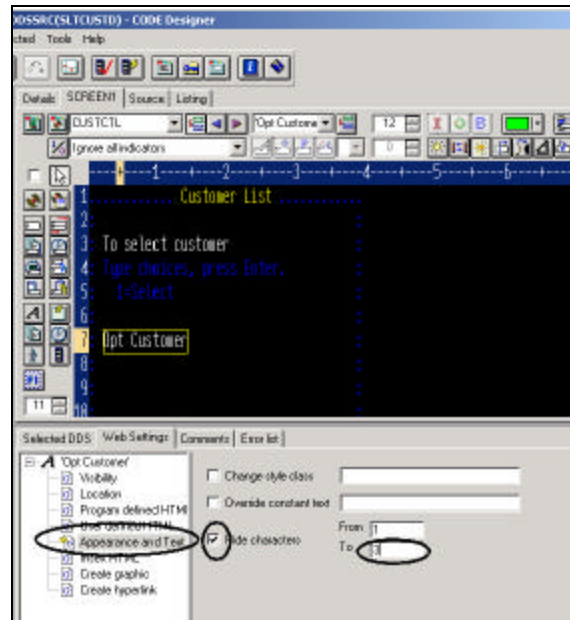
Figure 0-10: Subfile control record format in focus

- On the design pane, select the *OPT Customer* constant.
- On the Web Settings page, select *Appearance and Text* from the list box.
- Select the *Hide characters* check box.
- Specify *1* in the *From* field.
- Specify *3* in the *To* field.

    This hides the heading *Opt*, now you need to get rid of the instructions on the panel that guide the user to put a 1 into the *option* 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 ORDCTL record format.
    On the design page in CODE Designer:

- Select the constant *1=Select* in the design area.
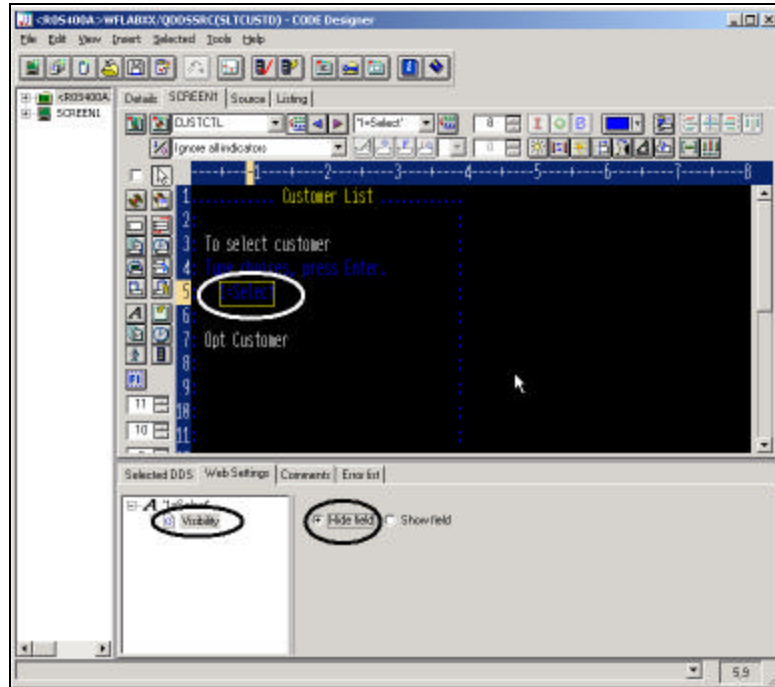
Figure 0-11: Use Visibility Web Setting to hide constant

On the Web Settings page:
- Select *Visibility* from the list box.
- Select the *Hide* field radio button.

Changing the instruction (Type choice press Enter)

Now you need to add new instructions for the WebFaced page, so the end user knows he/she has to click the link to select a customer. 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. Change the instruction text with the following steps:

- Select the instruction constant *(Type choices press Enter)* on the design page, as shown in Figure 0-12
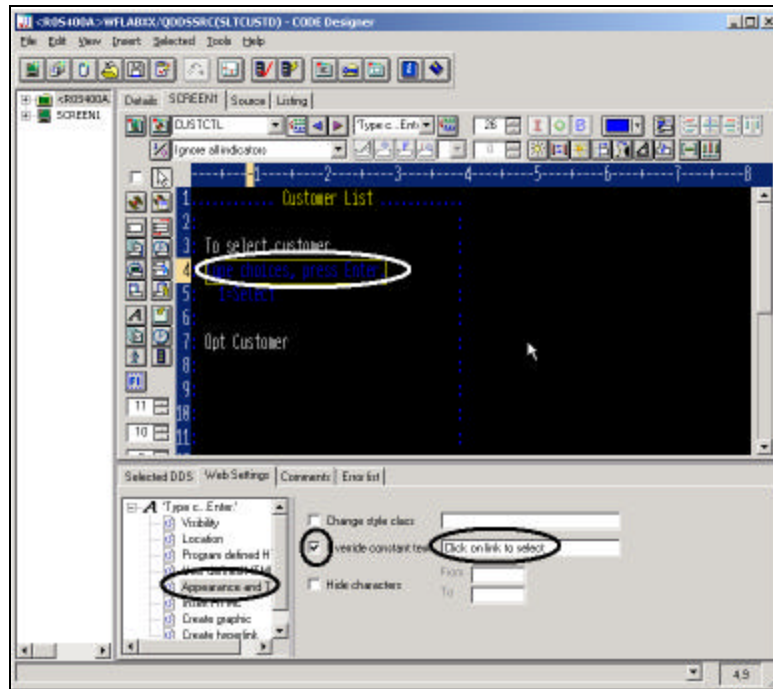
Figure 0-12 Changing the instructions with Web Settings

> Then on the Web Settings page,
> a.   Select *Appearance and Text* from the list box,
> b.   Select the *Override constant text* check box, and type the new text in
>   the field to the right of the check box: *Click on link to select*
> 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 re-converting the DDS member

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

- Specify *Yes* to save, when asked to do so.

You are done with CODE Designer.

- Go back to the *WebFacing perspective* in the Development Studio Client
  workbench.

- Select your project *wflabxx* in the WebFacing view.

- 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.
- Expand the *DDS folder*, if it is not expanded already, to show all members in this folder.
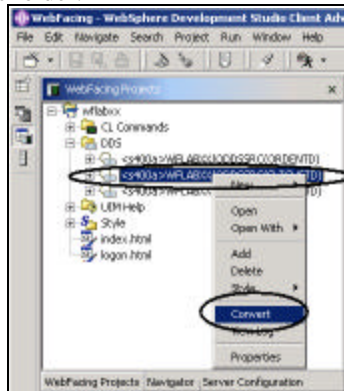
Figure 0-13: WebFacing Project view, popup menu for DDS source member

- Select the member *SLTCUSTD* that you just changed.
- Right-click the *SLTCUSTD member* icon.
- Select *Convert* from the pop-up menu.
    Only this member will be converted. A conversion report will show up after the conversion is finished. Now **test** the new user interface.

Running the Web application

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

- Right-click *the project icon* in the WebFacing projects list.
- Select *Run on Server* from the pop-up menu.
- Go to the browser pane and click the *Order Entry Application* link.
    You will see the first screen of your application, nothing has changed there.
- Click the *Prompt* push button, or press *command key four.*
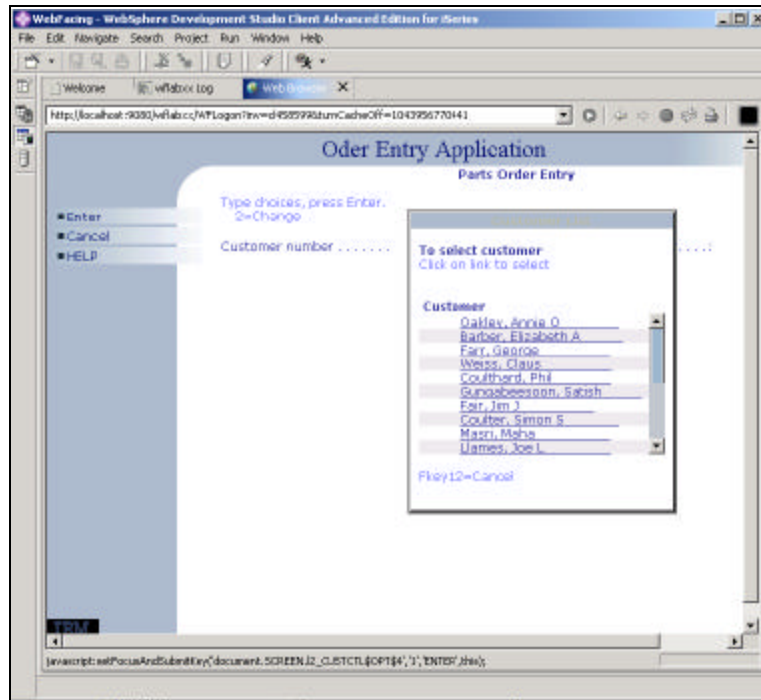
Figure 0-14: Customer selection window with links

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

- Select a customer from the list by clicking on the link.
- Go through the same steps as in Exercise 1: Reviewing our 5250 application, and try it out.

Analysis

> You have completed the exercise: Changing the User Interface. Here is what you did: First you used CODE Designer to access a DDS source member. You used Web Settings in CODE Designer to change the web user interface. Next you reconverted the changed DDS.
>
> Note that your green screen user interface has not changed if the application is invoked as a green screen application it will look like the original user interface. The Web Settings apply only to the WebFaced user interface.

You are ready to move on. You have improved the look of your application, however, there are more improvements to be made. In the next exercise I will guide you through some more customization steps to further enhance the pages of your Web application. Proceed to the next exercise: Changing the style of the Web Interface.

7

CHANGING THE STYLE OF THE WEB USER INTERFACE

Introduction

You will change the user Interface of your Web-enabled 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 exercise we want you to change the text color and font for all highlighted fields. Also you will learn how to locate the *.css* file where these changes have been stored.

The Goal of the Exercise

The goal of this exercise is to practice changing a style to tailor the Web interface to your needs.

You will start the Style Properties dialog, create a new style, change style settings, specify the new style to be used for this project, and refresh the project with the new style.

At the end of this exercise, you should be able to:

- Create a new style using the WebFacing Style Properties dialog
- Use the field -level properties pages to change the look of your Web pages
- Change the project to use a different style

Scenario

You don't like the way the WebFacing tool is mapping some of the display attributes to colors and text styles available in the browser. You want to change the default WebFacing style rules that govern how certain 5250 parts are displayed in a browser to give the web user interface a better look. In this chapter you will learn how to change the style rules for highlighted fields.

Invoking the Style Properties dialog

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.

- Start the workbench of WebSphere Development Studio Client and open the WebFacing perspective, if it is not up and running already.
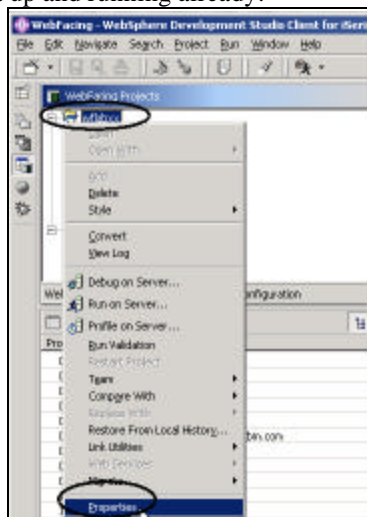
Figure 0-1: WebFacing project with pop-up menu

- Right-click the *wflabxx* project.
- Select *Properties* from the pop-up menu.

The WebFacing project properties dialog opens, as shown in Figure 0-2
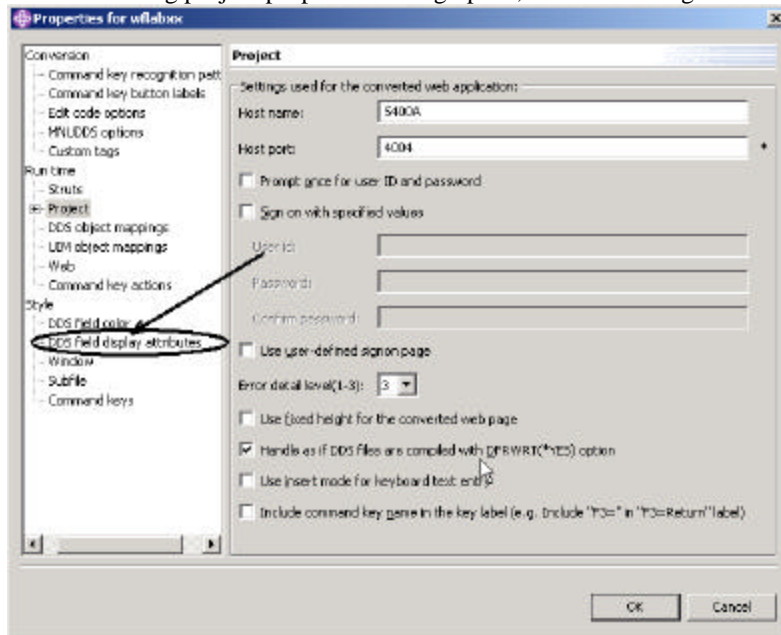
Figure 0-2 WebFacing project properties

- Under Style in the tree view at the left side of the dialog, click *DDS field display attributes,* as indicated by Figure 0-2

The *DDS field display attributes* page opens on the right side of the dialog as shown in Figure 0-3.
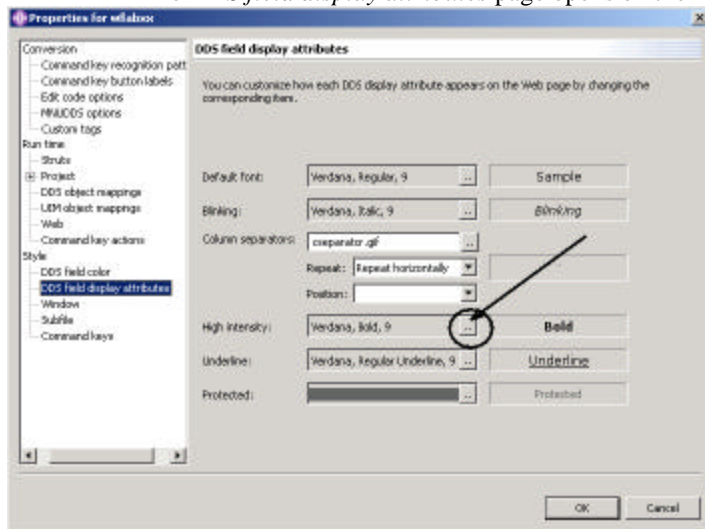
Figure 0-3 DDS field display properties

- Click the ⬚ push button to the right of the *High intensity* combination box.
   The *Font* dialog opens as shown in Figure 0-4
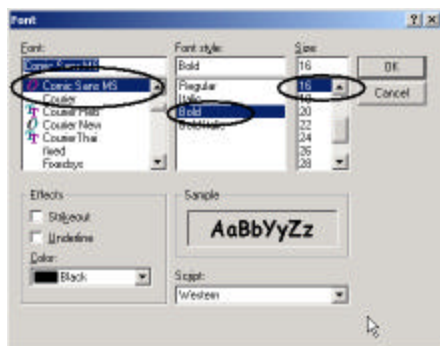
Figure 0-4: Font dialog

- In the Font box, select *Comic sans MS*
- In the Font style box, select *Bold*
- In the Size box, select *16*.

Tip: Don't try to change the color in this dialog, the color setting doesn't work, later in this chapter I'll show you how to change the color.

This changes the font size and appearance for parts that have the high intensity attribute active.

- On the properties page, click the *OK* push button.

Running the Web application

Let's check the new style in your application:
- Right-click the **project icon** in the WebFacing projects list.
- *Select Run on Server* from the pop-up menu.
- Go to the browser pane and click on the *Order Entry* link.
  You will see the first screen of your application. Notice the different font and font size of some of the text; these are the highlighted areas of your 5250 screen.
 Prompt for the customer. The customer selection screen has highlighted text and this text should show in Font Comic sans serif and size 16 as shown in Figure 0-5.

Tip: 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, that will bring up a new instance of the browser without cached content.
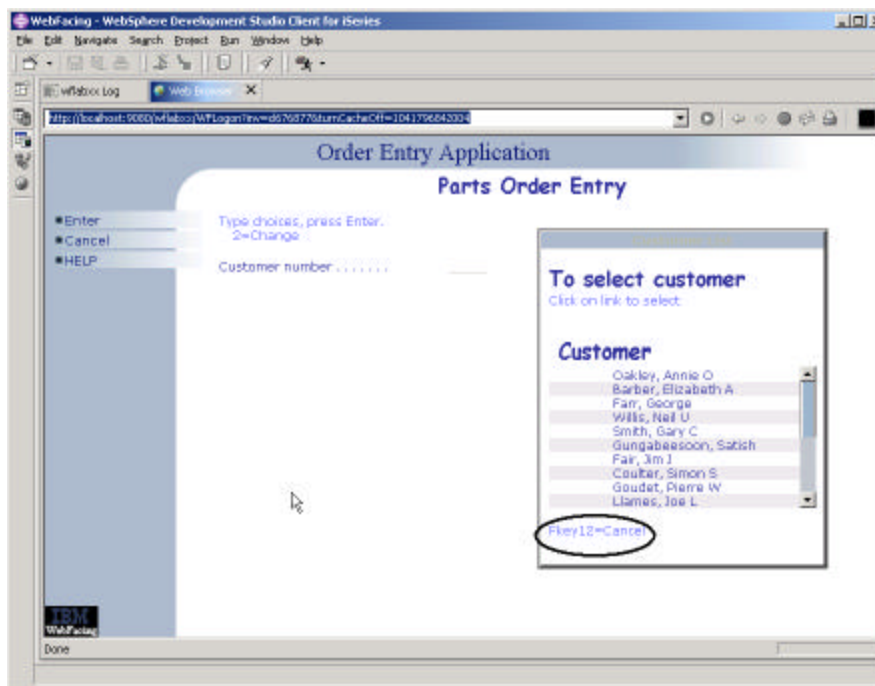
Figure 0-5: New highlight attribute mapping and non-CUA command key description

Since the Font dialog has a bug that makes it impossible to change Font colors in this dialog, I show you next how to directly change WebFacing style classes.

Changing styles directly

Instead of working with properties in the WebFacing project you can also change the styles being applied direct in the Cascading Style Sheet (.css) file that WebFacing uses. In this section part, I'll explain where this file is located at in the WebFacing Project structure and how to find your way around in this file. In Chapter 17 Web Settings I explain how to create your own style sheet classes and use them in a WebFaced user interface.

Locating the Cascading Style Sheet file

In the WebFacing perspective switch to the *Navigator* view by:
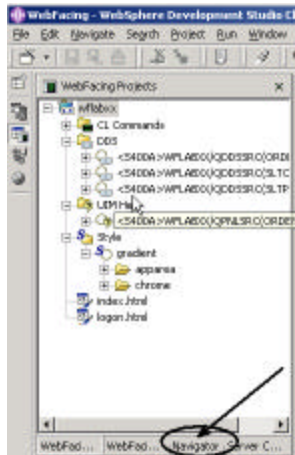
Figure 0-6: The Navigator tab in the WebFacing perspective

- Clicking on the *Navigator tab* as shown in Figure 0-6
   In the Navigator view:
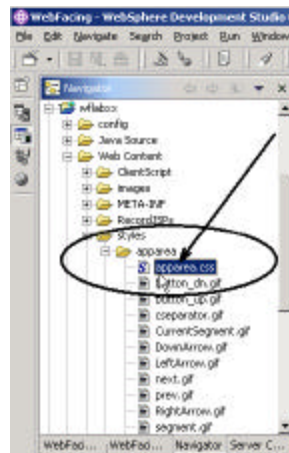
Figure 0-7: Navigator view with apparea.css file

- Locate the *apparea.css* file in the WebFacing project as shown in Figure 0-7
   It is located in the following directory hierarchy:
   wflabxx\Web Content\styles\apparea\

Tip: For Version 4 users: The directory structure is slightly different: wflabxx\webApplication\styles\apparea\

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

Changing the WebFacing highlighted style class
   The editor dialog will come up and show the style source
- Scroll down the source file until you reach the *.wf-hi* class as shown in Figure 0-7

Figure 0-8: Editor dialog with apparea.css source located at the wf_hi class

You'll notice your changes from the previous exercise being 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 *.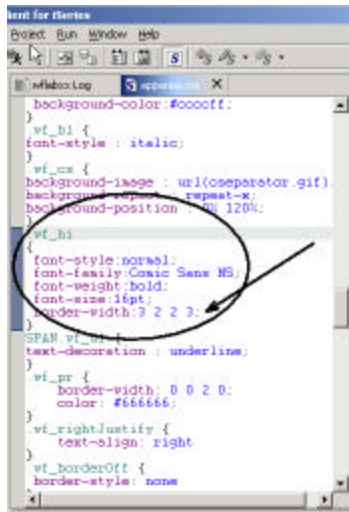css* file, the name of the classes are self describing, for example .wf_hi defines how a part that has the highlighted attribute active gets displayed in the browser, wf_cs describes the column separator, etc. You can go in and change the dis play characteristics for any of the 5250 attributes.

For example to change the color attribute of the *highlighted* class go thru the following steps:

- Position the cursor at the end of the last line of the wf_hi class before the ending curly (}) bracket, as shown in Figure 0-8
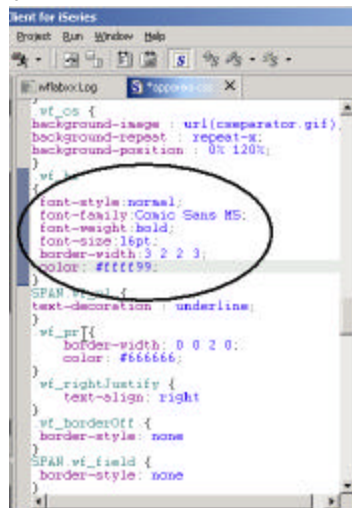- Press the *Enter* key to insert a line

Figure 0-9: Highlighted class color changed

- Insert the color attribute you want to use, for example:
  `color:` `#ff9999;` as shown in Figure 0-9

Tip: Don't forget the semicolon to delimit the line

- Save the change by clicking the save button in the workbench

For version 5 users, there is a nice feature available in the Style sheet editor that allow 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.

Look at the right side of the workbench beside the editor as shown in Figure 0-10

Figure 0-10: Style change example in Style sheet editor

> If you asking yourself how to figure out what color is represented by the hex code ffff99, there is an easy way to find out.
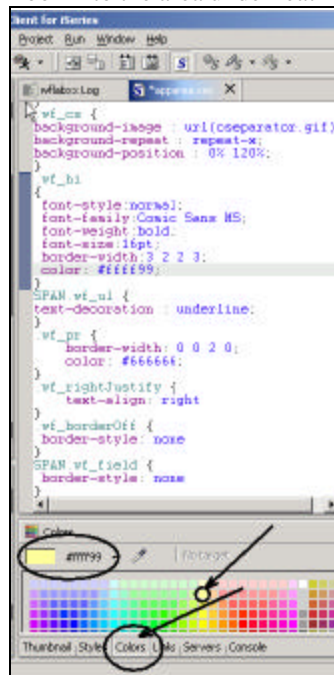> Look into the area underneath the editor in the workbench as shown in Figure 0-11

Figure 0-11: Color tab example

- Select a color from the color palette

> The corresponding hex number will appear in the dialog as shown in Figure 0-11

Tip: Instead of a hex number you could use a color name like *yellow* to set a color for a style class

To have a look at the changed user interface, run the application again.

Running the Web application

First close the *style sheet editor* and close the *browser* if they are still open.
- Click on 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.

Let's check the new style attribute in your application:
- Right-click the *project icon* in the WebFacing projects list or Navigator in the WebFacing perspective.
- Select *Run on Server* from the pop-up menu.
- Go to the browser pane and click on 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 5250 screen.
  Prompt for the customer. The customer selection screen will show the same changed attribute, remember style changes are getting applied to all application as shown in Figure 0-12.

Tip: 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, that will bring up a new instance of the browser without cached content.

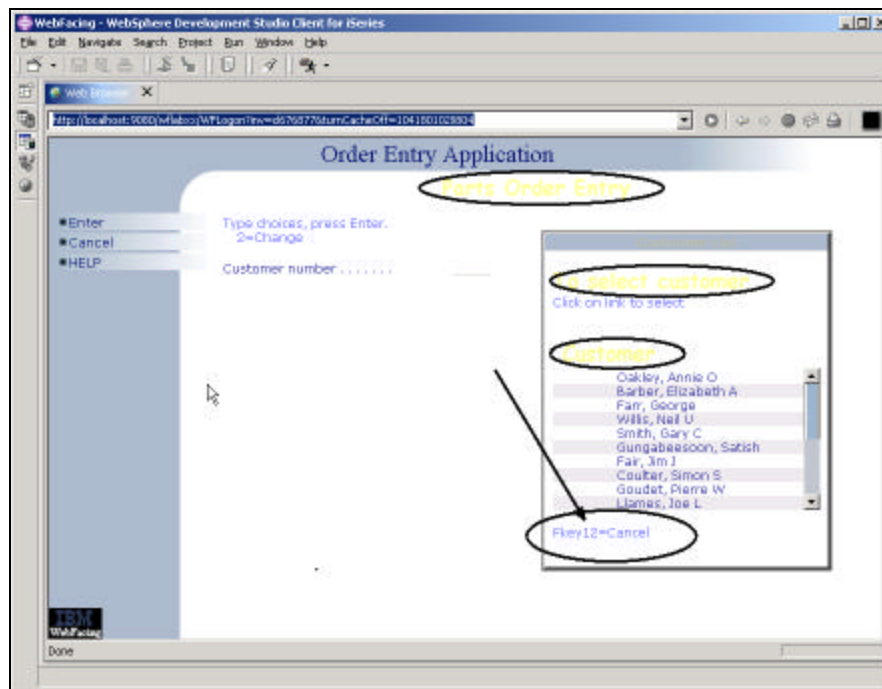*Figure 0-12: New color attribute applied to highlighted style class*

You might not have noticed it before, but there is still a *command key description* at the bottom of the customer selection window as shown in the circle in Figure 0-12.
 You might have guessed it; you will fix this in the next exercise

Analysis

You have completed exercise: Changing the Style of the Web User Interface.

First you used the WebFacing properties dialog to change the style for WebFaced highlighted fields. You applied a new font style and a bigger font size. You tested these changes and made sure they got applied to all screens. You also notice that the changes got applied without a re-conversion of the DDS source. Style changes are directly applied at runtime and don't require re-conversion.

You then edited the Cascading Style Sheet file directly with the style sheet editor, to change the color attribute of the WebFacing *highlighted* style class. You saved your changes and tested the application to make sure these changes would appear on the application screens.

You are ready to move on the next exercise, you improved the Web User Interface, now you are going to enhance the way command key labels are being handled by the WebFacing tool.

8

ADDING COMMAND KEY RULES AND LABELS

Introduction

You might have noticed that most command key descriptions that are placed at the bottom of the original panels in the sample *Order Entry* Application have been removed from the WebFaced user interface. The removal happens automatically if the command key descriptions follow the Common User interface Access (CUA) rules (for exa mple, 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. As I pointed out at the end of the last exercise, one of the record formats in the sample application contains a command key description that doesn't follow the CUA rules. You will 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 three 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 explicit 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 exa mple CA12 for an active command key 12 in the push button label. However there is a way out, the WebFacing tool allows to specify labels for these common command keys so it can label the command key push buttons correctly. You just have to the WebFacing tool in its conversion properties what the label is.

The Goal of the Exercise

The goal of this exercise is to practice adding your own command key recognition rules to the WebFacing conversion properties. You will also add command key labels, for command keys that have missing labels in the DDS source. You will use the WebFacing Conversion Properties dialogs, work with command key recognition patterns, and work with command key labels to fix the deficiencies in the WebFaced user interface. You will reconvert the user interface with the new WebFacing conversion properties being applied. At the end of this exercise, you should be able to add non-CUA command key prefixes to the conversion recognition patterns and add commonly used command key labels to the WebFacing conversion properties.

Scenario

In the sample *Order Entry* application exists one screens that doesn't follow the CUA rules for command keys descriptions, as I pointed out in the last exercise it is the customer selection list window. 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.

In this exe rcise, you learn how to enable the WebFacing tool to deal with these common green screen environments.

Working with command key description patterns

The prefix for the command key description in the SLTCUST record format is:
Fkey= as shown in Figure 0-1

Figure 0-1: Function key description on Customer selection panel

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.

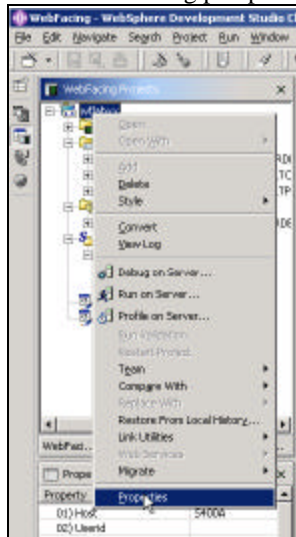In the WebFacing perspective in the WebFacing project view:

Figure 0-2 Pop up menu for WebFacing project

- Right-click your WebFacing project icon *wflabxx*.
- Select the *Properties* option from the pop-up menu as shown in Figure 0-2.
    The *Properties for wflabxx* dialog opens as shown in Figure 0-3. In the left hand list of this dialog:
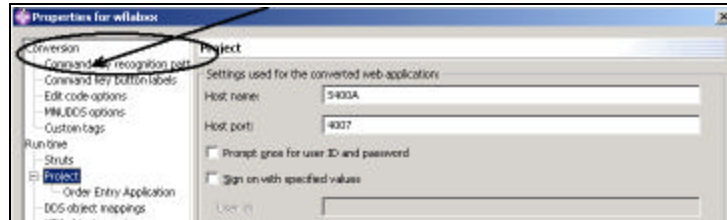
Figure 0-3: WebFacing Properties dialog.

- Select the *Command key recognition patterns* node.

    The right hand pane will switch to the associated dialog, as shown in Figure
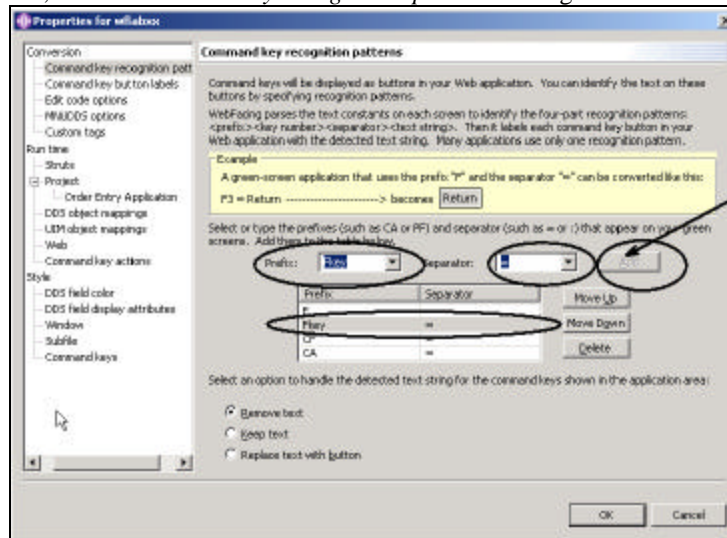   0-4, in the *Command key recognition patterns* dialog

Figure 0-4 Command key recognition patterns dialog

- In the *Prefix* combination box, enter *Fkey*
- In the *Separator* combination box, enter =
- Click the *Add* push button to the right of these two combination boxes.

    The additional rule is now part of this style.

Tip: The default conversion action is, to remove the text from the bottom of the
       panel. You can change this by selecting a different action using the three
       radio buttons at the bottom of the dialog.

- Click the *OK* push button.

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

Converting the application

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

 In the Studio Client workbench, in the WebFacing Project view:

- Expand the *wflabxx* project.
- Expand the *DDS* folder.
- Right-click the *SLTCUSTD* member icon.
- Select the *Convert* option from the pop-up menu.

 After the conversion, take a look at the change.

Running the Web application

 Let's see how the new rule is applied to your Web-enabled application.

- Right-click the *project icon* in the WebFacing projects list.
- Select *Run on Server* from the pop-up menu.
- Go to the browser pane and click the *Order Entry* link.

 You will see the first screen of the sample application.

- Click *Prompt* or press *F4*.

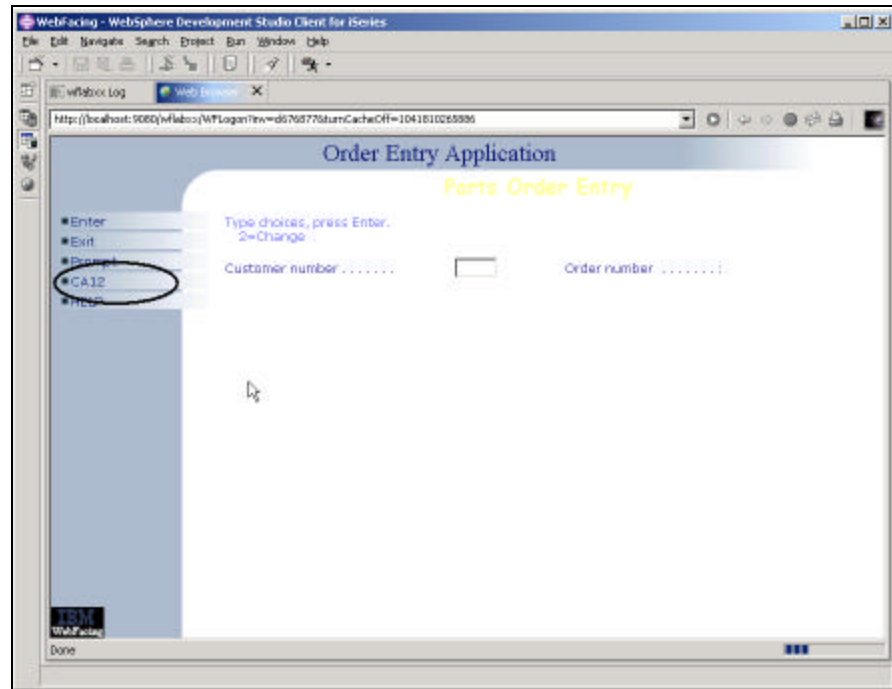 The customer selection list window opens as shown in Figure 0-5.

Figure 0-5: Customer selection window without command key label

Notice that the command key text Fkey12=Cancel is gone from the bottom of the window as shown in Figure 0-5.

>>>>>>>>>>>>>>>might add the Pushbutton add instead of removing the text if this works

- Select a customer or cancel by pressing F12 to get back to the applications main panel as shown in Figure 0-6

    Now that you know how to change the command key recognition patterns in WebFacing tool, I go thru a slightly different scenario in the next section. As mentioned in the beginning I want to show, how you can add text to frequently used command keys that don't have a text description in the DDS source.

Figure 0-6: Missing label for command key CA12

> Back on the *Order Entry panel*, you can see that the push button for *F12*
> does not have a description. Its label shows CA12. You will learn how to fix
> the label in the next section of this exercise.

Adding Command key button labels

> 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 *CA12*.
> In the Development Studio Client workbench, in the WebFacing project list:

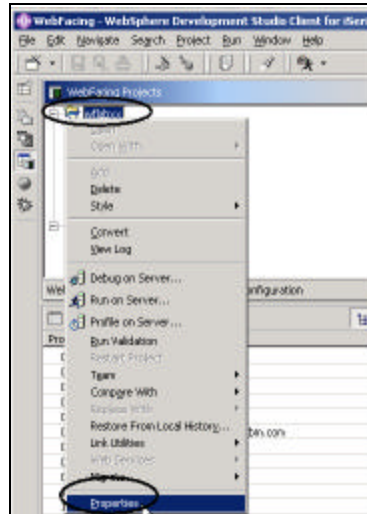- Right-click your *WebFacing project icon*.

Figure 0-7: The properties menu option for the WebFacing project

- Select *Properties* from the pop-up menu.
  The Properties for *wflabxx* dialog opens.
  In the list, at the left of this dialog as shown in Figure 0-8
- Select *Conversion > Command key button labels*
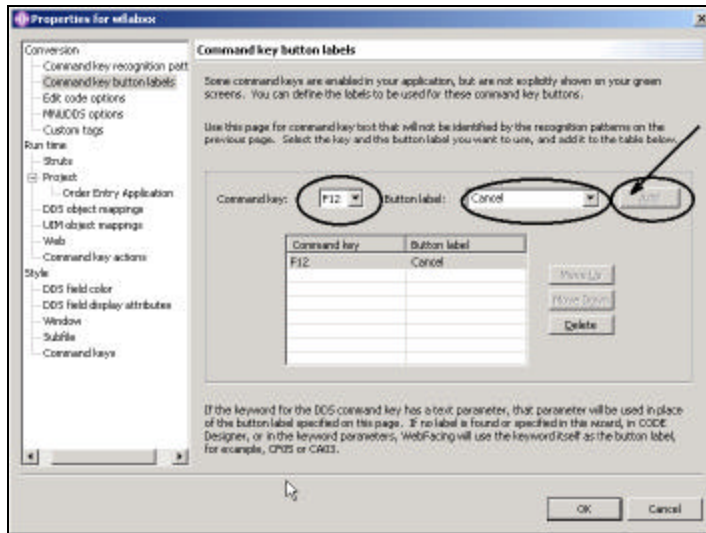 This opens a dialog on the right side of the properties dialog.

Figure 0-8: Command key button labels

- In the *Command key* combination box, select *F12*.
- In the *Button label* combination box, select *Cancel*.
- Click *Add* to the right of these two combination boxes.
  The additional label is now part of the WebFacing conversion properties for this WebFacing project.
- Click the *OK* push button at the bottom of the properties dialog
  Next, back in the Development Studio Client workbench, test this feature.

Converting the application

Convert the application in the workbench:

- Expand the *wflabxx* project.
- Expand the *DDS* folder.
- Right-click the *ORDENTD* member icon.
- Select *Convert* from the pop-up menu.
  After the conversion, take a look at the change.

Running the Web application

Let's see the new label for the F12 push button in your Web-enabled application.

- Right-click the *wflabxx project icon* in the WebFacing projects list.
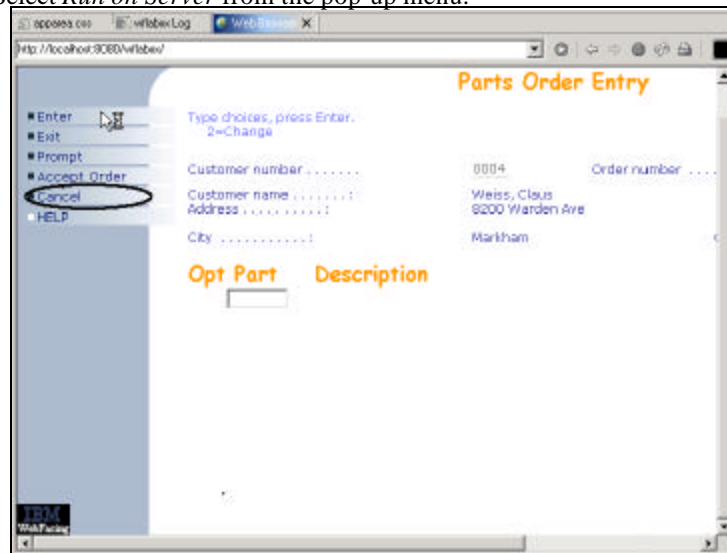- Select *Run on Server* from the pop-up menu.

Figure 0-9: Pushbutton with fixed label

- Go to the browser pane and click on the *Order Entry* link.
- Check that the *Cancel* push button on the first page now shows the correct label as shown in Figure 0-9.

Analysis

You have completed Exercise: Adding Command key rules and labels. Here is what you did:

First you started the WebFacing Project Properties dialog. Next you used the command key recognition properties page to change the *Fkey12* command key recognition pattern for the command key label on the customer selection window. You then used the command key button labels properties page to change the undefined *F12* command key label. Finally, you reconverted the application and then ran the application and checked the changes.

You are ready to move on. Next you will continue to enhance the style of the Web-enabled application.

9

WORKING WITH MORE STYLE PROPERTIES

In this exercise you will change the user interface even more and hopefully make it more usable in a web environment. You will use the WebFacing tool Style Properties dialog that you already used in Chapter 7. 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. Specifically you will learn how to apply changes to windows, the look of push buttons, and subfiles.

The Goal of the Exercise

The goal of this exercise is to practice changing the user interface further, using style properties. You will work with Style settings and check the changes by refreshing the style and running the application.

At the end of this exercise, you should be able to:

- Work with the additional pages of the Style Properties dialog
- Work with the window properties page
- Work with the scrollbar/subfile properties page
- Work with the command key look properties page

Scenario

Now that you gotten the web user interface changed so the green look doesn't show thru as much as after the straight WebFacing conversion, you want to add some more refinements to the appearance of your web pages. I will show you how you can do this with the WebFacing tool Style properties.

Start the WebFacing Style Properties 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 pushbutton looks.

- Start the WebSphere Studio workbench and open the WebFacing perspective, if it is not up and running already.
- In the WebFacing project view, select the *wflabxx* project.
- Right-click the *project icon*, and select *Properties* from the pop-up menu.
  The project properties dialog opens as shown in Figure 0-1.
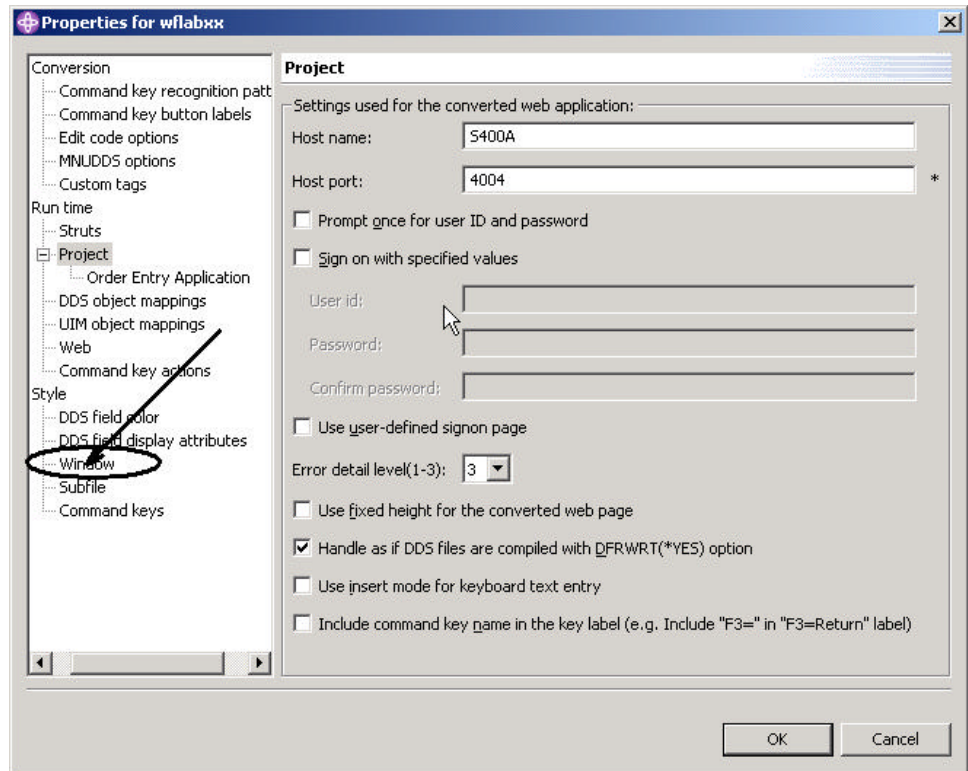
Figure 0-1: The WebFacing project properties dialog

- Under *Style* in the tree view at the left side of the dialog, select *Window*.
  The *Window Properties* page opens on the right pane of the dialog as shown
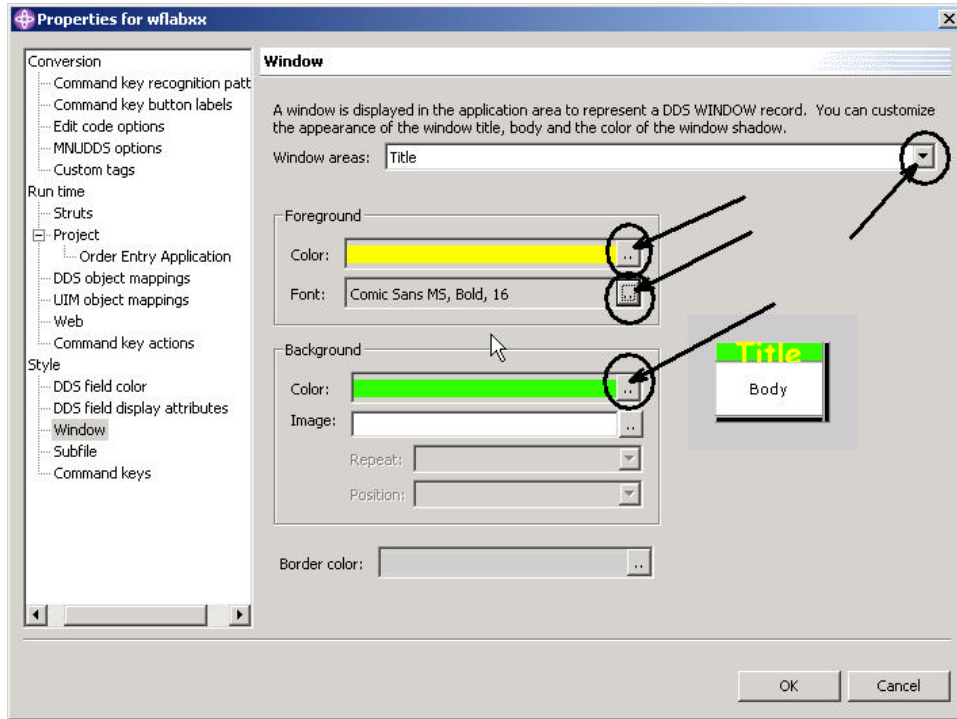 in Figure 0-2.

Figure 0-2: Windows properties page

- Select *Title* in the combination box at the top of the page.
  In the *Foreground* group box:
- Click the ⬚ push button to the right of the *Color* combination box.
- On the color selection dialog, click *Yellow*,
- Then click the *OK* push button in the color selection dialog.
  On the window properties page:
- Click the ⬚ push button to the right of the *Font* combination box.
- Select Font *Comic sans MS, size 16*.
- Click the *OK* push button on the Font selection dialog
- In the Background group box, click the ⬚ push button to the right of the *Color combination box*.
- On the color selection dialog, click *Green*

- Click the *OK* push button on the color selection box.

Back in the windows properties dialog,

- Select *Body* in the combination box at the top of the page.
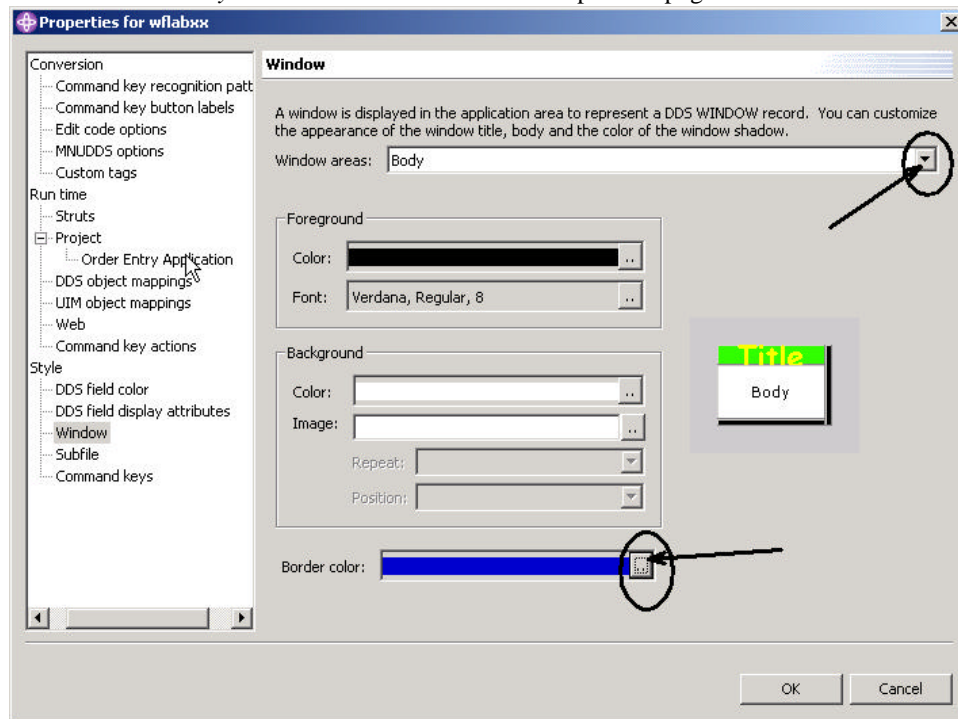
Figure 0-3: Window properties dialog with "Body" selection

In the *Border color* combination box at the bottom of the page,

- Click the ⬚ push button to the right of the combination box.
  In the color selection dialog
- Select *Blue*,
- Click the *OK* push button in the color selection dialog.

Changing the appearance of the subfile

- Back in the properties dialog, under *Style* in the tree view at the left side, select *Subfile*.
  The subfile properties page opens on the right pane of the dialog as shown in Figure 0-4.
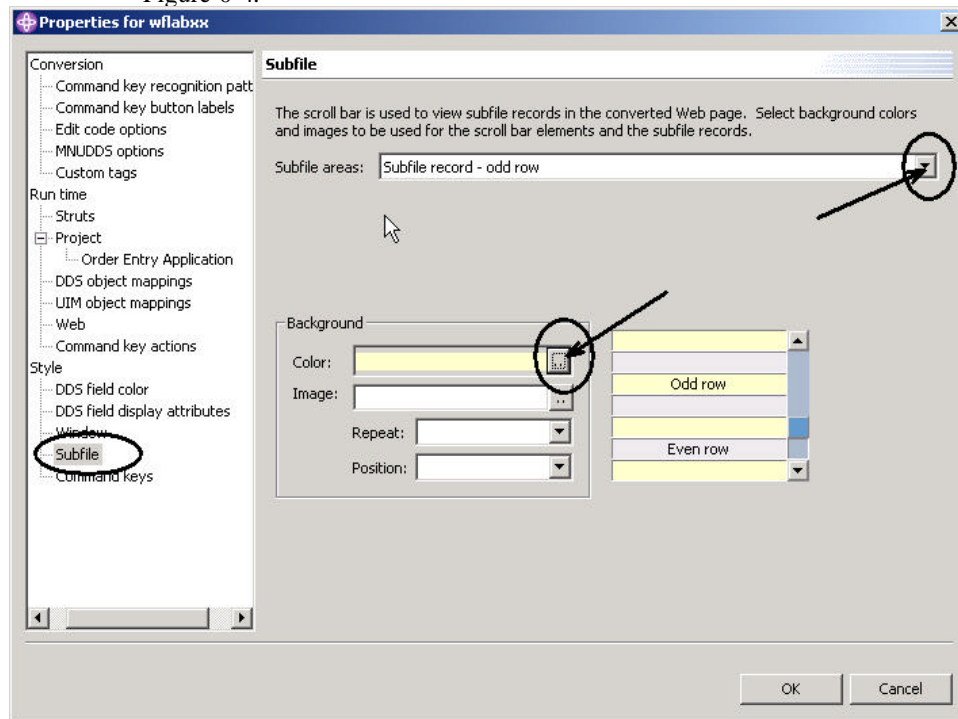
Figure 0-4: Subfile properties dialog

- Select *Subfile record - odd row* in the combination box at the top of the page.
  In the *Background* group box:
- Click the push button to the right of the *Color* combination box.
  In the *Color chooser*,
- Select a *light yellow*
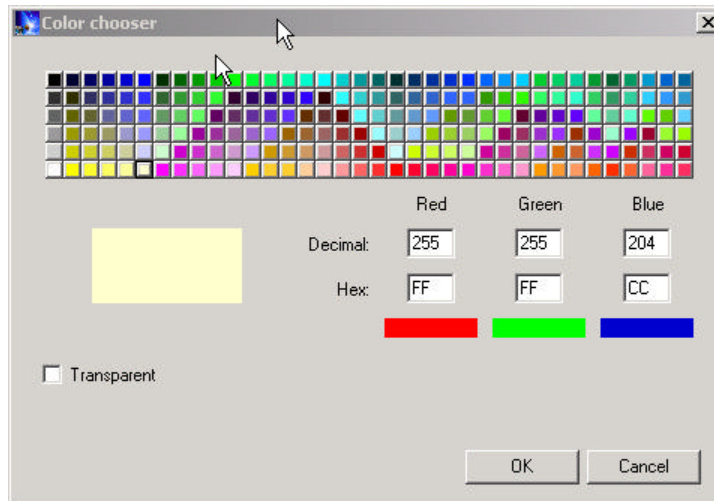
Figure 0-5: Color chooser for WebFacing properties

Tip: If you are interested in the hex value of certain colors as they are used in the style classes, the color chooser displays the hex values. In Figure 0-5, the value: "*FFFFCC*".

- Click the *OK* push button on the color chooser dialog.
Back on the properties dialog
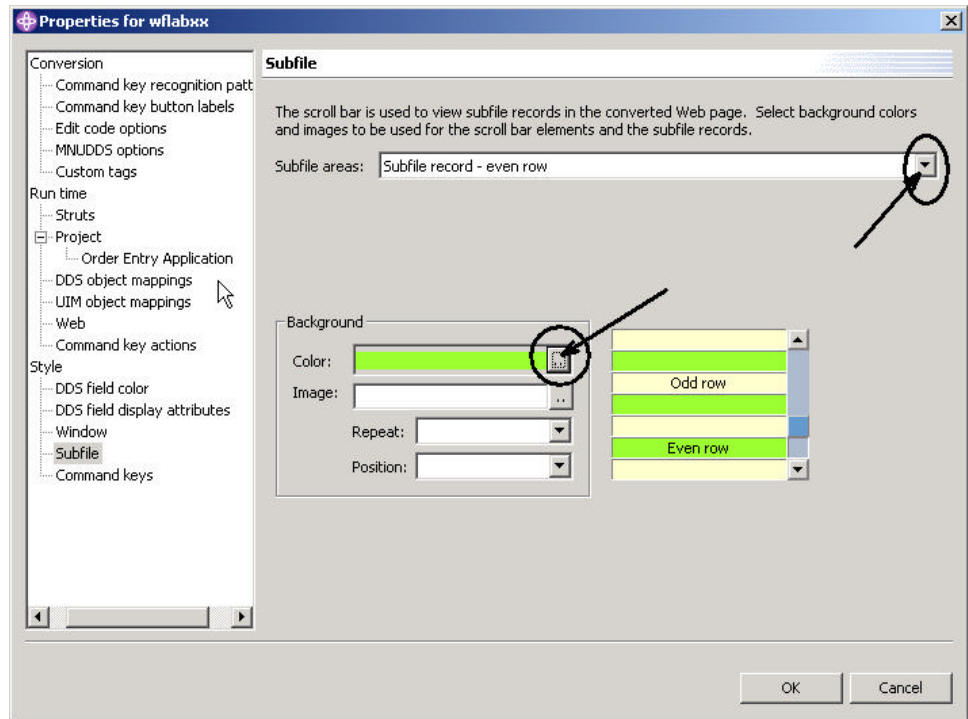- Select *Subfile record - even row* in the combination box at the top of the page.

Figure 0-6: Properties page for subfile even rows

In the *Background* group box:

- Click the ⬚ push button to the right of the *Color* combination box.

In the *Color chooser* dialog:

- Select a light green,
- Click the *OK* push button.

Now at run time the odd and even records will be displayed with different background colors.

Next you will customize the appearance of the command key push buttons.

Customizing the appearance of command keys

Back in the properties dialog under *Style* in the tree view at the left side:

- Select *Command keys.*

The command key properties page opens on the right pane of the dialog as shown in Figure 0-7
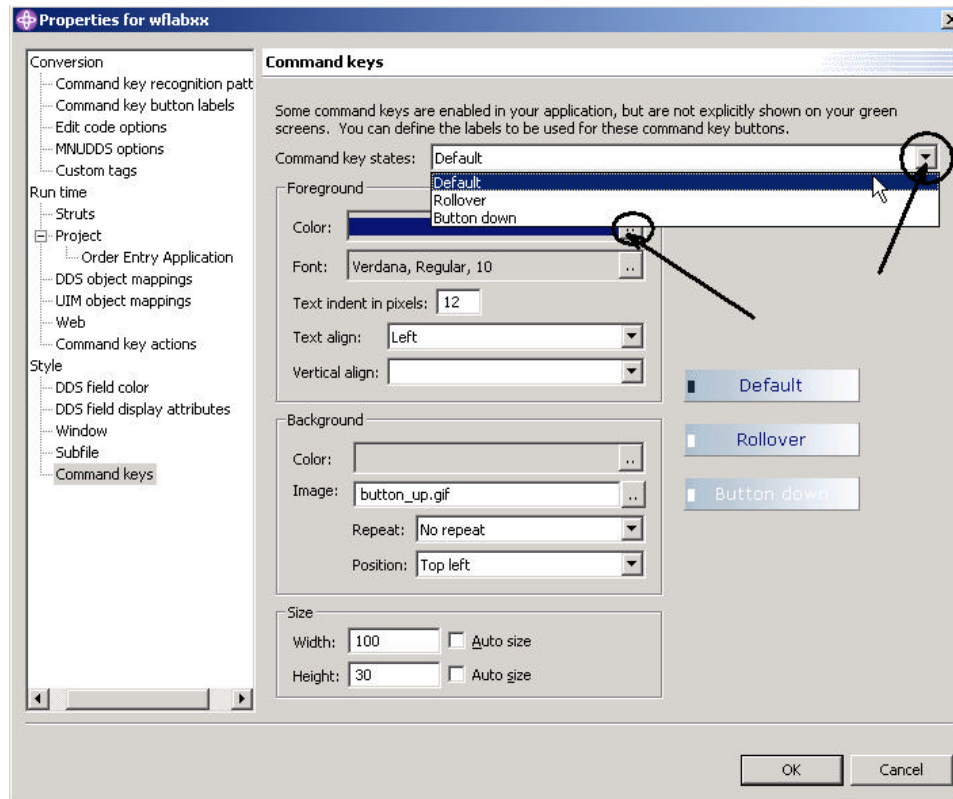
Figure 0-7: Command keys property page

Change the *Foreground* color for all three states of the buttons:
 a. Default
 b. Rollover
 c. Button down
Now you are done with the customization.
- Click the *OK* push button on the properties dialog.

Running the Web application

Let's see the new look of your application.
- Right-click the *wflabxx* project icon.

- Select *Run on Server* from the pop-up menu.
- Run the application.
- Click *Prompt.*

>>> picture of customer selection subfile

> The application window shows different colors, and the subfile records are colored. The command key push buttons change color, depending on the state they are in. I hope you like your chosen colors.

Analysis

> You completed Exercise: Working with more style properties. Here is what you did: First you started the Style Properties dialog and worked with three different style properties. Then you checked the changes by running the application.
>
> You are ready to move on. Next you add authentication support to this application so users have to identify themselves thru a *signon* dialog at runtime. Proceed to Exercise: Adding Authentication.

10

ADDING AUTHENTICATION

Introduction

You will change the run-time behavior of your application. Instead of using the default user ID and password, the one you used when you selected the members to convert your DDS source, you will now force the user to provide his or her own signon information. You just have to remove the user ID and password from the CL command properties.

The Goal of the Exercise

The goal of this exercise is to practice securing your application by forcing authentication before the application is invoked.

You will remove the user ID and password information and check it by running the application.

At the end of this exercise, you should be able to:

- Secure your application by forcing authentication before the application gets invoked
- Explain the authentication support in the IBM WebFacing Tool

- Remove the default user ID and password

Scenario

You have tested your WebFaced application and for convenience have used your user ID and password as the default to avoid having to sign on every time you started the application. Now you need to move the application into production and you need the WebFaced application to prompt the users for sign on information when it gets started.

This exercise goes thru the steps of enabling the authentication support.

Using the project properties dialog

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

In the WebFacing perspective in the *WebFacing project* view:

- Right-click the *wflabxx* project icon.
- Select *Properties* from the pop up menu.

Providing run-time properties for the project

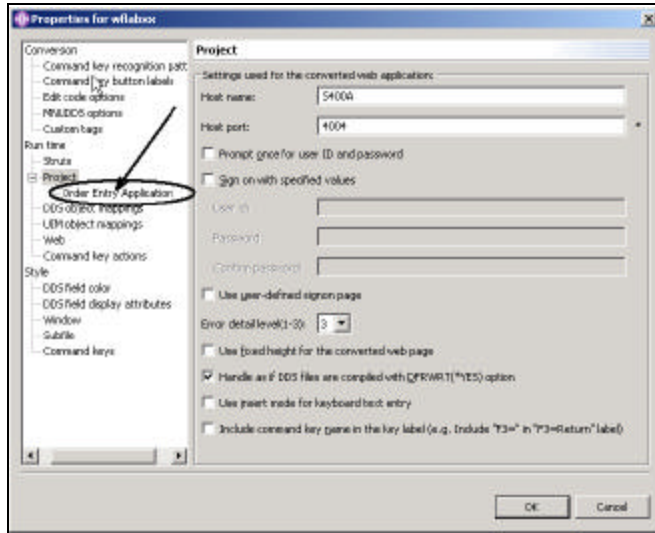- The Properties for wflabxx dialog opens.

Figure 0-1: Project properties dialog

Under *Runtime* in the list box at the left

- Select order Entry Application

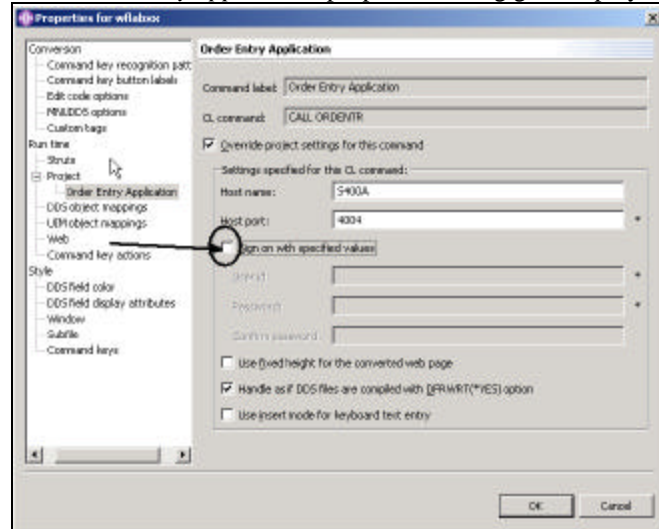 The *Order Entry application* properties dialog gets displayed, as shown in

Figure 0-2 Application properties page

- Deselect the *Sign on with specified values* check box.
- Click the OK push button at the bottom of the properties dialog.

    You are back in the WebFacing project view

    You have changed the authentication behavior for this link (application). In this WebFacing project we 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.

Running the Web application

As before, run your application in the WAS test environment.

- Click the *Order Entry* link.

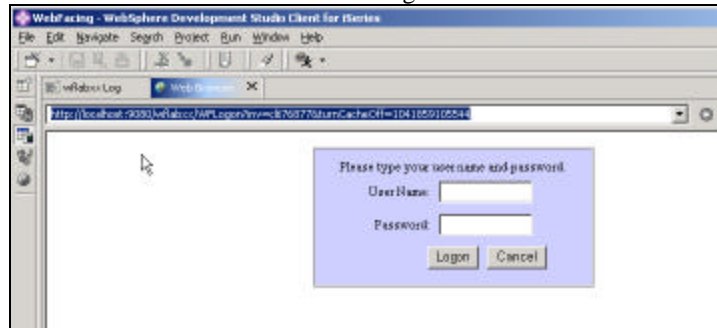   You will see the authentication dialog.

Figure 0-3: WebFacing tool, Logon dialog

- Specify your U*ser Name* and P*assword*,
- 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.

    Now I'll discuss how you can use your own authentication dialog, instead of using the one provided by the WebFacing tool.

Using your own sign on dialog

If you don't like the sign on dialog that comes with the WebFacing tool, you can use your own dialog and tell the WebFacing runtime to invoke it instead

of the default dialog. A WebFacing project comes with a sample *Logon.jsp* file, which you can modify to the looks that you prefer in your environment. This section in the exercise guides you thru the steps of modifying the dialogs.

I will then step you thru, how to specify in the WebFacing project properties that you now want to use your own Logon dialog.

Changing the LOGON.html file

In the WebFacing perspective use the WebFacing Project view:

- Expand the *wflabxx* project node, if it's not already expanded.
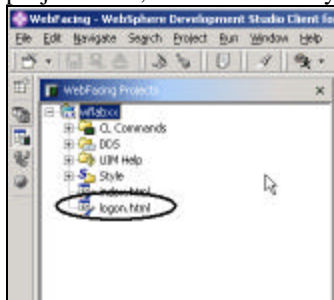
Figure 0-4: WebFacing Project view with logon.html file

You should see a *logon.html* file. This *logon.html* file is a sample that shows how the default Logon WebFacing dialog is built but it is there for you to customize it. This file is provided, to give you a sample to expand on. It also provides you with the html tags that you need if you want to incorporate the WebFacing logon function, but not the looks, into your own existing environment. You could copy these html statements into your own html page.

Using Page Designer to add a heading to the Logon page

You will use one of the Development Studio Client workbench tools to change the dialog to make it nicer. The tool is called Page Designer. Invoke Page Designer by:
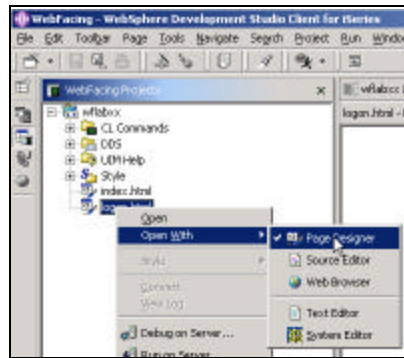
Figure 0-5: Pop menu for logon.html file

- Right clicking on the *logon.html* icon in the WebFacing project view

- Selecting the *Open with* option from the pop up menu

- Selecting the *Page Designer* option from the pop up sub menu

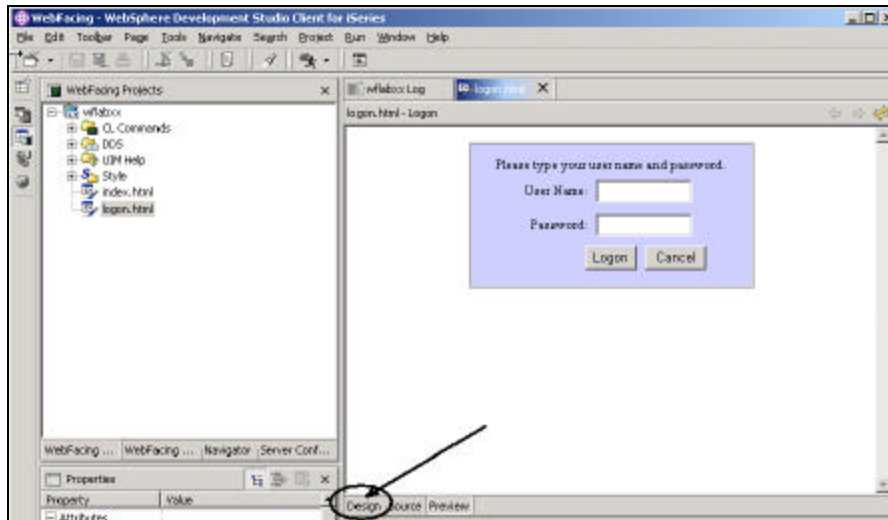This will bring up the Page Designer on the upper right hand side of the workbench as shown in

Figure 0-6: Page Designer with WebFacing Logon on page

First I want you to add your company name as a heading to the dialog. In the Page Designer window make sure you are on the Design page,

- Click on the Design tab as shown in Figure 0-6 to make sure you are on the design page.
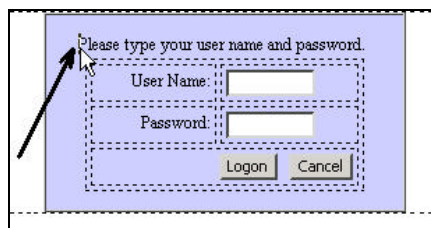
Figure 0-7: Position cursor and click

- Click in the Logon dialog just before the string *Please type,* as shown in Figure 0-7
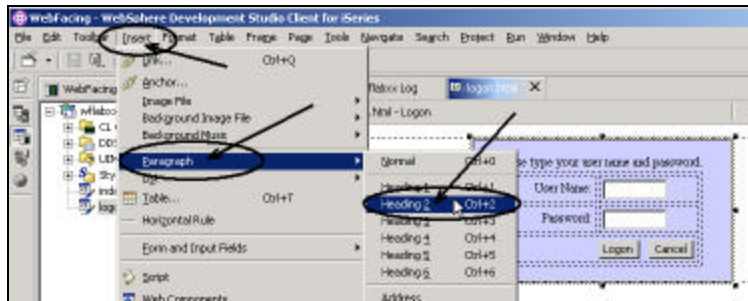
Figure 0-8: Menu structure to add Heading2 tag to Logon dialog

- Select *Insert > Paragraph > Heading2* from the Workbench menu bar as shown in Figure 0-8
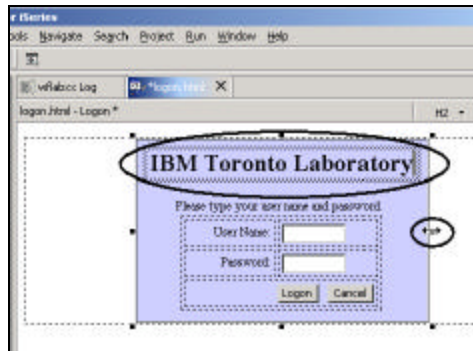
A box opens on top of the dialog:

Figure 0-9: New logon dialog, with cursor shape changed to drag enabled

- In the box, enter your *company name*

If you get two lines because you company name is too long, you can widen the logon box.

- Move the cursor on top of one of the black rectangles on the side of the Logon frame. The cursor shape will change if it is in a two arrow head

shape like in Figure 0-9, you drag the side of the frame to make it wider or more narrow.

- Adjust the frame width to your needs.

One more thing you might want to do, is giving your new logon dialog a new color, lets go thru the steps to accomplish this and then you can test the new dialog.

Using Page Designer to change the background color of the Logon page

In the Page Designer:

- Right click on the *background* of the logon frame

Figure 0-10: Pop up menu in Page Designer

- Select *Attributes* from the pop up menu

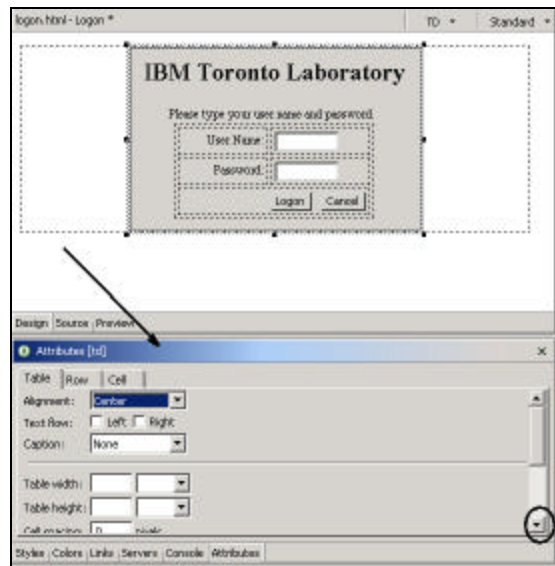You will see in the lower right area of the workbench an Attribute editor coming up, as shown in Figure 0-11

Figure 0-11: Attributes editor in workbench

In the Attributes editor:

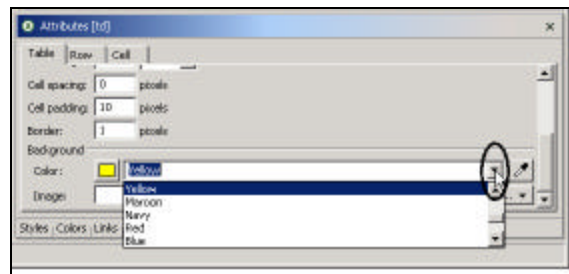- Scroll down to the bottom of the Table page as shown in

Figure 0-12: Selecting color yellow for background color of logon dialog

- Select the *arrow* on the *Color* combination box to open the list

- Select *yellow*, or whatever back ground color you like for your logon page, from the list of color shown

---

Tip: You could use the color picker push button ![color picker icon] to point to an area on your desktop that has a nice color, click on that area, and the color from that area will be applied.

Now your logon frame has a nice background color, the color in the Page Designer window has already been adjusted.

To verify how the logon page would look in the browser go to the preview view by:

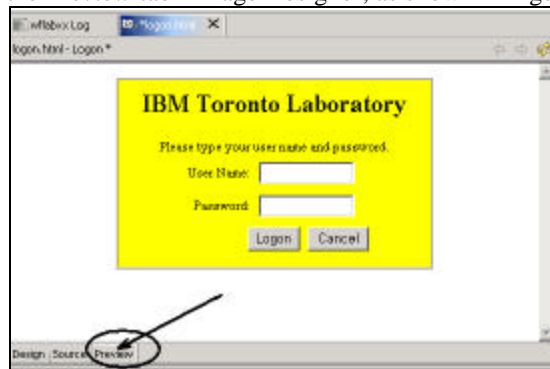- Selecting the *Preview* tab in Page Designer, as shown in Figure 0-13

Figure 0-13: Logon page in Preview mode

Another view in Page Designer is the Source view that actually brings up an editor with source for page you are working with.

- Click on the *Source* tab

The html source editor with the current page source comes up as shown in Figure 0-14.
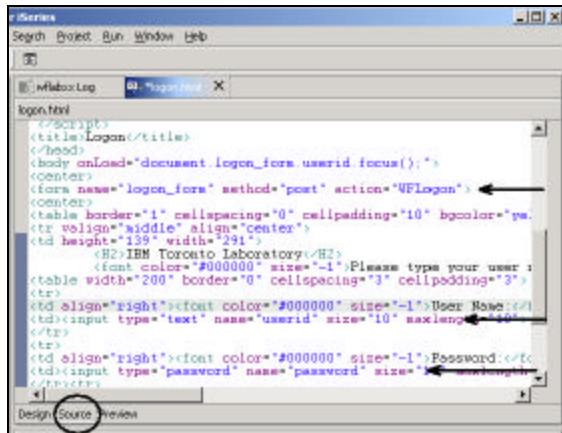
Figure 0-14: Source editor window in Page Designer

If you wanted to invoke the WebFacing logon action from a different dialog you would
need to copy the three lines from this source that are highlighted in Figure 0-14 by
arrows.

You will need to invoke the WFLogon action and pass the userid and password input
fields.

Also the file name for your WebFacing Logon page has to be logon.html, that is the file
the WebFacing runtime will try to send to the browser if you request to use you own
Logon screen.

   You are ready to test the new logon page.
- Save the changes you have made with Page Designer, by clicking the *Save* push
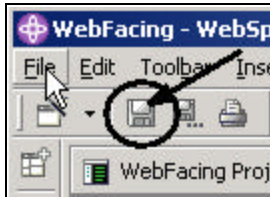 button on the workbench toolbar as shown in Figure 0-15.

•

Figure 0-15: Save push button in workbench toolbar

  • Close Page Designer by clicking on the X of its window bar

Figure 0-16: X in Page designer window bar

Changing the WebFacing properties to use a different Logon page

In the WebFacing project view:

  • Right click on your *wflabxx* WebFacing project
  • Select *Properties* from the popup menu
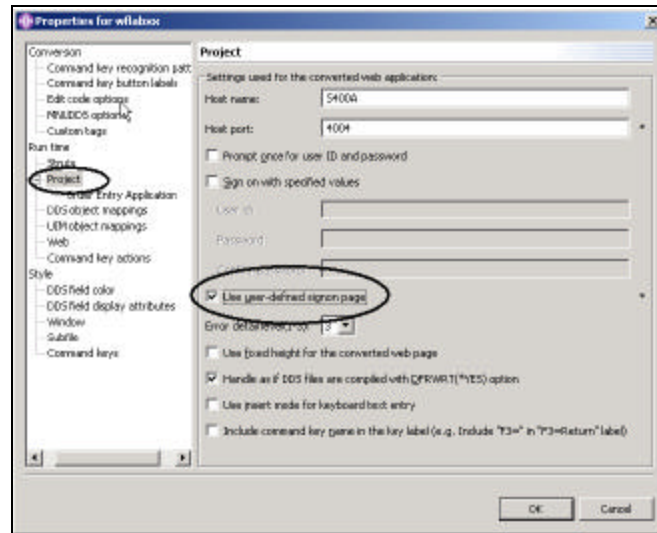   The Project properties dialog comes up as shown in Figure 0-17.

Figure 0-17: WebFacing Project properties dialog

In the project properties dialog:

- Select the *Use user-defined signon page* check box
- Press the *OK* push button at the bottom of the properties page

    Now you can try out the new logon page.

Running the Web application

As before, run your application in the WAS test environment.

- Click the *Order Entry* link.

    You will see the new authentication dialog. Do you like it?
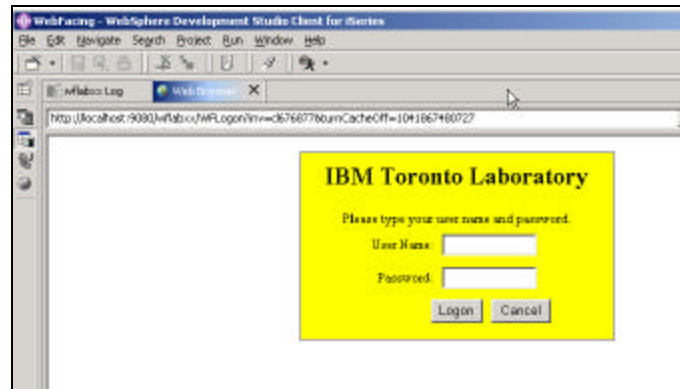
Figure 0-18: The new Logon dialog

- Specify your U*ser Name* and P*assword*,
- 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.

Analysis

You have completed the Exercise: Adding Authentication. Here is what you
did: You used the project properties dialog for the *Order Entry* application
to remove the default user ID and password information. Next you ran the
application and where forced to provide authentication before the
WebFacing runtime would start the WebFaced application.
You then provided your own Logon page by changing the Default
WebFacing Logon page. You use Page Designer to change the Logon page.
You tested the new user defined Logon page
You are ready to move on. Next you will learn about Display
File mappings. If source member names and display file names
don't match, you need to take extra steps to let the WebFacing
runtime know about these name differences. Go ahead to
Exercise: Display file mapping.

13

ENHANCING index.html PAGE USING WEB TOOLS

Introduction

This exercise is not really related to using the WebFacing tool, you will use the Web tools in the Development Studio Client workbench to update the index.html file The index.html is the file created by the IBM WebFacing Tool that allows you to start your WebFaced application. You will use Page Designer and some related tools in the workbench to enhance the index.html page. Since the Page Designer user interface has been changed dramatically between Version 4 and Version 5 of the Development Studio Client I have separated this chapter into version 5 and version 4 exercises.

The *index.html* page, the WebFacing tool creates, is very plain. In this exercise you will add some color to it, as well as some pictures to make it a more interesting web page. This will give you a chance use some of the other tools in Development Studio Client.

The Goal of the exercise

The goal of this exercise is to practice using some of the Web tools in Development Studio Client to enhance the *index.html* Web page. You will use Designer and some related tools and use them to enhance the index.html Web page, and then test the changed page.

At the end of this exercise, you should be able to:

- Use Page Designer
- Use page designer components to create a more attractive browser interface
- Add a style sheet to the page
- Add a heading that moves
- Add a graphic from the sample gallery
- Create a Logo with a web design tool
- Test this new good looking insdex.html page

Scenario

You have created a WebFaced application and now want to enhance the look of the *index.html* page to give the start page of this application a professional appearance.

The Development Studio client 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.

If you are working with Development Studio Client Version 5 continue here, if you are working with Version 4 go head to: Working with Development Studio Client Version 4; if your are using Version 5 continue here.

Working with Development Studio Client Version 5

The first step is to locate the *index.html* file and to start Page Designer; in Page Designer you will link the page to cascading style sheet that comes as a sample with the workbench.

Opening Page Designer

In the Development Studio Client workbench:

- Open the WebFacing perspective.

  You should now have the WebFacing project view in your workbench environment.
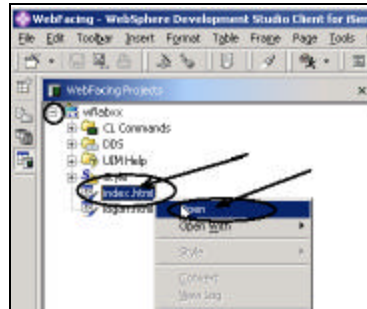
Figure 0-1: WebFacing project with index.html file

Expand the *wflabxx* WebFacing project
- Right click on the *index.html* icon
- Select the *Open* option from the pop up menu.

The Page Designer will appear in the upper right pane of the workbench and show the index.html page as the WebFacing tool created it.
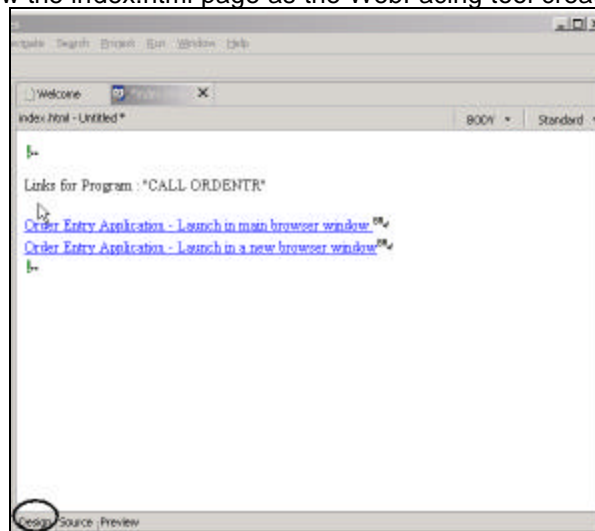

Figure 0-2: Page Designer showing the Design page

Make sure that you are on the Design page in Page designer by:
- Clicking on the *Design* tab

Working with page properties

<div align="center">Move the links down by</div>

- Clicking before the first *TAG*, which shows as an exclamation mark.
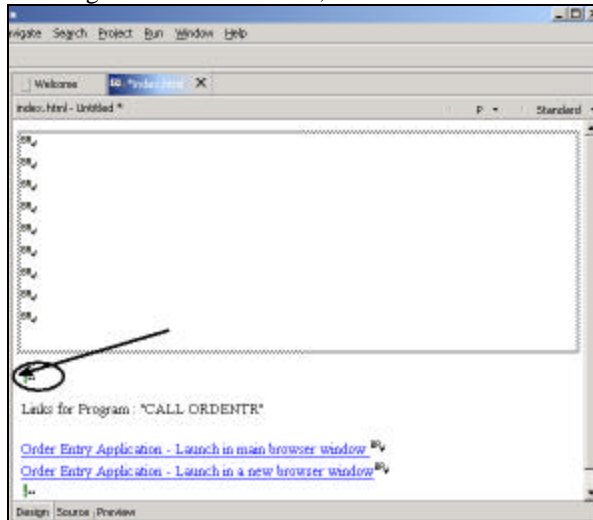

-

Figure 0-3: Add some space in the upper half of the index.html page

- Pressing the *Enter* key a number of times as shown in Figure 0-3

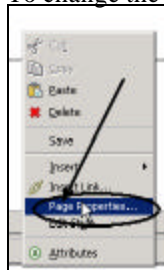<div align="center">To change the page properties:</div>

Figure 0-4: Page properties on pop up menu in Page Designer

- Right-click the *background* of the index.html page in Page Designer.

- Select the *Page Properties…* option from the pop-up menu.
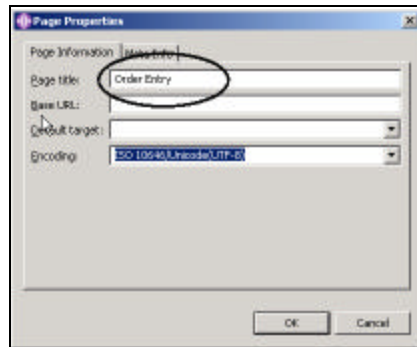 The Page Properties dialog opens as shown in.

Figure 0-5: Page properties dialog

- Change the *Page title* field to *Order Entry*
- Click the *OK* push button 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*

Linking a Cascading Style Sheet to the web page

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 Development Studio Client.
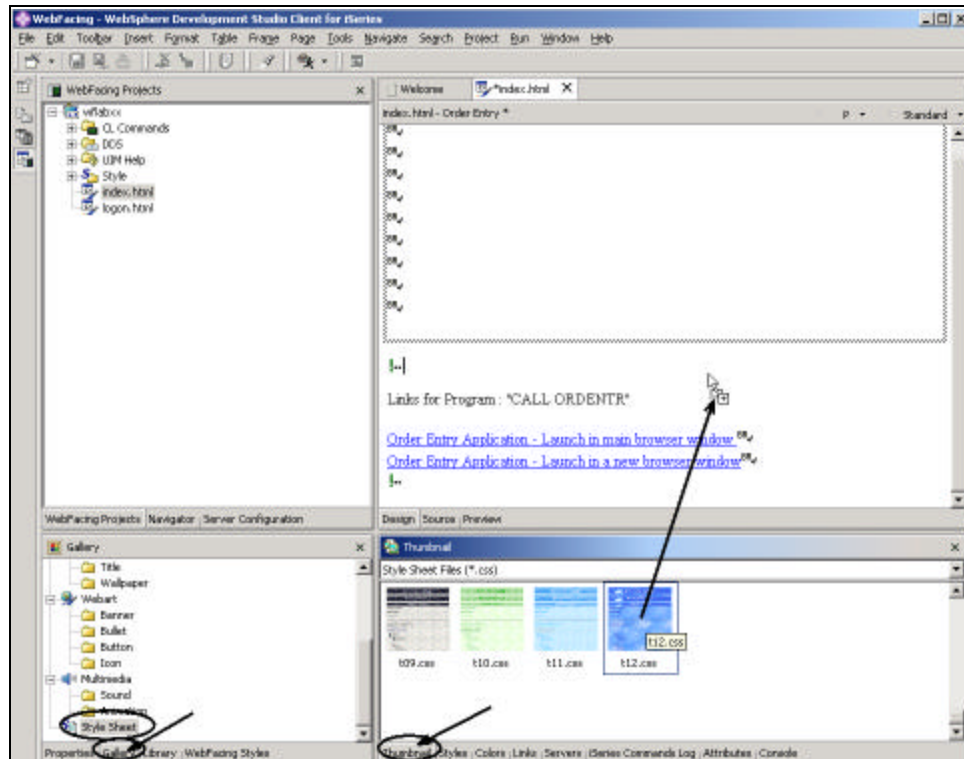In the lower left pane in the workbench

Figure 0-6: Page Designer, linking a style to the web page

As shown in Figure 0-6

- Click on the *Gallery tab*, if the Gallery view isn't already displayed
- Scroll to the *bottom* of the Gallery view, until can see the *Style Sheet* icon
- Click on the *Style Sheet* icon, to select it
- Click on the *Thumbnail tab* on the right bottom pane in the workbench

You should see thumbnail icons of all the styles available as shown in Figure 0-6. In the thumbnail view:

- Scroll down to the bottom, until you see style sheet *t12.css* in the list, or select a style sheet that you like best.
- Click on the thumbnail picture of *t12.css* with your left mouse button

- Keep the left mouse button down and drag the mouse cursor to the *Page Designer window.* The cursor will change from this shape ⊘ , to this shape , when the latter cursor shape appears in the Page Designer window, let go of the mouse left button.

After a short while the Style sheet properties will be applied by magic and the colors in the page will change to the style sheet definitions, as in Figure 0-7
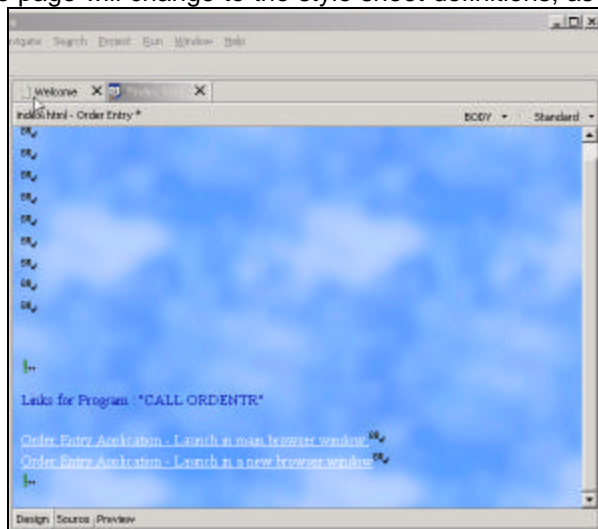

Figure 0-7: Index.html page with style properties applied

Designing and adding a Logo

Now that you have the overall web page look specified I want you to use the WebArt Designer to create a Logo that you then will add to this page.
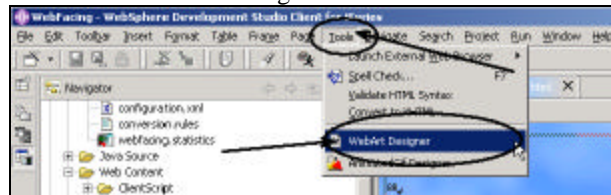
To start the WebArt Designer:

Figure 0-8: Tools menu with WebArt Designer

- Select the *Tools* menu option in the workbench

- Select the *WebArt Designer* from the pull down menu

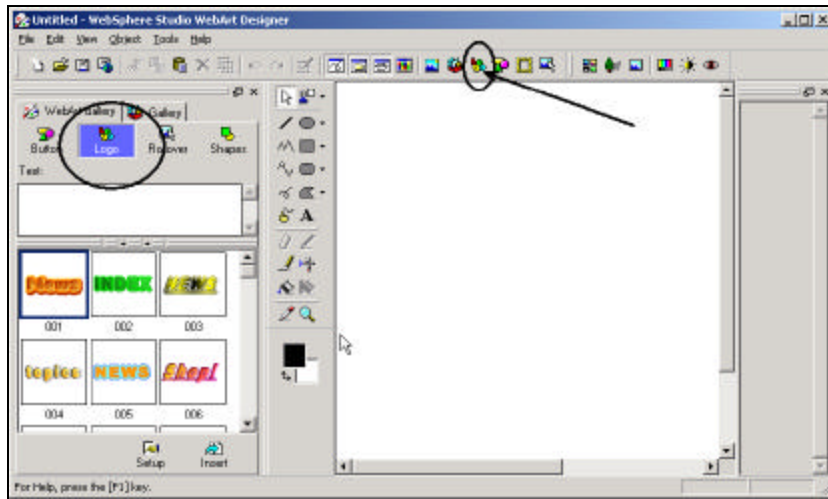The WebArt designer will come up as shown in Figure 0-9

Figure 0-9: WebArt Designer dialog

> The WebArt designer shows the Template Gallery on the left, where you
> find sample 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. In this exercise I want you to create a logo
> from scratch, you could also select one from the template gallery as the base
> for your own logo.

- Click on the *Create Logo* button above the canvas, as shown by the arrow in
  Figure 0-9, or use the *Object >> Create Logo* menu options.
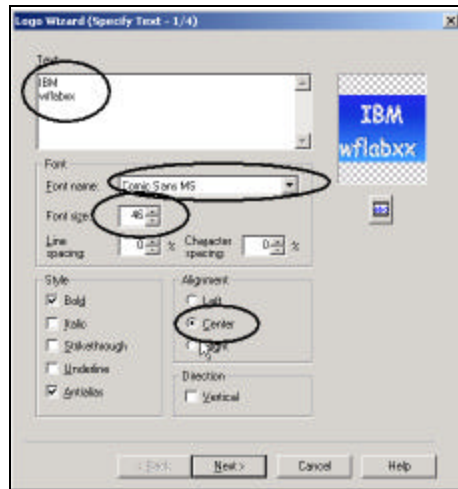 This will bring up the *Logo wizard* dialog, In the Logo wizard:

Figure 0-10: Logo wizard dialog

- Enter your *company name* in the *Text* entry fie ld and in the next of the *Text* entry field *wflabxx*

- Select *font name* Comic Sans MS

- Select *Font size* 46

- Select the *Center* radio button in the *Alignment* group box

Notice in the upper right corner of the dialog, a sample of the logo as specified at the moment is being displayed.

Forward to the next page of the wizard by:

- Clicking on the *Next >* push button

The *Select color page* of the wizard will be displayed, as shown in Figure 0-11, on this page:
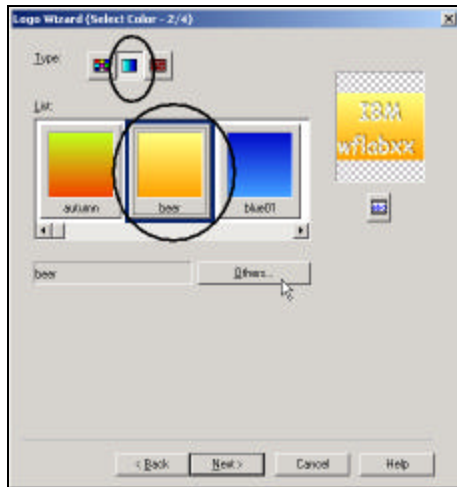
Figure 0-11: Logo wizard with Select Color page

- Click on 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*.

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

Note: You can change the colors by pressing the *Others...* push button on this dialog and create you own gradation.

- Press the *Next >* push button, to move forward to the next page.

    The Select Outline page appears as shown in Figure 0-12

Figure 0-12: Logo wizard with Select Outline page

- Select the *Seal* outline from the list, or any outline you like best

- Press the *Next >* push button
  You see the *Select Text Effect* page of the logo wizard as shown on

Figure 0-13: Logo wizard with Select Text Effect page

- Select the *Emboss* text effect, or one that you like best.

- Click the *Finish* push button,
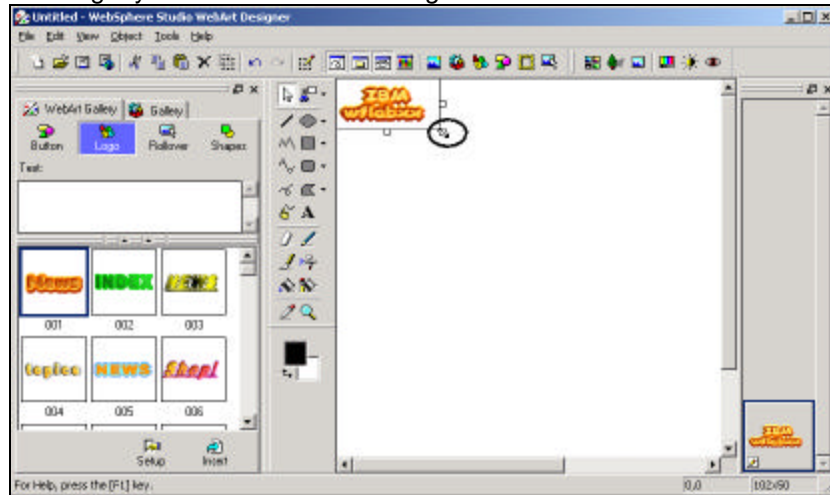 This will get you back to *WebArt designer* window as shown in

Figure 0-14: WebArt designer with new logo object

Resize the logo object on the canvas by:

- Clicking on the logo object to select it

- Move the cursor to the rectangle at the right bottom corners of the object, watch the cursor changing shape
- Drag the rectangle up and to the left so the object becomes smaller as shown in Figure 0-14
  Now you need to save this object, first I want you save it as a WebArt object, that allows you later on to work with object again in WebArt designer, but you can't use that format for your webpage.
- Select the File option on the WebArt designer menu bar

- Select Save from the pull down menu
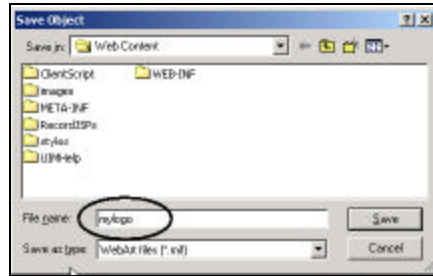 The Save dialog comes up as shown in Figure 0-15

Figure 0-15: WebArt Designer save dialog

- Enter *mylogo* in the File name entry field
- Click the Save push button

    Now we need to save the object in a form that can be displayed on a web page.

- Select the *File* menu option from the WebArt designer menu bar again
- Select option *Save wizard for web...* from the pull down menu

    The save wizard dialog is displayed as shown in Figure 0-16

Figure 0-16: Save wizard with Specify Objects page

- Select the *Save the selected object* radio button
- Click the *Next >* push button

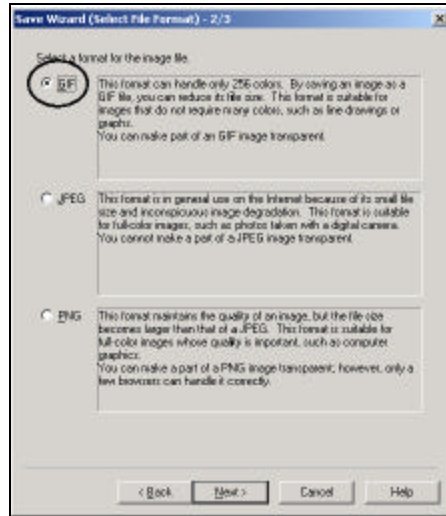   Now the Select File format page is displayed as in

Figure 0-17: Save wizard with Select File Format page

- Select the *GIF* radio button
- Click the *Next >* push button
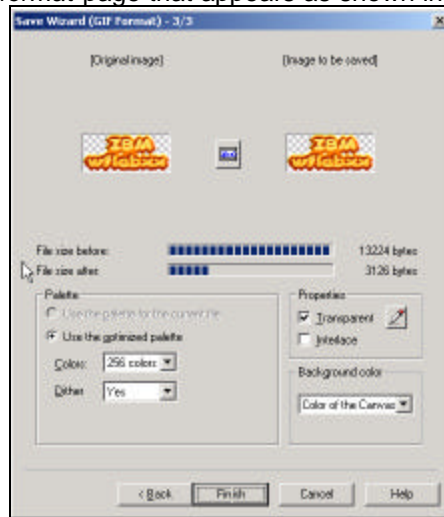   - On the *gif format* page that appears as shown in Figure 0-18

Figure 0-18: Save wizard with GIF Format page

- Click the *Finish* push button
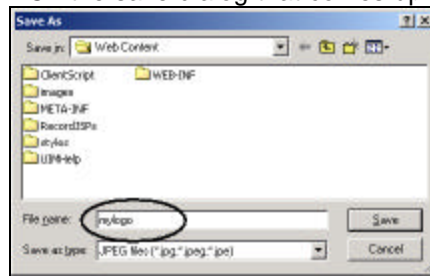 - On the save dialog that comes up

Figure 0-19: Save dialog

- Make sure the directory is pointing to the Web Content directory in the workspace where your WebFacing project is located, if you used the default for the workspace location it is like in Figure 0-20
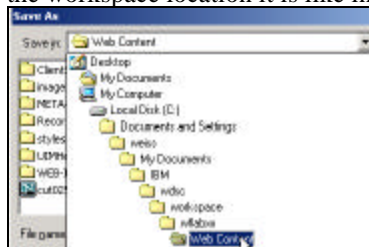

-

Figure 0-20: Directory structure showing default workspace location

- Enter *mylogo* in the filename entry field
- Click the *Save* push button
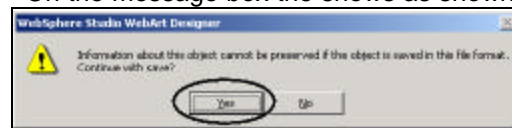 - On the message box the shows as shown in Figure 0-21

Figure 0-21: Message dialog when saving object as jpeg file format

- Click the *Yes* push button
  - The dialog GIF attribute settings shows like in

Figure 0-22: GIF attribute dialog

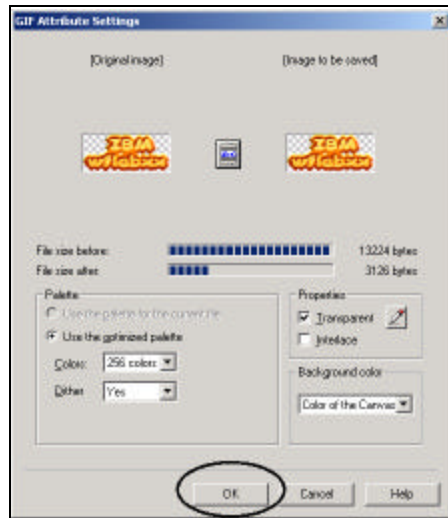- Click the *OK* push button

Close the WebArt designer by:

- Selecting the *File* option from the menu bar
- Selecting the *Exit* menu option from the pull down menu

   You are back in the workbench in the WebFacing perspective
   showing the WebFacing project view

Switch to the Navigator view by:

- Clicking on the Navigator tab
- Expand the wflabxx web project
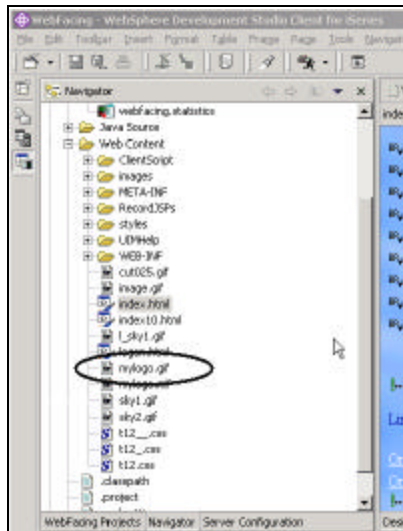- Expand the Web Content folder

Figure 0-23: View of Web Content directory with mylogo.gif

The *mylogo.gif* file should appear in the list as shown in Figure 0-23
If it doesn't appear, the list might need to be refreshed.

- Right click on the *Web Content* folder icon
- Select the *Refresh* option from 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, then move it to the Web Content folder in the WDSC workspace. If you didn't use the default location as shown in Figure 0-20, do a search for the workspace and the wflabxx directory in it. Move the *mylogo.gif* file into the Web Content sub directory under the wflabxx directory
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.html* file.
In the Navigator view:
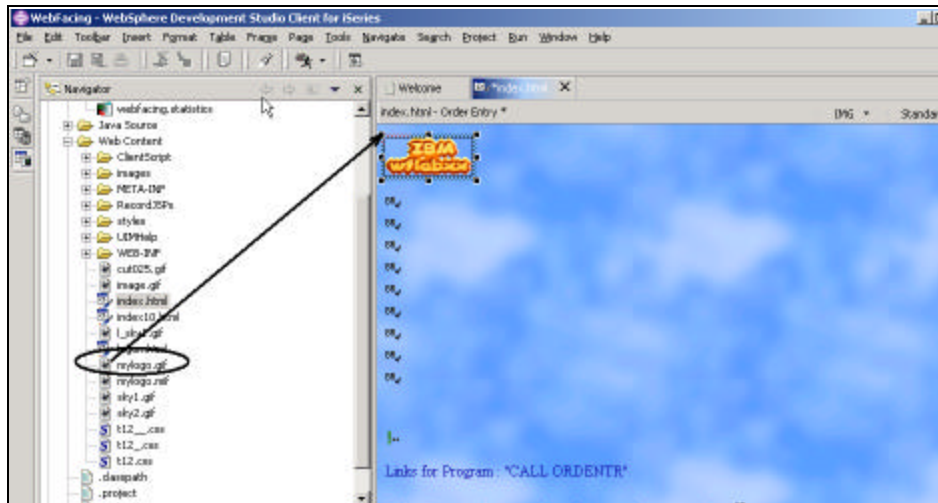
Figure 0-24: Dragging the mylogo.gif file onto the design page

- Select the *mylogo.gif* file
- Keep the *left* mouse button pressed
- Drag the *file* to the upper left corner in the page designer window
- Let the *mouse button* go

The logo is placed on the design page as shown in Figure 0-24

Adding a heading 1 tag to the page

Now I want you to insert a nice heading below the logo
- Position the cursor just *below the Logo* at the first BR tag
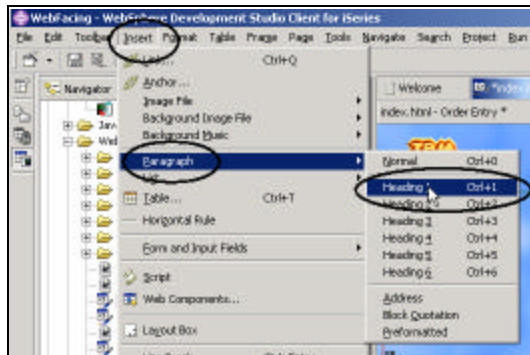
Figure 0-25: Selecting to insert a Heading 1 tag

- Select *Insert* from the workbench menu bar
- Select *Paragraph* from the pop up menu
- Select *Heading 1* from the sub menu

A frame appears that allows you to enter text:

- Enter *your company name Order Entry*, as shown in Figure 0-26
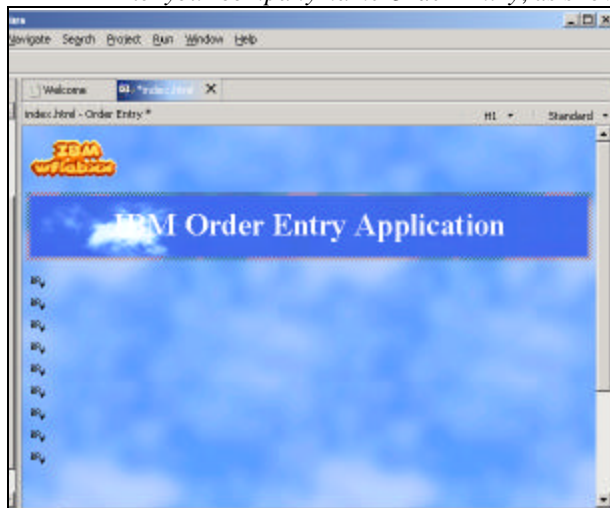
Figure 0-26: Web page with logo and title

Now I want you to use one of the sample pictures that come with Development Studio Client and place this picture on the page.

Adding a picture to the page

In the workbench underneath the Navigator view
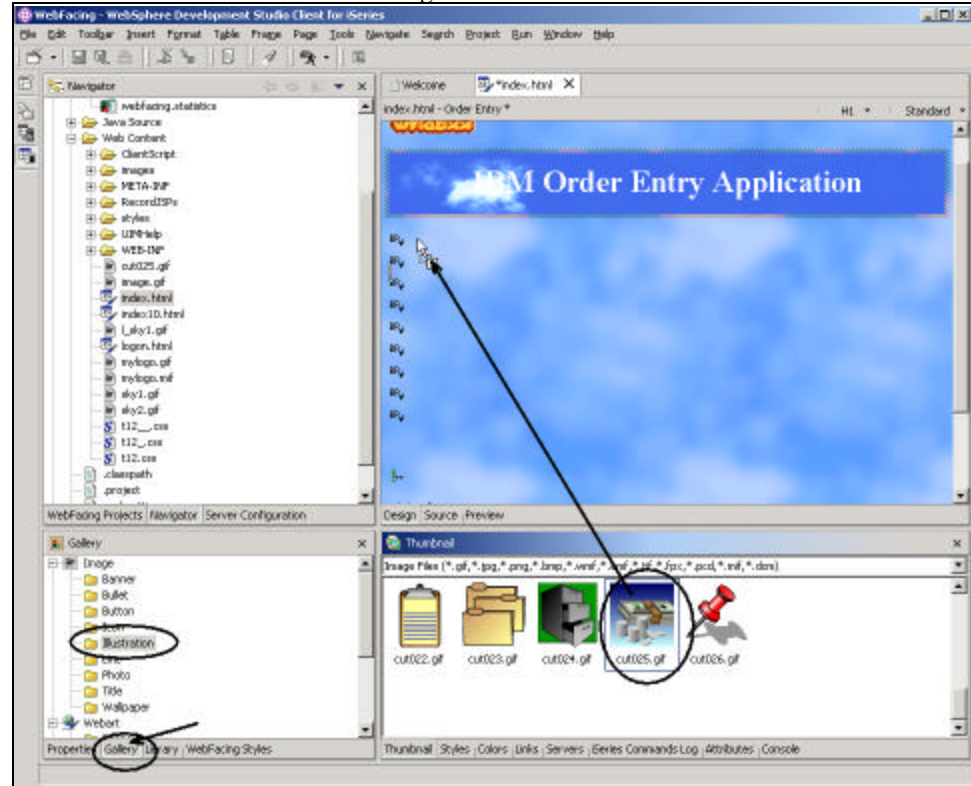
Figure 0-27: Dragging a picture onto the design page

- Select the *Gallery* tab
- Expand the *Image* folder
- Select the Illustration folder

On the dialog pane beside the gallery view:

- Select one of the sample illustrations in Figure 0-27, I use file cut025.gif
- Drag that picture onto the design window below the heading

The Design window now contains a picture as shown in Figure 0-28
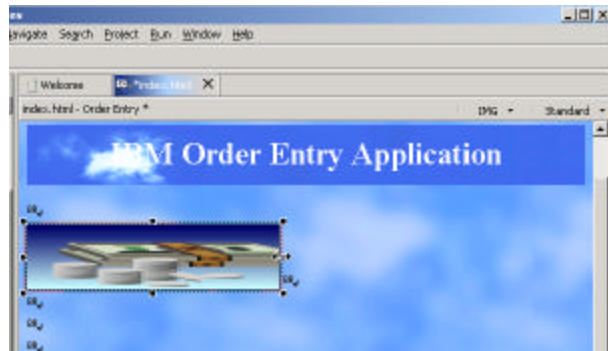
Figure 0-28: Design window with picture added

> You are almost done, one more thing, I want you to add a moving text onto the page.

Adding moving text to the page

- Position the cursor in the design window *underneath the picture*
- Select the *Insert* menu option from the workbench menu bar
- Select the *Paragraph* option from the pull down menu
- Select the *Heading 3* option from the sub menu
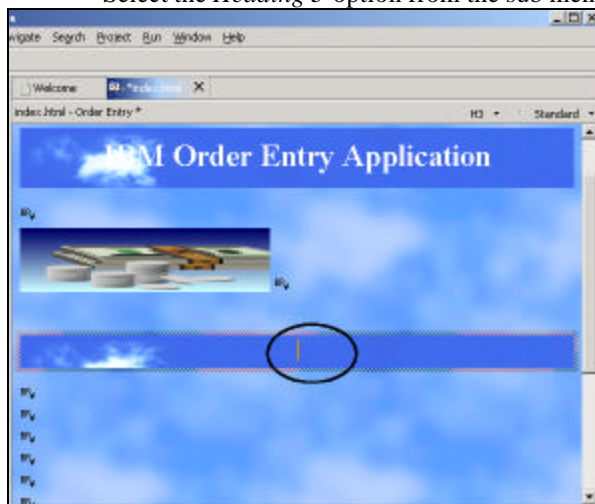
Figure 0-29: Web page with Heading 3 frame

Leave the cursor positioned inside the *heading 3 frame*
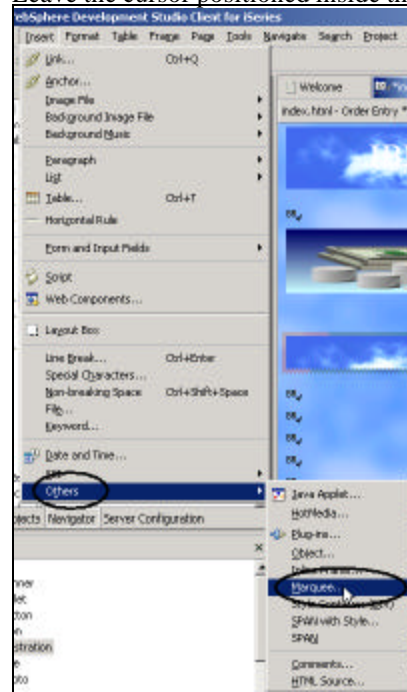
Figure 0-30: Selection of the Marquee option

- Select the *Insert* menu option form the workbench menu bar
- Select the *Others* option from the pull down menu
- Select the *Marquee* .. option from the sub menu
  The Insert Marquee dialog comes up as shown in
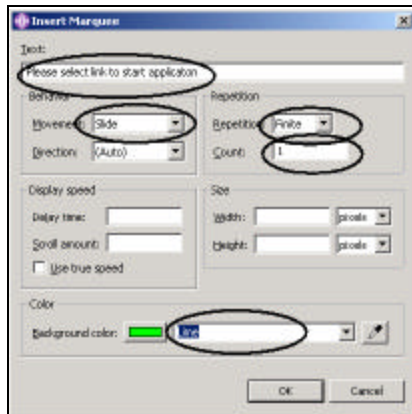
Figure 0-31: Insert Marquee dialog

- Enter into the *Text* entry field: Please select link to start application
- Select *Slide* in the *Movement* combo box
- Select *Finite* in the *Repetition* combo box
- Select *1* in the *Count* combo box

The two last selections just avoid the text sliding in forever and not

standing still, if you think your user can stand some more movement

on the page feel free to change these settings.

- Select *Lime* in the *Background color* combo box
- Click the *OK* push button
    The Design page should look like Figure 0-32
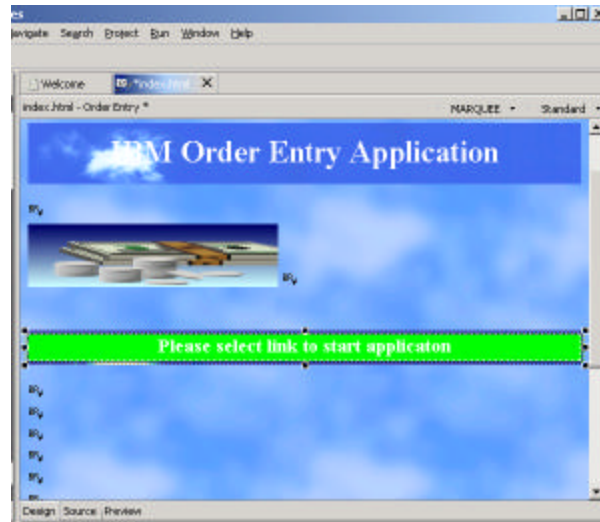
Figure 0-32: Design page with Header 3 text

To save some space get rid of some of the line break tags

- Position the cursor on the *BR* tag

- Press the *Delete* key until the links appear on your page as shown in Figure 0-33

Figure 0-33: Page designer design page with completed page

To have a look at the page, as it would appear in a browser, just:

- Click on the *Preview* tab at the bottom of the design page

You will notice that your *heading 3* text is sliding in
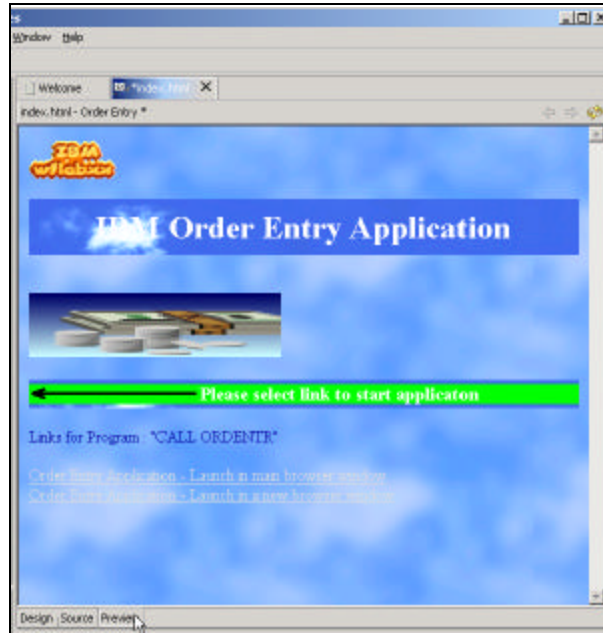
Figure 0-34: Web page shown in browser, text moving in

Changing the text color in Page designer

You notice that the Text color and the background interfere a little bit one easy way of changing this, is to apply another color to certain areas of the text. To do that, go back to the Design page:

- Click on the *Design* tab

Figure 0-35: Selecting color choice for selected text area

- Select the *text* (*IBM* in Figure 0-35) you want to change color on by swiping the area with the mouse cursor
  On the bottom dialog underneath the Page Designer window
- Select the C*olor*s tab

- Select a *color* with your mouse cursor
- Select the *Text color* option form the colors dialog
- Select the *Set as Text Color* option from the pull down menu

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

Clean up the page

One more thing to do, I want you remove the default text that was added by the WebFacing tool as show in Figure 0-36

Figure 0-36: Text to be deleted from web page

- Select the *text*

- Press the *Delete* key
- Select the *Preview* tab to view your completed page it should look like similar to Figure 0-37

Figure 0-37: Completed web page in Preview window

- Save the file *index.html*

- Exit *Page Designer*
    In Navigator view or WebFacing project view:
- Right mouse click on the *wflabxx* icon
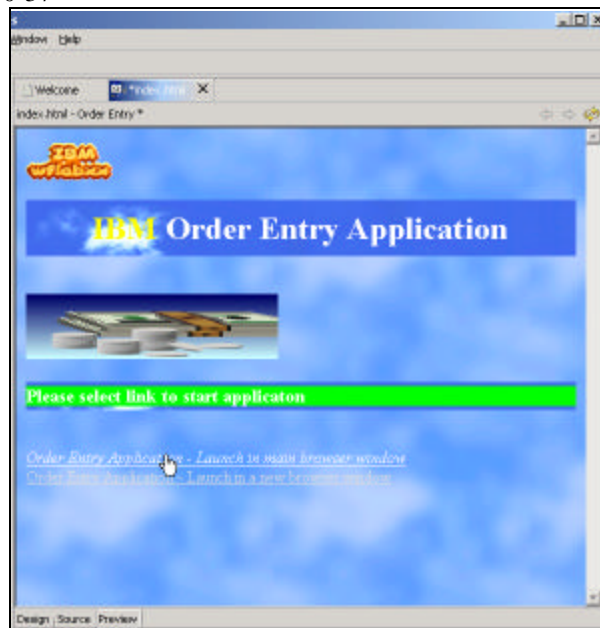- Select the *Run on Server* option from the pop up menu
    Your new designed *index.html* page will come up and you can run your
                                    application
    Move forward to heading Analysis, in the next section I describe the same
    scenario just going thru Development Studio Client Version 4 user interface.

Working with Development Studio Client Version 4

The first step is to open the Web perspective to get the right dialogs for the
job you're your view. You need to then copy the index.html file that you
work with. This is necessary because the Page Designer will remove one line
of source from the file because it assumes this line is incorrect.
Unfortunately WebFacing needs this line, so after you are done with Page
Designer, you will copy this line from the backup you are making and it to
the updated index.html. If you didn't do this, the links on this page would
not work anymore
After making the backup copy you are ready to use the index.html file with
Page Designer, in Page Designer you will link the page to a cascading style
sheet that comes as a sample with the workbench. You will change the
heading of the page, add you own logo, and add a mo ving text.

Switching to the Navigator view

In the Development Studio Client workbench:
Open the Web perspective:
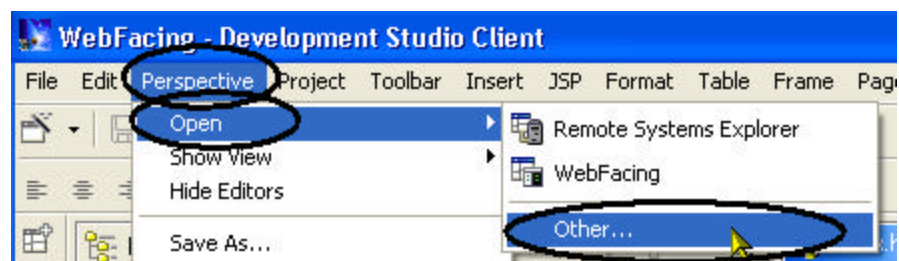
Figure 0-38: Opening the Web perspective

- Select the *Perspective* option on the workbench menu
- Select the *Open* option on the pull down menu

- Select the *Other...* option from the sub menu
    On the *Select Perspective* dialog as shown in Figure 0-39
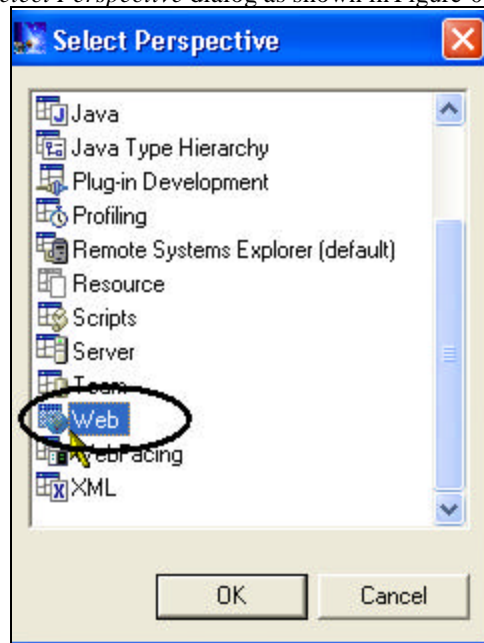
Figure 0-39: Select Perspective dialog

- Select *Web* from the list of available perspectives
- Click the *OK* push button
    You should now have the Web perspective open in your workbench with the
    Navigator view. You will use this view to locate the index.html file and then
    work with it.
- Expand the *wflabxx* project.
- Expand the *webApplication* folder.
- Locate the *index.html* file in this folder.
    As mentioned before, you are making a backup copy of this file:
- Right click on the *index.html* icon
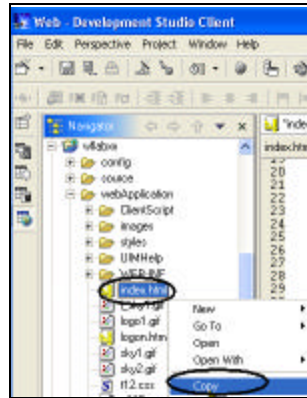
Figure 0-40: Select the Copy action

- Select *Copy* from the pop up menu

    The *Folder Selection* dialog comes up as shown in picture
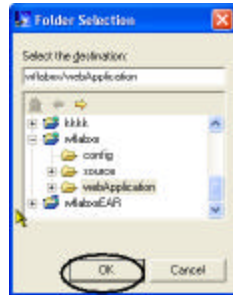
Figure 0-41: Folder Selection dialog

- Click the *OK* button on the *Folder Selection* dialog

    A file with the name *Copy of index.html* will be created, you will use this file later on to copy a line and add it to the original file.

    The next step is to look at the index.html page and change it using Page Designer.

Starting Page Designer

Page Designer is comparable to SDA for 5250 panels or a GUI builder for GUI pages, but, as its name indicates, it helps with designing Web pages. As in SDA or CODE Designer, instead of typing source statements in an editor, Page

Designer creates the source for you from your design choices. Here, the
source that is generated is using HTML tags instead of DDS statements.
To invoke Page Designer:

- Double-click the icon of the *index.html* file.

The Page Designer opens on the right side of the workbench.

This is where you can enhance the Web page.
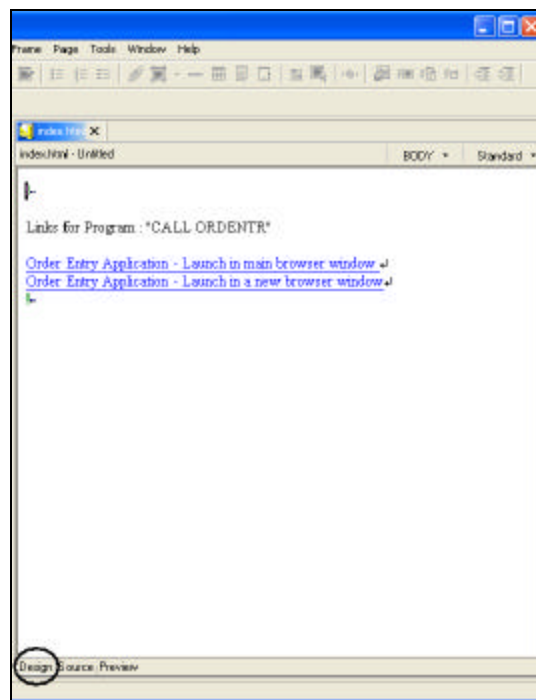
Figure 0-42: Page Designer with three tabs, one of them the Design tab

You are ready to use Page Designer. You will notice three tabs at the bottom
of the Page Designer work area. These tabs allow you to switch between
different views

These views are:

- The normal *Design* view
- An HTML *source editor* view

- A *Preview* view, which shows the page in its current state in a browser window.
  Make sure you are on the Design page by:
- Clicking the *Design* tab, as shown in Figure 0-42.

Working with page properties

- Move the labels down by clicking before the first *TAG*, which shows as an exclamation mark.
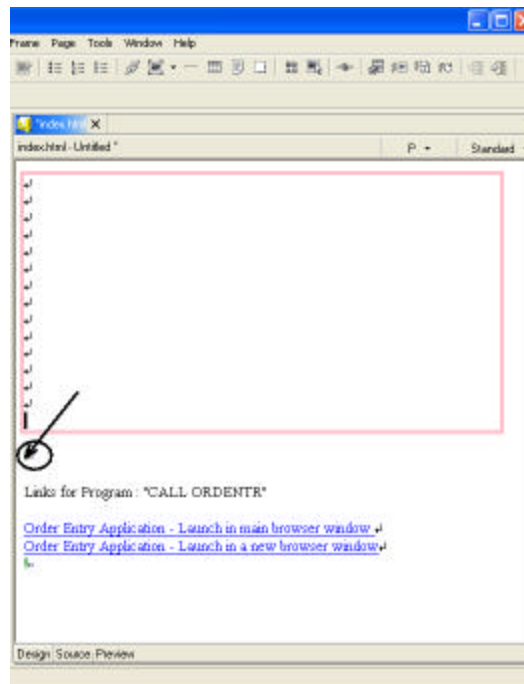
Figure 0-43: Adding blank space to the web page

- Press the *Enter* key a number of times.
- Right-click the *background* of the design work area.

- Select *Page Properties* option from the pop-up menu.
  The *Attributes* dialog opens.
- Change the *Page title* field to `Order entry`
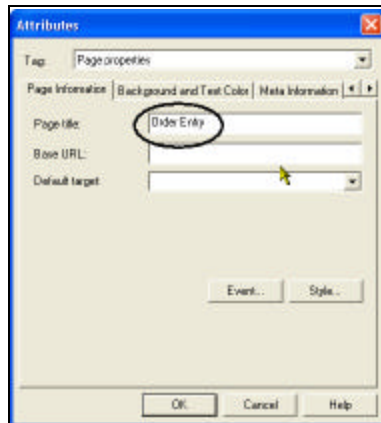
Figure 0-44: Page properties page

- Click the *OK* push button to close the *Attributes* dialog box.

   The page now got a title. Now you'll give this page more color you'll add some background color and attribute definitions for text and links by linking this page to a style sheet.

Linking a Cascading Style Sheet to the web page

You will add a style sheet to the web page, you can use a style sheet that is used in your company or you can use one of the sample style sheets that are provided in Development Studio Client.
In the lower left pane in the workbench
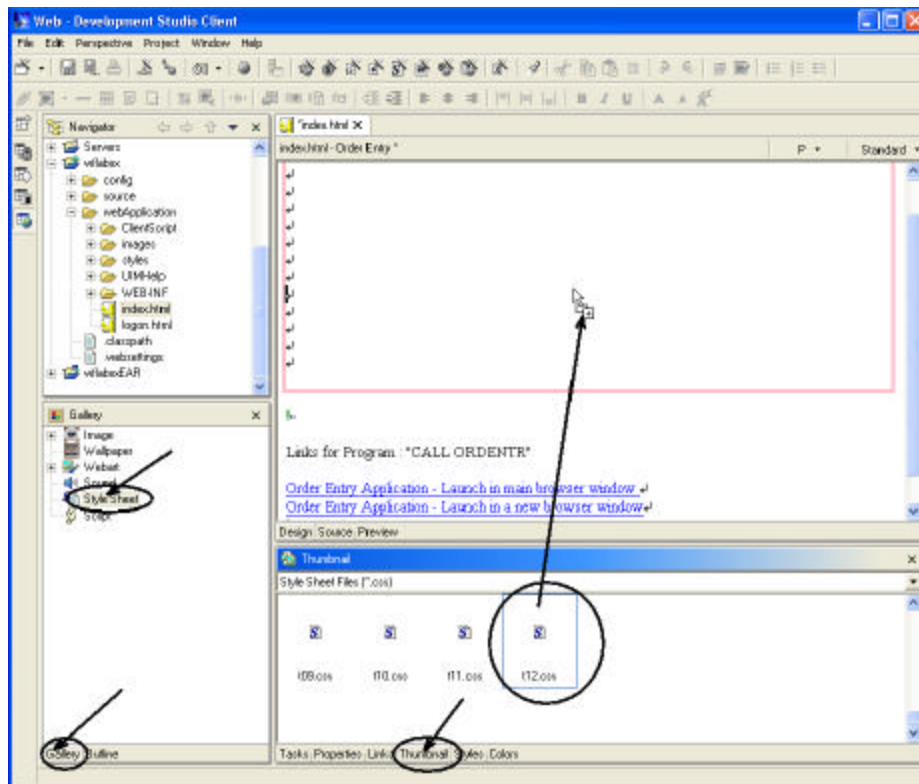
Figure 0-45: Page Designer, linking a style to the web page

As shown in Figure 0-45
At the right bottom pane in the workbench
- Click on the *Thumbnail* tab

At the left bottom pane in the workbench:
- Click on the *Gallery* tab
- Scroll to the *bottom* of the Gallery view, until you can see the *Style Sheet* icon
- Click on the *Style Sheet* icon, to select it

You should see thumbnail icons of all the styles available as shown in Figure 0-45. In the thumbnail view:

- Scroll down to the bottom, until you see style sheet *t12.css* in the list, or select a style sheet that you like best.
  - Click on the icon of *t12.css* with your left mouse button
- Keep the left mouse button down and drag the mouse cursor to the *Page Designer window*. The cursor will change from this shape ⊘ , to this shape ⊞ , when the latter cursor shape appears in the Page Designer window, let go of the mouse left button.

After a short while, the Style sheet properties will be applied by magic and the colors in the page will change to the style sheet definitions, as in Figure 0-46, which gives you a gray flavor of the different colors, but it should look very nice on your monitor
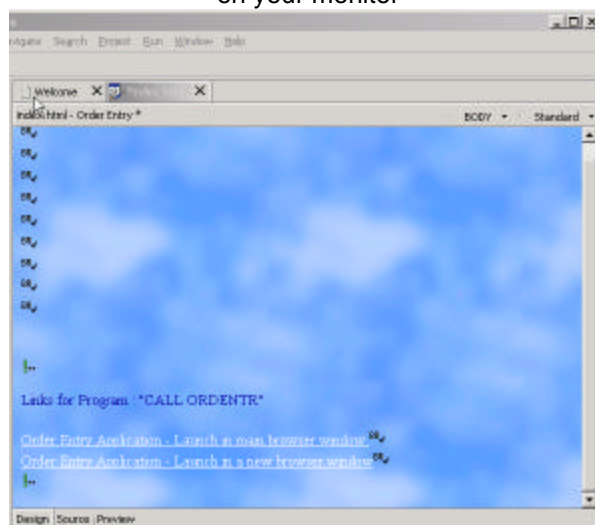
Figure 0-46: Index.html page with style properties applied   >>>>>>>>>Need this in V4 version>>>>>>>>

Adding a Logo to the page using the logo wizard

Now you'll add a Logo using the Logo wizard that comes with Development Studio Client.

- Click *on the first line break tag* in the upper left corner of the design page, to position the cursor at the target location for the logo.
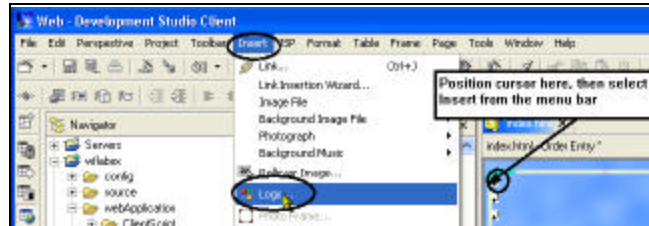
Figure 0-47: Start Logo wizard from Insert menu

- Select *Insert → Logo* from the workbench main menu bar.
  The Logo wizard opens.
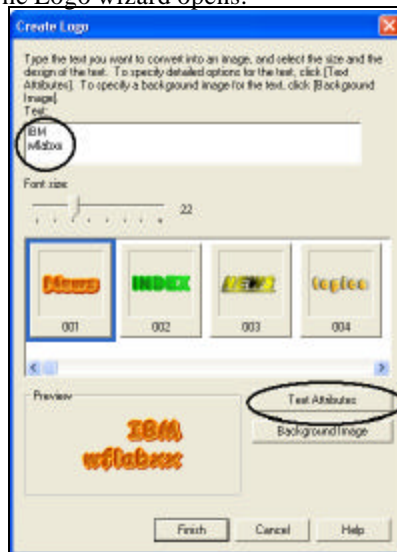
Figure 0-48: Adding text for the Logo

- In the *Text* field on top of the wizard page, type:
  - *wflabxx*
  - *Your company name*, (in my sample *IBM*), as in Figure 0-48
- Click the *Text attributes* push button on the Logo wizard page.
  The first of four text attribute pages appears:
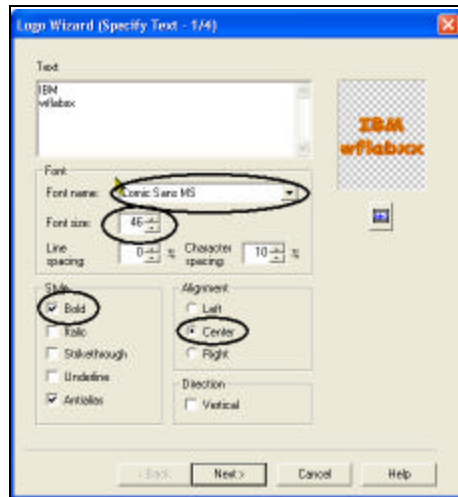
Figure 0-49: Logo wizard with text attributes page

- Select *Comic Sans MS* in the Font name combination box
- Select *46* in the Font size combination box
- Select the *Bold* check box
- Select the *Center* radio button
- Click the *Next >* push button
    The *Color Selection* page comes up:
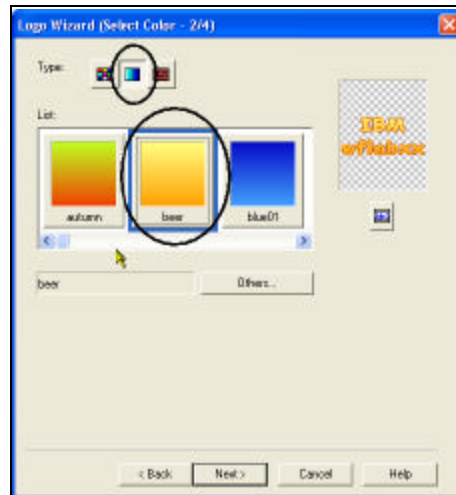
Figure 0-50: Logo wizard text attribute color selection page

- Select type *gradation*, by clicking its pushbutton

- Click the color *beer* push button. Maybe, I am influenced by my German background, but I think beer is a really nice color combination. The liquid stuff is not bad either.
- Click the *Next >* pushbutton
  The Select Outline page appears as shown in Figure 0-51:

Figure 0-51: Logo wizard text attributes Select Outline page

- Click the *Seal* push button from the Type list
- Click the *Next >* push button

    The *Select Text Effects* page appears as shown in Figure 0-52

Figure 0-52: Logo wizard text attributes Select Text Effect page

- Click the *Emboss* type push button

- Click the *Finish* push button

     You are back the *Create Logo wizard* page, if you like, you might want to
     select a nice background for your Logo by using the *Background Image* push
     button. I'll let you discover this feature on your own.
     On the *Create Logo Wizard* page:

Figure 0-53: Create Logo wizard, ready to Finish

- Click the *Finish* push button

     Back in Page Designer, the Logo will appear, it will be a bit big, so I want
     you to re-size it:
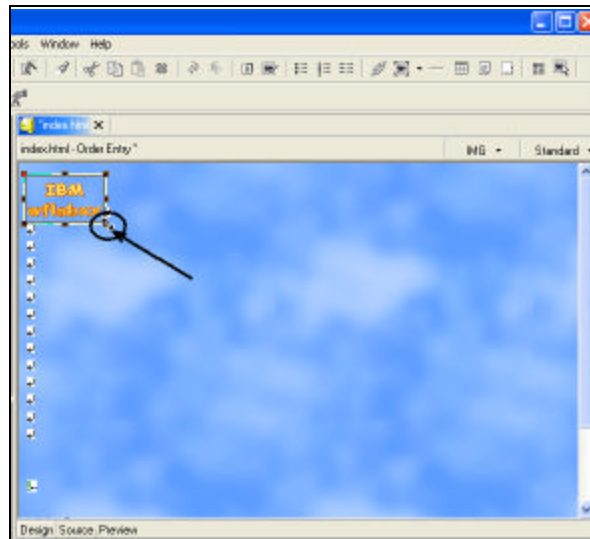
Figure 0-54: Re-sizing the Logo in Page Designer

Select the Logo object in Page Designer by:
- Clicking on it

- Locate the little square on its right bottom corner

- Move the cursor on top of it, so the cursor changes shape to 2 arrows

- Click on the rectangle

- Drag the rectangle towards the upper left corner to shrink it

Figure 0-54 gives you an indication how small it should get, but don't worry it doesn't matter if it not exactly the way I sized it in the picture. As long as you like your logo and its size you are doing just fine

You are done with the Logo design but some more work has to be done.

Adding a heading 1 tag to the page

Now I want you to insert a nice heading below the logo

- Position the cursor just *below the Logo* at the first line break tag as shown in Figure 0-55
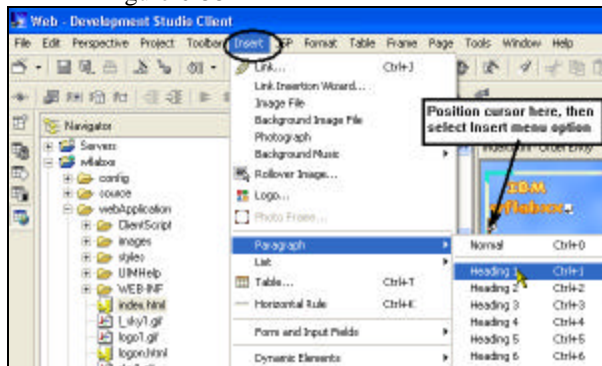
Figure 0-55: Menu structure to insert a Heading 1 tag

- Select *Insert* from the workbench menu bar
- Select *Paragraph* from the pop up menu
- Select *Heading 1* from the sub menu

A frame appears that allows you to enter text:

- Enter *your company name Order Entry*, as shown in Figure 0-56
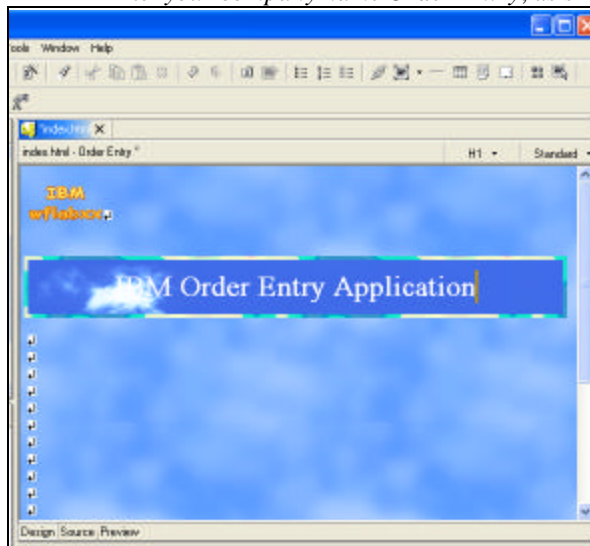
Figure 0-56: Web page with logo and title

Now I want you to enhance this page even more by using one of the sample pictures that come with Development Studio Client and placing this picture on the page.

Adding a picture to the page

In the workbench underneath the Navigator view
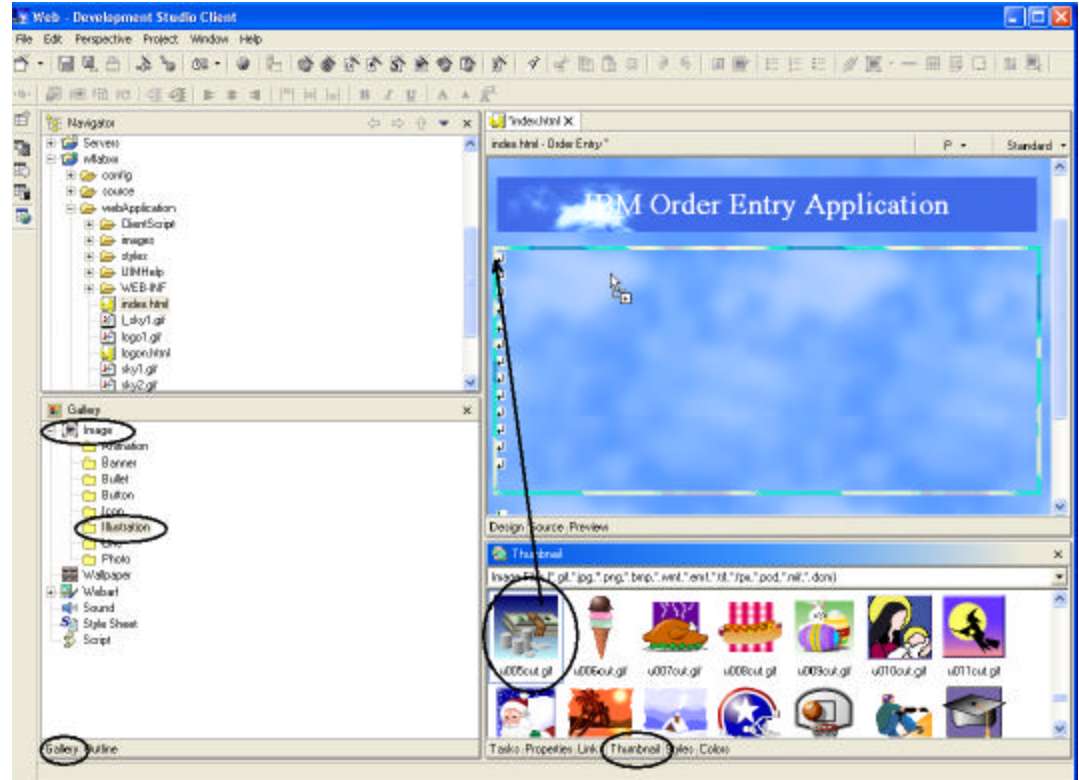
Figure 0-57: Dragging a picture onto the design page

- Select the *Gallery* tab
- Expand the *Image* folder
- Select the *Illustration* folder

On the dialog pane *beside* the gallery view

- Click on the *Thumbnail* tab to show the selection of illustrations available.

- Select one of the sample illustrations as shown in Figure 0-57, where I use file *u005cut.gif*
- Drag that *picture* onto the *design window* to a position below the heading

The Design window now contains a picture as shown in Figure 0-58
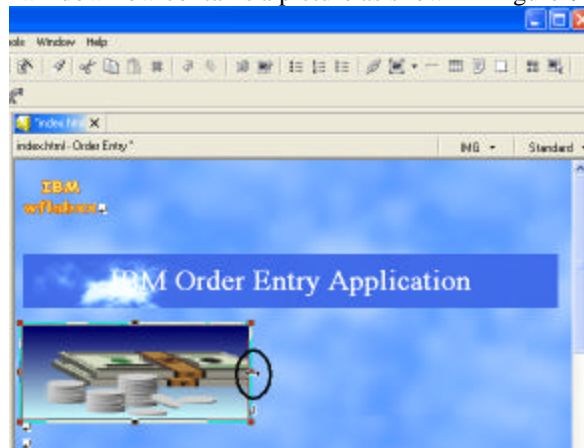
Figure 0-58: Design window with picture added

> You might want to re-size the picture a little bit to fill more o f the page
> You are almost done, one more thing, I want you to add a moving text onto the page.

Adding moving text to the page

- Position the cursor in the design window *underneath the picture*
- Select the *Insert* menu option from the workbench menu bar
- Select the *Paragraph* option from the pull down menu
- Select the *Heading 3* option from the sub menu

A heading 3 frame gets created on the design page, as shown in Figure 0-59
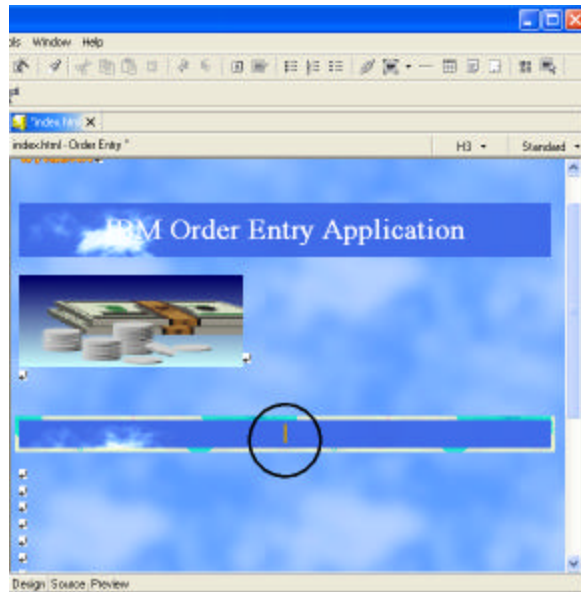
Figure 0-59: Web page with Heading 3 frame

Leave the cursor positioned inside the *heading 3 frame*
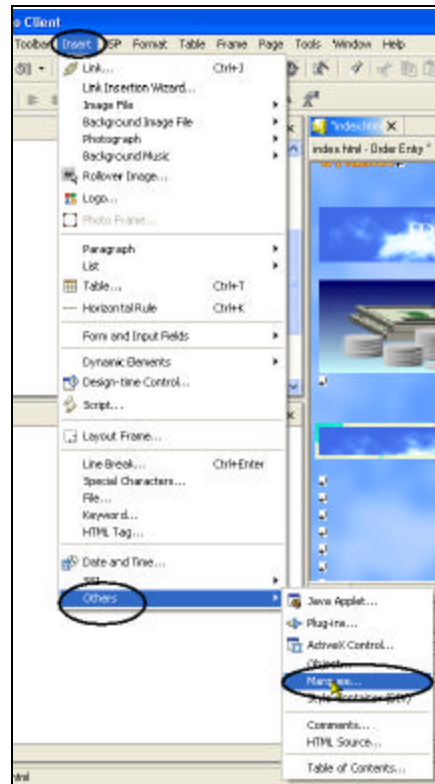
Figure 0-60: Selection of the Marquee option

- Select the *Insert* menu option from the workbench menu bar

- Select the *Others* option from the pull down menu
- Select the *Marquee* .. option from the sub menu
  The *Insert Marquee* dialog comes up as shown in Figure 0-61
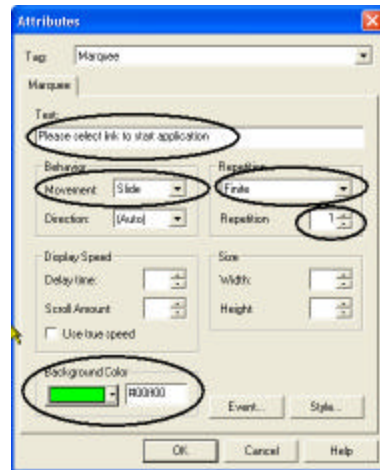
Figure 0-61: Insert Marquee dialog

- Enter into the *Text* entry field: *Please select link to start application*
- Select *Slide* in the *Movement* combo box
- Select *Finite* in the *Repetition* combo box
- Select *1* in the *Count* combo box

The two last selections just avoid the text sliding in forever and not standing still, if

you think your users can stand some more movement on the page feel free to change

these settings.

- Select *a nice green* color in the *Background color* combo box
- Click the *OK* push button

The Design page should look like Figure 0-62
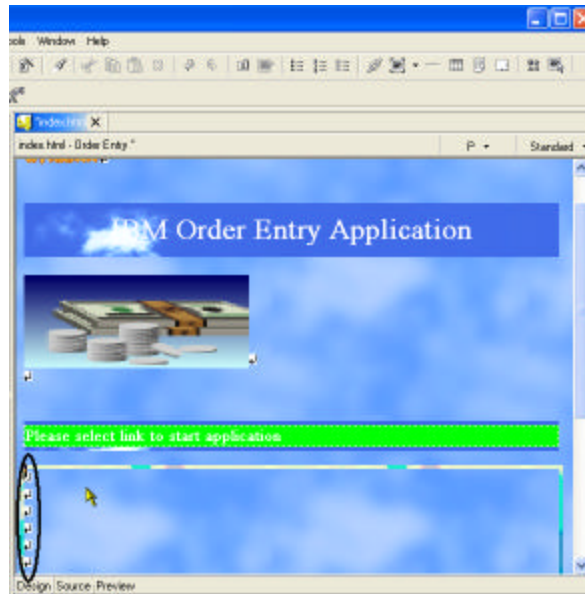
Figure 0-62: Design page with Header 3 text

To save some space get rid of some of the line break tags

- Position the cursor on the line break tags as shown in Figure 0-62

- Press the delete key until the links appear on your page as shown in Figure 0-63
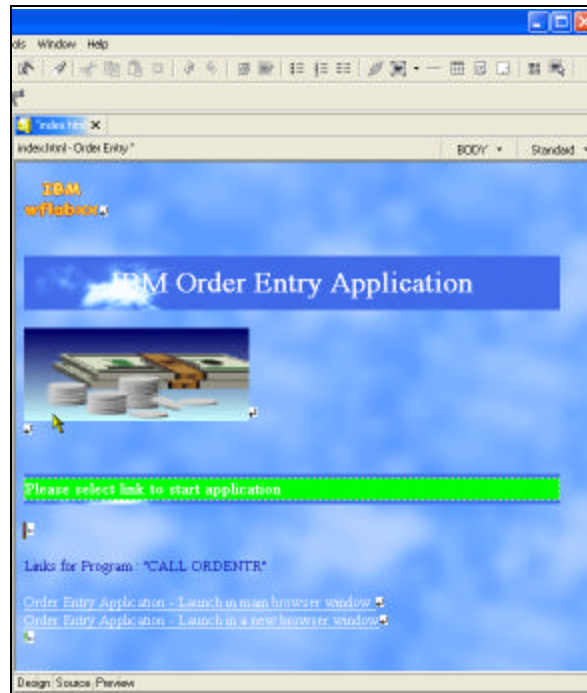
Figure 0-63: Page designer design page with completed page

To have a look at the page as it would appear in a browser:
- Click on the *Preview* tab at the bottom of the design page

You will notice that your *heading 3* text is sliding in
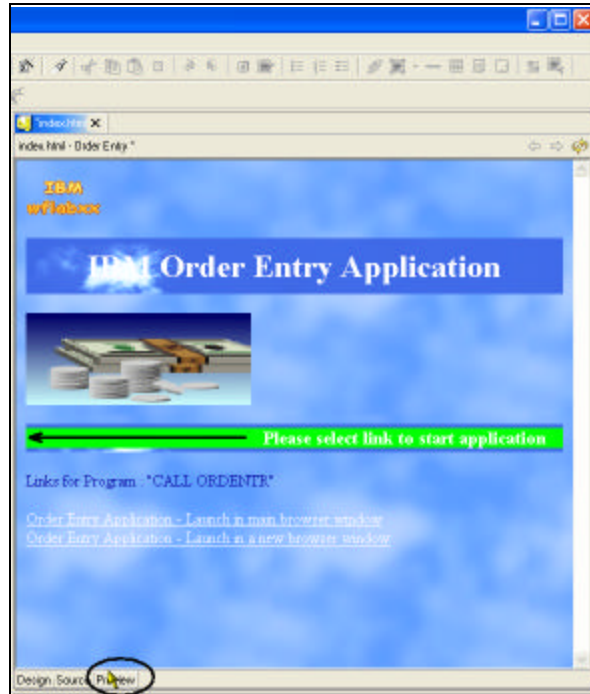
Figure 0-64: Web page shown in browser, text moving in

Changing the text color in Page designer

You notice that the Text color in the heading 1 area and the background interfere a little bit one easy way of changing this, is to apply another color to certain areas of the text. To do that, go back to the design page:

- Click on the *Design* tab
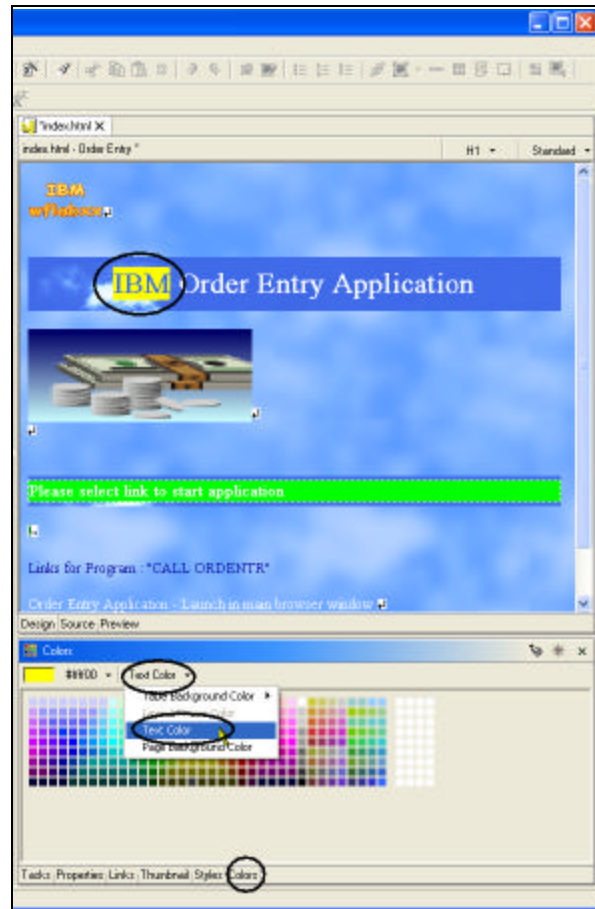
Figure 0-65: Selecting color choice for selected text area

- Select the *text* (*IBM* in Figure 0-65), you want to change color on, by swiping the area with the mouse cursor
  On the bottom dialog underneath the Page Designer window
- Select the C*olor*s tab

- Select a *color* with your mouse cursor from the color palette
- Select the *Text color* option from the colors dialog
- Select the *Text Color* option from the pull down menu

You are done, now the selected text will be displayed in the selected color

Clean up the page

One more thing to do, I want you to remove the default text that was added by the WebFacing tool as shown in Figure 0-66

Figure 0-66: Text to be deleted from web page

- Select the text

- Press the Delete key
- Select the Preview tab to view your completed page, it should look similar to what is shown in Figure 0-67
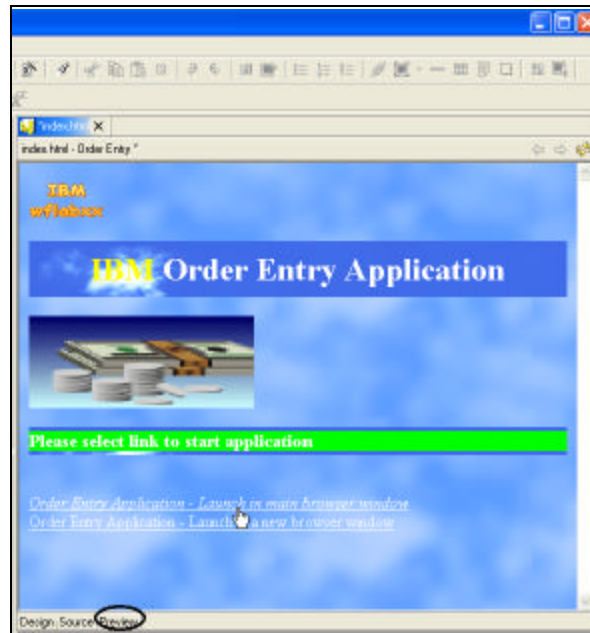
Figure 0-67: Completed web page in Preview window

- Save the file *index.html*

    You are almost ready to run the application again. I mentioned in the beginning that Page Designer will delete one line from the html source which it assumes is incorrect, but actually it is needed on the page, Page Designer in Version 5 got fixed and in Version 5 you don't have to worry about it, but since you are still working in Version 4, I'll show you how to fix this.
    You need to open Page Designer with the backup copy of the *index.html* file, in the Navigator view:
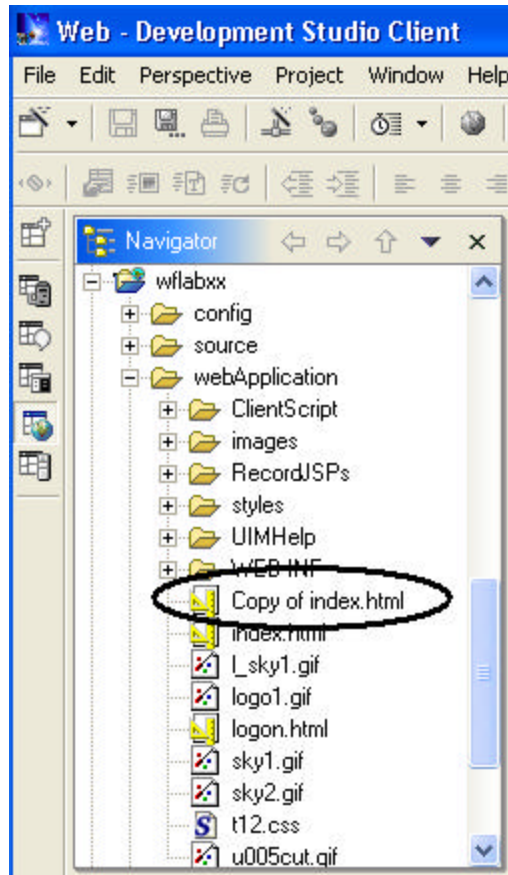
Figure 0-68: Load file Copy of index.html

- Double click on file *Copy of index.html*

Another Page Designer session for the *Copy of index.html* file gets started. In this new Page Designer session:

- Click the *Source* tab

In the source editor as shown in Figure 0-69:
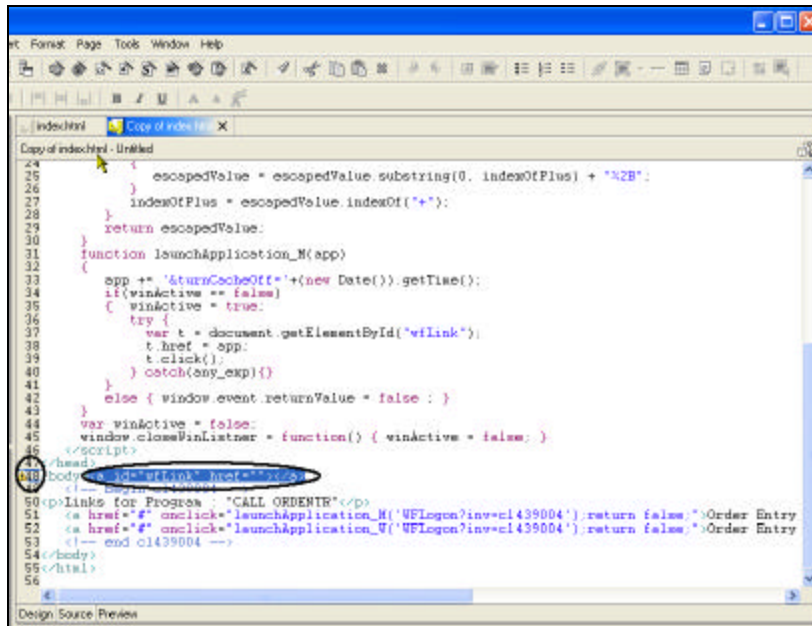
Figure 0-69: Editor with source of Copy of index.html

- Scroll down to near the *bottom*

Around line *47* you will see a line with a warning icon:

- Select the * * string, beside the body tag, as shown in Figure 0-69

- Right click on the *selected* text

- Select *copy* from the pop up menu

Page Designer should still be open with the index.html file, if not open it:
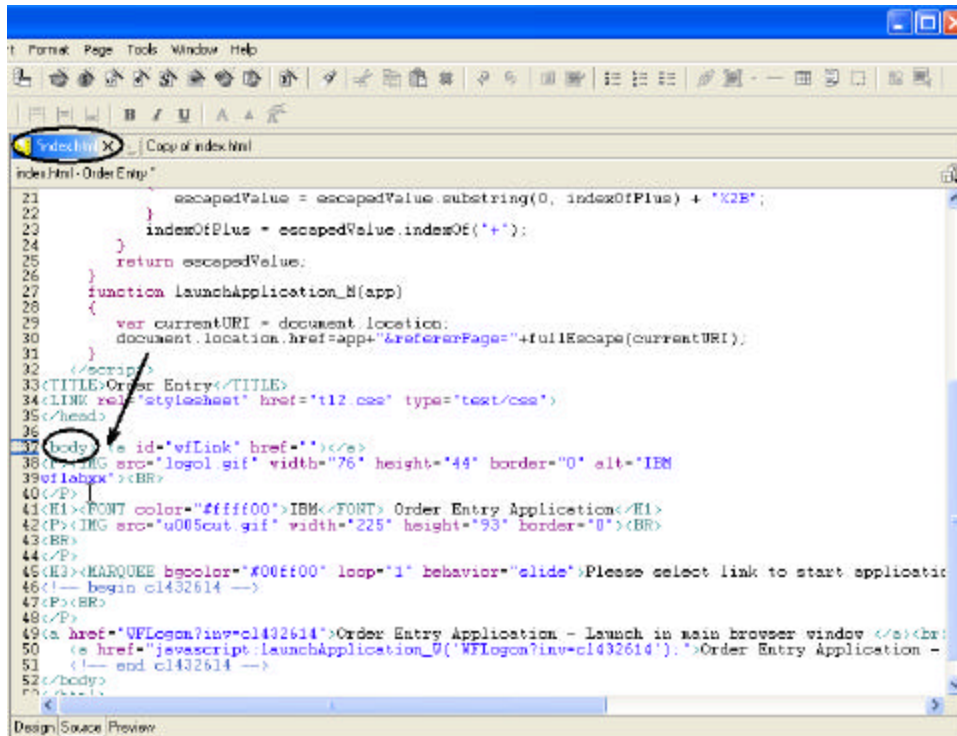
Figure 0-70: Page Designer with index.html file and copied string

- Click on the Page Designer window bar of the open index.html file, to give it focus
- Click on the *Source* tab, to switch to the source editor window
  In the source editor window of index.html file:
  - Locate the line with the *<body>* tag
- Position the cursor behind the <body> tag as indicated by the arrow in Figure 0-70
  - Add a blank character behind the <body> tag
  - Right click after the added *blank* character
  - Select *paste* from the pop up menu
  The string from the Copy of index.html should now be now also located in the index.html file, as shown in Figure 0-70
  - Close Page Designer for the *Copy of index.html* file

- Close Page Designer for the *index.html* file
- Click *Yes* when asked whether you want to save any changes in the file
  Switch to the WebFacing perspective by:

Figure 0-71: Workbench side toolbar with open perspectives

- Clicking on its icon on the side toolbar of the workbench, as shown in Figure 0-71

In the Navigator view or WebFacing project view:

- Right mouse click on the *wflabxx* icon
- Select the *Run on Server* option from the pop up menu

Your new designed *index.html* page will come up and you can run your application

Move forward to heading Analysis, in the next section I describe the same scenario just going thru Development Studio Client Version 4 user interface.

Analysis

You have completed Exercise: Enhancing a web page using Web Tools. Here is what you did. In this exercise you enhanced the index.html page using the Page Designer tool. You learned how to design a Web page using Page Designer in Development Studio Client; how to create a heading, how to add an image, how to create a LOGO and add it, and how to a add Marquee to a web page.

After this sidestep into web tools, I now get you back to WebFacing, the next two exercises cover tracing and debugging.

You are ready to move on to Exercise: Tracing the WebFacing Runtime.

Appendix 1

EXPORTING TO iSERIES
WEBSPHERE APPLICATION SERVER 4.0

Introduction

Until now you have only tested in the local WAS test environment. Now you are ready to test on iSeries IBM WebSphere Application Server. In this exercise, you will export files created by the WebFacing Tool to a remote WebSphere Application server.

The Goal of the exercise

This exercise walks you through the steps of publishing your WebFacing files to a remote WebSphere Application Server 4.0 environment on an iSeries system. It also explains how to create your Web application using the WebSphere Administrative Server admin console.

If you are working with iSeries WebSphere Application Server Version 4.0 instead of Version 3.5, follow these instructions to create the Web application from an .EAR file. The IBM WebFacing Tool will create the .EAR file.

You will start the Export tool, specify export information, start the administrative console and use it to navigate through the server environment, create a Web application using the wizard, and start the Web application. The WebFacing project files will be copied to a remote Web server where the application server will be able to find and use them.
At the end of this exercise, you should be able to:

- Specify the export information needed using the WebFacing Tool and wizards
- Copy specified files to the Web server using the WebFacing Tool export function

    You will also learn how to use the WebSphere Administrative Server admin console of the WebSphere Application Server. You will be able to start it and gain an understanding of the different parts of the console. You will be able to go through all the steps needed to define all the pieces needed to run on the server applications that were created using the IBM WebFacing Tool:

- Use the WebSphere Administrative Server admin console
- Navigate through the console environment
- Use the console and its wizards to create the Web application needed to run the Web-enabled application
- Use the console to start the Web application

Scenario

You have tested the application in the WAS test environment and you are ready to move it to your iSeries WAS environment. You are running WAS, Version 4.0 on your iSeries. You have the Was 4.0 administration console installed on your workstation.

Exporting the files to the Web server

In this section I describe how to export the WebFacing project files to a WebSphere Application Server, Version 4. If you need to target Version 3.5, use the instructions in Exporting to the iSeries WebSphere Application Server 3.5.

Now you will publish the files generated by the IBM WebFacing Tool to the remote WebSphere Application Server directories. Before you perform the export steps, you must map a network drive to the root directory of your Web server iSeries IFS environment.
If you are unsure how to do this, please ask your instructor or follow these instructions.

- Right-click the **Network Neighborhood** or (**My Network Places**) icon on the desktop.
- Select **Map Network drive** from the pop-up menu.
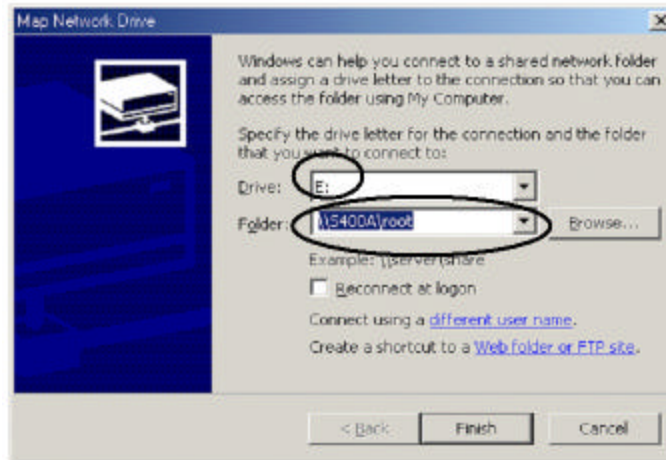
Figure 0-1: Network drive amp dialog for Windows 2000

- In the **Folder** field of the Map Network Drive dialog box, enter two backslashes (\\) and the Netserver name of your Web server. Ask your instructor for the exact name. The folder needs to include \root, for example, `\\S400A\root`
- Click the **Finish** push button.
  When the mapping is done, you are ready to export.

Selecting the EAR file to export

- Go back to the WebSphere Development Studio Client workbench and the WebFacing perspective.
- Select **File → Export** from the workbench menu bar.
  The **Select** page of the Export wizard opens:

Figure 0-2: Export dialog

- 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.
- Click the **Next>** push button. The **EAR Export** page opens.

Completing the EAR file export information

- Select the name of the resources you used when creating your WebFacing project.
  The default is **DefaultEAR**.
  > Since I asked you to change this to wflabxxEAR, select this file from the
  > combo box drop down list.
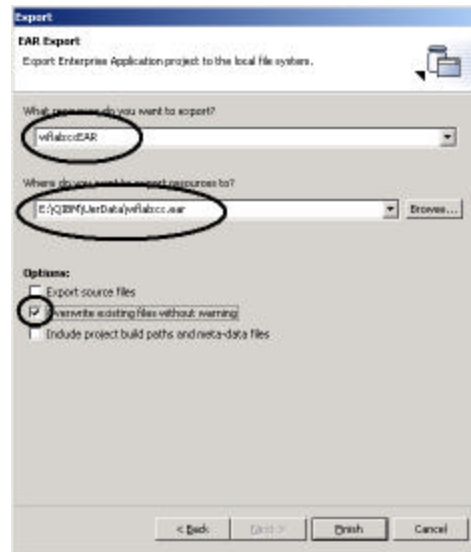
Figure 0-3: EAR file export dialog

- In the field for export resources, specify where to put the EAR file by entering the drive and directory structure of your Web server, it will look something like this:
  `x:\qibm\UserData\wflabxx`
  where **x**: is the drive letter of the iSeries network drive that you mapped in the previous step.

  The export resource field should contain this data:
  `X:\qibm\UserData\wflabxx\wflabxx.ear`
  where **x**: is the drive mapped from your iSeries system in the previous steps.
- Select the *Override existing resource without warning* check box.
- Click the *Finish* push button to copy the files to the EAR file.
  If a message asks you to create a directory or delete an existing file:
- Click the *OK* push button or *Yes* and continue

Creating a Version 4.0 Web application with the WebSphere Administrative Server admin console

In this section you will start the WebSphere Administrative Server admin console of WebSphere Application Server. The console allows you to manage your server environment.

Starting the WebSphere Application Server Administrative Server admin console
To use the Version 3.5 WebSphere Administrative Server admin console and create a Web application for that version of the server, use Appendix 2 : Exporting to iSeries WebSphere Application Server 3.5.

- To start the console, open a DOS command prompt and type:

```
adminclient <server_name> <port_number>
```

<server_name> is the iSeries server that runs WebSphere Application Server.

Important: This entry is case-sensitive.

<port_number> is 900 for default port

You need to specify the correct bootstrap port number for the administrative server you use. If you don't know it ask your administrator, if you are working with the default instance port 900 is its default port. This will take a while; please be patient until the console opens.

Working with the WebSphere Administrative Server admin console

This is the view you should see after the console comes up connected to the default administration server.
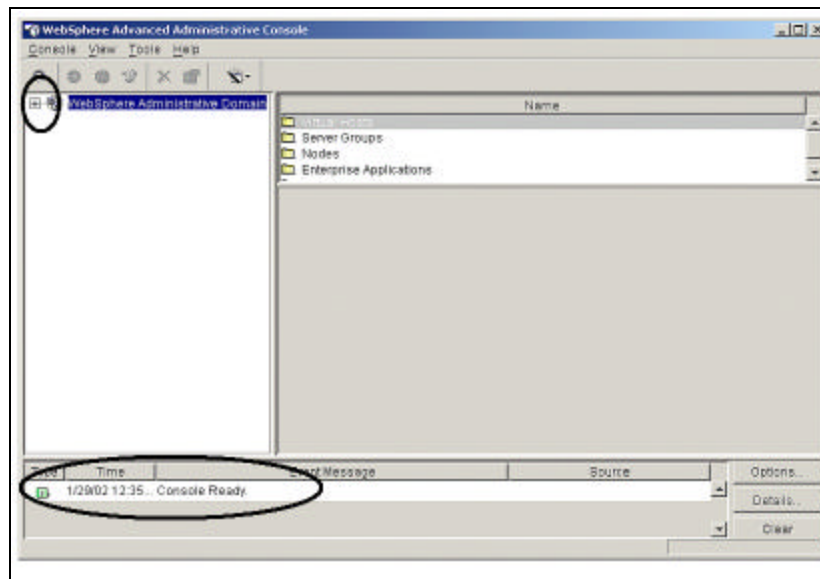
Figure 0-4: WAS Version 4, administration console

Make sure that the console message box at the bottom of the view contains the message **Console Ready**. Then check whether the application already exists from a previous exe rcise.

- Expand the *WebSphere Administrative Domain* by clicking the plus sign (+) beside it, if it is not already expanded.
- Expand the *Enterprise Applications* by clicking the plus sign (+) beside it, if it is not already expanded.
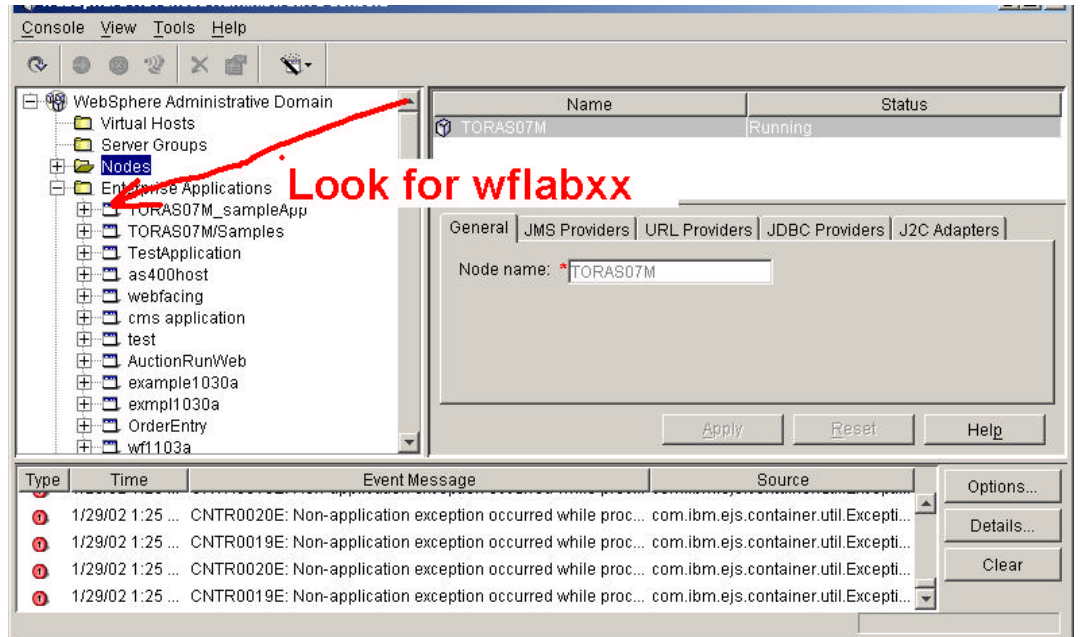
Figure 0-5: Expanded tree view in administration console

- Look for the *wflabxx* application in the tree.

If it exists:

- Right-click the *wflabxx* icon.
- Select *Stop* from the pop-up menu.

After the Stop has completed successfully:

- Right-click the *wflabxx* icon.
- Select *Remove* from the pop-up menu.

The application is removed, you can re-create it now.

Creating a new application

Now you are ready to create your WAS application.

- Right-click the *Enterprise Applications* icon.
- Select *Install Enterprise Application* from the pop-up menu.

The Install Enterprise Application wizard opens

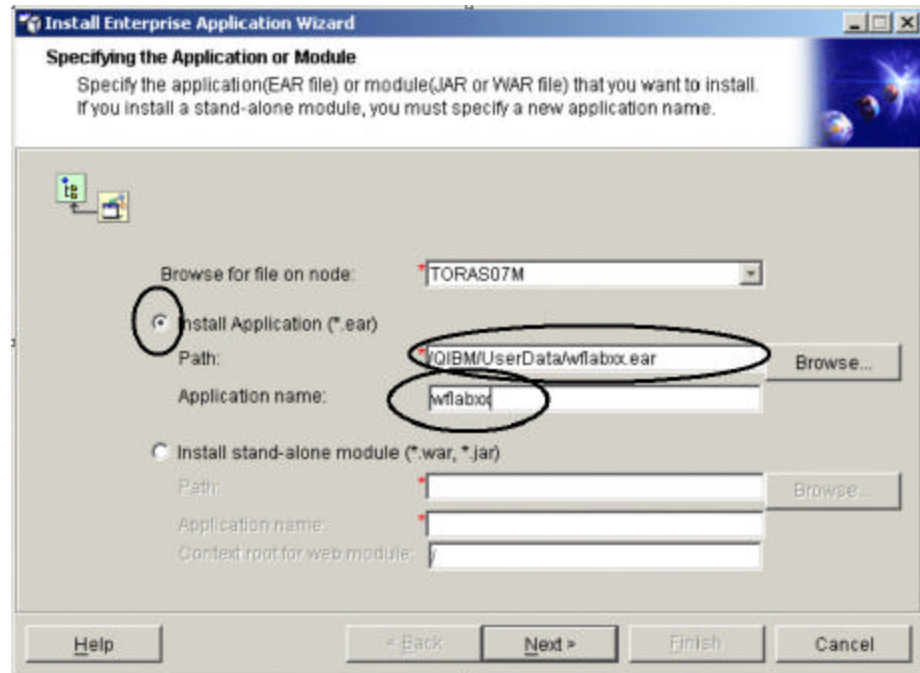
Figure 0-6: Install Enterprise Application Wizard dialog

- Select the *Install Application (*.ear)* radio button.
- Now specify the *name of the EAR file* and the directory path that you exported the EAR file to. Do you still reme mber it?
- Click **Browse to locate it**. If you followed our instructions, it is x:/Qibm/UserData/wflabxx/wflabxx.ear
- Specify the application name *wflabxx*
- Click the *Finish* push button. You should eventually see this completion message:
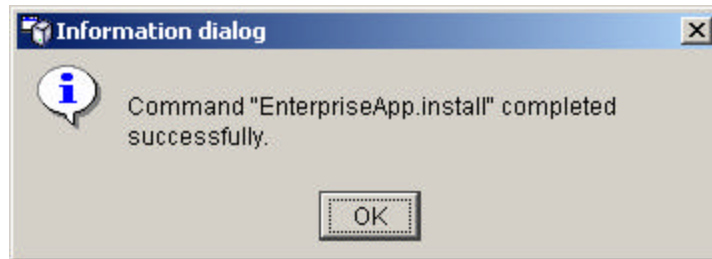
Figure 0-7: Completion message

>   If you get an error message you might not be authorized to change the
>   directories, so make sure you are using the correct RWX authority.

>   Now you need to tell the *HTTP server* that this Web application exists and
>   what the URL for this application is. The WebSphere Administrative Server
>   admin console allows you to do this directly.

- Expand the *Nodes* folder.
- Right-click the *node that contains the iSeries system name* you are working
  with.
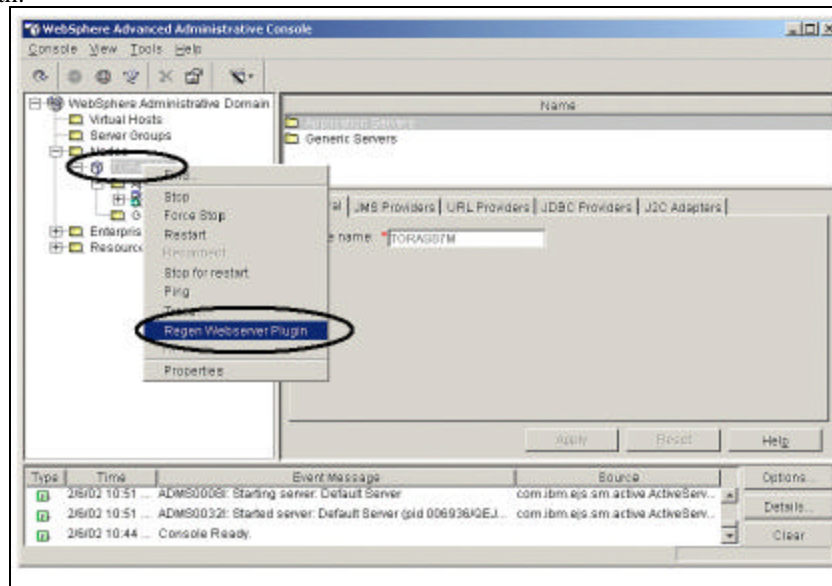
Figure 0-8: Regenerate Webserver Plugin

- Select *Regen Webserver Plugin* from the pop-up menu.
  Now the HTTP server knows about this new application.

Note: Another way to force the HTTP server to pick up this information is to restart the HTTP server.

Looking at application information

If you want to see where to find your application in the WAS environment, here are the steps to look at this information. If you are not interested, skip ahead to "Exiting the WebSphere Administrative Server admin console."

In the console tree view, expand the system node that has the name of the iSeries system you are working with.

- Expand the **Application Servers** folder.
- Expand the **Default Server** folder.
- Click the **Installed Web Modules**.

In the right top list you can see all applications in the Web module of this application server.

- Scroll down the list of applications until you find your **wflabxx** application.
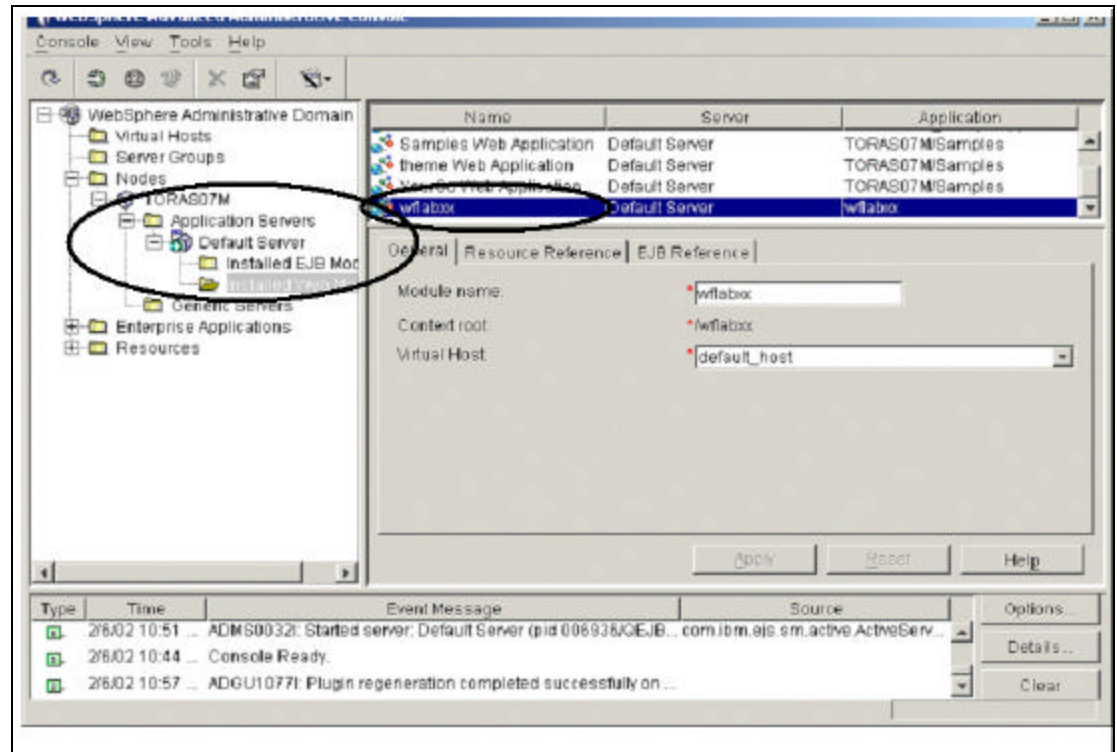
Figure 0-9: Application details on administration console

- Click *wflabxx*.

The notebook underneath the application list contains the detailed description of this application.

Exiting the WebSphere Administrative Server admin console

This is all you need to do in the WebSphere Administrative Server admin console of the IBM WebSphere Application Server.

- Click the minimize button on the top right corner of the console.

Note: Before you run the Application you need to change the Application server

settings to support UTF-8. The WebFacing help text describes the steps required

Running the Web-enabled application

You are now ready to run the Web-enabled application.

- Start Internet Explorer and type
  <u>HTTP://servername:portnumber/wflabxx</u>
  Your application index html page should open. If it doesn't, check the URL.
- Check that both the *HTTP server* and *WebSphere Application Sever* have been started and are running.

  You might want to go back to the *Administrative Server admin console* of WebSphere Application Server and try the following:

- Right-click your *server instance*.
- Select *Stop* from the pop-up menu.
  A message confirms that the server is stopped.
- Right-click again on the *Server instance*.
- Select *Start* from the pop-up menu.

  If it still doesn't work, there are troubleshooting guides on the Web, as well as FAQs and newsgroups where you might find an explanation of your situation and more detailed information.

2

Appendix 2 (OPTIONAL): EXPORTING TO iSERIES WEBSPHERE APPLICATION SERVER 3.5

Introduction

You will learn how to export all files to the correct Web server directories. You will also learn how to start the Administrative Server admin console of IBM WebSphere Application Server, Version 3.5. The console allows you to manage your WebSphere Application Server environment.

The goal of the exercise

The goal of this exercise is to practice creating the Web application that is needed to run the application you created using the IBM WebFacing Tool. Also, you will create the JSP pages and data beans needed for the Web-enabled application. You will copy these artifacts to the Web server where the Web application can find them and use them.

You will specify export information, start the export process, start the WebSphere Administrative Server admin console, navigate through the WebSphere Application Server environment using the console, create a Web application using the wizard, and start the Web application.

At the end of this exercise, you should be able to:

- Specify and create all parts needed for the Web-enabled application
- Specify the export information needed using the WebFacing Tool and wizards
- Copy specified files to the Web server using the WebFacing Tool export function

You will also learn how to use the Administrative Server admin console of the WebSphere Application Server. You will be able to start it and gain an understanding of the different parts of the console. You will be able to go through all the steps needed to define all the pieces needed to run on the server applications that were created using the IBM WebFacing Tool:

- Start the WebSphere Administrative Server admin console in Version 3.5 and describe its parts
- Navigate through the console environment
- Use the console and its wizards to create the Web application needed to run the Web-enabled application
- Use the console to start the Web application

Scenario

Using the WebFacing Tool to Start the Conversion

If the WebFacing perspective with your project is not visible or WebSphere Development Studio Client is not started:

____ 1.   Start WDSC as in previous exercises.
____ 2.   Select the WebFacing perspective in the workbench.

       If the WebFacing Tool project list contains multiple projects, somebody else has worked in your environment before and these are leftover projects; just ignore them.

Exporting the files to the Web server

Now you will publish the generated files to the WebSphere Application Server directories. Before you perform the export steps, you must map a network drive to the root directory of your Web server iSeries IFS environment.
If you are unsure how to do this, please ask your instructor or follow these instructions.

____ 1.   Right-click the **Network Neighborhood** or (**My Network Places**) icon on the desktop.
____ 2.   Select **Map Network drive** from the pop-up menu. In the **Folder Field** of the Map Network Drive dialog, enter two backslashes (\\) and the Netserver name of your Web server. Ask your instructor for the exact name. The folder needs to include \root, for example, \\S400A\root
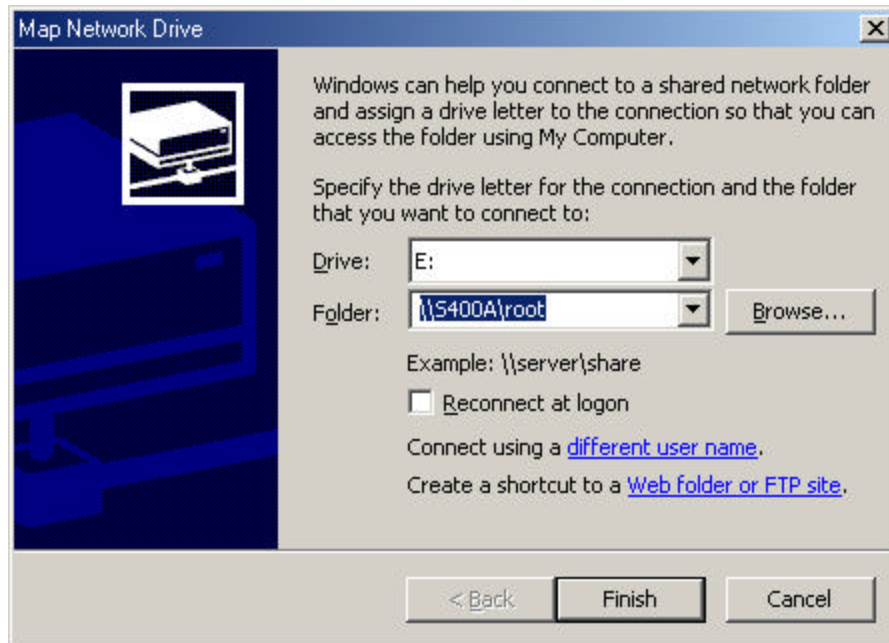
_____ 3.   Click the **Finish** push button.

Exporting to the file system

After the mapping is done, you can export to the file system:

_____ 1.   Go back to the WebFacing Tool in the workbench of IBM WebSphere Development
            Studio Client.
_____ 2.   Select **File → Export** from the workbench menu bar.

            The Export page of the Select wizard opens.

Completing the Select page

_____ 1.   On the Select page, select the **WAR file** icon.
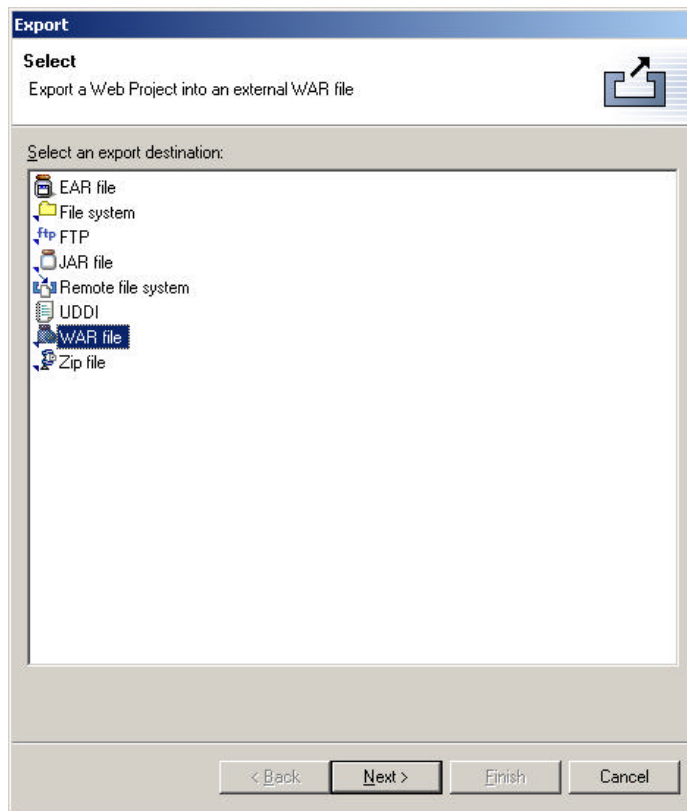
_____ 2.   Click the **Next>** push button. The **WAR Export** page opens.

Completing the WAR file export information

____ 1.   Select your WebFacing project from the export resources drop-down list.

Export Resources to a WAR File

WAR Export

Export resources to a new or existing WAR file.

What resources do you want to export?

| wflabxx | ▼ |

Where do you want to export resources to?

| x:\qibm\userdata\wflabxx\wflabxx.war | ▼ | Browse... |

Options:

☐ Export source files

☑ Overwrite existing resources without warning

| < Back | Next > | Finish | Cancel |

____ 2.   In the **Where do you want to export resources to?** field, specify where to put the
files by entering the drive letter and directory structure of your Web server. Ask your
instructor what to use instead of wflabxx The directory will look something like this:
`x:\qibm\UserData\wflabxx\`
where **x**: is the drive you mapped from your iSeries network.

____ 3.   Click the **Finish** push button to copy the files to the WebSphere Application Server
directories.

Creating a Web Application with the WebSphere Administrative Server admin console

During this section you will start the WebSphere Administrative Server admin console, Version 3.5. The console allows you to manage your WebSphere application server environment.

Starting the WebSphere Administrative Server admin console

____ 1.   To start the console, open a DOS command prompt and type:

```
adminclient <server_name> <port_number>
```

<server_name> is the iSeries server that runs WebSphere Application Server. **Important:** This entry is case-sensitive.

<port_number>
Ask your instructor the correct bootstrap port number for the administrative server you use. This will take a while; please be patient until the console opens.

This is the view you should see after the console comes up connected to the default administration server.
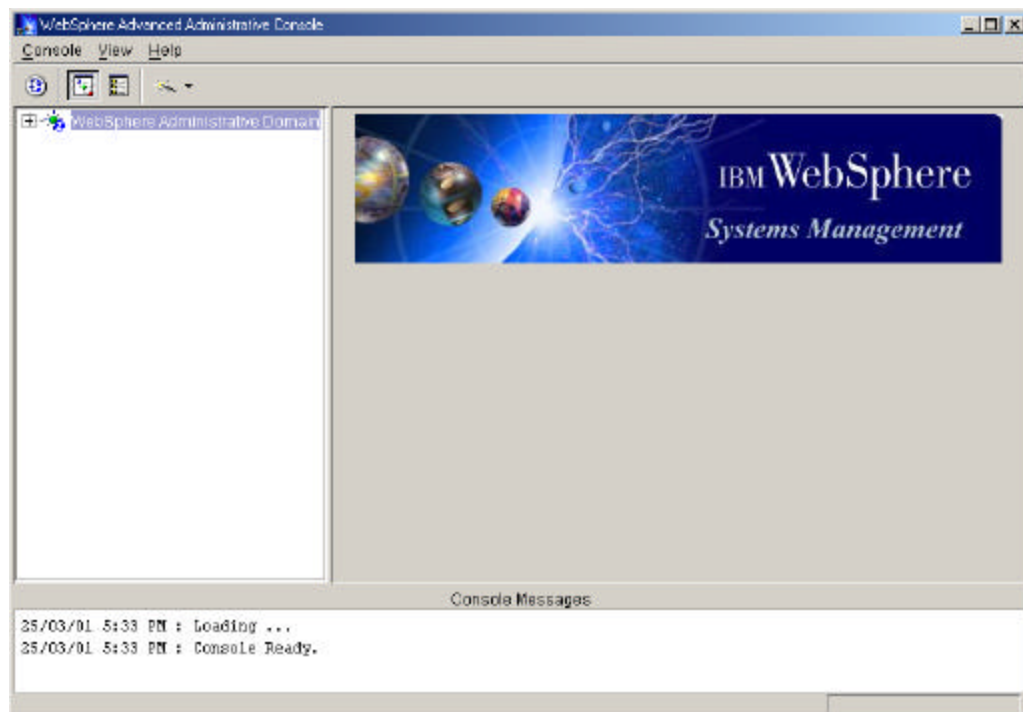
____ 2. Make sure that the console message box at the bottom of the view contains the message **Console Ready**. Then check whether the application already exists from a previous exercise.

____ 3. Expand the **Administrative Domain** by clicking the plus sign (+) beside it, if it is not already expanded.

The WAR file was generated in a WebSphere Application Server, Version 4.0 environment, which is different from what is needed in Version 3.5. For this reason the Version 3.5 WebSphere Administrative Server admin console has a tool to convert the WAR file into a Version 3.5-compatible structure. The following steps take you through this process.

____ 4. On the WebSphere Administrative Server admin console menu, select **Console → Tasks → Create a WAR file** to start the wizard.

____ 5. In the **Select Servlet Engine** page, select the servlet engine to add your WebFacing application to. For example, select **Default Servlet Engine**.

____ 6. Click the **Next>** push button.

____ 7. On the **Select Virtual Host** page, select the **virtual host** that the application is to be run under. For example, select **default_host**.

____ 8. Click the **Next>** push button.

____ 9. On the **Select War file to convert** page, browse to where you have exported your WAR file to in the IFS.

____ 10. When you are finished,click the **Next>** push button.

____ 11. On the **Select Destination Directory** page, browse to the IFS directory you want the application installed to. For example, **/QIBM/UserData/WebASAdv/<instance name>/hosts/default_host** or **/QIBM/UserData/WebASAd v/default/hosts/default_host/**.

____ 12. When you are finished,click the **Next>** push button.

____ 13. On the **Web Application Path and Web Application Name** page, in the **Enter a Web Application Web Path** field, type the Web path that will be used for your application. This value becomes part of the URL that will be used to access your WebFacing application. Enter wflabxx

Example:
If your server name is myserver and your instance of WebSphere Application Server is using the 9080 HTTP port, the first part of the URL to access your application would be http://myserver:9080. Using the Web Path value, the complete URL to your application would be<http://myserver:9080/<web_application_web_path>. When you enter the Web path value, include a forward slash at the beginning. For example, if your WAR file is called wflabxx.war and you decide to use a similar name for the Web path, you might enter a value like /wflabxx. In this example, the full URL to the application would be http://myserver:9080/wflabxx/.

____ 14. On the **Web Application Path and Web Application Name** page, in the **Enter a Web Application Name** field, type wflabxx as a name for the application. When you have completed installing the WAR file, you will be able to administer, start, and

stop the application with the name that you chose. An icon representing your application will be listed under the servlet engine that you chose for the application.

____ 15.   Click the **Finish** push button.
____ 16.   Locate the new Application **wflabxx** icon under the Default Server Engine.
____ 17.   You will notice that the application is not active.
____ 18.   Right-click the application icon.
____ 19.   Select the **RestartWebApp** option from the pop-up menu.
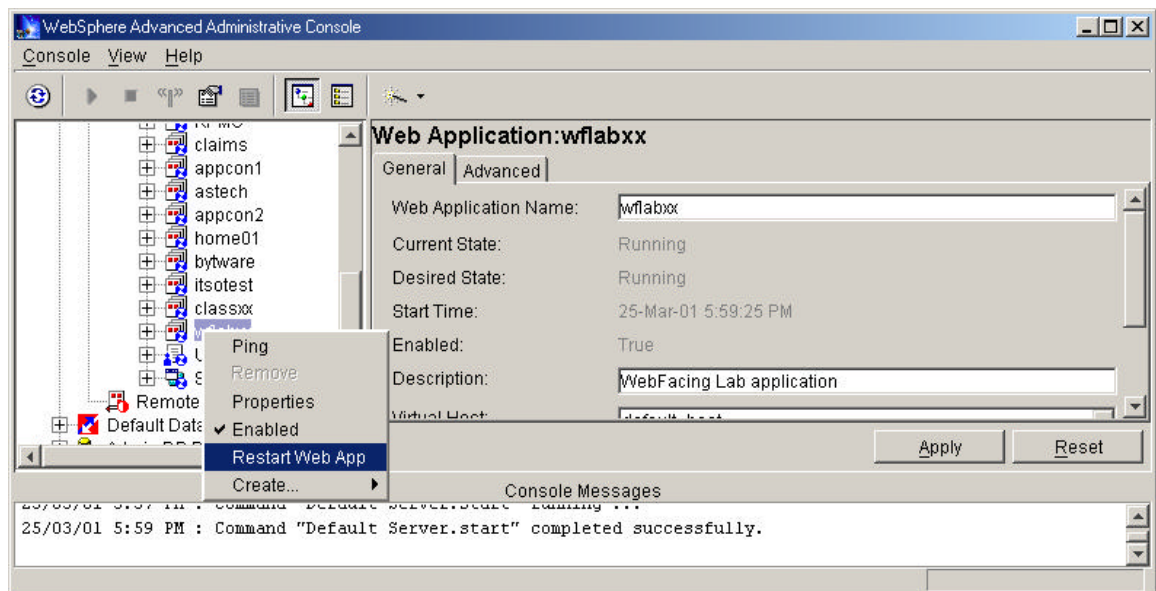
____ 20.   If the Restart option is disabled, select the **Application Server instance** icon.
____ 21.   To stop the application server, right-click its icon and select **Stop**.
____ 22.   Wait until you see the message that the application has successfully been started.
____ 23.   Right-click the instance icon and select **Start**.
____ 24.   Wait until you see the message that the application has successfully been started.
____ 25.   This is all that needs to be done in the WebSphere Administrative Server admin console. Click the minimize button on the top right corner of the console.

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1. Note:

Before you run the Application you need to change the Application server settings to support UTF-8. The WebFacing help text describes the steps required

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Running the Web-enabled application

____ 1.   Start Internet Explorer
____ 2.   Type the URL http://servername:portnumber/wflabxx
____ 3.   The index.html page for your application should open.

Running the Web-enabled application

____ 4.   Start Internet Explorer
____ 5.   Type the URL `http://servername:portnumber/wflabxx`
____ 6.   The index.html page for your application should open.