

WebFacing Lab Exercise 2

Creating and Testing WebFaced Application within WebSphere Development Studio Client (WDS)

Overall Lab Guide

The objective this lab exercise is to use the WebFacing tool to create a browser based user interface to an RPG Application, and then run this application as an e-business application in WDS Test Environment. At the end of the lab, you should know how to use the WebFacing tool and how to customize the WebFacing environment to meet your requirements for an e-business application. The Lab will guide you through most of the steps involved in the WebFacing process.

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

1. Invoke WebSphere Development Studio Client (WDS)
2. Setting up Remote System Connection to your iSeries System
3. Creating a WebFacing project in WDS
4. Convert the DDS to JSP's
5. Running the WebFaced Application in WAS Test Environment in WDS

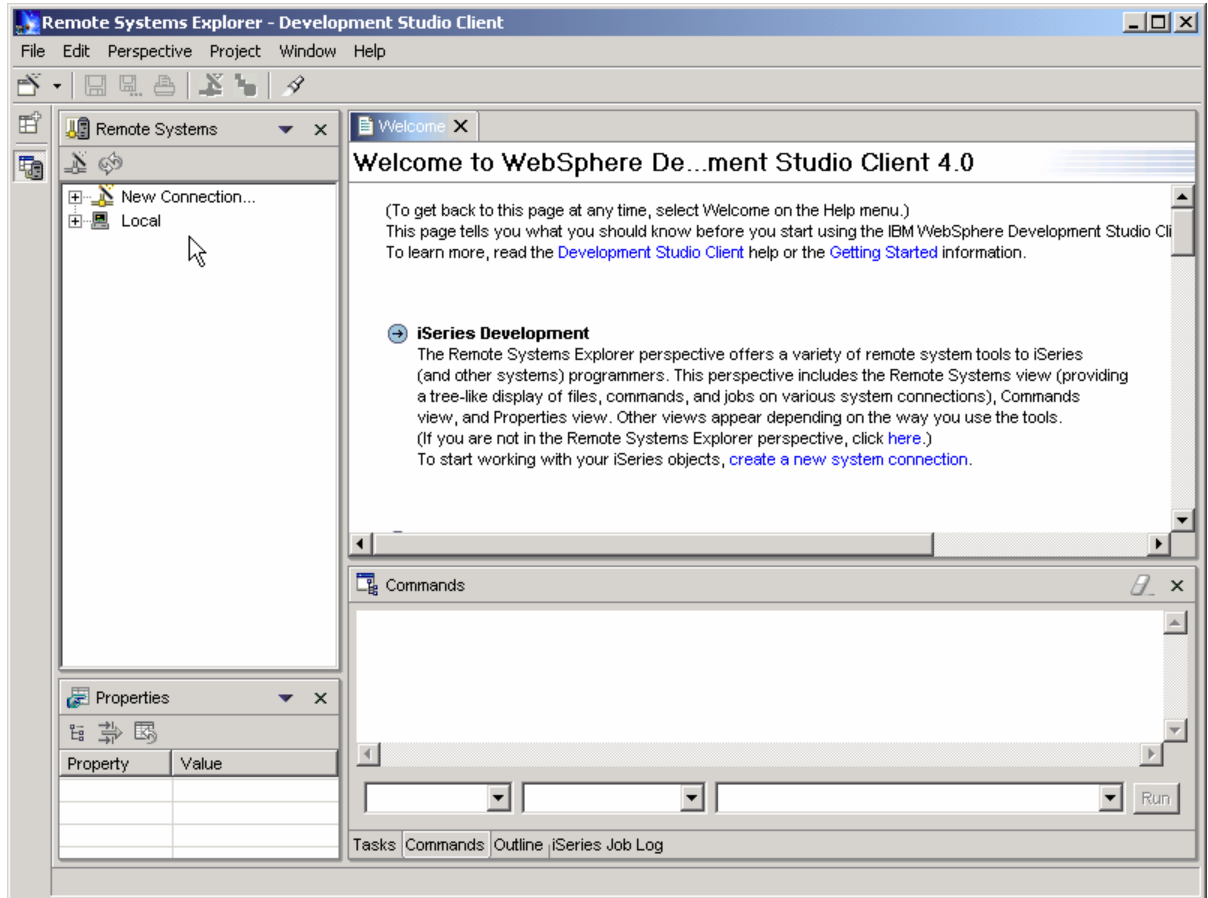
1. Invoke WDS

1. Starting the WebSphere Development Studio Client (WDS)

To start Development Studio client, Press the **Start** button on the task bar of your desktop

Choose **Start → Programs → IBM WebSphere Development Studio Client for iSeries -> IBM WebSphere Studio Site Developer Advanced**

After a few moments of loading, the workbench with Remote Systems Explorer appears



You should see the following views:

Remote System View

Properties View

WebFacing Lab – Creating and Testing WebFaced Application within WebSphere Development Studio (WDS)

Commands View

Notes:
Systems View - Displays the connections that you have already configured, or allows you to create a new connection. This view also allows you to: <ul style="list-style-type: none">• Connect to and disconnect from the connections that you have defined• Work with iSeries files, commands, jobs, and integrated file system files
Commands View - Displays feedback on the results of your compile, invoke commands on the command systems for the defined connections, and property changes.
Properties View - This view displays property names and values of a selected resource
Editor Area - The editor area is where you modify the contents of files in the workbench
Outline View - displays an outline of a structured file that is currently open in the editor area, and lists such structural elements. The contents of the outline view are editor specific
Task View - Displays the following information: Auto-generated errors, warnings, or information associated with a resource. These are typically produced by builders. Tasks that have been added by the user. A task may be associated with a resource, or it may be global.

2. Setting up Remote System Connection to iSeries System

To connect to the iSeries server for the first time, you need to do following steps.

__ 1. **New Connection**

In the Remote Systems view, click the plus sign besides **New Connection** to invoke the New Connection wizard.

Enter a name for your first profile ... e.g. Enter iSeries User id and click **Next**.

Click the **Parent profile** drop-down list.

To share your resources, select the **Team** profile. In most cases you would probably use the team profile.

(Note: To keep your files private, you can select the profile you created in the previous screen)

Notes
<p>Profiles - The first time you connect to your iSeries server, you need to define a profile. Profiles offer a way to group connections, share connections, or keep them private. You can also store and share profiles in a Concurrent Versions Systems (CVS) repository. Your first profile will be for your local workstation. As you complete the steps for your first connection, you can decide whether to use the personal profile you just created, or a team profile so that you can share resources and information with other people.</p>

WebFacing Lab – Creating and Testing WebFaced Application within WebSphere Development Studio (WDS)

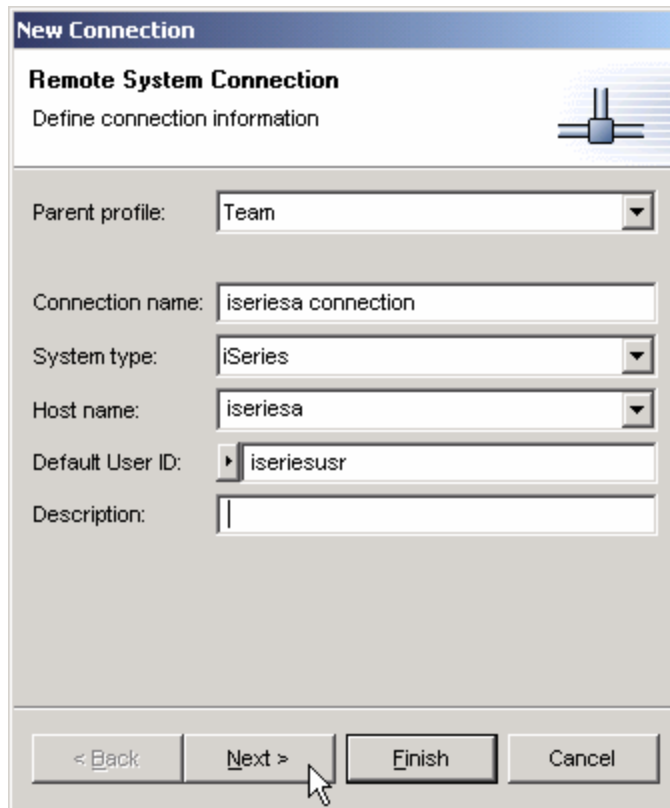
Enter other details as follows:

Connection name: Enter any connection name you want e.g. **iSeries System name**

System type: Select **iSeries** (iSeries is the Default)

Host name: **iSeries System Name**

Default User ID: **iSeries user id**



The screenshot shows a 'New Connection' dialog box with the following fields and values:

- Parent profile: Team
- Connection name: iseriesa connection
- System type: iSeries
- Host name: iseriesa
- Default User ID: iseriesusr
- Description: (empty)

At the bottom, there are four buttons: '< Back', 'Next >', 'Finish', and 'Cancel'. A mouse cursor is positioned over the 'Next >' button.

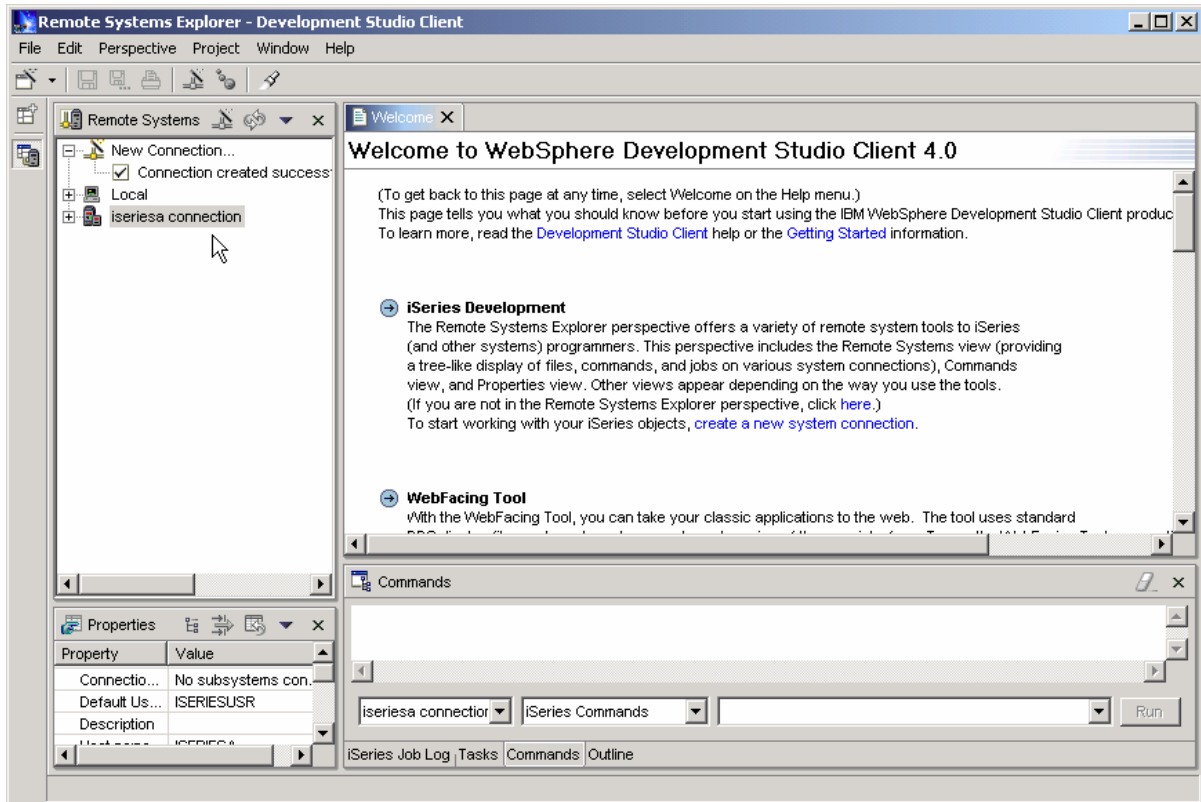
Click on Next

Next, you will see the screen describing how to define communication properties.

Click on **Finish**.

WebFacing Lab – Creating and Testing WebFaced Application within WebSphere Development Studio (WDS)

After a while, a connection entry will get added into Remote System Explorer with the message “Connection Created Successfully” as shown below:



Look under properties view, it shows Connection Properties for the newly created connection (If Connection is selected in the Remote Systems View)

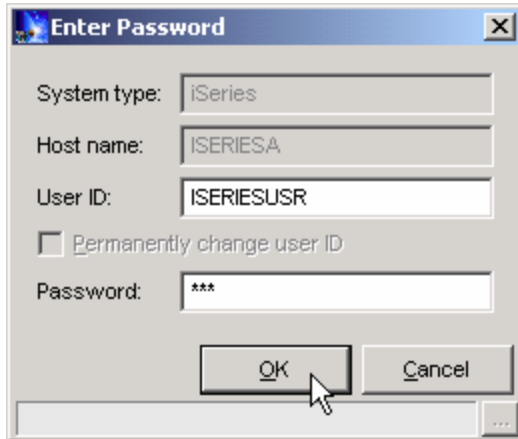
WebFacing Lab – Creating and Testing WebFaced Application within WebSphere Development Studio (WDS)

2. Connecting to the host

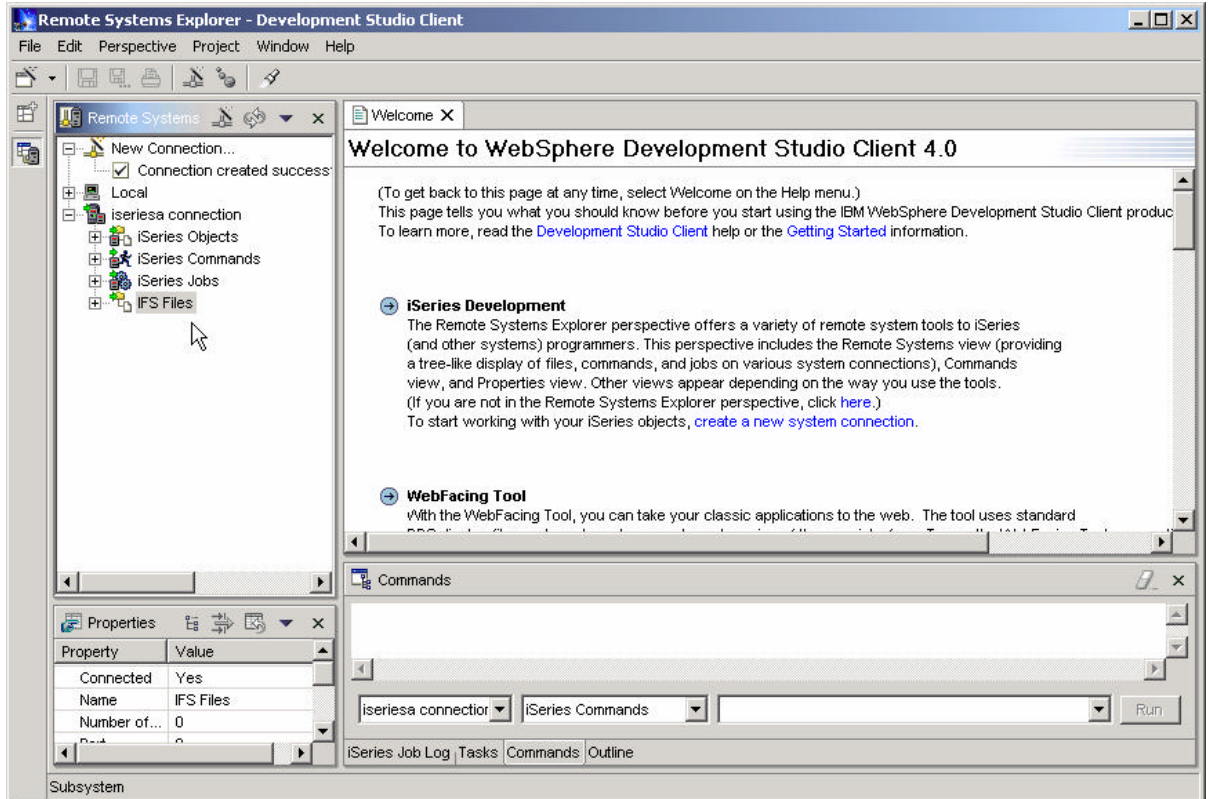
To connect, expand the host in the Remote Systems view to reveal your subsystems (**click on the plus control - + sign next to your connection name**).

To connect to IFS Files, highlight the IFS Files subsystem, **right-click, and select Connect**.

When prompted for the password, **enter your iSeries System password**



Now you should see screen similar to following, showing green arrows next to the iSeries Connection and all subsystems.



3. Creating a WebFacing Project

Using the WebFacing Project Wizard

During this section of the Lab you will use the WebFacing tool project wizard inside the WDS Integrated Development Environment to create a new WebFacing project. This WebFacing project will then be used to facilitate the conversion of your DDS source and to test the generated output.

You will explore the WebFacing tool project wizard by:

- Invoking the WebFacing tool project wizard
- Stepping through the WebFacing tool project wizard pages
- Providing the correct input for the project wizard
- Start the creation of a new WebFacing tool project

What you should be able to do

As a result of this exercise you will be able to create a new WebFacing Project.

- Start the WebFacing tool project wizard
- Step through the project wizard pages
- Provide the correct information to the project wizard
- Browse through the new project in the IDE

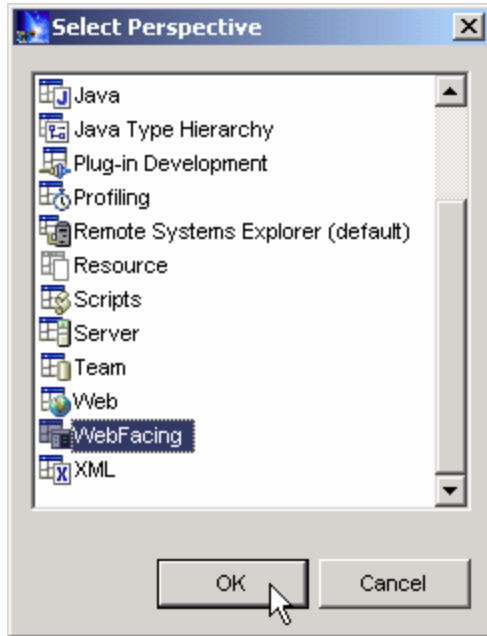
WebFacing Lab – Creating and Testing WebFaced Application within WebSphere Development Studio (WDS)

__ 1. **Open the WebFacing perspective**

Select the Perspective menu item on the workbench Menu bar.

Select Open then other.... option on the submenu

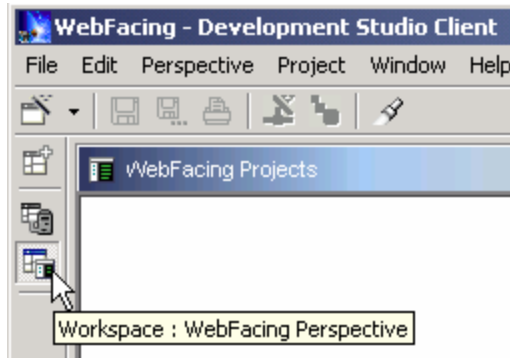
A list similar to the figure below will appear



Select WebFacing from the list

Press the **OK** pushbutton

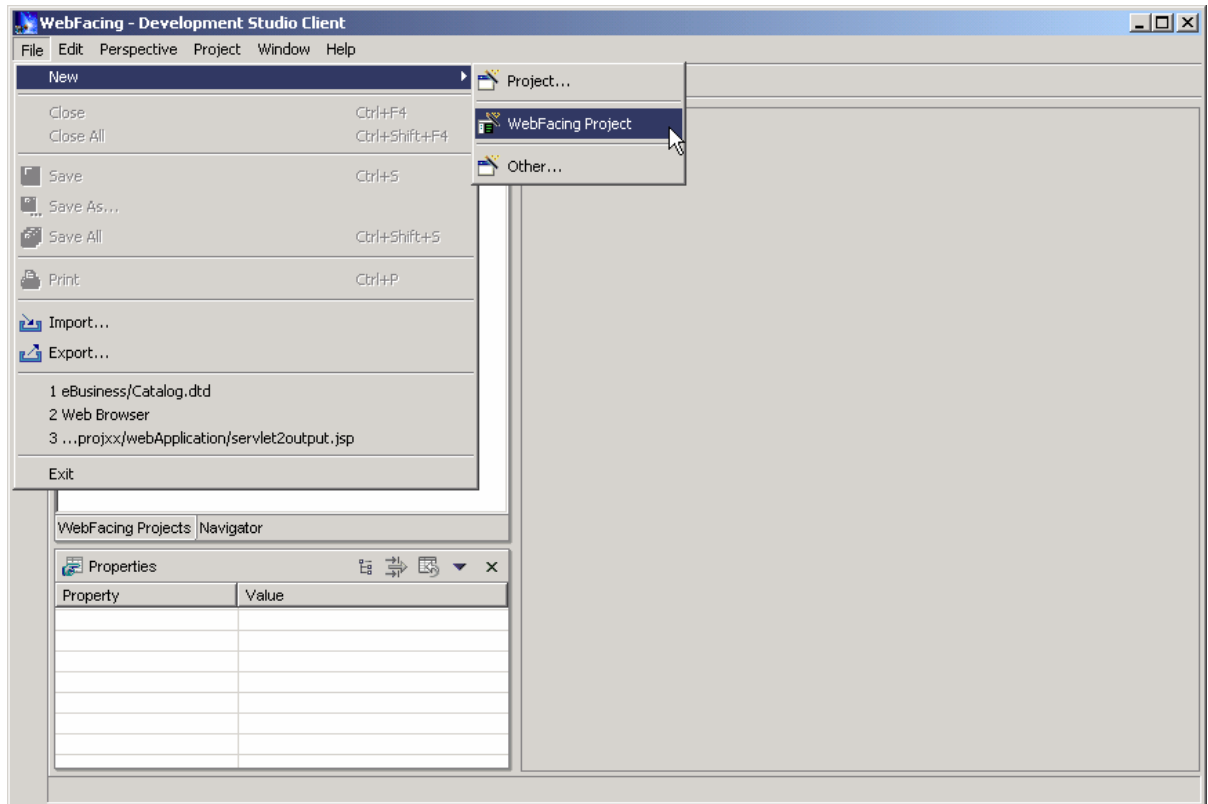
Now you are in WebFacing Perspective as shown in the left bar.



WebFacing Lab – Creating and Testing WebFaced Application within WebSphere Development Studio (WDS)

2. Create Web Facing Project

- Select the **File** option from the Workbench menu bar
- Select **New** from the Menu pull down
- Select **WebFacing Project** from the next sub menu



The **WebFacing** project wizard will appear

WebFacing Lab – Creating and Testing WebFaced Application within WebSphere Development Studio (WDS)

3. WebFacing Project dialog

Enter following details:

Project name: WebFacedApp

Enterprise Application Project name: WebFacedAppEAR

Context Root: WebFacedApp

The screenshot shows the 'WebFacing Project' dialog box. The title bar reads 'WebFacing Project'. Below the title bar, the text 'WebFacing Project' and 'Create a WebFacing Project' is displayed. The dialog contains several input fields and checkboxes. The 'Project name' field is filled with 'WebFacedApp'. The 'Location' field is filled with 'C:\WDS\WSSD\workspace\WebFacedApp' and has a 'Browse...' button to its right. The 'Enterprise Application project name' dropdown menu is set to 'WebFacedAppEAR'. The 'Context root' field is filled with 'WebFacedApp'. There are two checkboxes: 'Use default location' which is checked, and 'Create CSS file' which is unchecked. At the bottom of the dialog, there are four buttons: '< Back', 'Next >', 'Finish', and 'Cancel'. A mouse cursor is pointing at the 'Next >' button.

Click on Next push button

WebFacing Lab – Creating and Testing WebFaced Application within WebSphere Development Studio (WDS)

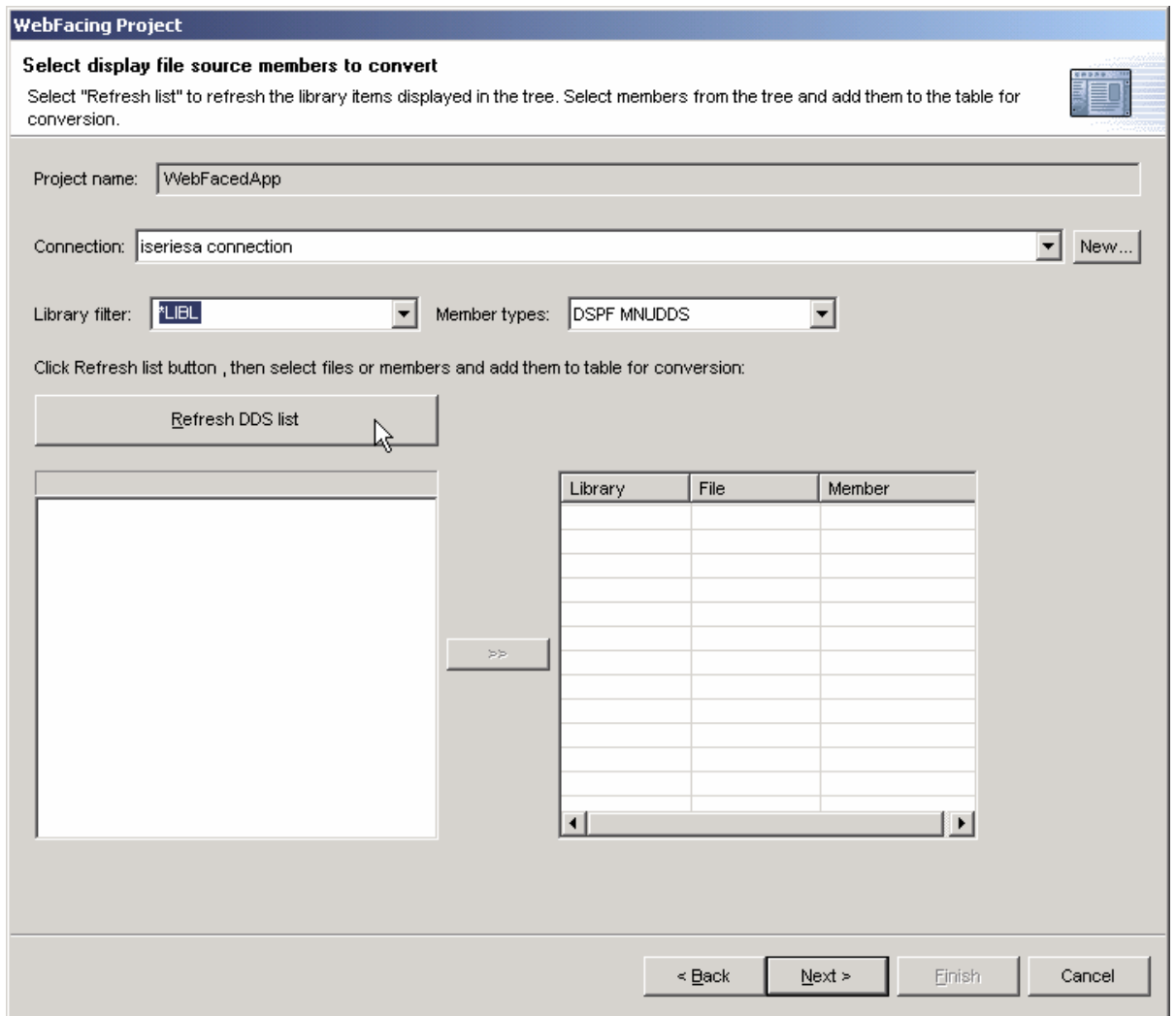
4. **Select display file source members to convert dialog**

On this second page of the new project wizard you need to specify where your DDS source is located. Specifically, the WebFacing tool needs to know:

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

Check that **your iSeries server connection** is selected in the **connection combo box**

- Make sure *LIBL is **selected** in the **library filter** combo box



WebFacing Lab – Creating and Testing WebFaced Application within WebSphere Development Studio (WDS)

- Press the **Refresh DDS list** push button
- If prompted enter iSeries Password and press OK to continue.

The library list of your iSeries job is displayed in the tree view list on the project wizard page.

Select **APILIB** library from the list

- Expand it by clicking on the + sign beside the library name
- Expand RPGAPP (containing DDS source physical file members)
- Select **all** members from the list (Press CTRL and click to select multiple members)
- Press the **>>** push button in the middle to copy the selected members over to the list of selected members

WebFacing Project

Select display file source members to convert

Member APILIB/RPGAPP(SLTPARTD) added.

Project name: WebFacedApp

Connection: iseriesa connection

Library filter: *LIBL Member types: DSPF MNUDDS

Click Refresh list button, then select files or members and add them to table for conversion:

Refresh DDS list

ISERIESA *LIBL DSPF MNUDDS

Library	File	Member
APILIB	RPGAPP	ORDENTD
APILIB	RPGAPP	SLTCUSTD
APILIB	RPGAPP	SLTPARTD

< Back Next > Finish Cancel

WebFacing Lab – Creating and Testing WebFaced Application within WebSphere Development Studio (WDS)

- Press the **Next >** push button at the bottom of the **Select Display file source** dialog to proceed to the next wizard page.

Now the WebFacing tool knows which DDS members to convert for this project.

The **Select UIM source members to convert** dialog appears

If you have UIM help panels you can specify the source locations of the source members on this page of the project wizard, since in this application we don't have UIM help, you can just skip this panel

Press the **Next >** push button at the bottom of the **Select UIM source** dialog to proceed to the next wizard page.

__ 5. **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.

The command to call Order Entry Application is: **CALL ORDENTR**

The WebFacing runtime needs to know the invocation command for your application in order to send this invocation command to the iSeries to start your application from the browser.

WebFacing Lab – Creating and Testing WebFaced Application within WebSphere Development Studio (WDS)

Specify the necessary information as follows:

- Key in: **CALL ORDENTR** into the CL command entry field
- Key in: **Order Entry Application** into the Command Label entry field
- Select the ***Sign-on with specified values*** Radio button

The Userid and password you have used before when you selected the DDS source to convert, will be automatically used when invoking this application.

- Press the **Add** push button on the right side of the dialog.

Make sure the text and command you keyed into the entry fields is shown in the list at the bottom of the dialog as follows:

WebFacing Project

Specify CL commands

Enter the CL commands that are used in your application, the command labels you want to use, and the signon preference for the generated hypertext links.

Project name: WebFacedApp

WebFacing generates hypertext links that you can use to launch your application from the web. In order to do this, it needs to know the text that will be shown for each link and the CL command that each link will invoke. On this page you can define multiple links, in case several CL commands are used to launch your application.

If your program requires interactive parameters you should also enter them in the command line. For example: to invoke program MYPGM with a part number parameter, you would enter CALL MYPGM PARM("&part") as the CL command. The variable "&part" will be replaced when you click on the invocation link. For details, refer to the generated index.html file.

CL command: call ordentr

Command label: Order Entry Application

Prompt for signon

Sign on with specified values

User ID: ISERIESUSR Password: *** Confirm password: ***

CL Command	Command Label	User ID
CALL ORDENTR	Order Entry Applicat...	ISERIESUSR

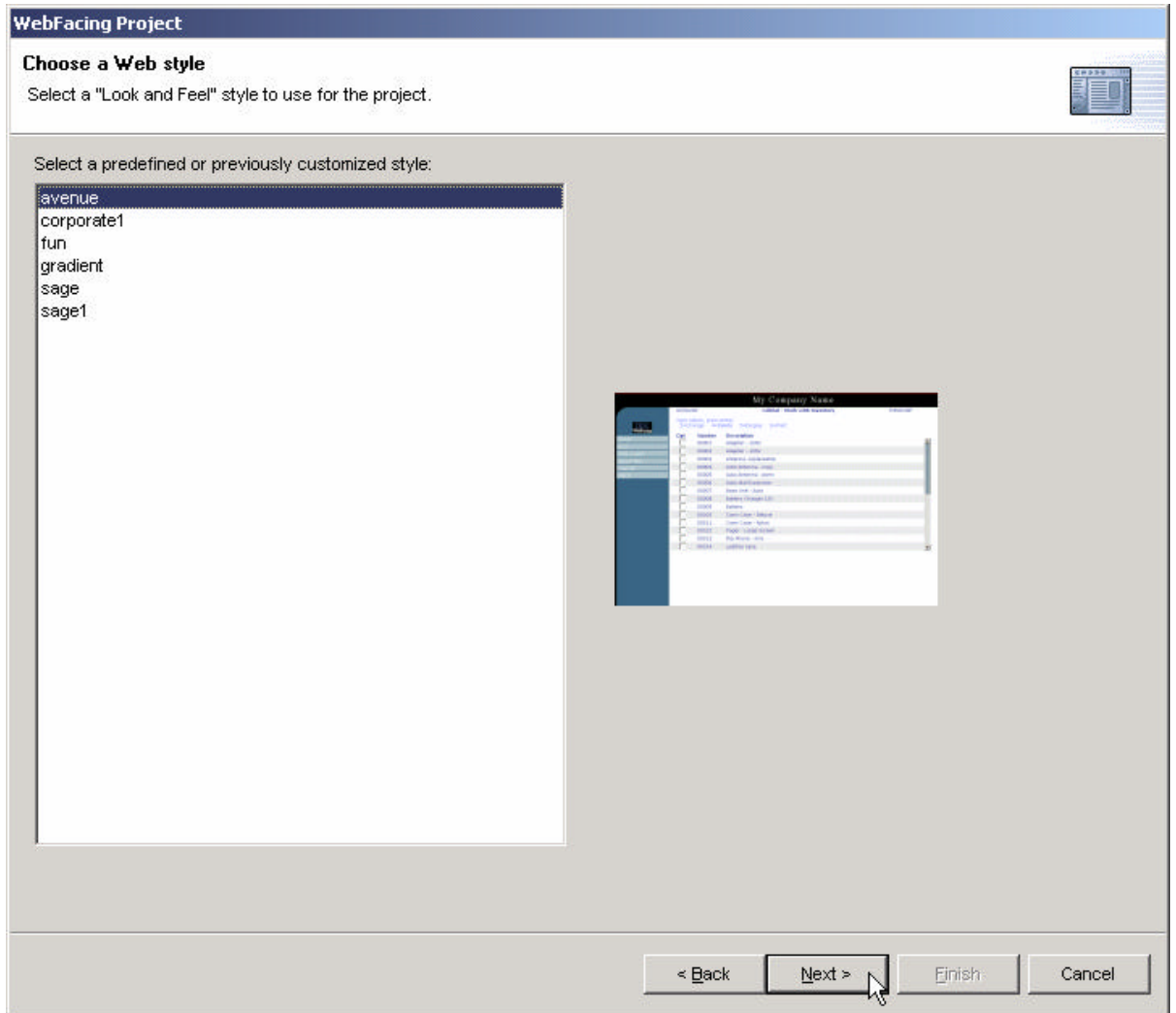
Buttons: Add, Modify, Move Up, Move Down, Delete, < Back, Next >, Finish, Cancel

- Press the **Next >** pushbutton on this project wizard page

WebFacing Lab – Creating and Testing WebFaced Application within WebSphere Development Studio (WDS)

6. The Choose a Web style Page

This page allows you to select a Web style for your converted screens

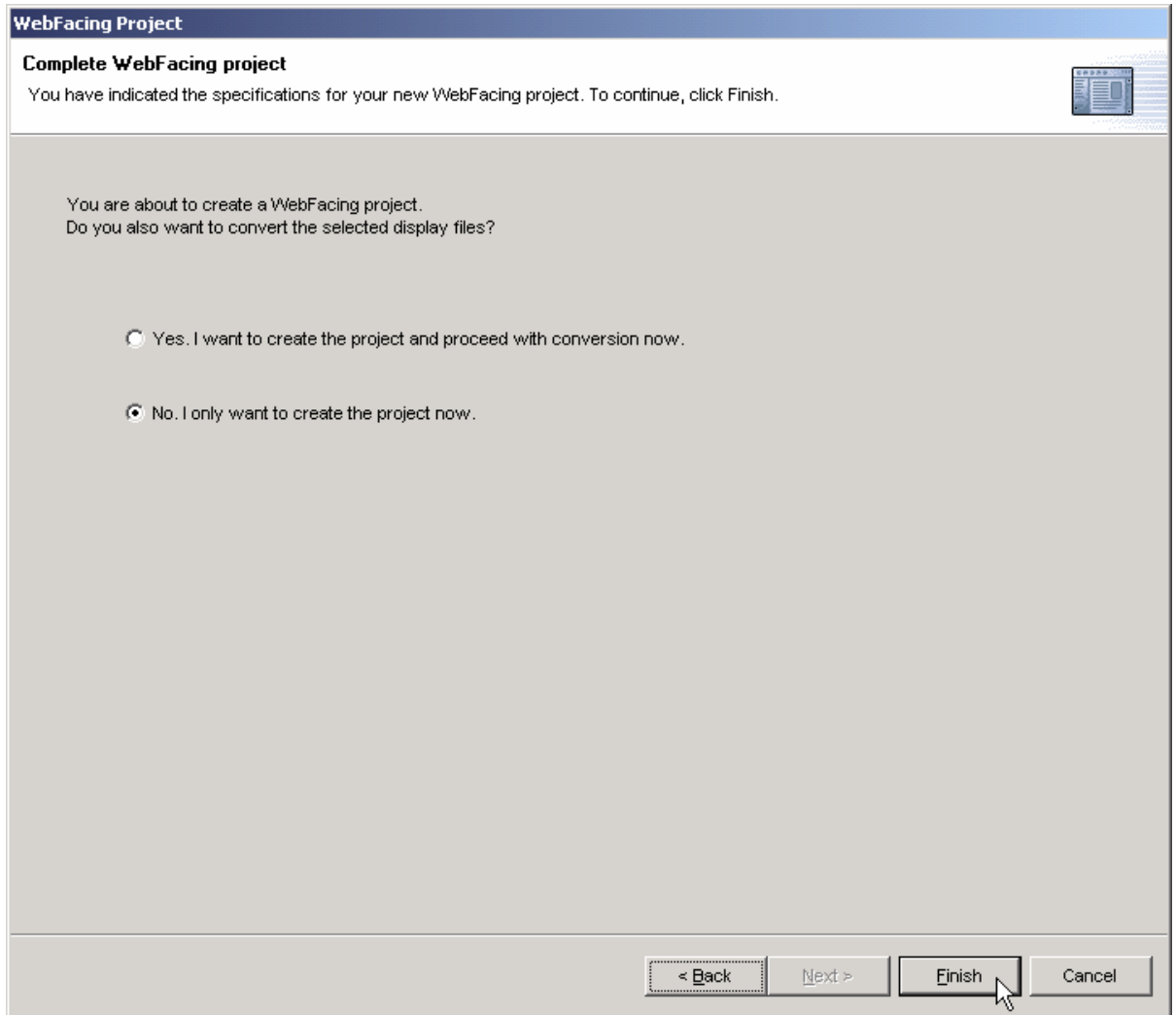


- Select any style from the list of available styles
- Press the **Next >** push button at the bottom of this dialog

WebFacing Lab – Creating and Testing WebFaced Application within WebSphere Development Studio (WDS)

7. Complete WebFacing Project page

At this point we want you to just create the project, we don't want you to convert the source now. Conversion is part of the next exercise.



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

This completes the project set-up exercise

You are now ready to convert your application.

3. Convert Selected Members

Converting selected DDS members

During this exercise you will start the conversion of the DDS source that you selected in the previous lab

The following tasks will be covered in this lab:

- Selecting DDS source to convert
- Starting the conversion
- Work with the conversion log

As a result of this exercise, you will have created the JSPs, data beans, and several other files needed for the WebFaced application.

What you should be able to do

As a result of this exercise you will be able to use the **WebFacing tool** to convert selected DDS source members:

Use the WebFacing tool to select certain members for conversion

Use the WebFacing tool to start the conversion process

Analyze the conversion logs

Using the WebFacing tool to Start the Conversion

__ 1. In the **WebFacing perspective**, Select the project you have been working on in the previous exercise **WebFacedApp**

- Expand this project by **clicking** on the **+** sign beside its icon in the tree view
- You should see an icon named **DDS** in the expanded tree

If you don't see a DDS folder:

You might be in the **Navigator** view,

- Check the **pane title bar**,

If it shows **Navigator**,

- Locate the **WebFacing projects** Tab at the **bottom** of the list pane
- Click on it.

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

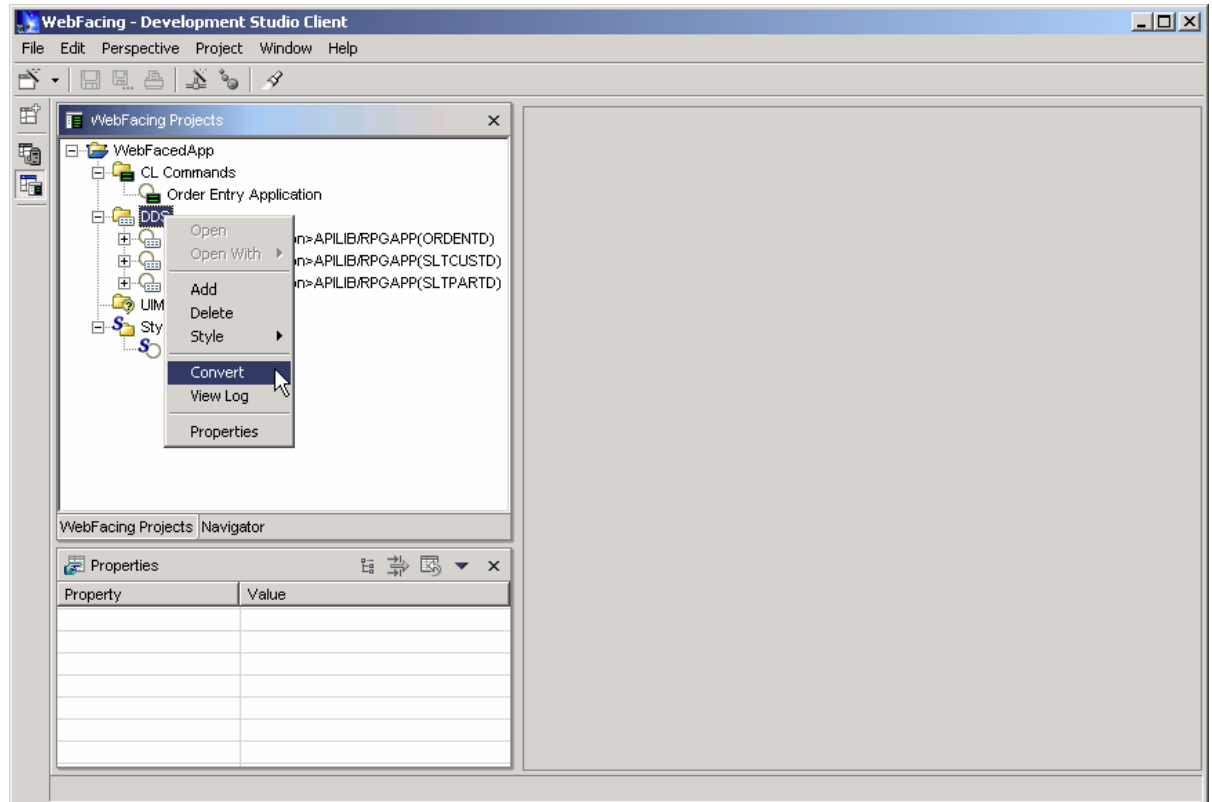
WebFacing Lab – Creating and Testing WebFaced Application within WebSphere Development Studio (WDS)

__ 2. Expand the DDS folder by **clicking** on the **+** sign, beside it

You should see all **3 members** that you selected in the previous exercise.

Since you are converting all members in the project you can work with the **DDS folder icon**

Right mouse **click** on the **DDS** folder icon



Select **Convert** from the pop up menu

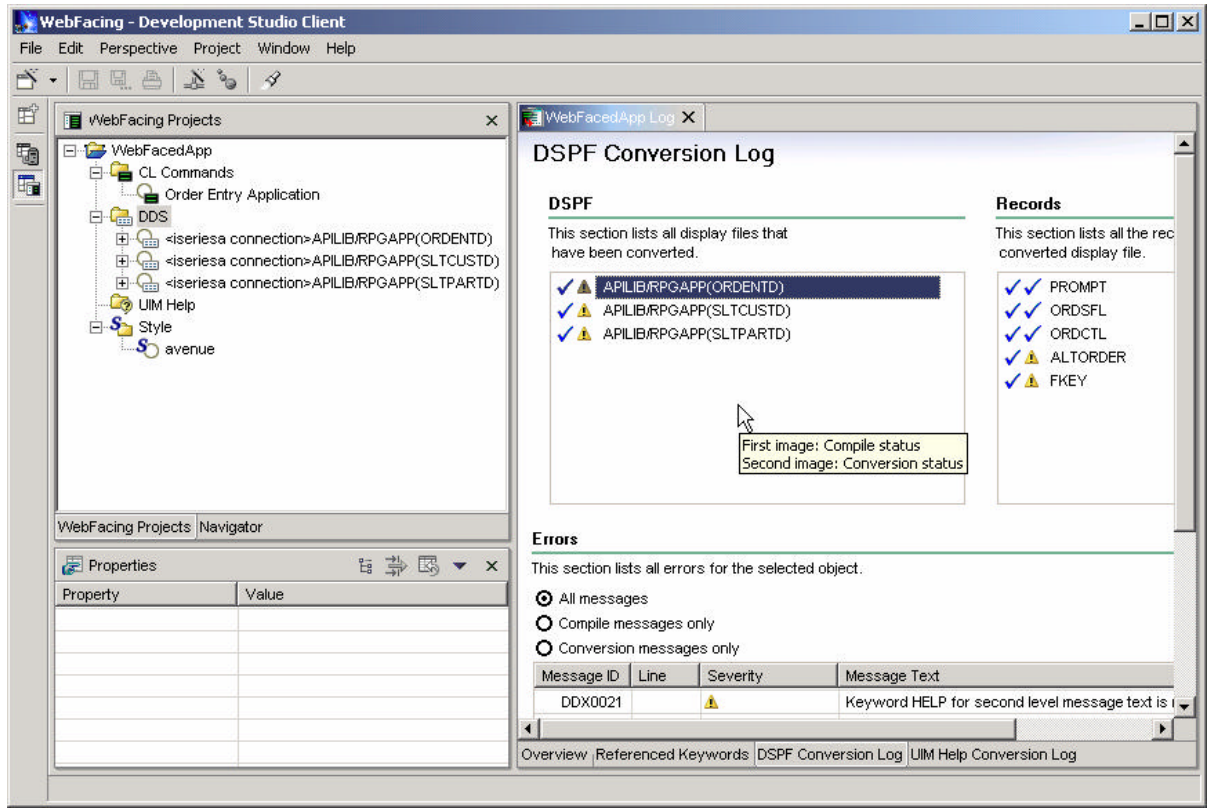
The conversion process starts.

(You **may** be prompted for a signon and password. Look for the screen and use your iSeries userid and password, if you don't see a prompt, it is OK, just continue.)

Wait until the conversion finishes

WebFacing Lab – Creating and Testing WebFaced Application within WebSphere Development Studio (WDS)

___ 3. Notice the conversion log in the right hand pane,



Check the log

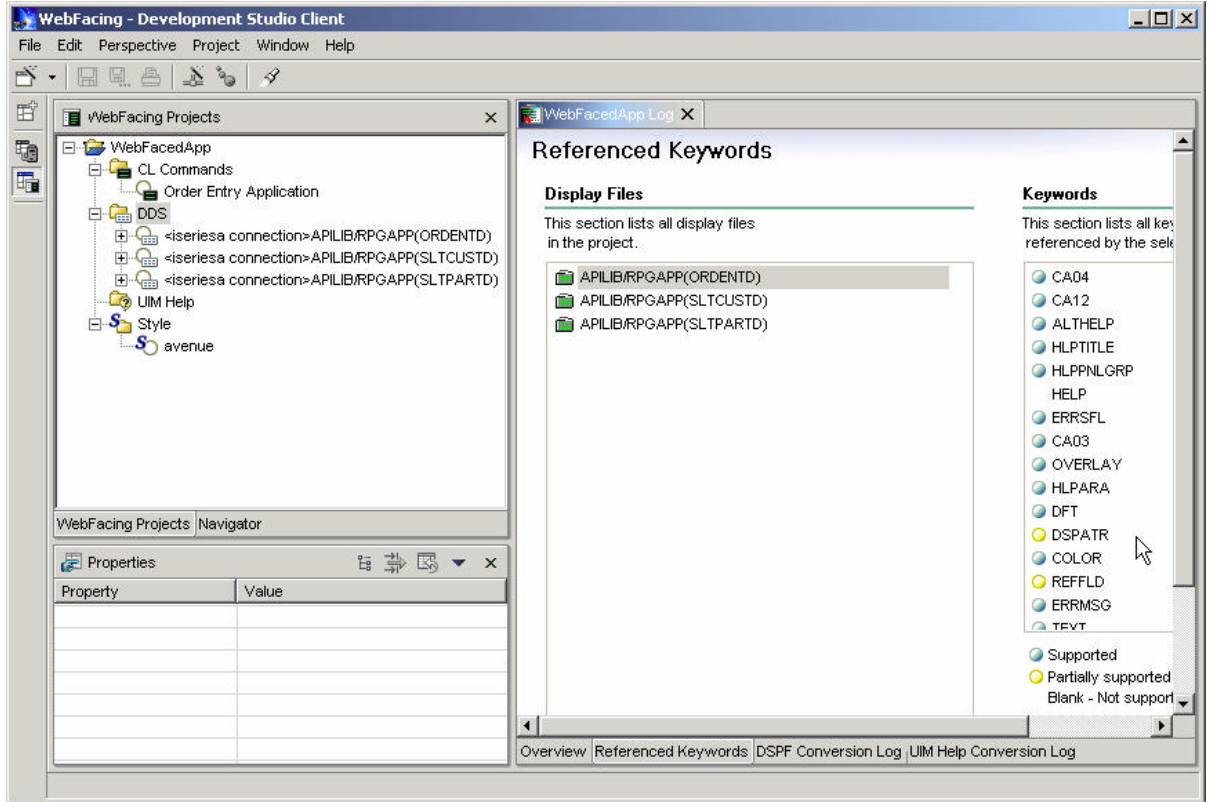
At the bottom of the log are tabs,

- Overview
- Referenced Keywords
- DSPF Conversion Log
- UIM Help Conversion Log

On these pages you can get more details on the conversion

WebFacing Lab – Creating and Testing WebFaced Application within WebSphere Development Studio (WDS)

e.g. Referenced Keywords



Check out the information on the other Log pages

Then proceed to the next lab exercise and run the application with its new User Interface in the Workbench Test Environment.

4. Running the WebFaced Application

Running the WebFaced application

During this exercise you will use the **WAS test environment** that is embedded in WDS. Using the test environment will make the process of testing your application a lot easier than doing the testing in a remote WAS environment. After you have tested your application in WAS test environment you will move the files and use WAS on your test server to do the final testing and then move the files from the WebFacing conversion onto your production WAS environment.

The following tasks will be covered in this lab:

- Starting the application in the test environment
- Selecting the correct link on the invocation index.html page to invoke the WebFaced application
- Using the WebFaced application

As a result of this exercise, you will specify in the WebFacing perspective that you want to run your project in the WDS test environment. From the initial web page you will select the link created by the WebFacing tool to invoke the WebFaced application.

What you should be able to do

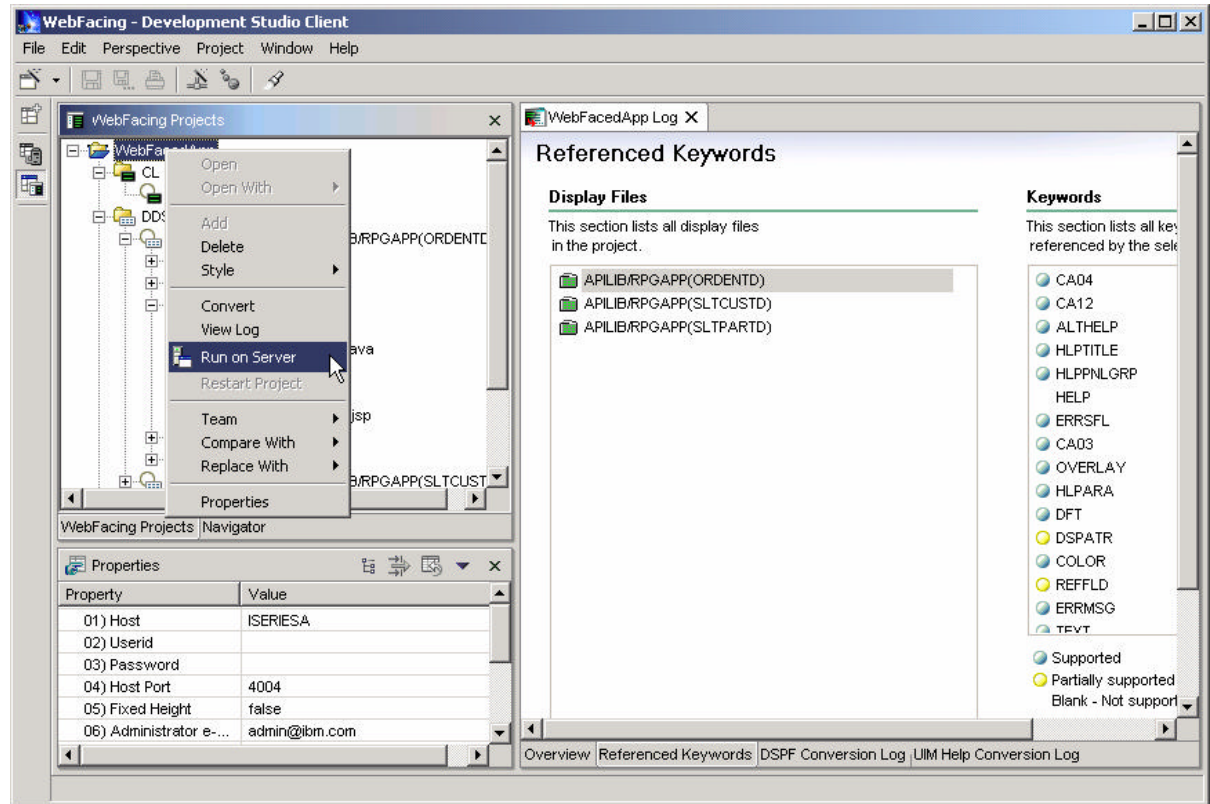
As a result of this exercise you will be able to load the initial invocation page and invoke the WebFaced application in the browser that is included in WDS. You will understand how to navigate through the converted User Interface.

- Use the WAS test environment to run the Web Application
- Select the Link on the invocation web page to invoke the RPG application
- Use the html based user interface to step through the WebFaced application

WebFacing Lab – Creating and Testing WebFaced Application within WebSphere Development Studio (WDS)

1. Using the WAS test environment to show the Index.html page

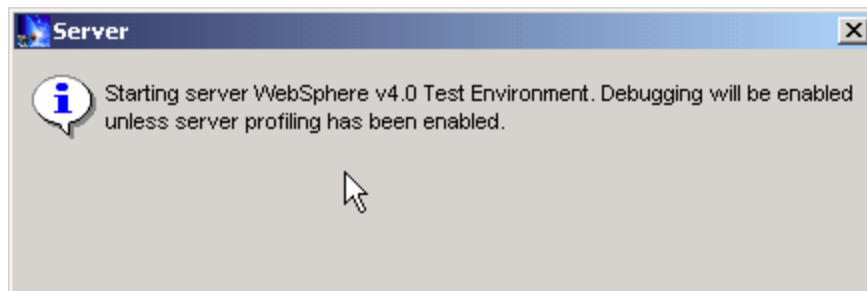
- Right mouse click on the **WebFacedApp** project icon



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

After a few moments (**be patient**), the WebSphere application server will be started on your PC.

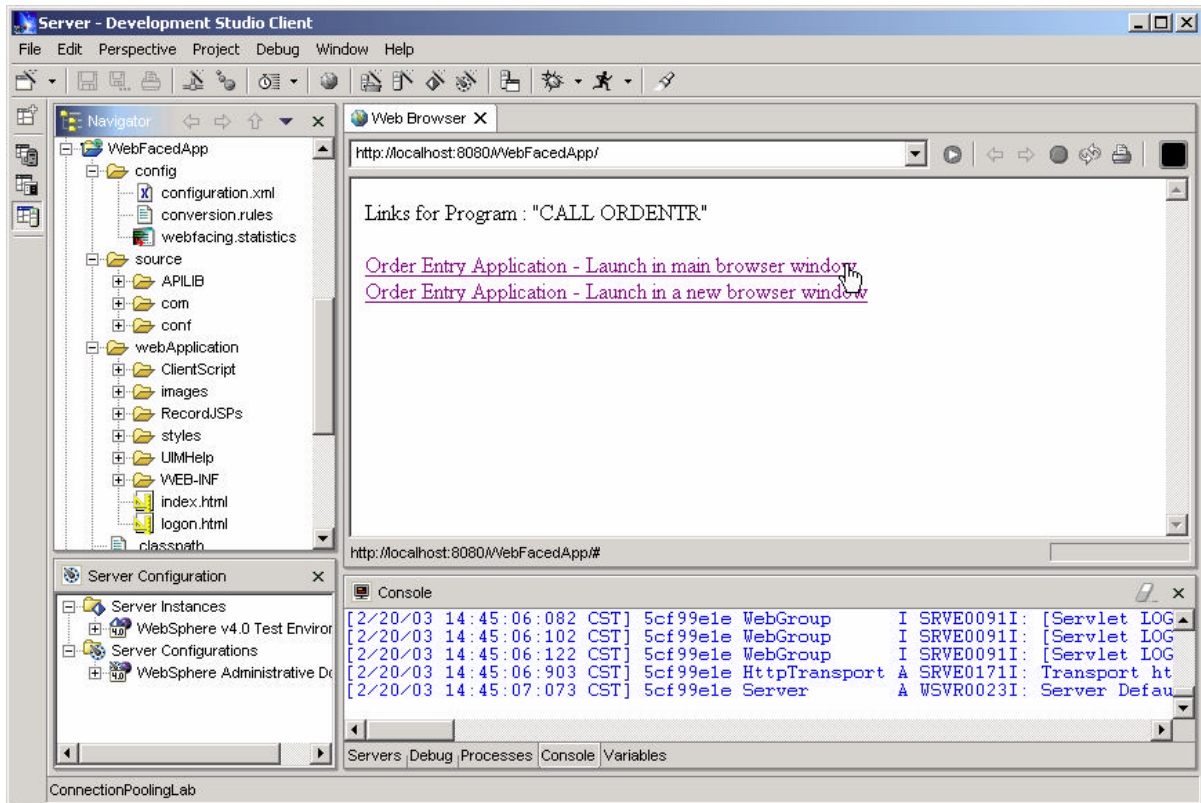
You will see following window pop-up



- The browser will appear in the right hand pane of the workbench

You will see the **index.html** page that has been generated by the WebFacing Tool. Notice that your perspective has been changed to Server Perspective.

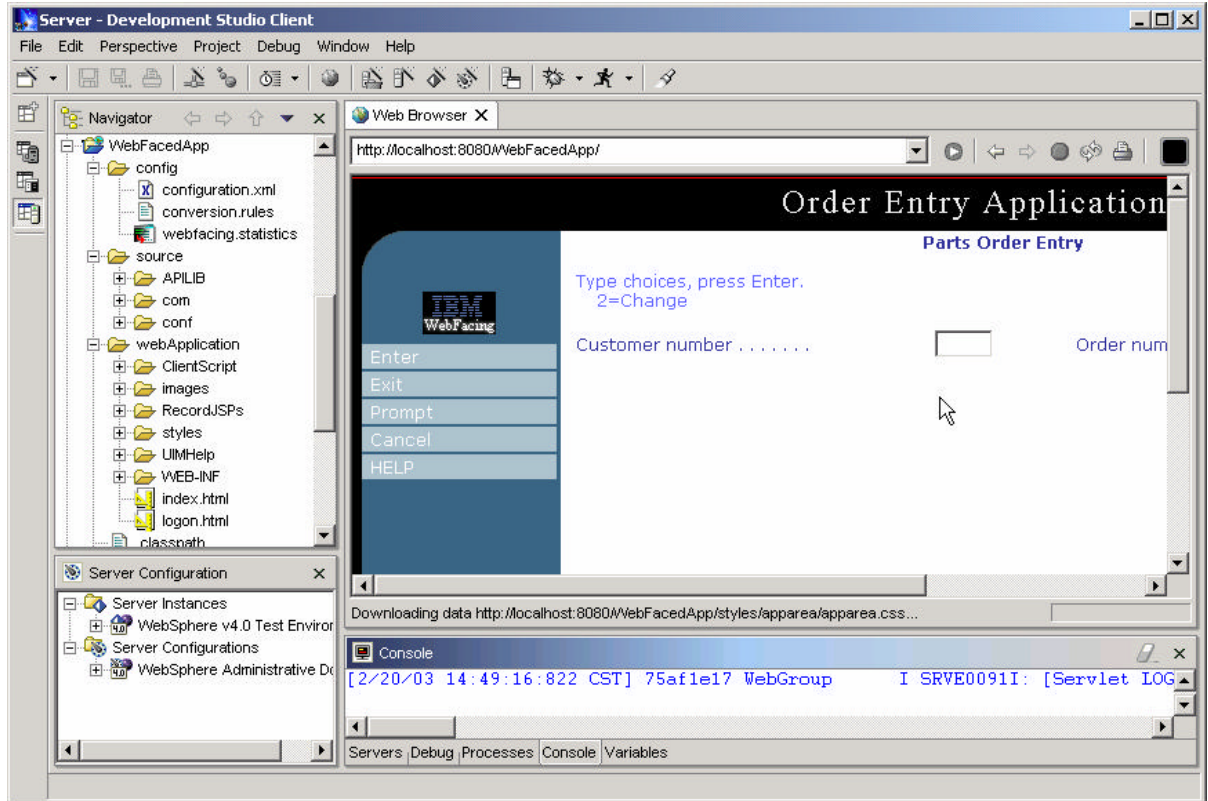
WebFacing Lab – Creating and Testing WebFaced Application within WebSphere Development Studio (WDS)



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

WebFacing Lab – Creating and Testing WebFaced Application within WebSphere Development Studio (WDS)

- After a few moments you will see the following screen. (*Keep in mind the first time the JSP is requested it has be compiled into a Servlet, if you run the application a second time you will see performance is improved*)
- **If you receive error indicating “WebFacing server not running”** please start WebFacing server on iSeries (i.e. STRTCPSVR *WEBFACING - Instructions also listed in the WebFacing Lab Preparation Document)
- You will see the first WebFaced screen of your application.



Press the **Prompt** push button

Did you receive error saying

“WF0116: The Encoding check field was received incorrectly by the Application Server” then go to next page and fix the problem by setting the client encoding override parameter for WebSphere Application Server Test Environment.

In not,

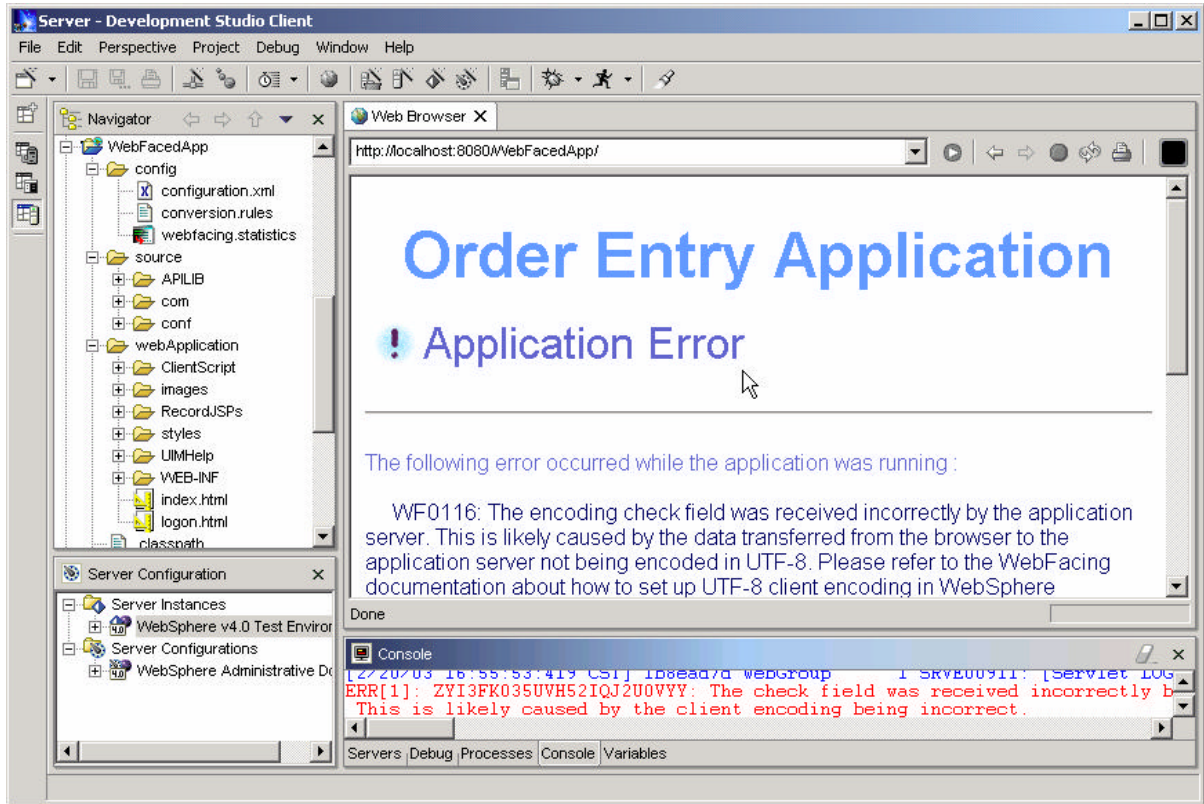
Select a **customer** from the pop-up window (subfile)

Select the **product** to order, enter the quantity.

Press F6 or Click on Accept the order button.

WebFacing Lab – Creating and Testing WebFaced Application within WebSphere Development Studio (WDS)

Enabling Client encoding in WAS Test Environment in WDS.



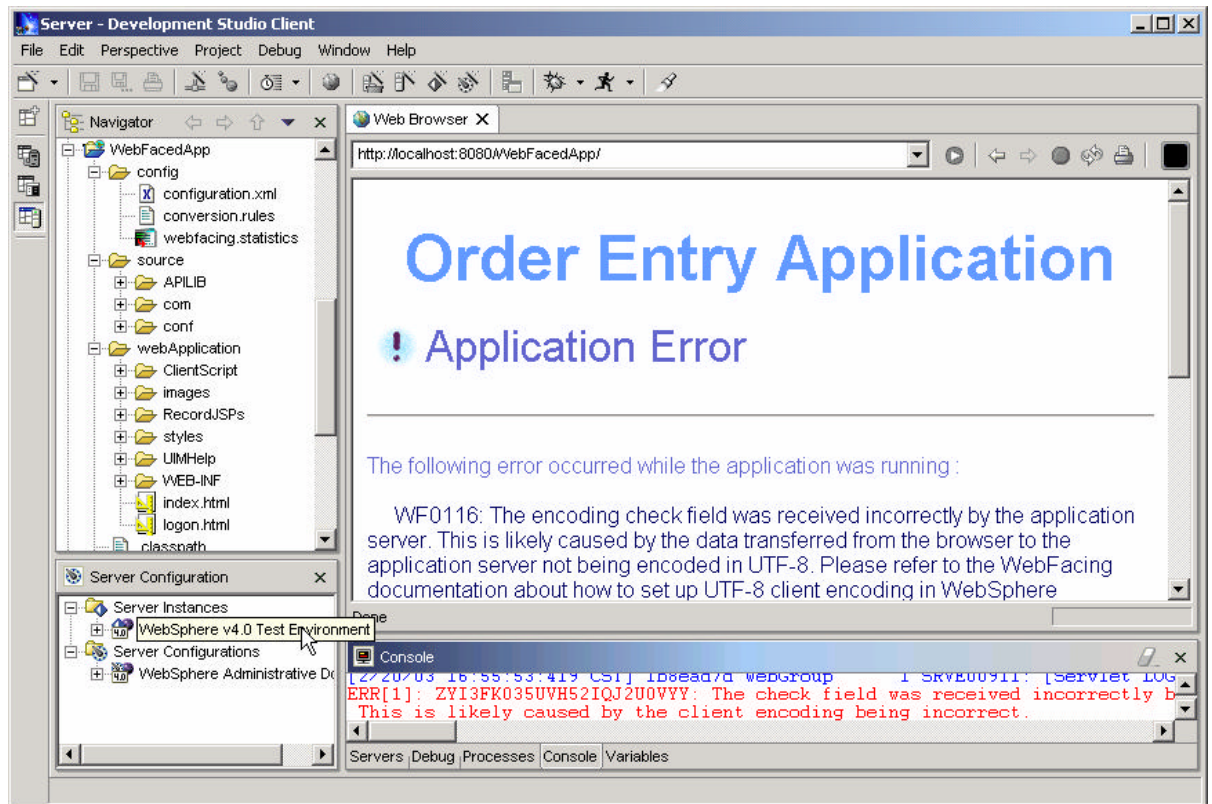
The WebFacing Tool creates Web applications with multiple language support. Because languages use different character sets, data streams between the browser and WebSphere Application Server (WAS) are UTF-8 encoded. For WebFacing to work correctly, UTF-8 support must be configured

client.encoding.override = UTF-8

WebFacing Lab – Creating and Testing WebFaced Application within WebSphere Development Studio (WDS)

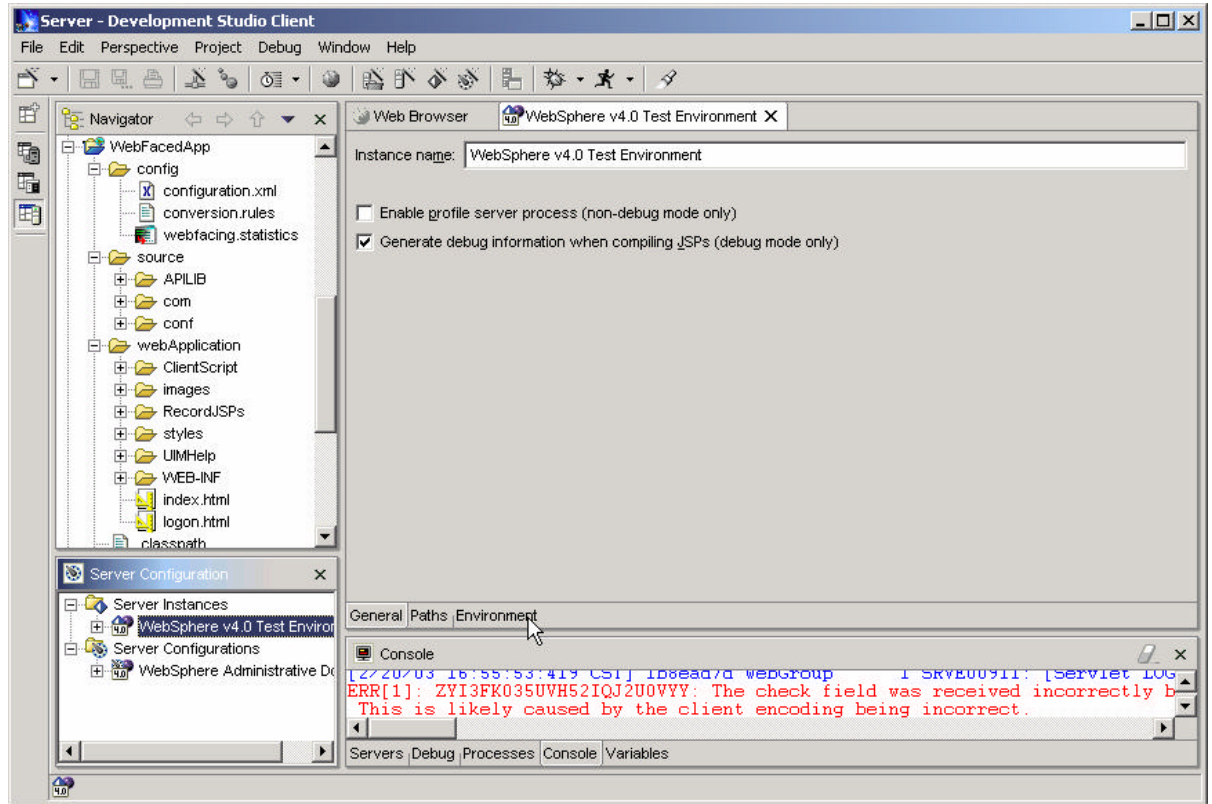
1. WAS 4.0 Test Environment

Double click on WAS 4.0 Test Environment



WebFacing Lab – Creating and Testing WebFaced Application within WebSphere Development Studio (WDS)

2. Click on **Environment tab** from right hand side pane

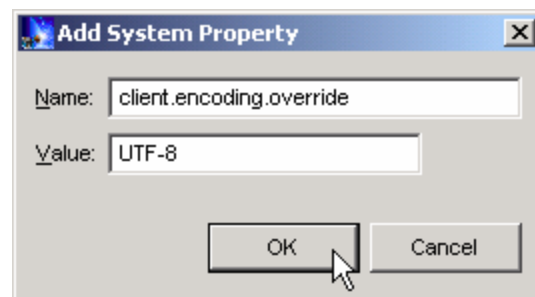


Click on **Add** next to System Properties

3. Enter following system property (Please note that entries are case sensitive)

Enter name: client.encoding.override

Enter value: UTF-8

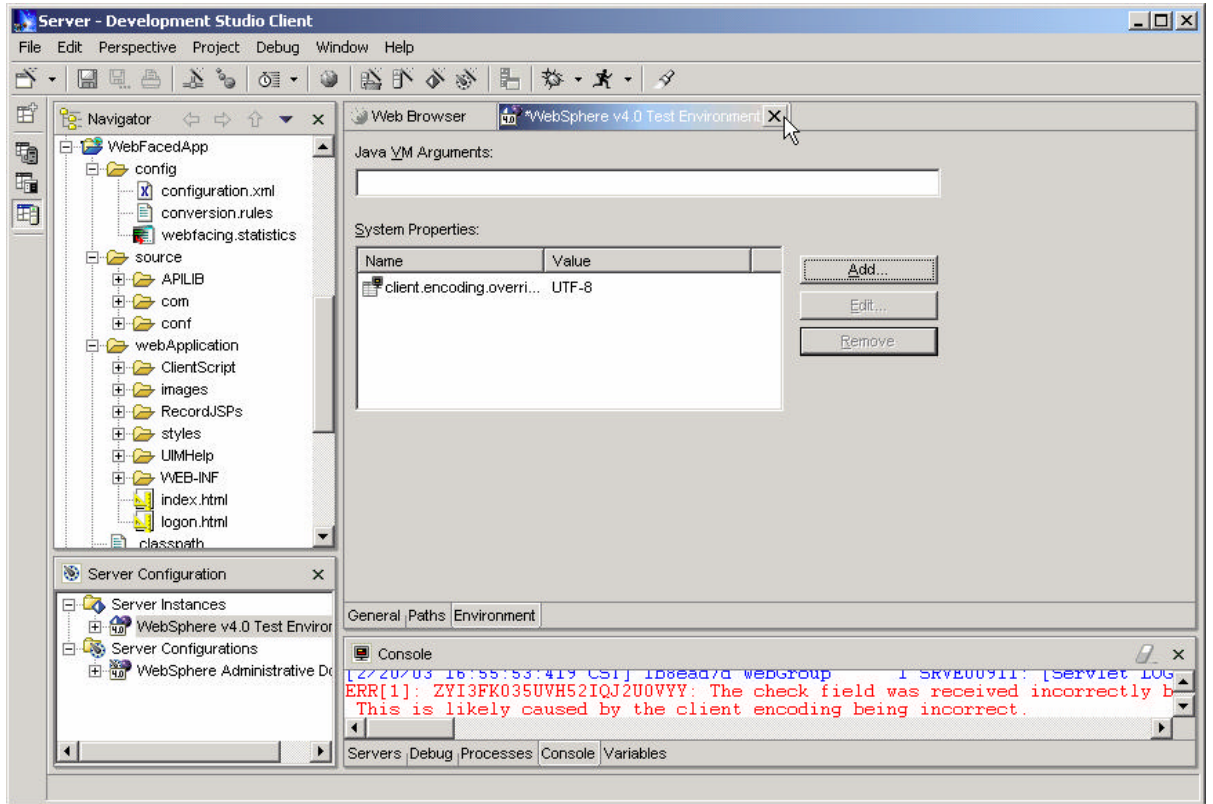


Click on OK Button

4. Save the WebSphere V4.0 Test Environment system properties

WebFacing Lab – Creating and Testing WebFaced Application within WebSphere Development Studio (WDS)

Close the Test Environment properties by clicking on X next to it...

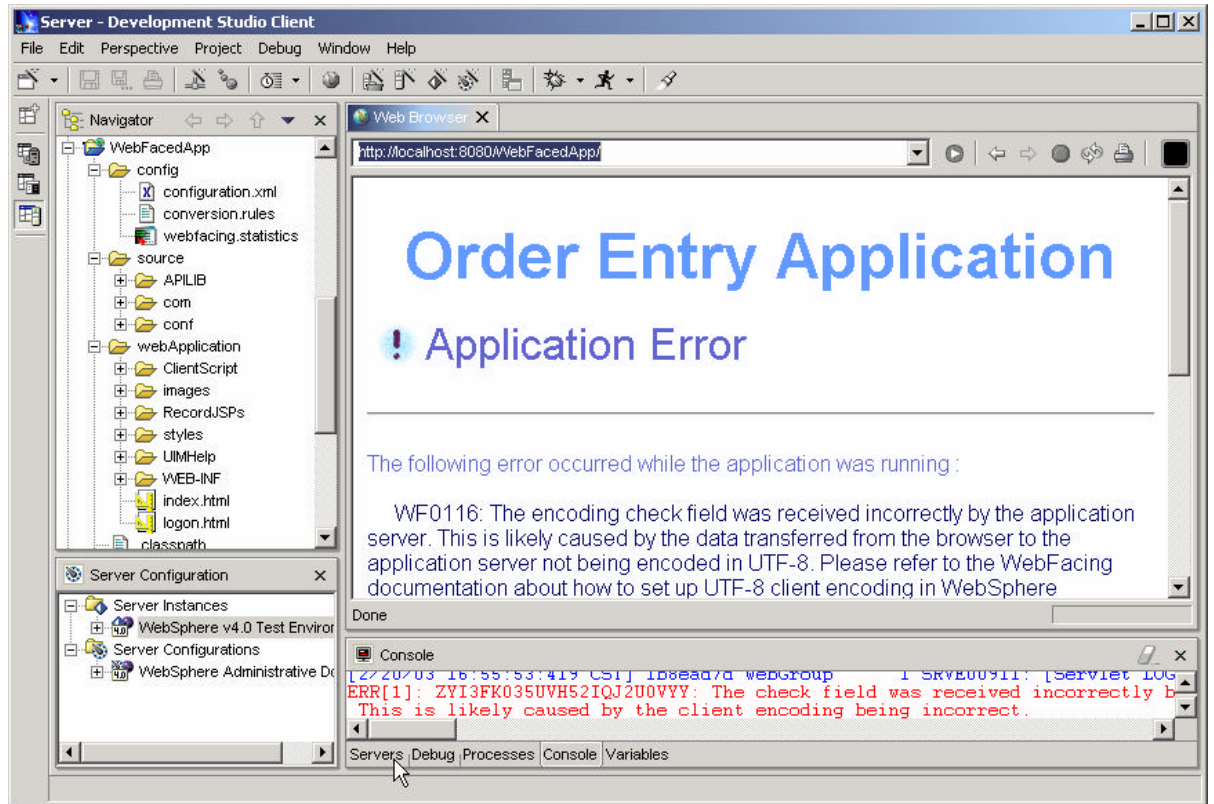


Click on yes to save changes.

WebFacing Lab – Creating and Testing WebFaced Application within WebSphere Development Studio (WDS)

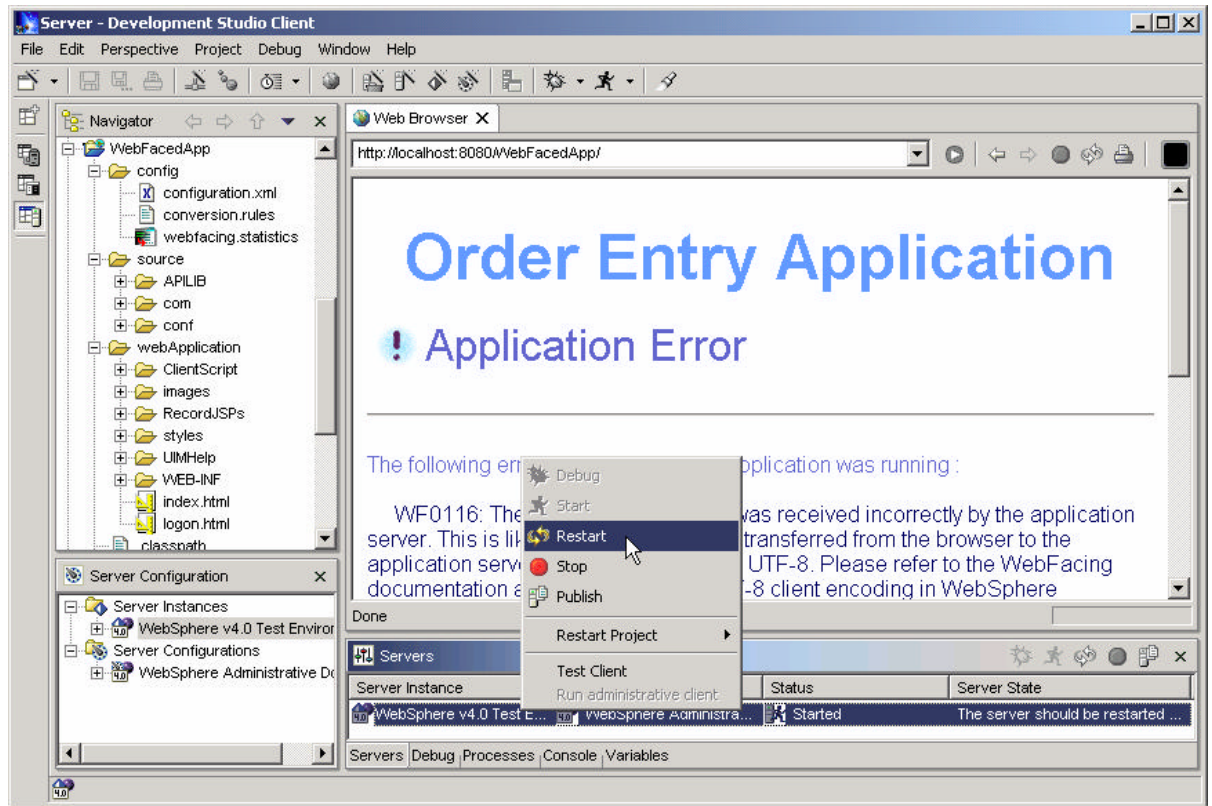
5. Re-start the WebSphere Application Server

Click on **Servers** tab from right hand side bottom pane



WebFacing Lab – Creating and Testing WebFaced Application within WebSphere Development Studio (WDS)

Right click on WebSphere 4.0 Test Environment and select **Re-start**.



After a few moments (**be patient**), the WebSphere application server will be started on your PC.

Refresh the browser in right hand side pane and test the WebFaced Application.

Press the **Prompt** push button

Select a **customer** from the pop-up window (subfile)

Select the **product** to order, enter the quantity.

Press F6 or Click on Accept the order button.