IBM WebSphere Portal 5.0

Creating Portlets with the

IBM WebFacing Tool

By Michael J. Sandberg
IBM eServer Solutions Enablement

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Introduction

The objective of this paper is to provide an understanding of the basics of deploying and configuring portlets using the IBM® WebFacing Tool. This will be accomplished through the use of the Web-based administration functionality that is delivered with IBM WebSphere® Portal.

To better understand this paper, let's look briefly at what a portal and portlet are… how they are different from each other, and how they interact.

What is a Portal?

Portals are web sites designed to be an entry point to Internet or intranet-based information and applications. Familiar and longstanding portals include Yahoo and Lycos. Portals are being viewed as the next-generation desktop. They are valuable, even critical, because they…
• Group or categorize Web content, regardless of where the information resides or the format in which it is stored.
• Make search facilities available for easy penetration of the content.
• Serve up diverse content; such as rich text, video, or XML; in a relevant and comprehensive manner.
• Honor the viewing needs and restrictions imposed by many different types of clients (PDAs, cell phones, desktops, etc.)

Not surprisingly, then, portals are extremely valuable from an e-business perspective because they provide a single context for users to accomplish their tasks. The **WebSphere Portal** framework supports the developer's need to build and maintain portals for enterprise e-business purposes.

What is a Portlet?

In the same way that a servlet is an application within a Web server, a portlet is an application within a portal. That is, the portal server embraces a framework that separates the many, diverse portal components into portlets. Further, the portal server must provide services that make the task of writing and managing portlets easier. For instance, the developer must be able to rapidly plug in new features and extensions.

From a user's perspective, a portlet is a window in the portal that offers a specific service or set of information. It might be a stock market feed or a local weather forecast.

From an application development perspective, portlets are pluggable modules that execute from within a portlet container which resides on a portal server. The portlet container provides a runtime environment where portlets are instantiated, used, and destroyed. Portlets depend on the portal infrastructure to provide:
• User profile information
• The ability to participate in windowing and action events

- A conduit for communicating with other portlets
- A mechanism to access remote content, lookup credentials, and to store persistent data

The extensible framework of WebSphere Portal allows end users to interact with enterprise applications, people, content, and processes. They can personalize and organize their own view of the portal, manage their own profiles, and publish and share documents. WebSphere Portal provides additional services such as single sign-on, security, content management, search and taxonomy, support for mobile devices, and site analytics.

The Portlet API that is provided with WebSphere Portal includes standard interfaces for these functions. However, the portlet container is not a stand-alone container as is the servlet container. Instead, it is implemented as a thin layer on top of the servlet container and reuses the functionality provided by the servlet container.

The IBM WebSphere Portal

IBM WebSphere Portal is a framework that lets you plug in new features or extensions called portlets. Developing portlets is the most important task in providing a portal that functions as the user's window to information and tasks. WebSphere Portal's extensible framework allows the end user to interact with enterprise applications, people, content, and processes. They can personalize and organize their own view of the portal, manage their own profiles, and publish and share documents. WebSphere Portal provides additional services such as single sign-on, security, content management, search and taxonomy, support for mobile devices, and site analytics.

WebSphere Portal Enable for iSeries includes a portal framework for integrating the portal with applications and data sources that reside on iSeries servers as well as on other platforms—from a single point-of-access perspective. It enables personalization of portlet content using business rules to match the unique needs and interests of each portal user. It supports access to user profile information stored in a Domino® Directory, iPlanet Directory, Microsoft®, and SecureWay LDAP Directory—the latter of which is included with WebSphere Portal Enable for iSeries™. Specific security features are included for managing portal membership, user authentication, single sign-on across multiple applications and authorization for access to portal resources. It provides a vehicle for quickly deploying portals on a wide variety of wired and wireless computing devices that enable users to conveniently access portals where and when they have the need.

The IBM WebFacing Tool

The IBM WebFacing Tool converts existing 5250 interfaces (the original telnet-like interface for iSeries) to browser-based graphical user interfaces. With little or no modification to the original iSeries applications, it is quick and easy to extend the use of original program model (OPM) applications to the Internet or an intranet—making programs available anywhere that users have access to a browser.

The WebFacing Tool can be used with applications where DDS source code was used to create 5250 display screens. The tool-based conversion of the DDS source produces JavaServer Pages™ (JSPs™) and XML files that serve as the new Web-based access to the application, bypassing the 5250 display code altogether. The JSPs allow even more flexibility in customizing their appearance,via WebFacing style properties, including graphics, fonts, colors, and layouts.

The WebFacing Tool is included with IBM WebSphere Development Studio Client Advanced for iSeries V5.1. Specifically, the ability to run a Web application in a portal server is accomplished with a new iFrame portlet—a sample portal application is even included. *[NOTE: iFrame is part of the HTML specification and is supported in nearly all modern browsers. It allows for the insertion of a frame within a block of text.]*

A Final Comment

This paper has three sister papers—all related to building portlets within a WebSphere Portal. These other papers are:
- ? Creating Portlets with IBM iSeries Access for Web
- ? Creating Portlets with IBM Host Access Transformation Server V4 (HATS V4)
- ? Creating Portlets with IBM Host Access Transformation Server Limited Edition (HATS LE)

WebFacing Tool Portlet Example

Now that you have a fundamental understanding of the various portal and portlet concepts and an awareness of the IBM tools that will be the emphasis of this white paper, this section will seek to teach by example.

Requirements to recreate example

The list of iSeries hardware and software required to recreate the example that is provided with the WebFacing Tool include:

- ✍ WebSphere Portal—installed and configured on an iSeries server
- ✍ An IBM WebFacing Tool application—installed and configured in WebSphere Application Server on iSeries
- ✍ iFrame portlet (sample is shipped with WebSphere Development Studio Client)

What you should be able to do

At the end of this paper, the reader should be able to apply the processes discussed here with their enterprise applications, including:

1) Creating a new label and page in WebSphere Portal.
2) Installing an iFrame portlet.
3) Creating and renaming copies of an iFrame portlet.
4) Adding an iFrame portlet to a page.
5) Configuring an iFrame portlet to display an application that is driven by JSPs and XML files generated by the IBM WebFacing Tool.

Additional "Example" Background information

In this paper, a label and a page are created so that the iFrame portlet can be installed into them. The images in this paper may not exactly match what the reader will see in the General Availability (GA) version of WebSphere Portal. The IBM WebFacing Tool application used in this example is a default transformation of the order entry green-screen application and contains no enhancements or customization.

Tips

Here are a few tips that may be useful for this paper:

TIP 1: For those who have completed one of the three other portlet white paper examples (listed at the end of the introduction to this paper), it is possible to skip to step #8 after navigating to **iSeries Better User Interface** under **Portal User Interfaces** -> **Manage Pages** .

TIP 2: When under the "My Portal" label, if the label or page is not viewable (that is, it is not under Manage Pages), the symbol ▶ will indicate that the label or page may be pushed off the screen. This could happen if there are a large number of labels and pages under My Portal. Simply click on ▶ to get to the appropriate label or page.

Part 1: Create a new label and page in WebSphere Portal

In this first segment of the example, a new page will be created within a label that is contained in the WebSphere Portal. This is an important first step because the IBM WebFacing portlet will be added to this new page.

___1.   Log on to the WebSphere Portal instance via the logon screen shown below.
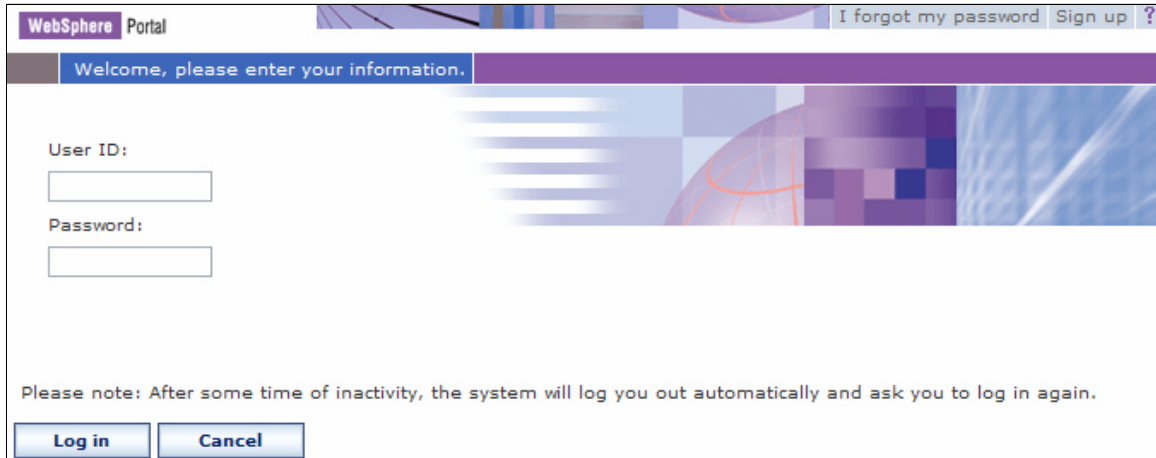
___2.   Once in "My Portal," click on the **Administration** link on the top of the page. (See screen below).
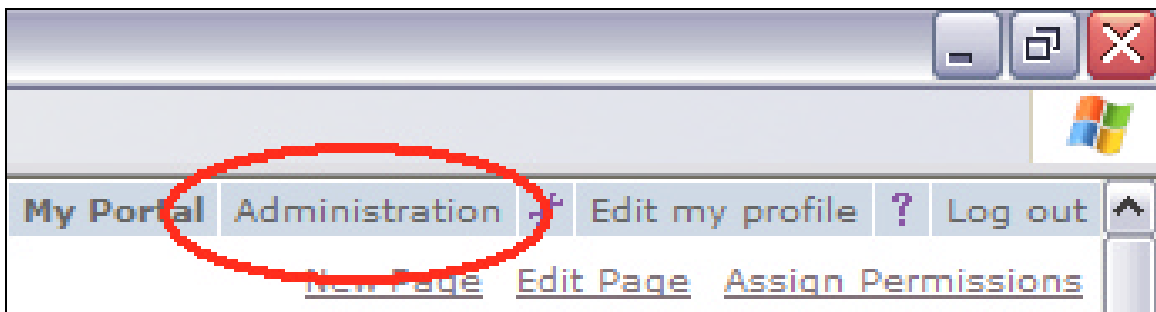
___3.   Next, click on the **Manage Pages** link under "Portal User Interface." (See screen below.)
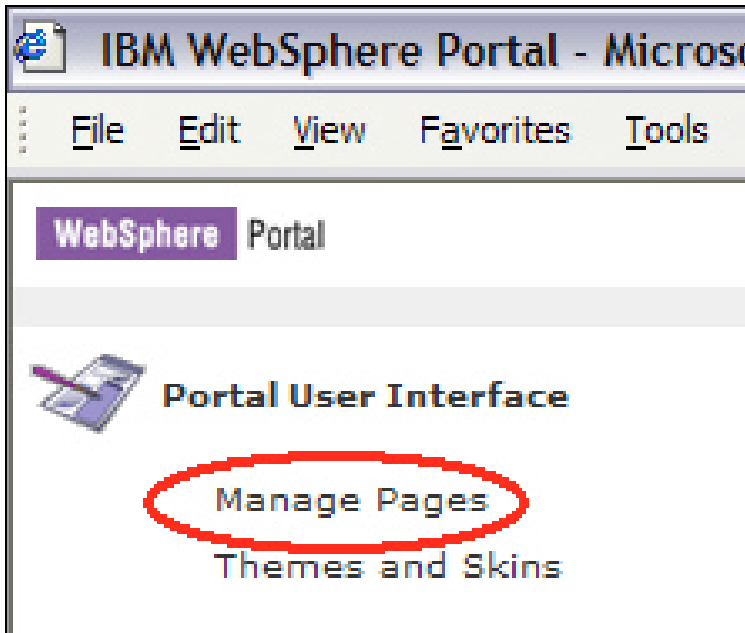
___4.   Click on **My Portal** under **Content Root.** (See screen below).
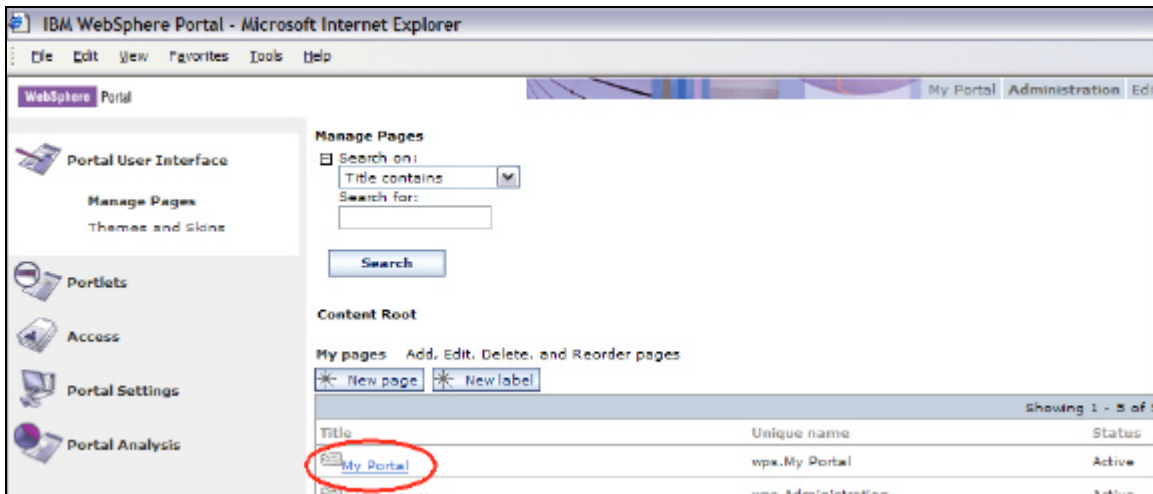
___5.　　Click on the **New label** button. (See screen below).
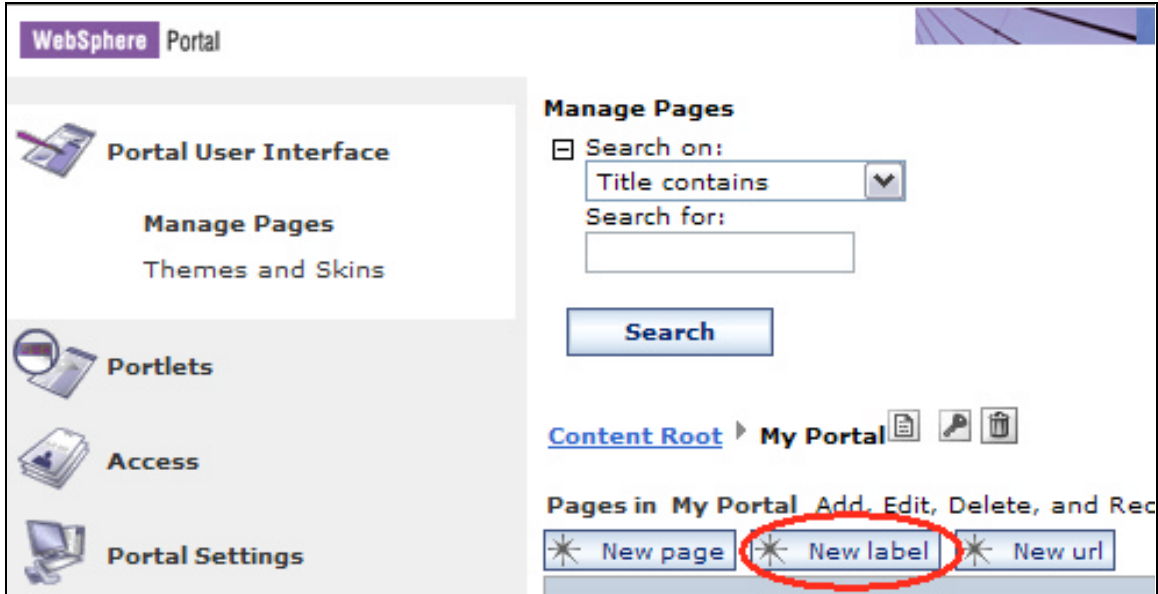
___6.　　Type **iSeries Better User Interfaces** in the **Title:** text box. Then click **OK**. A Web page will be displayed stating **iSeries Better User Interfaces has been created successfully**. Click **OK**. (See screen below).
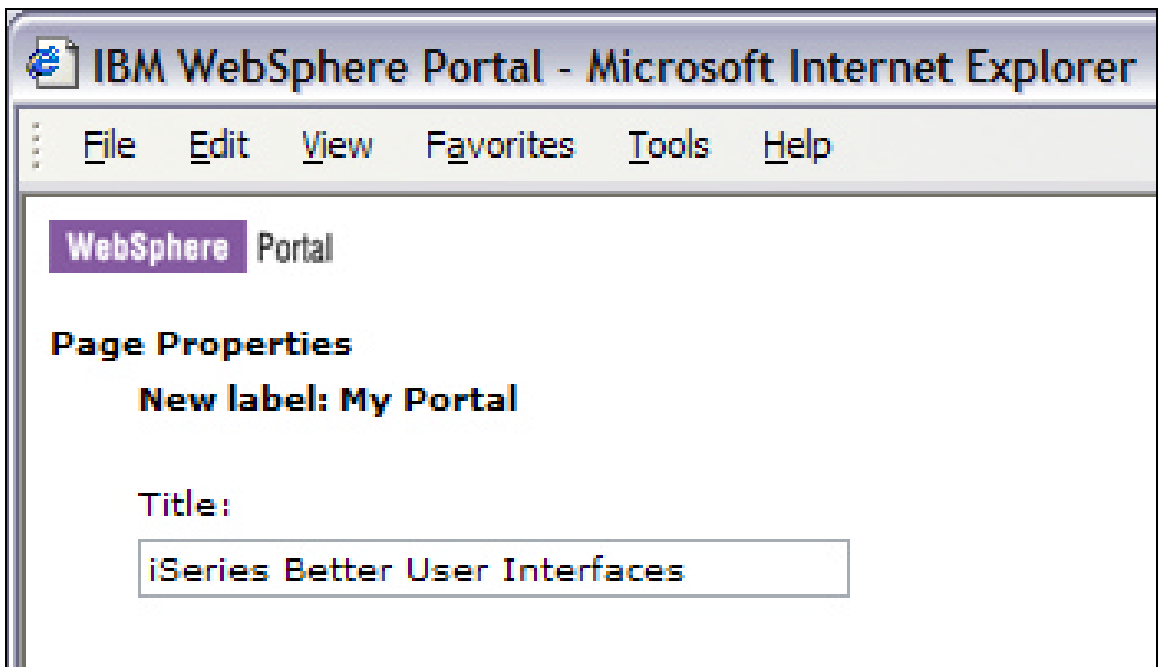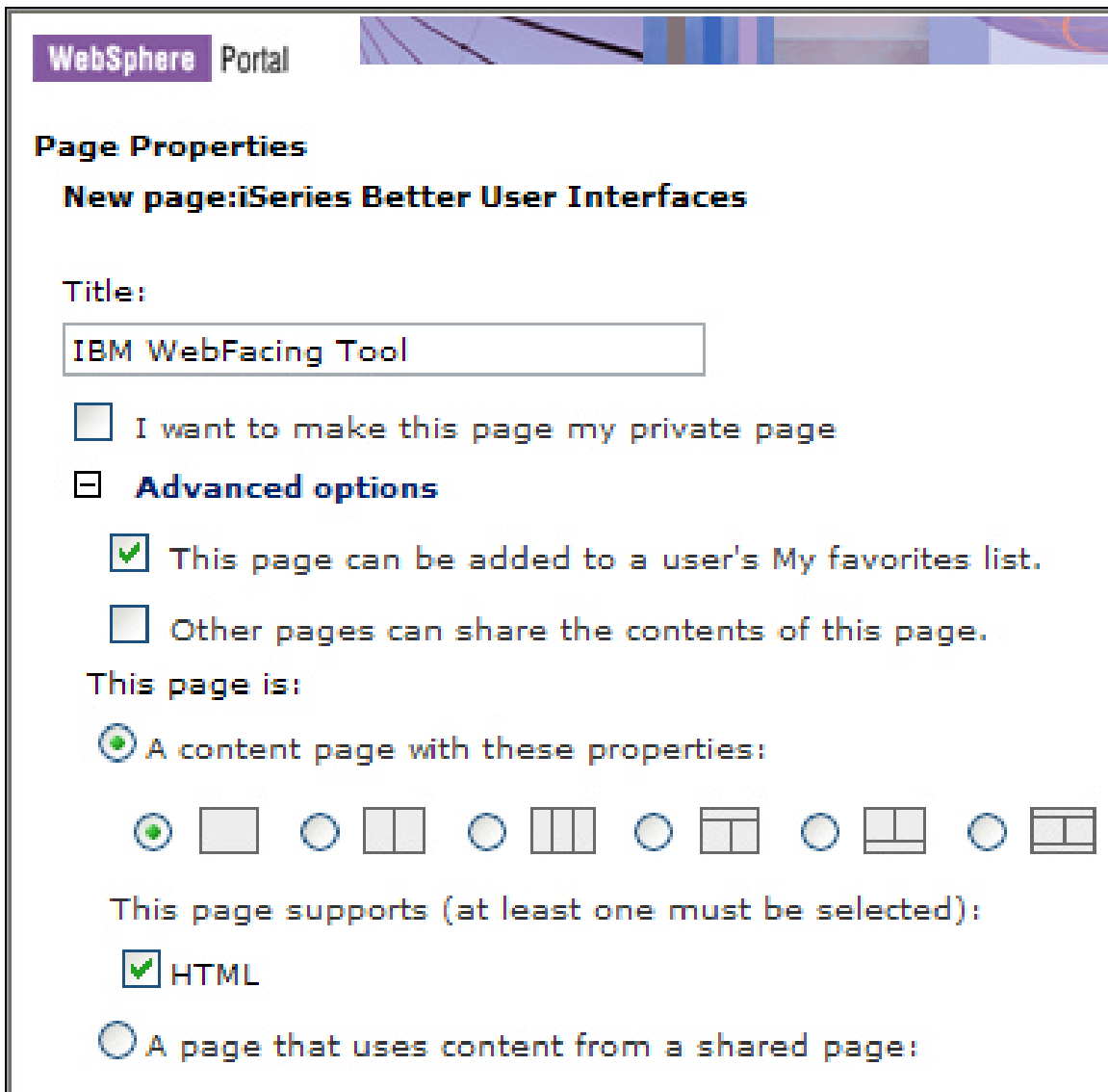
___7.　　The **Portal User Interface Manage Pages** screen will now be redisplayed, along with a new title, **iSeries Better User Interfaces**, which will be displayed on the bottom of the list of labels and pages. Click on **iSeries Better User Interfaces**. (See screen below).
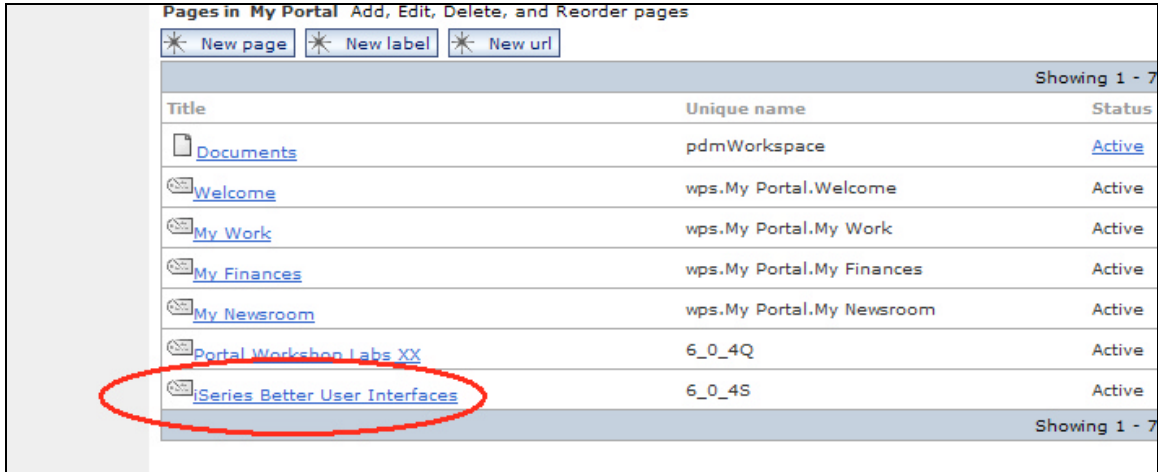
___8.　　Click on the **New Page** button. (See screen below).
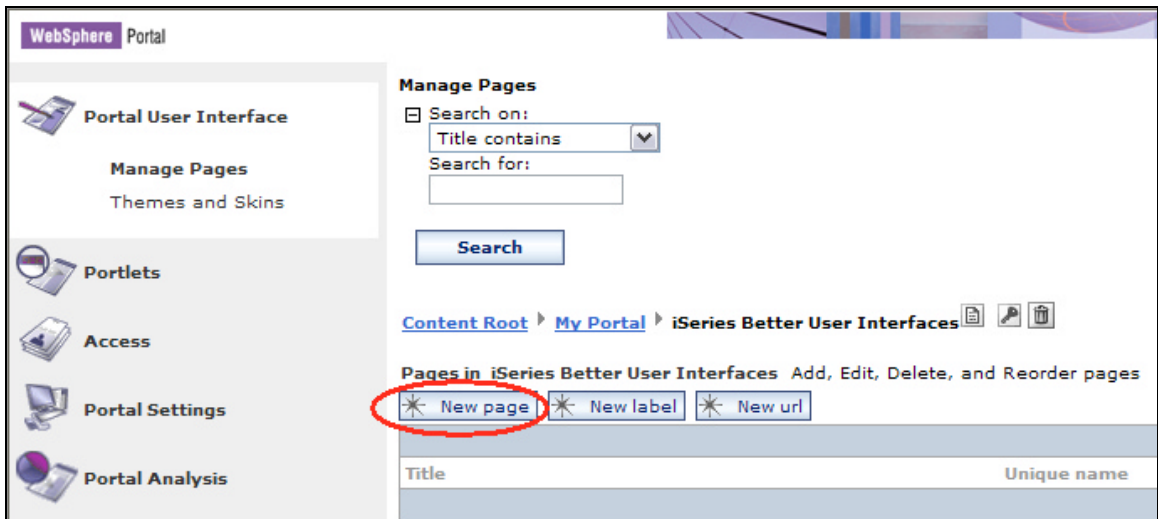
___9. Type **IBM WebFacing Tool** in the **Title:** box. Expand the "Advanced options" by clicking on the ⊞ symbol. Under **This page is:** click on the radio button that visually represents a single frame on the page. Click **OK**. A Web page should be displayed stating **IBM WebFacing Tool has been created successfully.** Click **OK**. (See progression of these steps illustrated in the screen capture below.)


Part 1: Success!

A new page has now been created in the label where the iFrame portlet for the WebFacing Tool will be installed.

Part 2: Install the iFrame portlet

In this second segment of this example, the iFrame portlet will be installed. This is an important step so that a copy of this portlet can be made for actual customization and use (in Part 3).

___1.   You should now be back at the **Portal User Interface / Manage Pages** screen. Click on Portlets on the left side of the page. (See screen below.)
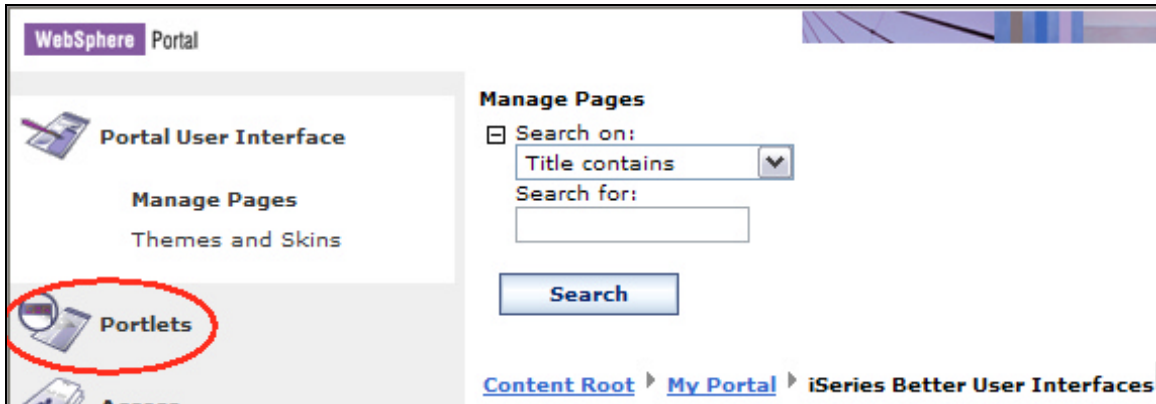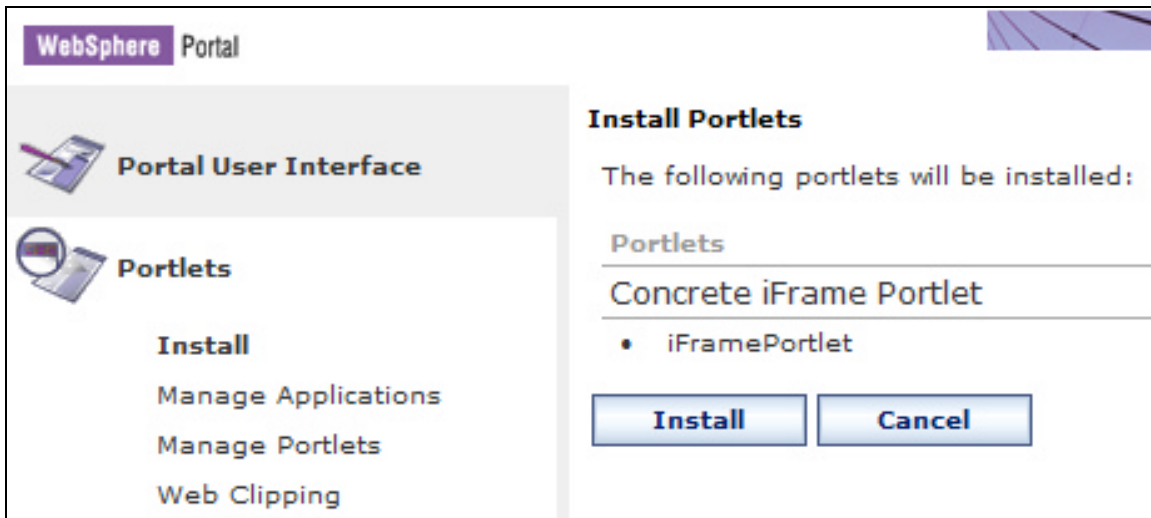
___2.   Click on **Install** under **Portlets**. (See screen below.)
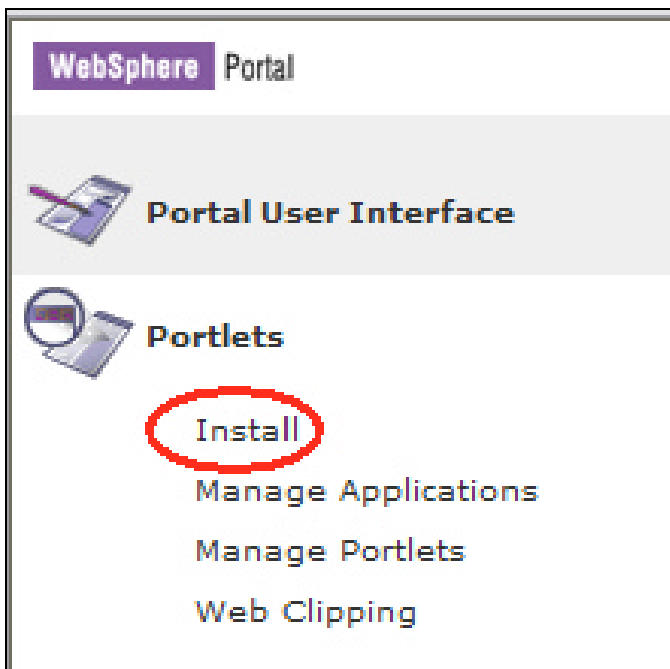
___3.   Click on **Browse…** and navigate to
C:\WDSC\iseries\eclipse\plugins\com.ibm.etools.iseries.ae_5.1.0\iFrame41.war
This is the default location if WebSphere Development Studio Client
Advanced 5.1 has been installed using the defaults. Click **Next**. (See screen
below.) *[NOTE: The iFrame41.war file is shipped with WebSphere
Development Studio Client Advanced.]*

Install Portlets

Specify the location of the file.

Directory:

| C:\Portlets\iFrame41.war | Browse... |

Next
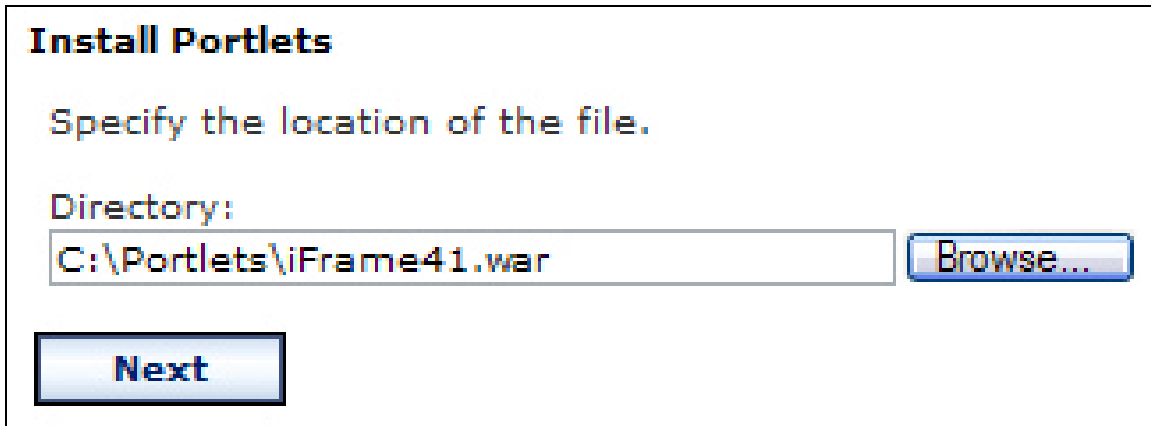
___4.   A web page will be displayed stating: **The following portlets will
be installed:**. In the list should be **Concrete iFrame Portlet**. Click **Install**.
(See screen below.)

WebSphere Portal

Portal User Interface

Portlets

Install

Manage Applications

Manage Portlets

Web Clipping

Install Portlets

The following portlets will be installed:

Portlets

Concrete iFrame Portlet

• iFramePortlet

Install   **Cancel**

___5. A second Web page will be displayed stating **Portlets were successfully installed.** (See screen below.)
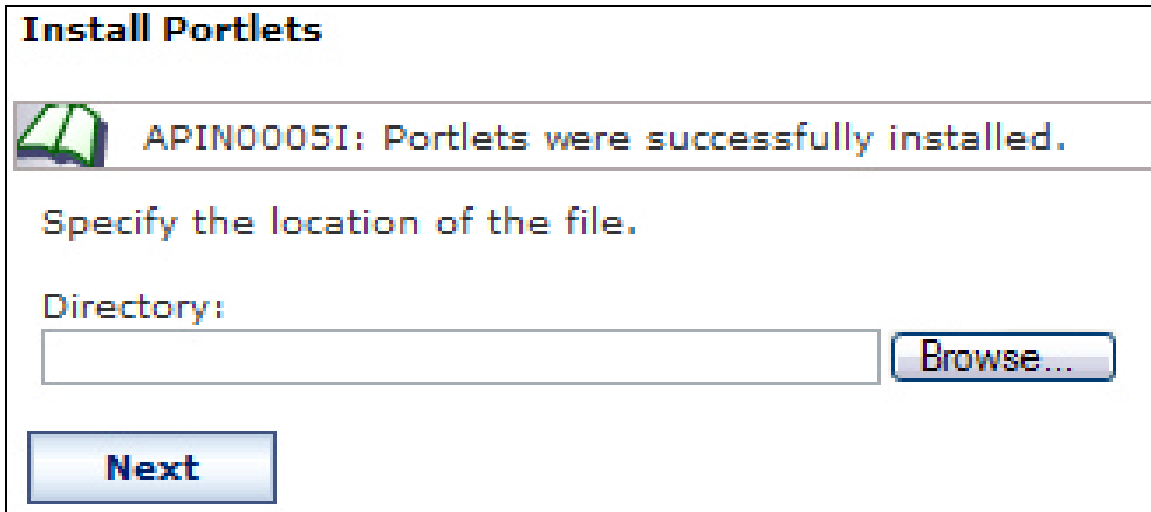

Part 2: Success!

The iFrame portlet (that is provided with WebSphere Development Studio Client Advanced) has now been installed.

Part 3: Create copies of the iFrame portlet

In this third segment of this example, the process for making copies of the iFrame portlet will be demonstrated. This is important because this copy of the iFrame will ultimately be added to a page (in Part 4).
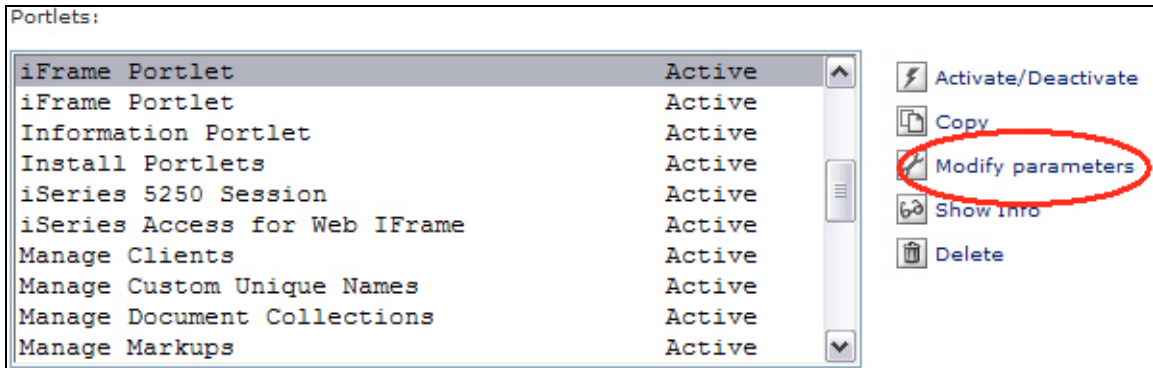
___1.   Click on **Manage Portlets** under **Portlets**. (See screen below.)
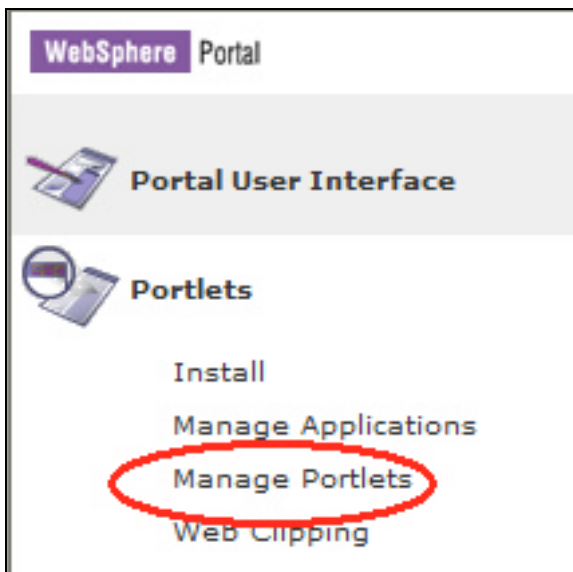
___2.   In the **Portlets:** window, scroll down to find and select **iFrame Portlet**. Then, click on **Copy** to the right of the window. (See screen below.)
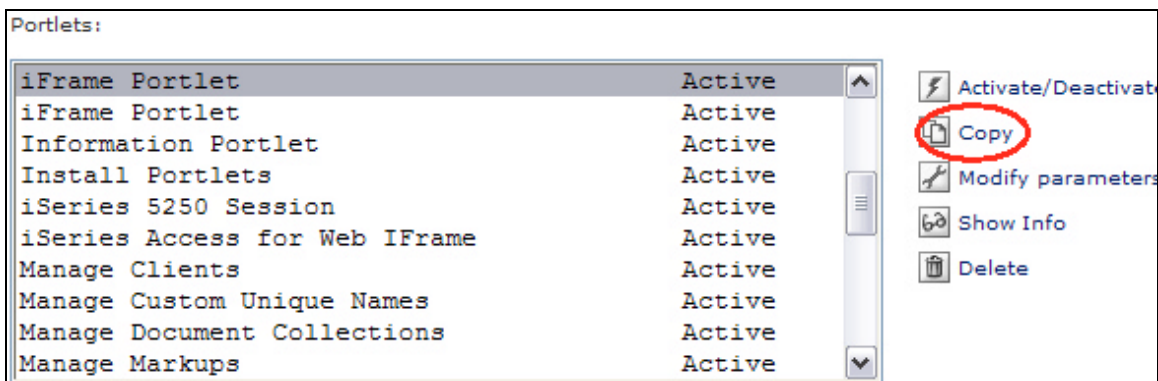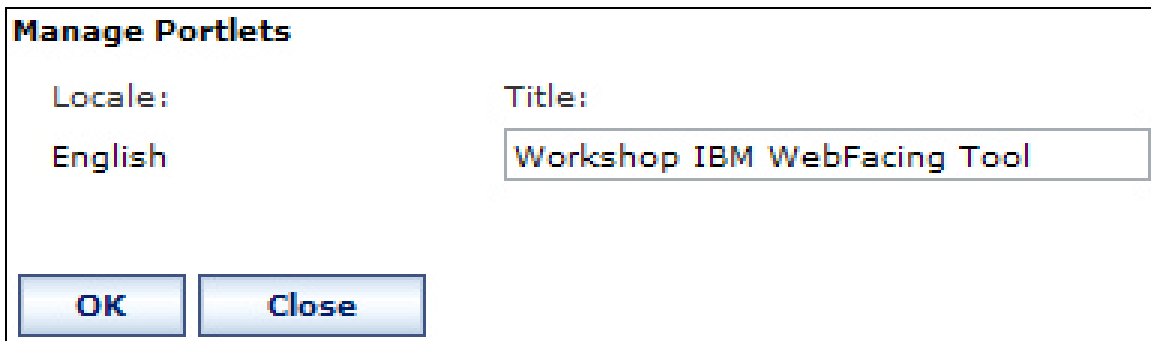
___3.   Click on one of the **iFrame Portlet** entries and click on **Modify parameters**. (See screen below.)

___4.   Select the **English** radio button under **Edit Locale Specific Titles:** then click on **Set title for selected locale**. (See screen below.)
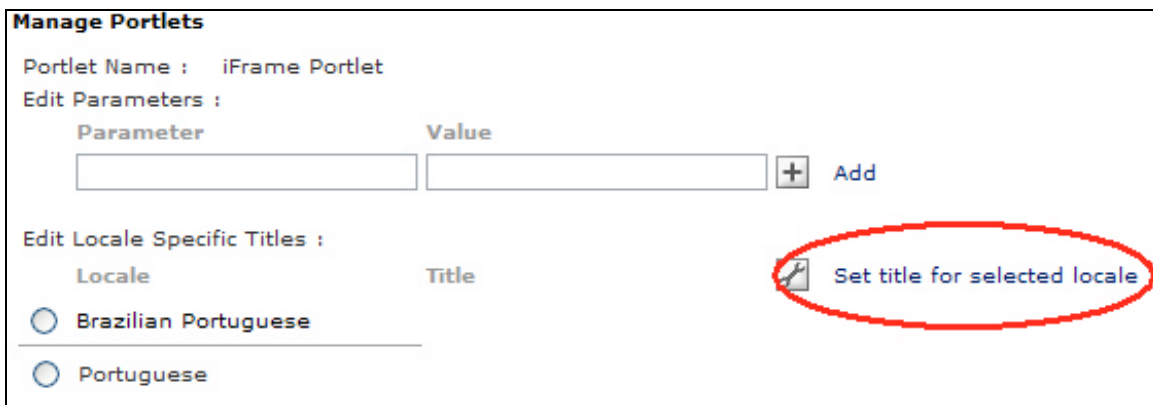
___5.   In the **Title:** field, type **Workshop IBM WebFacing Tool**. Click **OK**.
Click on **Save**, and then click on **Cancel**. (See screen below.)

Manage Portlets

| Locale:	Title:
English	Workshop IBM WebFacing Tool

[OK]   [Close]

Part 3: Success!

An easily identifiable copy of the iFrame portlet has now been created. This copy
will be added to the IBM WebFacing Tool page in WebSphere Portal.

Part 4: Add iFrame portlet to a page

In this fourth segment of the example, the copy of the iFrame portlet that was created in Part 3 will now be added to a Web page.
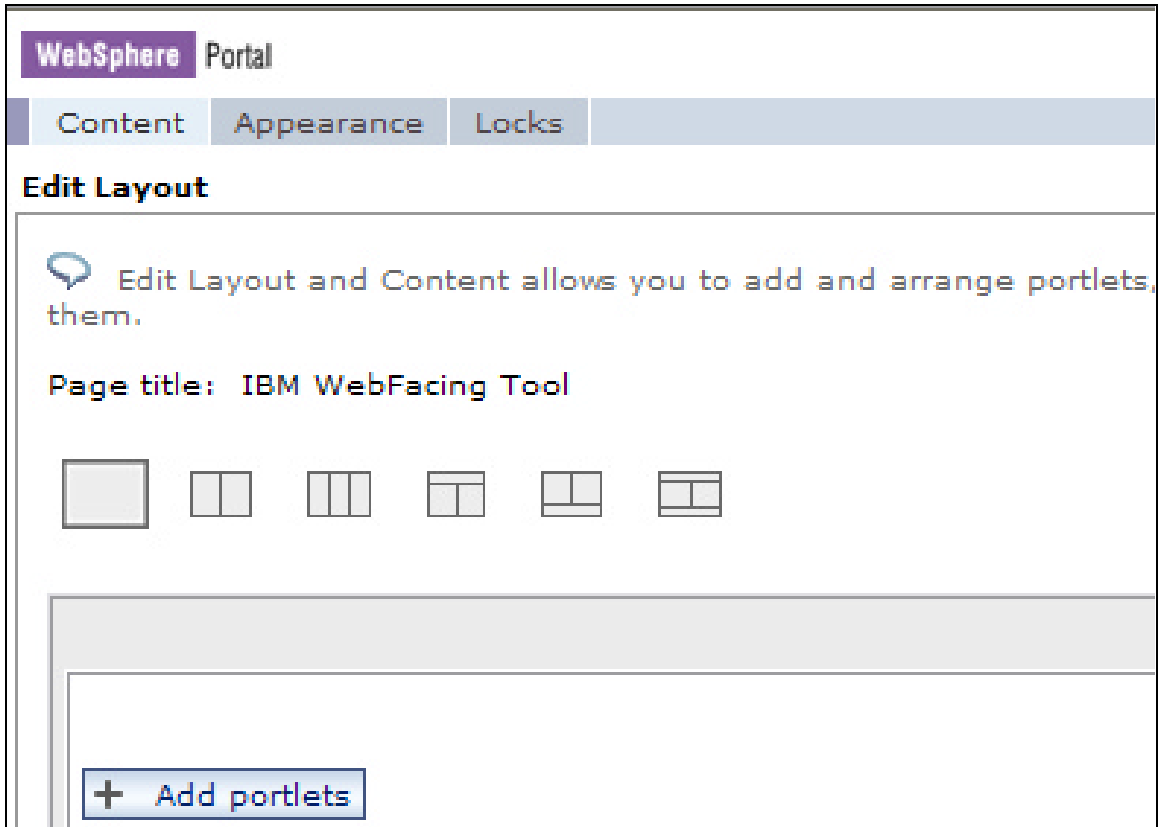
___1. Click on **Portal User Interface**, and then click on **Manage Pages**. (See screen below.)
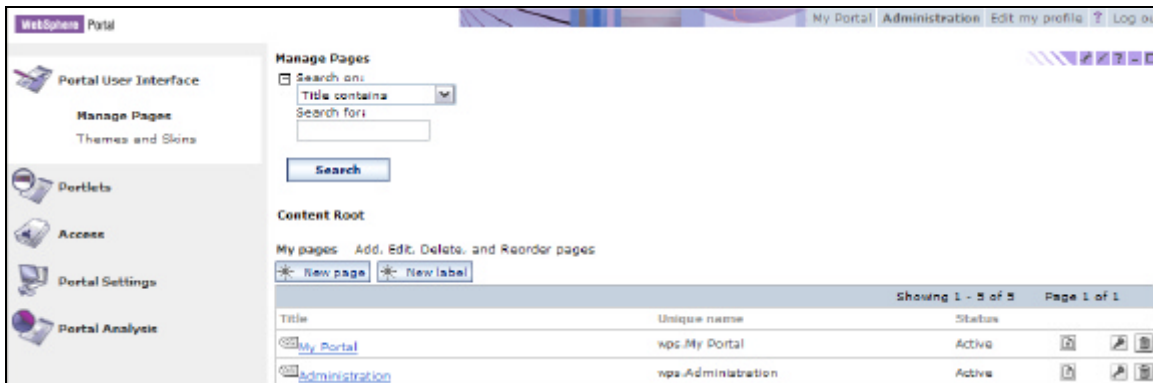
___2. Click on **My Portal**, and then click on **iSeries Better User Interfaces**. (See screen below.)

___3. Click on the ✎ symbol (that is, the "pencil" symbol) to the right of **IBM WebFacing Tool**. You will then be shown the **edit page layout** view. (See screen below.)

WebSphere Portal

Content   Appearance   Locks

Edit Layout

💬   Edit Layout and Content allows you to add and arrange portlets, them.

Page title: IBM WebFacing Tool

+ Add portlets

___4. Click the **Add portlets** button. Type **Workshop** in the search field and click **Search**. (See screen below.)

WebSphere Portal

Edit Layout

⊟ Search on:
 Title contains ⌄
 Search for:
 Workshop

Search
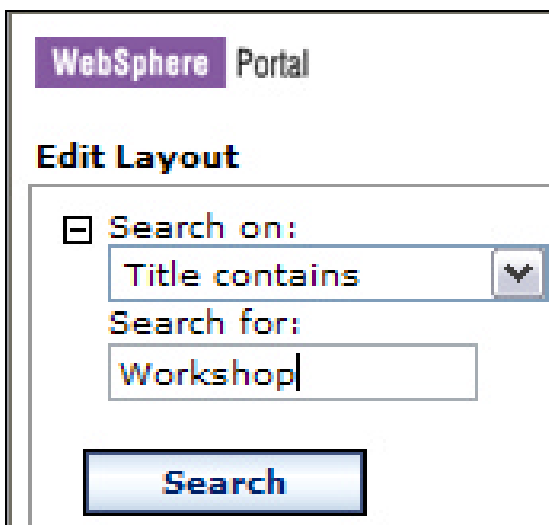
___5.   A list of all portlets that contain the word "Workshop" in the title are displayed. Select **Workshop IBM WebFacing Tool** and click **OK**. (See screen below.)
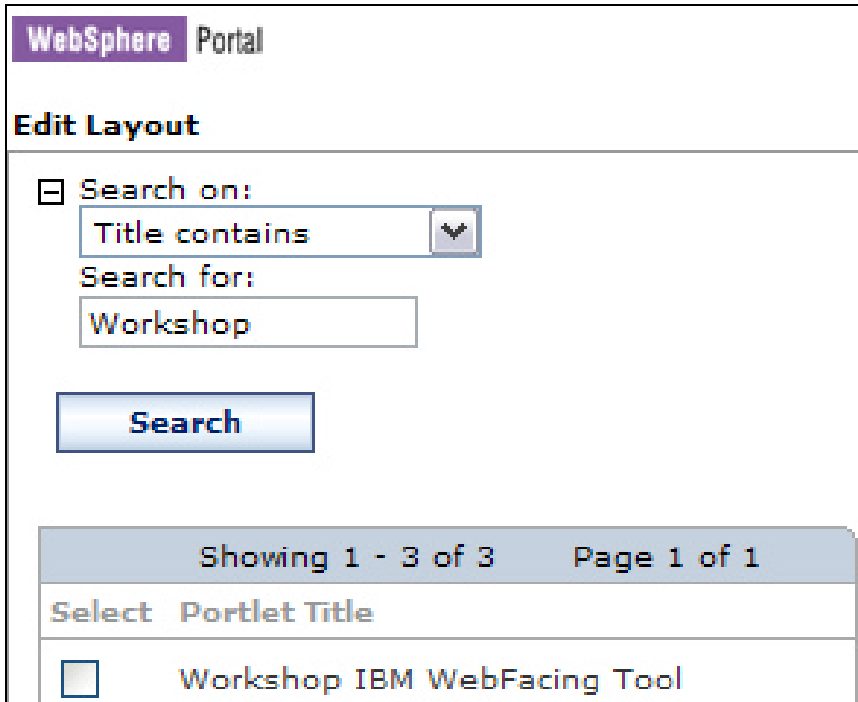
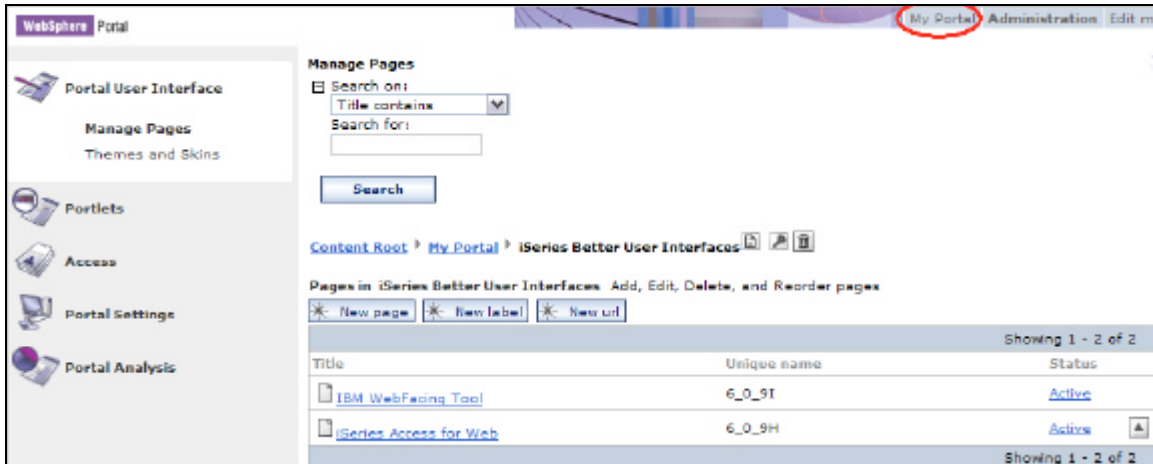___6.   Click **Done**. (See screen below.)
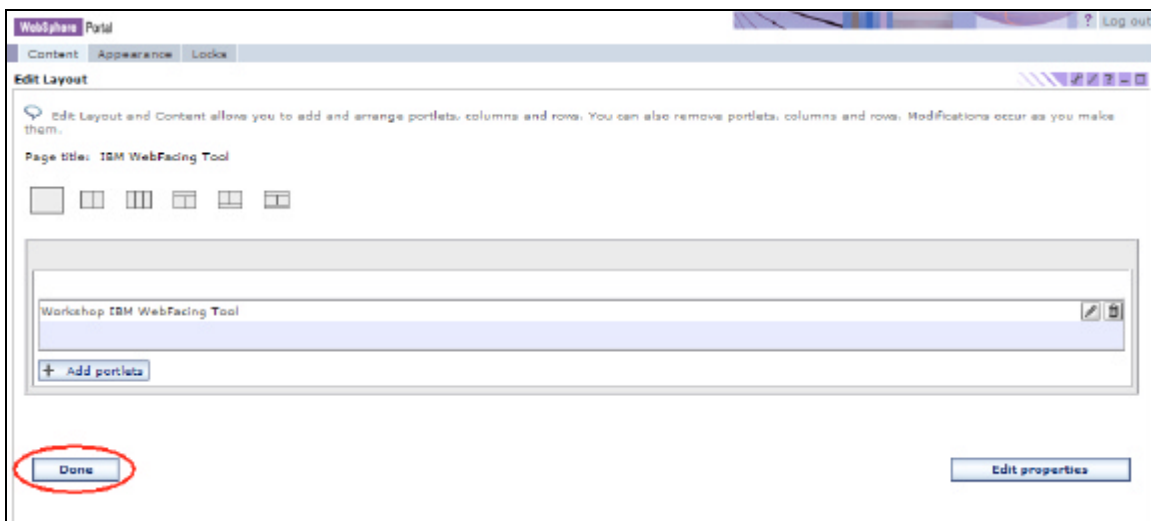
Part 4: Success!

The copied iFrame portlet has now been added to a Web page.

Part 5: Configure iFrame portlet

In this last segment of the example, the iFrame portlet that has just been added to a Web page will now be configured to meet the needs of a specific application.

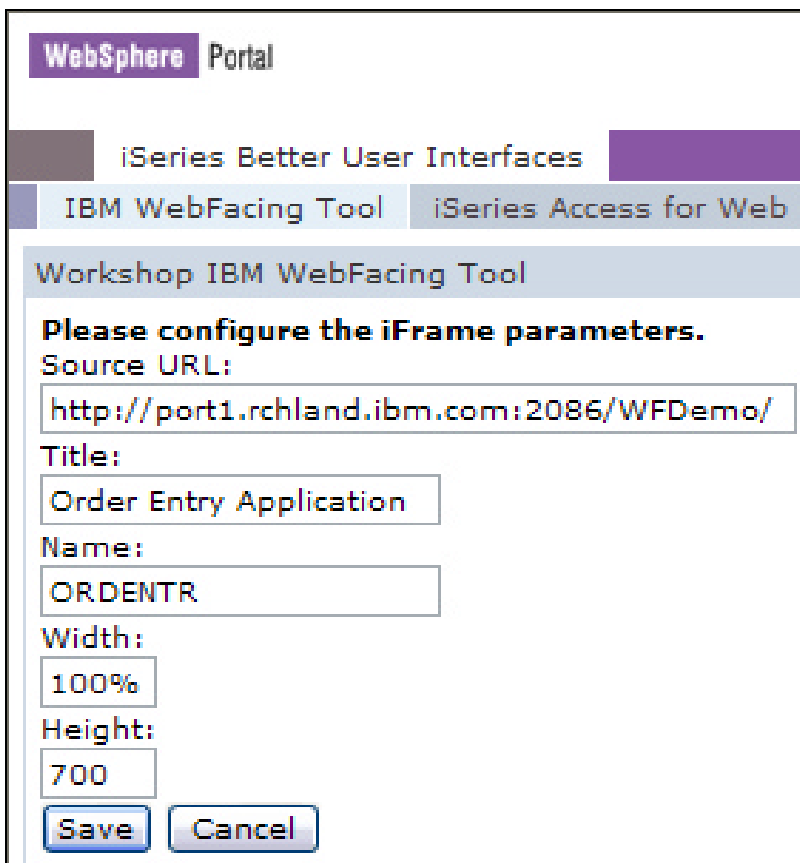___1.   Click on **My Portal** at the top of the page. (See screen below.)

___2.   Click on the **iSeries Better User Interfaces** label and then the **IBM WebFacing Tool** page. You should see **the IBM WebFacing Tool** page with one portlet installed. (See screen below.)
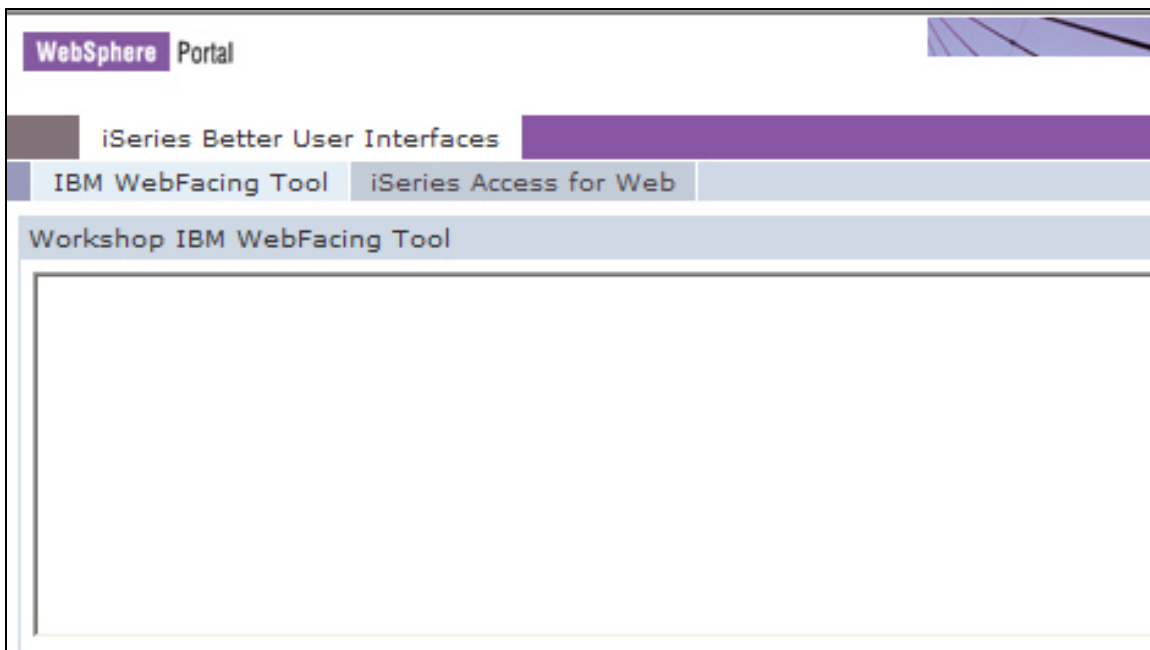
___3.   Click on the ✎ symbol (the pencil symbol) in the **Workshop IBM WebFacing Tool** portlet. (See screen below.)
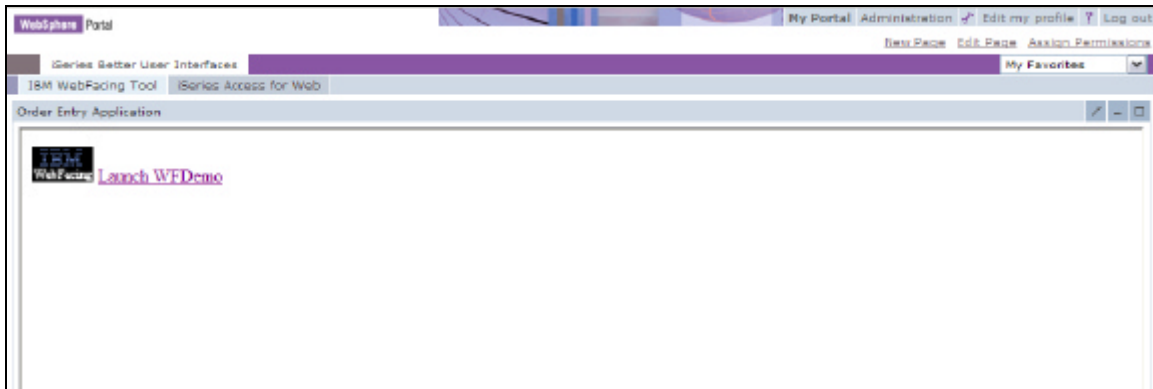

___4.   At the **Source URL:** type
 http://<iSeries System>:<Port>/<IBM WebFacing Tool Application Path>
being sure to put in the relevant information for your IBM WebFacing Tool Application. Then click **Save**. (See screen below.)

___5.　　　After saving the customized portlet, you will see the **Launch WFDemo** window. (See screen below.)


Part 5: Success!

The iFrame portlet has now been configured to meet the needs of your specific application.

Conclusion

This paper has provided a step-by-step opportunity for the reader to understand how easy it is to create a page in WebSphere Portal which contains an iFrame portlet that serves an IBM WebFacing Tool application. There are other options available in the portlet that were not covered in this paper. The reader is encouraged to recreate this experiment for the purposes of investigating the various options and additional functions that are available to the developer.

For those who followed the steps in this example carefully, the resulting Web page (and iFrame) should look similar to the image below—after launching the WebFacing Tool application. As you can see, the IBM WebFacing Tool application used in this example is a default transformation of the order entry green-screen application that is provided with WebSphere Development Studio Client Advanced 5.1 with no enhancements or customization.
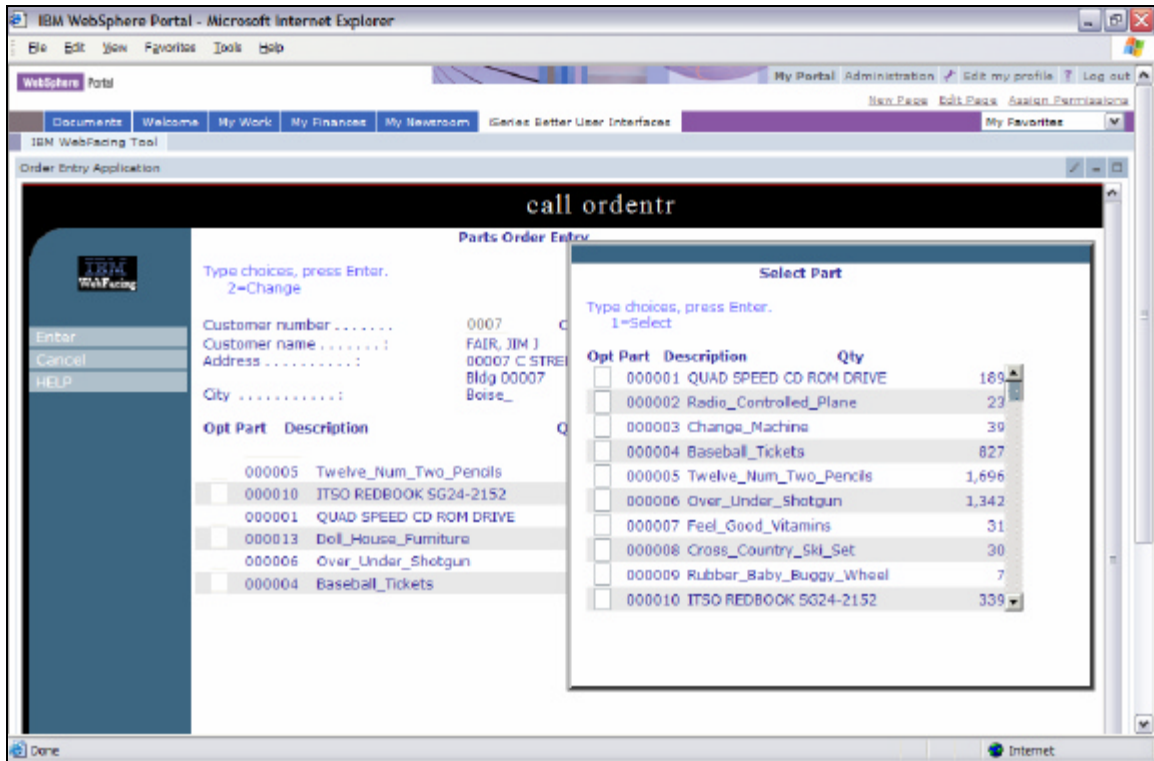
References

- **iSeries InfoCenter**
  ibm.com/iseries/infocenter
    - o **Portlet Development Best Practices and Coding Guidelines**
      Search for "Portlet Development Best Practices and Coding Guidelines"
    - o **Portlet Development Guide**
      Search for "Portlet Development Guide"
    - o **Portlet API**
      Search for "Portlet API"

- **WebSphere Portal InfoCenter**
  ibm.com/developerworks/websphere/zones/portal/
  Search for…
    - o Portlet JSP Tag Library Syntax
    - o Portal Struts support
    - o Lotus collaboration & portals
    - o Enablement
    - o Accessibility
    - o Click-to-Action
    - o Redbooks
    - o Articles and white papers
    - o Much more…

- **Struts OpenSource:**
  jakarta.apache.org/struts/index.html

- **IBM WebFacing Tool**
  ibm.com/servers/enable/site/ebiz/webfacing/

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