

# **Oracle® WebLogic Portlets for Groupware Integration**

Setup Guide

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Oracle WebLogic Portlets for Groupware Integration Setup Guide, 10g Release 3 (10.3.0)

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# Introduction

This guide is intended for portal end users, developers, and administrators who are building, deploying, and using the WebLogic Portlets for Groupware Integration with an Enterprise portal. A basic understanding of Oracle WebLogic Portal, Oracle Workshop for WebLogic Platform, and Java are assumed.

## Installation

The WebLogic Portlets for Groupware Integration installer copies files into the appropriate folder under your WebLogic Platform installation. This section walks you through the steps you need to complete the portlet setup.

Before you can access data in WebLogic Portlets for Groupware Integration, you must:

- Modify your WebLogic domain using the Groupware domain extension template via the Configuration wizard. See [Chapter 2, “Configuring the Portlets.”](#)
- Add the Groupware portlets to your portal web project using the Groupware Project facet in Eclipse. See [Chapter 2, “Configuring the Portlets.”](#)
- Configure and establish connectivity to your Groupware system. See [Chapter 3, “Microsoft Exchange Connectivity”](#) for setting up Microsoft Exchange. See [Chapter 4, “Lotus Domino Connectivity”](#) for setting up Lotus Domino.

**Note:** When you have finished the setup instructions, refer to the [Oracle WebLogic Portlets for Groupware User’s Guide](#) for information on using the portlets.

## Prerequisite Software

Setting up WebLogic Portlets for Groupware Integration assumes the following prerequisite software:

- Oracle WebLogic Platform 10.x
- Microsoft Exchange 2000 or 2003
- Lotus Domino R5, R6, R6.5, or R7

**Note:** Refer to the [Oracle WebLogic Portlets for Groupware Integration Supported Configurations Guide](#) for information on supported versions of Microsoft Exchange and Lotus Domino.

## Documentation Conventions

The Windows convention of “\” as a path separator is used wherever necessary. UNIX users and users of other operating systems should translate these paths and variables accordingly.

Because system software and configurations can vary from one system to another, portions of the command syntax displayed in this document may include sample parameters or variables that represent the actual command syntax you would need to enter.

Parameter	Definition
BEA_HOME	The location for the BEA Home directory containing the WebLogic Platform 10.x with WebLogic Portal. For example, <code>c:\bea</code>
GROUPWARE_PORTLETS_HOME	The location for the WebLogic Portlets for Groupware Integration. For example, <code>c:\bea\wlp_gwi_10.3</code> .
JAVA_HOME	This location represents the full path to the Java 2 SDK directory.

# Configuring the Portlets

This chapter explains how to perform the setup and development tasks in order to make the Groupware Portlets available and operational in your WebLogic Portal. You will need to:

- [Modify the WebLogic Domain using the WebLogic Configuration Wizard](#)
- [Use the Groupware Portlets Project Facet in Workshop for WebLogic Platform](#)

## Modify the WebLogic Domain using the WebLogic Configuration Wizard

The Groupware Portlets require Java and WebLogic components to be added to your WebLogic domain. To accomplish this, you can use the WebLogic Configuration Wizard that is part of the WebLogic Platform 10.x.

1. Launch the Configuration Wizard from **Start > Oracle Products > Tools > Configuration Wizard**.
2. Select **Extend an existing WebLogic domain**.
3. After selecting the existing domain to extend, you are prompted to select an extension template to use. The Groupware Portlets include two domain extension templates that can be applied in the following environments:

For WebLogic Portal 10.0 and 10.2 environments:

```
BEA_HOME/wlpgwi_10.3/templates/applications/wlp_groupware.jar
```

For WebLogic Portal 10.3:

```
BEA_HOME/wlpgwi_10.3/templates/applications/wlp_groupware_10.3.jar
```

4. Select the template and continue with the wizard to complete the modification of an existing WebLogic domain.

## Use the Groupware Portlets Project Facet in Workshop for WebLogic Platform

The Groupware Portlets include a project facet for use with Workshop for WebLogic Platform. This facet is called Groupware Integration for WebLogic Portal and is used to add the Groupware Portlets to a new or existing Portal web project.

### **Adding the Groupware Integration Project Facet to a New Portal Web Project**

1. When going through the steps to create a new Portal web project, you are prompted to select the project facets to include in the web project. After installing the Groupware Portlets, a facet is added to the list of available project facets.
2. In the available list, select the **Groupware Integration for WebLogic Portal** project facet, along with the other project facets you wish to add to your Portal web project.
3. Click **Next** to continue with the creation of the Portal web project.



# Microsoft Exchange Connectivity

This chapter describes the different methods of Microsoft Exchange connectivity offered by the WebLogic Portlets for Groupware Integration.

**Note:** This chapter is applicable only if you are running Microsoft Exchange 2000 or 2003

## Choosing Your Method of Connectivity

The WebLogic Portlets for Groupware Integration offers two separate methods for connectivity to Microsoft Exchange. Your decision on which provider to use may be affected by performance, latency, and functionality requirements for application. With a few exceptions, the portlets can be used in the same way regardless of which provider you choose. See the following table for more detail on both methods.

Connectivity/MS Exchange	MS Exchange 2000	MS Exchange 2003	Comments
WebLogic Exchange Service	X	X	<ul style="list-style-type: none"> <li>• Better overall performance vs. WebDAV</li> <li>• Support for task requests</li> <li>• Less load on Microsoft Exchange server vs. WebDAV</li> <li>• Requires installation and configuration of the WebLogic Exchange Service</li> </ul>
WebDAV	X	X	<ul style="list-style-type: none"> <li>• Less stringent network latency requirements</li> <li>• Easier installation with no MAPI subsystem or the WebLogic Exchange Service required</li> <li>• Support for multiple public folder trees</li> <li>• Requires installation of IIS and Outlook Web Access (OWA) on Microsoft Exchange servers</li> </ul>

**Note:** In some cases, the optimal way to decide which provider is better in your environment is to test both with your application and evaluate the IT requirements of your deployment against the results of that test.

This section contains the following topics:

- [Connectivity via the WebLogic Exchange Service](#)
- [Connectivity via the WebDAV](#)

## Connectivity via the WebLogic Exchange Service

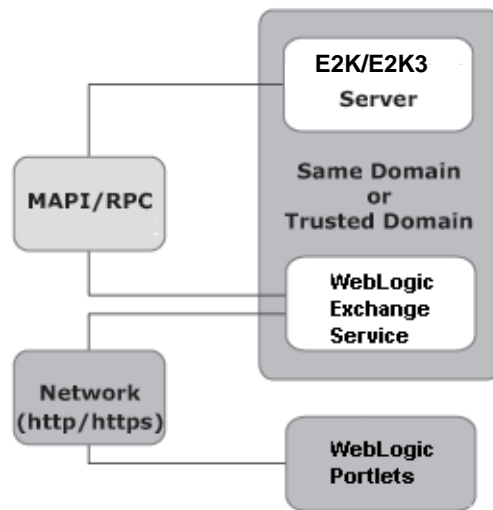
The WebLogic Exchange Service uses the low-level MAPI interfaces to Microsoft Exchange to provide groupware functionality. Much of the complexity of Exchange groupware functionality is exposed in MAPI but is implemented in the Outlook client. The WebLogic Exchange Service

hides these details while making the portlets appear as though it were an Outlook client to the Exchange server.

## WebLogic Exchange Service

The WebLogic Exchange Service provides connectivity to Exchange as an intermediary between WebLogic Portal and the MAPI subsystem. Refer to the [Oracle WebLogic Exchange Service Setup Guide](#) for more information on installing and configuring the WebLogic Exchange Service.

**Figure 3-1 The WebLogic Exchange Service Machine Acts as an Intermediary Between the WebLogic Portlets and Microsoft Exchange**



The WebLogic Exchange Service is implemented using the MAPI subsystem to communicate with an Exchange server. Refer to the [Oracle WebLogic Exchange Service Setup Guide](#) for more information on installing and configuring the WebLogic Exchange Service and the MAPI subsystem.

## Network/Firewall Requirements

HTTP or HTTPS traffic must be able to pass between the Java application machine (where the API is running) and the WebLogic Exchange Service machine. This could be port 80, port 443, or whatever port you have chosen for your WebLogic Exchange Service.

The network connection for the traffic between the application and service machine does not require as low latency as the MSRPC connection. 50-100 ms ping times should be tolerable given reasonable bandwidth. The network link between the Java application API and the WebLogic Exchange Service machine can be over wide area networks to traverse larger distances between your application and the Exchange server. However, the WebLogic Exchange Service machine should be as close to the Exchange server as possible.

If you have Microsoft Exchange servers in different locations, try to group them together and place the WebLogic Exchange Service machines as close as possible on the network to each cluster of Exchange servers.

Refer to the [Oracle WebLogic Exchange Service Setup Guide](#) for more information on installing and configuring the WebLogic Exchange Service.

## Sizing Information

A guideline is approximately 250 active users per machine running the WebLogic Exchange Service. Potentially more users than that could have sessions open on the machine, but a limit of around 250 in-use sessions exists for the process running MAPI. If more than 250 sessions are open, the WebLogic Exchange Service closes and opens any underlying sessions to Exchange as needed, but performance will suffer if many of these opens and closes need to occur.

Additional processors on the WebLogic Exchange Service machine will minimize response time degradation as more simultaneous active users are added to the machine, but there will be a point of diminishing returns. Testing suggests that a dual processor machine is the best combination of scalability vs. cost when running the WebLogic Exchange Service.

Using a faster machine for the WebLogic Exchange Service will simply allow the MAPI/RPCs with Exchange to occur faster and the WebLogic Exchange Service to run faster; however at a certain point you will be limited by the speed with which the Exchange server can respond to your MAPI/RPC requests.

A recommended configuration for a fully loaded WebLogic Exchange Service machine is 1 GB of RAM. Minimum configuration for low-load configurations is 128 MB of RAM.

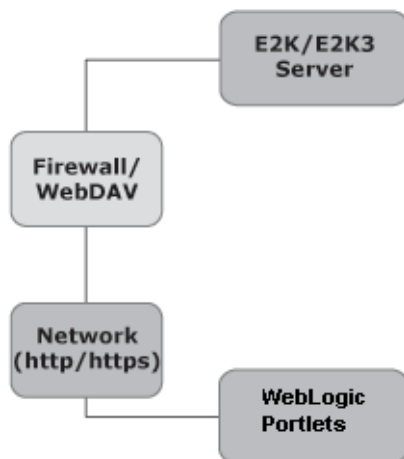
Refer to the [Oracle WebLogic Exchange Service Setup Guide](#) for more information on installing and configuring the WebLogic Exchange Service.

## Connectivity via the WebDAV

As shown in [Figure 3-2](#), connecting to Microsoft Exchange via WebDAV uses the WebDAV protocol directly against the Microsoft Exchange server to provide groupware functionality. This allows the WebLogic Portlets for Groupware Integration and no MAPI subsystem installation or intermediary service machine, regardless of which operating system your applications runs on.

Much of the complexity of MS Exchange groupware functionality is actually exposed in the published WebDAV protocol, but is implemented in the Outlook client. The Exchange/WebDAV Provider hides these details while interacting with Exchange using the same protocol as Outlook Web Access 2000 or 2003.

**Figure 3-2 The WebLogic Portlets access Microsoft Exchange directly via the WebDAV protocol**



## Network/Firewall Requirements

The WebLogic Portlets for Groupware Integration connect directly to the OWA-enabled MS Exchange server using the HTTP or HTTPS protocol over any TCP port (typically the standard 80 or 443). The only firewall requirement is that traffic on whichever port is to be used may pass between the application and the MS Exchange server. For more information on network requirements you may wish to see the Outlook Web Access (OWA) Planning Chapter available at:

[http://www.microsoft.com/technet/prodtechnol/exchange/2000/deploy/upgrademigrate/series/planningguide/p\\_10\\_tt1.msp](http://www.microsoft.com/technet/prodtechnol/exchange/2000/deploy/upgrademigrate/series/planningguide/p_10_tt1.msp).

Additionally, there are many other resources available on Microsoft's site regarding OWA deployment and scalability. One important note regarding WebDAV performance and networking is that when connecting to MS Exchange 2000 you will experience a delay associated with TCP delayed acknowledgements that can hinder the performance of your application. Windows waits 200 milliseconds to acknowledge the small TCP packets that come from Exchange 2000 server. This can be fixed by applying the workaround in the following Microsoft article: <http://support.microsoft.com/default.aspx?scid=kb;en-us;321098>.

## Sizing Information

A guideline is approximately 250 active WebDAV users on a CPU running the WebLogic Portlets (an active user defined not as a thread, but as a user using an application with typical user delays between each request). Unlike MAPI, there is no per-process limit. Adding additional CPUs to the hardware will increase the scalability of the application, with diminishing returns.

A potential guideline is going from one to two CPUs increases the number of users that could be supported by about 75%. Going from two to four CPUs increased the two CPU number by about 50%. However, each application and environment may be different. A fully loaded machine should need no more than 1 GB of RAM to run the virtual machine with the WebDAV provider. Low load configurations can get away with 128 MB of RAM.

## Reporting Problems With Messages

You may find that a particular message or folder is causing you problems. In this case, it is possible to export the original messages for import in order for Oracle support to reproduce the problem. To do this:

1. Open Outlook 2000 or above to the account with the problem messages.
2. Choose **File > Import and Export**.
3. In the Import and Export Wizard screen, choose **Export to a file**.
4. In the Export to a File screen, choose Personal Folder File (.pst).
5. In the Export Personal Folders screen, choose the folder that you wish to export. It is easiest to export an entire folder (such as the calendar folder), but you may also click the Filter button and restrict what is exported by date range, subject, attendees, created time, and so on. Be sure to include the offending messages with the filter you have chosen.

After exporting the PST file, place this in a zip file along with a small `readme.txt` file that explains the problem with the message(s) and any filter that was used for the export in [step 5](#).

## Microsoft Exchange Connectivity



# Lotus Domino Connectivity

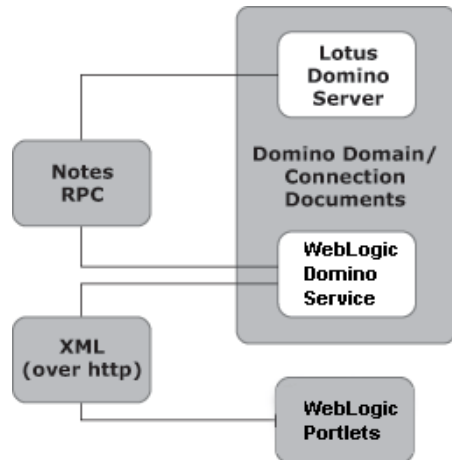
This chapter describes how to achieve connectivity to Lotus Domino with the WebLogic Portlets for Groupware Integration. This chapter describes the WebLogic Domino Service architecture, installation, and configuration.

**Note:** This chapter is applicable only if you are running Lotus Domino R5, R6, R6.5, or R7.

## WebLogic Domino Service

The WebLogic Portlets for Groupware Integration leverage a native WebLogic Domino Service to expose Lotus Domino groupware functionality from the Domino mail database. The WebLogic Domino Service machine acts as an intermediary between the Java API and Lotus Domino, as shown in [Figure 4-1](#). See the [WebLogic Domino Service Setup Guide](#) for more information on installing and configuring the WebLogic Domino Service.

**Figure 4-1 The Domino Service Machine Acts as an Intermediary Between the WebLogic Portlets and Lotus Domino**



## Connectivity to Domino

The WebLogic Domino Service is implemented using a combination of Notes RPC and Notes DSAPI and runs within Lotus Domino as part of the HTTP task. The details of this do not need to be understood by the application programmer, but this is the reason the Lotus Domino install is a prerequisite of the installation. This is where Notes RPC and the Notes DSAPI filter for Domino are obtained.

## Network/Firewall Requirements

The WebLogic Domino Service must be located on a machine running Lotus Domino that is part of the same “Notes Domain” as the Domino server to access. It is possible to put the Domino Service on an existing Domino server, but be aware of the additional processor and memory burden that will be placed on Domino.

HTTP traffic must be able to pass between the Java client and the WebLogic Domino Service. Traversing an HTTP proxy is OK as long as it is able to pass the POST requests used by the XML protocol. Although a high bandwidth, low-latency connection will improve performance, the protocol has been designed to reduce the number of round trips made on the network. Therefore, packet round trip times of 50-100ms should be tolerable for the application.

The amount of bandwidth required will depend on the number of users simultaneously using the application. Each user may consume roughly 1K/sec. on average, with this number increasingly dramatically if users do a lot of work with large file attachments.

Notes RPC traffic must be able to pass between the WebLogic Domino Service and Lotus Domino. Notes RPC requires TCP port 1352 to be open. The network connection for this Notes RPC traffic must have a low latency (less than 10 milliseconds, and preferably a 100 megabit LAN with less than one millisecond response times).

Round trips are made over the network for each Notes RPC, therefore the WebLogic Domino Service machine must be located as close as possible to Domino on the network.

## Sizing Information

A guideline is approximately 250 active Domino users on a CPU running the WebLogic Portlets (an active user defined not as a thread, but as a user using an application with typical user delays between each request). Adding additional CPUs to the hardware will increase the scalability of the application, with diminishing returns. A potential guideline is going from one to two CPUs increases the number of users that could be supported by about 75%. Going from two to four CPUs increased the two CPU number by about 50%. However, each application and environment may be different.

## Lotus Domino Connectivity

# Groupware Portlet

WebLogic Portlets for Groupware Integration are Java Page Flow (JPF) portlets that uses Portlet Preferences to control some of the behavior associated with each logical portlet instance. A number of default Portlet Preferences have been defined in the `GroupwarePortlets.portlet` file.

There are additional Portlet Preferences which can be added to specific instances of the Portlet when configuring the portlet via the WebLogic Administration Console. This section describes the Portlet Preferences associated with WebLogic Portlets for Groupware Integration which are used to configure various capabilities such as features and navigation.

## Groupware Portlet Definition

The Groupware portlets ship with a `GroupwarePortlets.portlet` file.

The Content URI and optional Edit URI are as follows:

Property	Description	Value
Content URI	This property is the location of the content page flow JPF class.	<code>/portlets/compoze/content/contentController.jspf</code>
Edit (optional)	This property is the location of the edit	<code>/portlets/compoze/content/edit/editController.jspf</code>

## Portlet Preferences

This section describes the various portlet preferences used to configure and customize the portlets.

### Feature Groups

For each logical portlet instance, the active features can be configured. By default, all features are active. By modifying, these preferences, a Portal Administrator can deploy multiple logical instances of the Groupware Portlets and configure which feature(s) is available in each instance. The following preferences can be found in the `GroupwarePortlets.portlet` file and can be altered by either modifying the `GroupwarePortlets.portlet` or by configuring individual Portlet instances while using the WebLogic Administration Console.

Property	Description	Values
<code>groupware.feature.address_book</code>	This preference activates the address book feature.	<code>true/false</code>
<code>groupware.feature.calendar</code>	This preference activates the calendar feature.	<code>true/false</code>
<code>groupware.feature.mail</code>	This preference activates the mail feature.	<code>true/false</code>
<code>groupware.feature.tasks</code>	This preference activates the tasks feature.	<code>true/false</code>

Property	Description	Values
<code>groupware.feature.options</code>	This preference activates the options feature.  <b>Note:</b> If this feature is disabled, users will have no way of accessing the options feature unless the Edit mode has been enabled for the portlet.	<code>true/false</code>
<code>groupware.feature.home</code>	This preference activates the home feature.  <b>Note:</b> If this feature is disabled, users will have no way of accessing the home and summary pages. User will be immediately forwarded to the full view of an enabled feature.	<code>true/false</code>

## Maximized View Feature Title and Navigation

Each page in the Groupware Portlet includes a title (also referred to as a “header”) at the top. A portal administrator can optionally configure to display this title and if the title is displayed, can configure how navigation is used within the title. Note that all pages in maximized view of the portlet include the same JSP which is used to display the feature title and navigation.

The following preferences determine if the title is displayed for each feature. By default, feature titles are enabled. To disable individual feature titles, the following Portlet Preference must be added to individual instances of the Groupware Portlet via the WebLogic Administration Console and configured to be false.

The title can be configured to support options navigation or features navigation. Options navigation provides a link to the feature options configuration in the title. Features navigation provides links to the features of the Groupware Portlet. This preference can be found in the `GroupwarePortlets.portlet` file and can be altered by either modifying the `GroupwarePortlets.portlet` or by configuring individual Groupware Portlet instances while using the WebLogic Administration Console.

## Groupware Portlet

Each page in the Groupware Portlet also includes a navigation area (also referred to as a “left navigation area”) at the left side of the portlet. A portal administrator can optionally configure to display this navigation area. Note that all pages in maximized view of the portlet include the same JSP which is used to display the left navigation area.

The following preference determines if the left navigation area is displayed for all features. By default, the left navigation area is disabled. This preference can be found in the `GroupwarePortlets.portlet` file and can be enabled by either modifying the `GroupwarePortlets.portlet` or by configuring individual Groupware Portlet instances while using the WebLogic Administration Console.

Property	Description	Values
<code>groupware.feature.address_book.title</code>	This preference activates the titles for the address book feature pages.	true/false
<code>groupware.feature.calendar.title</code>	This preference activates the titles for the calendar feature pages.	true/false
<code>groupware.feature.mail.title</code>	This preference activates the titles for the mail feature pages.	true/false
<code>groupware.feature.tasks.title</code>	This preference activates the titles for the tasks feature pages.	true/false
<code>groupware.feature.options.title</code>	This preference activates the titles for the options feature pages.	true/false

## Home View Feature Navigation

Each summary page in the home view of the Groupware Portlet includes two navigation areas: a navigation area (also referred to as a “top navigation area”) at the top and bottom (also referred to as a “bottom navigation area”) of the page. A portal administrator can optionally configure to display the top or bottom navigation areas.

Note that even though the two navigation areas can be displayed simultaneously in two different sections areas of a summary page, it is the same JSP page which is optionally included in the both the top and bottom areas of the page.



Property	Description	Values
<code>groupware.title.feature_navigation</code>	This preference configures the titles to use feature navigation. In order for feature navigation to be enabled in the groupware Portlet title section, feature titles must be configured to be visible in features where title feature navigation will be available.	true/false
<code>groupware.left_area</code>	This preference activates the left navigation area for all maximized feature pages.	true/false

The bottom navigation area preference can be found in the `GroupwarePortlets.portlet` file and can be altered by either modifying the `GroupwarePortlets.portlet` file or by configuring individual Groupware Portlet instances while using the WebLogic Administration Console. To enable the top navigation area, the following Portlet Preference must be added to individual instances of the Groupware Portlet via the WebLogic Administration Console and configured to be true.

If the top or bottom navigation is enabled in the home views, links will be available for each enabled feature, except Options, which will allow a user to access the Home view of a feature from the Home navigation area. To disallow users from accessing Home views for features, the following Portlet Preference must be added to individual instances of the Groupware Portlet via the WebLogic Administration Console and configured to be false.

## Error Reporting

The Groupware Portlet includes specialized areas for handling various error and exception scenarios which may occur in the Groupware Portlet. Depending on the type of error that occurred, the Groupware Portlet may forward to a pageflow which was designed to handle that specific error scenario or to a pageflow which is meant to handle more general error types.

If a general error occurs, the Groupware Portlet will forward to the `compoze\content\error\general` pageflow. With the default configuration of the Groupware Portlet, general error display page will include an area where a stack trace of the exception that occurred can be viewed.

To configure the Groupware Portlet not to show the exception stack trace on the error page, the following Portlet Preference must be added to individual instances of the Groupware Portlet via the WebLogic Administration Console and configured to be false.

Property	Description	Values
<code>groupware.feature.home.navigation.bottom</code>	This preference activates the bottom navigation area for home pages.	true/false
<code>groupware.feature.home.navigation.top</code>	This preference activates the top navigation area for home pages.	true/false
<code>groupware.feature.home.navigation.min</code>	This preference activates the links for feature home pages in the home navigation area.	true/false
<code>groupware.error_stacktrace</code>	This preference hides the area where an exception stack trace can be viewed for error pages.	true/false

## Modify a Web-App to Support File Attachments

In order for the Groupware Portlets to support upload of file attachments (for example when sending an email message), you need to configure the multipart handler for netui.

1. In Workshop for WebLogic Platform, open the `beehive-netui-config.xml` file found at:

```
<WebContent>/WEB-INF/beehive-netui-config.xml
```

2. Add the following entry in bold text:

```
<pageflow-config>
  <multipart-handler>memory</multipart-handler>
  <module-config-locators>
    <module-config-locator>
      <description>Module locator to support struts applications as portlets.</description>
      <locator-class>com.bea.struts.adapter.util.ModuleConfigLocator</locator-class>
    </module-config-locator>
  </module-config-locators>
</pageflow-config>
```

3. Save the config file.

# Customizing the Groupware Portlet

This section describes the Customization features associated with the Groupware Portlets. The look and feel of the Groupware Portlets can be customized by modifying the Cascading Style Sheet (CSS) Class properties. The behavior of the Groupware Portlets can be customized by modifying the Groupware Listener classes.

## Skins

The Groupware Portlets reference custom CSS class names that are located in a file named `groupware.css`. Different versions of this file can exist for each skin in the Portal. Display aspects such as the font, background color, and text position can be easily modified by changing the properties inside the CSS class definitions. The `groupware.css` file is organized into eight logical groups:

- General CSS resources (used by any portlet utilizing these HTML features)
- Address Book Feature Group
- Calendar Feature Group
- Home Feature Group
- Mail Feature Group
- Options Feature Group
- Tasks Feature Group

## Listener Classes

From the Merged Project view in Workshop for WebLogic, the Listener classes are located in the `WEB-INF/src/portlets/compoze/groupware/c13n/` directory. A default implementation exists for each Listener class. By modifying these classes, or creating your own implementation, you can change the following:

- How the portlet obtains provider account information
- Where portlet events are logged
- How the portlet interacts with the user from page to page.

## Account Listener

The `AccountListener` interface represents an interface for receiving account events. The `DefaultAccountListener` class represents a default implementation of the `AccountListener` interface. The `DefaultAccountListener` uses Oracle's User Profile capabilities to retrieve and store provider account information. This class can be extended to:

- Configure the type of provider to which new accounts will be bound to
- Acquire provider connection parameters to providers from a source other than the Oracle's.

## User Profile

- Pass additional connection parameters to the provider
- Configure whether certain connection parameters are required to be entered during account setup
- Configure whether multiple accounts can be added in the portlet
- Configure whether users have the ability to add or edit accounts
- Automatically create Groupware accounts for users
- Configure SSO

To configure the portlets to use the subclass of the `DefaultAccountListener` which you have created, alter the `DefaultAccountListener.getAccountListener(...)` method to return a new instance of your custom `AccountListener`. Multiple implementations of the `AccountListener` interface ship with the product to aid you in the creation of your own custom `AccountListener` implementation.

<b>AccountListener</b>	<b>Description</b>
CollabMapiAccountListener	Use this account listener for connecting to Microsoft Exchange via the WebLogic Exchange Service. See <a href="#">Chapter 3, “Microsoft Exchange Connectivity.”</a>
CollabWebDAVAccountListener	Use this account listener for connecting to Microsoft Exchange via the WebDAV. See <a href="#">Chapter 3, “Microsoft Exchange Connectivity.”</a>
DominoAccountListener	Use this account listener for connecting to Lotus Domino via the WebLogic Domino Service. See <a href="#">Chapter 4, “Lotus Domino Connectivity.”</a>
BEALoginCollabMapiAccountListener	Use this account listener for connecting to Microsoft Exchange via the WebLogic Exchange Service. See <a href="#">Chapter 3, “Microsoft Exchange Connectivity.”</a> This account listener leverages the Oracle login information (username and password) when attempting to connect to the WebLogic Exchange Service.
BEALoginCollabWebDAVAccountListener	Use this account listener for connecting to Microsoft Exchange via the WebDAV. See <a href="#">Chapter 3, “Microsoft Exchange Connectivity.”</a> This account listener leverages the Oracle login information (username and password) when attempting to connect to Microsoft Exchange.
FormsBasedCollabWebDAVAccountListener	Use this account listener for connecting to Microsoft Exchange via the WebDAV using Forms-Based authentication. See <a href="#">Chapter 3, “Microsoft Exchange Connectivity.”</a>
BEALoginDominoAccountListener	Use this account listener for connecting to Lotus Domino via the WebLogic Domino Service. See <a href="#">Chapter 4, “Lotus Domino Connectivity.”</a> This account listener leverages the Oracle login information (username and password) when attempting to connect to the WebLogic Domino Service.

## Log Listener

The `LogListener` interface represents an interface for receiving log events. The `DefaultLogListener` class represents a default implementation of the `LogListener` interface. The `DefaultLogListener` currently does nothing so the log information is sent to the logging

mechanism set for the Oracle Portal. This `messageReceived()` method of this class can be altered to (for example):

- Log information to additional targets (e.g. a database or file)
- Perform logging based on some type of constraints

The portlet logging mechanism is sensitive to the logging level configured on the host WebLogic Portal. Debug and other messages can be output to the logging targets by altering the Logging Severity Threshold on the server to “INFO”.

### View Listener

The `ViewListener` interface represents an interface for receiving view events. The `DefaultViewListener` class represents a default implementation of the `ViewListener` interface. The `DefaultViewListener` maximizes every view except those originating from the Home feature. By modifying this file, the Groupware Portlets can be displayed in the Normal mode, Maximized mode, or any combination of the two.

### Portlet Locales

The `LocaleUtility` class is located under the `WEB-INF/src/portlets/compoze/groupware/c13n/` directory. The default list of locals can be modified by altering the list of available locales in the `s_supportedLocales`. If additional locales are added, be sure to add properties files which correspond to the list of new locales which will be available in the portlet. The list of properties files which should be created is:  
`portlets/compoze/content/groupware_resources_JAVA_LOCALE.properties`

**Note:** If you encounter exceptions that include the following text, the properties files you have created are missing properties and should be altered to contain all properties that the default and unmodified `groupware_resources.properties` file contains.