Oracle® Workforce Scheduling

Operations Guide

Release 5.0.3 for Windows

Part No. E12662-01

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Oracle® Workforce Scheduling Integration Functional Guide, Release 5.0.3 for Windows

Part No. E12662-01

Contents

Prerequisites

This guide assumes that you have installed OWS Admin Server on one dedicated server and OWS Agent on each OWS server used by the OWS application.

If this is not the case, please refer to the *Oracle Workforce Scheduling Installation Guide 5.0.2* for directions on installing these components.

The OWS Admin Model

OWS Architecture and OWS Admin

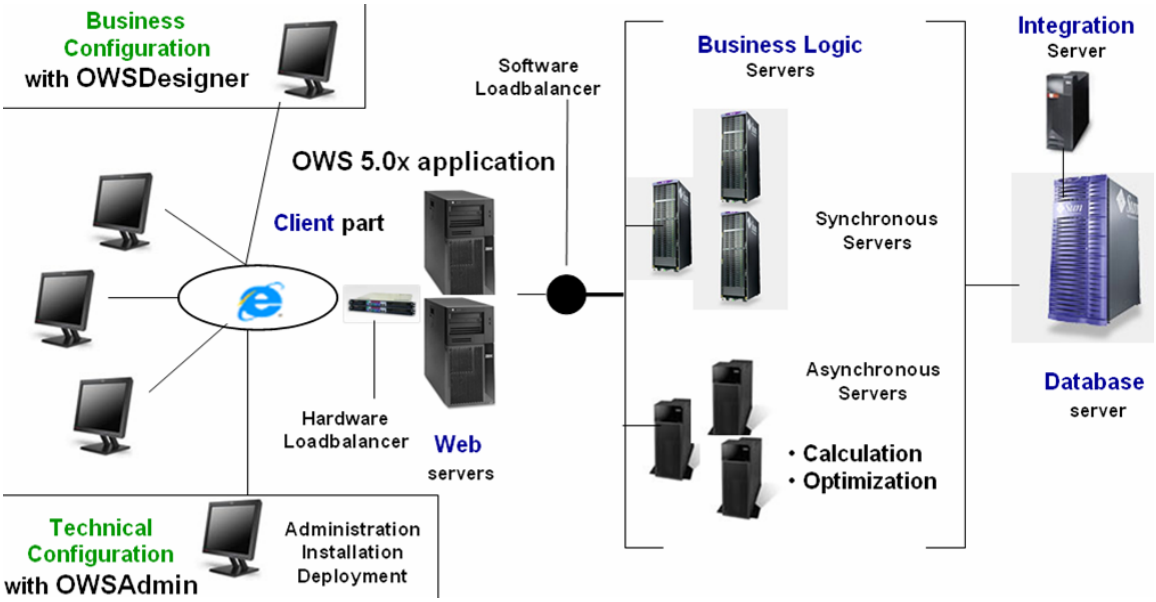
OWS Admin is a web application used to:

- Install OWS
- Deploy OWS on all tiers (the OWS servers)
- Administer the OWS servers and the technical OWS configuration

  Server administration includes managing changes such as the addition of new servers, new versions of the application, and updates of the OWS customer configuration.

The OWS architecture is based on four tiers:

- Presentation on client
- Presentation on the Web servers
- Business logic, including optimization, on synchronous and asynchronous business servers
- Database server



The OWS Admin Model

You can manage the OWS servers using the centralized administration tool, OWS Admin, a dedicated web server application.

OWS Admin offers:

- An administration tool for structuring, visualizing, and configuring the OWS application servers and components, and defining administration roles for accessing and updating the technical configurations. The tool does not require knowledge of the syntax and the location of the different technical configuration files.
- A centralized administration repository that stores information, such as the distributions and the configurations.

  For example, during installation, you insert a distribution in this repository. A distribution is a structured archive that contains the description of all included components and dependencies for a component.

The OWS Agent is installed on each physical machine hosting an OWS server. OWS Admin is an easy-to-use web application that you use to install and deploy the OWS application, and to initiate administration tasks. The OWS Admin server deploys the OWS installation and configurations on the local installation directories.

OWS Admin Description

The central administration repository stores the installed distributions, topologies, and technical configurations. The topologies and configurations are read and written by the OWS Admin server. When OWS Admin installs an OWS archive into the administration repository, OWS Admin checks that the required components exist and builds the necessary reference and dependent packages.

The application distribution is based on archives built by an OWS Archives builder. You can access the archives builder using one of two interfaces:

- Command line interface that you use with specific executables
- API that allows you to build, enumerate, and extract elements from the OWS archive

The OWS archive is similar to a Java jar file, with the advantage that you can serialize the archive in a file or in a database to populate the Administration repository.

An OWS archive contains the following elements:

- Package type defined as server and operating system

  An archive can contain simultaneous presentation elements such as html pages and JavaScript code. The deployed elements are grouped as web packages or as Java components for application servers. Some packages are platform dependant and are categorized by the target server's operating system.

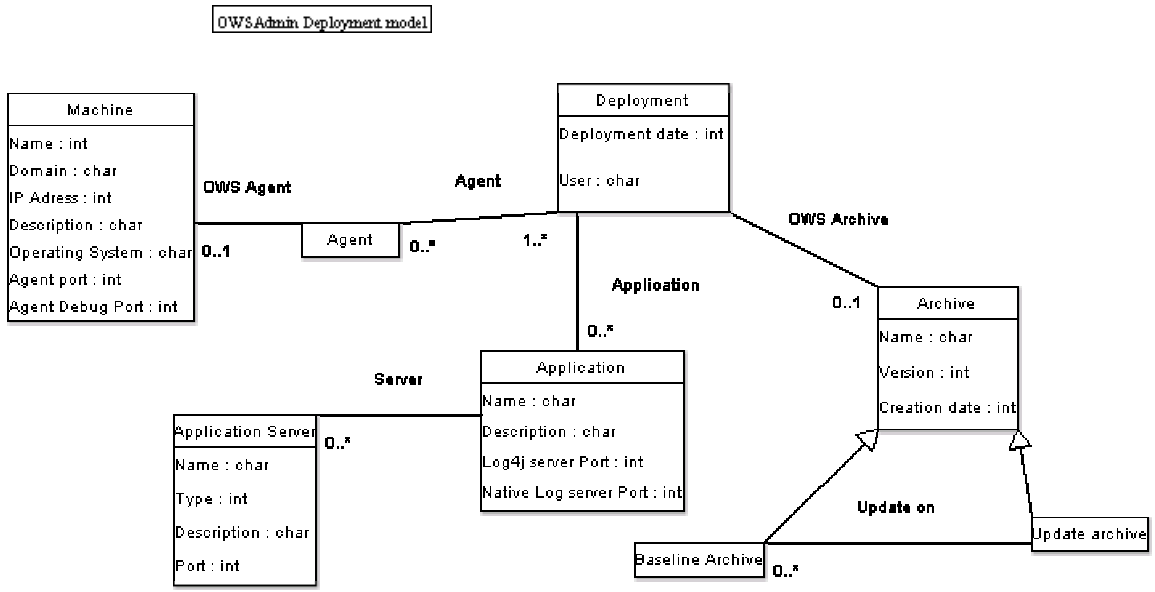
- A descriptor with management information (the equivalent of the MANIFEST of a Jar file)

  For OWS, this XML file includes the:

  - Build identification used to build the packages
  - Table of contents with the enumeration of the typed packages stored in the archive
  - List of dependencies between the packages

OWS Server Topology

Using the OWS Admin server, you can describe the topology by specifying the different machines, servers and database instances. After defining the topology, you can install new releases and updates of the application, and deploy the updates. OWS Admin generates configured files based on the defined topology.



You can also monitor the servers. For example, you can:

- Start and stop the servers
- Launch database scripts

  OWS Admin includes functions that help you manage the database instances by performing OWS specific tasks such as Backup and Restore operations

- Generate logs

You can monitor the application events and generate behavior logs as needed.

OWS Admin Technical Architecture

The OWS Admin architecture consists of a web application, with an OWS Admin console for administration tasks. The OWS Agent executes these administrative tasks on each OWS server.

OWS Admin includes:

- An OWS Admin console and web application that provide easy access to the OWS Admin database
- The OWS Admin server
- OWS Agent

  OWS Agent, the local administration component of OWS Admin on each physical machine, executes the OWS Admin commands on the appropriate servers. The OWS Agent drives the installation and uninstall process based on the configuration stored in the OWS Admin database.

  Use the Local OWS Agent to:

  - Set up the logical servers on the physical machine on which the OWS Agent runs
  - Check the status of the OWS servers hosted on the related machine
  - Stop and restart the servers

OWS Admin Server

The OWS Admin server performs several tasks. Using OWS Admin, you can:

- Manage the OWS administration model

  Use OWS Admin to create, update, delete or list the existing topologies as well as the configurations updates. For example, you can use OWS Admin to display statistics on the servers you are using. You can also display states of the servers defined in the topologies (Started/Stopped). You can change these states, for example, when you want to stop an active server.

- Display an overview of the server's activity with a centralized log mechanism

  Each OWS server has a logger. These loggers create local logs which are re-directed to the OWS Admin database in charge of the centralized log activities. With this facility, it is possible to trace a business command execution from the OWS web server to the OWS loadbalancer to the OWS application server. From there, you can trace the command execution as it launches a Java procedure that uses business objects requested from the OWS database.

- Using OWS Agent trigger updates of the distributions or configurations produced by a reinstallation or reconfiguration of the application.

OWS Admin Logical Model

The OWS Admin logical model consists of three levels:

- Hardware platform
- Server
- Application

The **hardware platform** is a set of physical machines. Each machine hosts a set of servers.

A **server** corresponds to a specific tier (presentation, business synchronous, business asynchronous, integration, database). There is only one database server. The other tiers can contain multiple servers. For example, you might have several presentation servers hosted on one or several physical machines.

An **application** is a set of servers where an OWS application is deployed and running on the server(s). Usually, you define several applications. For example, you might define a test, pilot, training, and production application.

Hardware Platform Level

The hardware platform level defines the machines used by an OWS application. It defines the:

- Name to reference the machine
- IP address (symbolic or numeric)
- Operating system identification, such as type and version of the operating system

Note: Your set of hardware platforms can include machines with different operating systems.

Server Level

The server level defines the different server types and their configurations. The definition of a server is related to the:

- Name used to identify it
- Machine hosting the server
- Connection data (port number)

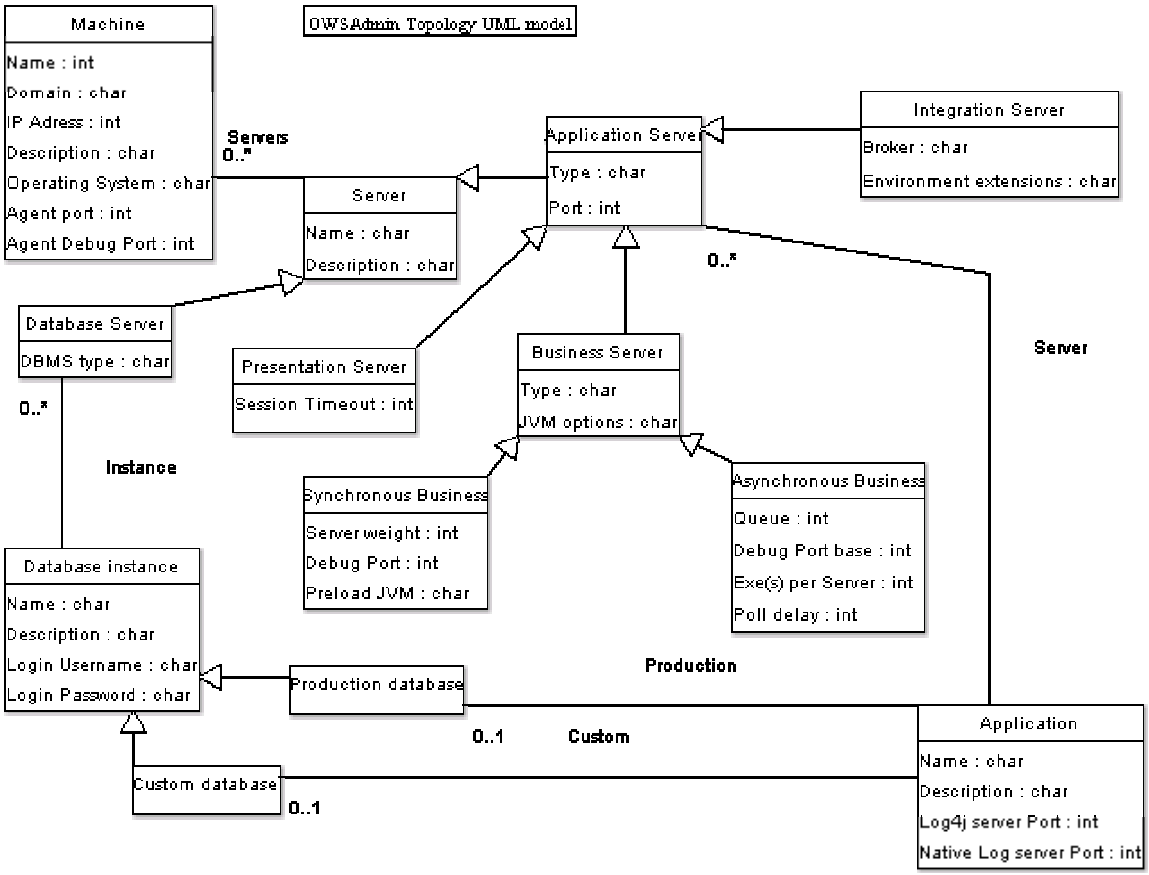
  When defining the database server, specify a connection url.

- Configuration (structured set of properties by component)

  Each property has a type (integer, string, enumerated) and characteristics (mandatory/optional, default value).

Application Level

The application level relates to the topology and defines the application name for a set of servers. For example, you might define a test, pilot, training, and production application. For each application, you can also define the different kinds of servers used by the application and the associated hardware platforms.

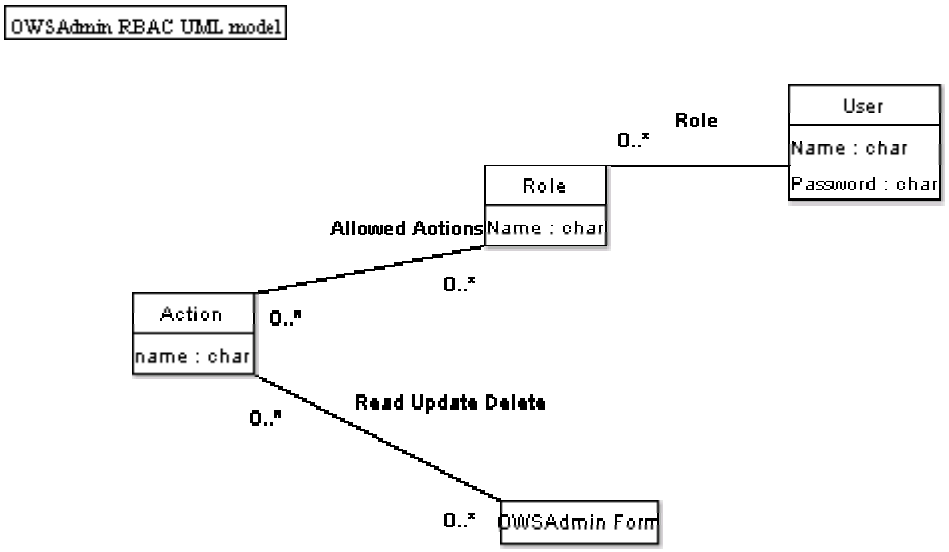


You can define a topology without installing or deploying it in the same time window. For example, you can define a backup application, designate an application for use as a pilot, and so on.

OWS Admin installs a distribution in the centralized repository, which is independent of the topology, so you can deploy one or more topologies. When you issue a deployment request, the topology's definition and the servers list enables OWS Admin to contact the OWS Admin local agents associated to the machine and pass a request to them.

OWS Admin Role Model

The OWS Admin model uses an RBAC (Role Based Access Control) authorization model in which you can associate a role to a user identifier (generally a Login/Password). By using roles, you can match each user's administration rights with the actions and tasks the user is allowed to execute or launch.



There are three predefined roles:

- **Monitor**: Enables users to visualize the different topologies and configurations, and the states of the topologies (primarily the states of the servers). Monitors cannot launch actions that modify the state of the OWS infrastructure. Monitors can start and stop servers and read logs.
- **Operator**: Enables users to view the entire topology, modify the runtime configuration, start and stop servers, and read logs. Use this role when managing OWS server operations. This role does not include actions that reconfigure the infrastructure.
- **Administrator**: Gives users all rights, including redefining a configuration, changing a topology, and adding or removing an OWS server.

One of the applications included in the OWS Admin logical model is OWS Admin. As an administrator, you can define applications, hosts, and the database instances. You can also grant administrator rights for users on each site, but not yourself.

OWS Admin Process Model

With the exception of the machine that hosts the OWS database, installing OWS Admin involves installing the OWS Admin server on a dedicated machine and the OWS Agent on each machine that hosts an OWS server.

OWS Servers Topology Declaration

The process for installing OWS Admin involves deciding on the topology. For example, you must:

- Define your machines and characteristics, such as the operating systems and IP addresses
- Define servers running on those machines, such as the web, presentation, business, integration, and database servers
- Create database instances and associate them with database servers

  OWS Admin treats an application as a database instance *and* a set of servers

As an administrator you can:

- Install the application on each server declared within the topology
- Generate mapped files on each platform

  The mapped files are compiled versions of the configuration stored in the server's cache file.

- Check the installed versions and coherence of an application
- Generate the server configuration files for servers included in an application

In OWS Admin, the agent running on each machine performs the installation jobs. After you install the agent on a machine, the agent handles all other installations. OWS Admin also launches a database maintenance script that performs several tasks including:

- Backup on disk
- Restoration of a database from a previous backup
- Configuration updates

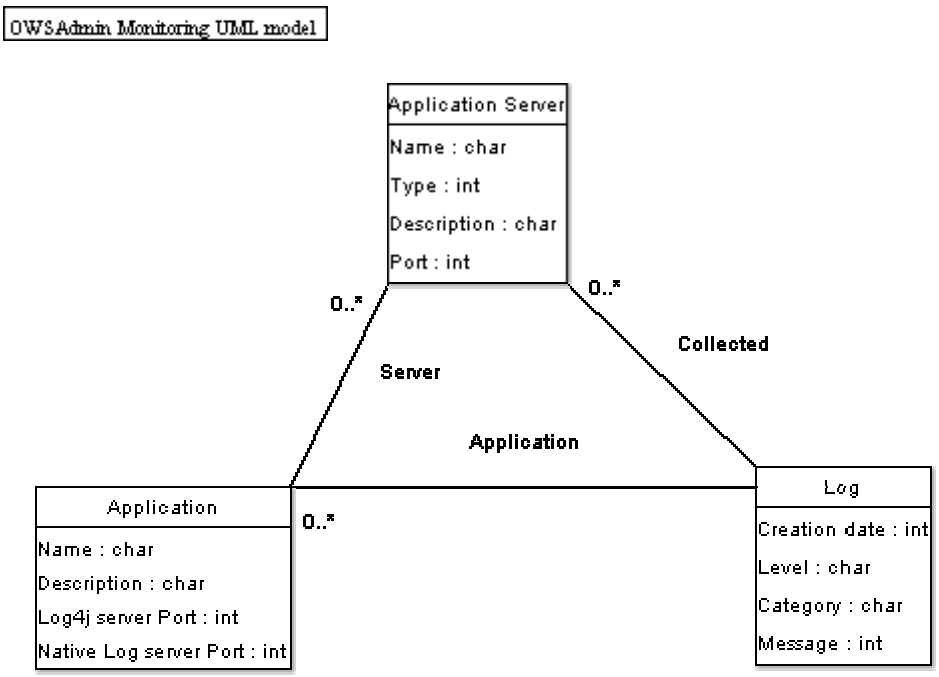
  The updates are performed by copying and switching a database from a standard, test, or configuration database.

This script supports database management, but it is not a replacement for standard procedures involved in maintaining databases on production sites.

Administrators can monitor servers, and stop and start them. There are two kinds of monitoring:

- Data Access Layer monitoring: the administrator can see the number of open connections and executed SQL queries per server

- Requests and access monitoring: the administrator can see the total number of workers and the servers throughput



OWS Admin offers another management tool through its logs. Logs contain performance metrics such as execute time and bytes in/out. Generated logs contain a level and a category. Servers only generate logs below a specific level or allowed category that results in low network and processing overhead. Using OWS Admin, you can dynamically change the allowed levels and categories. In addition, you can:

- Apply visualization filters
- Extract logs
- Automatically filter logs and send them to remote applications such as SNMP

The OWS Admin Desktop

You can manage the OWS servers using the centralized administration tool, OWS Admin, a dedicated web server application.

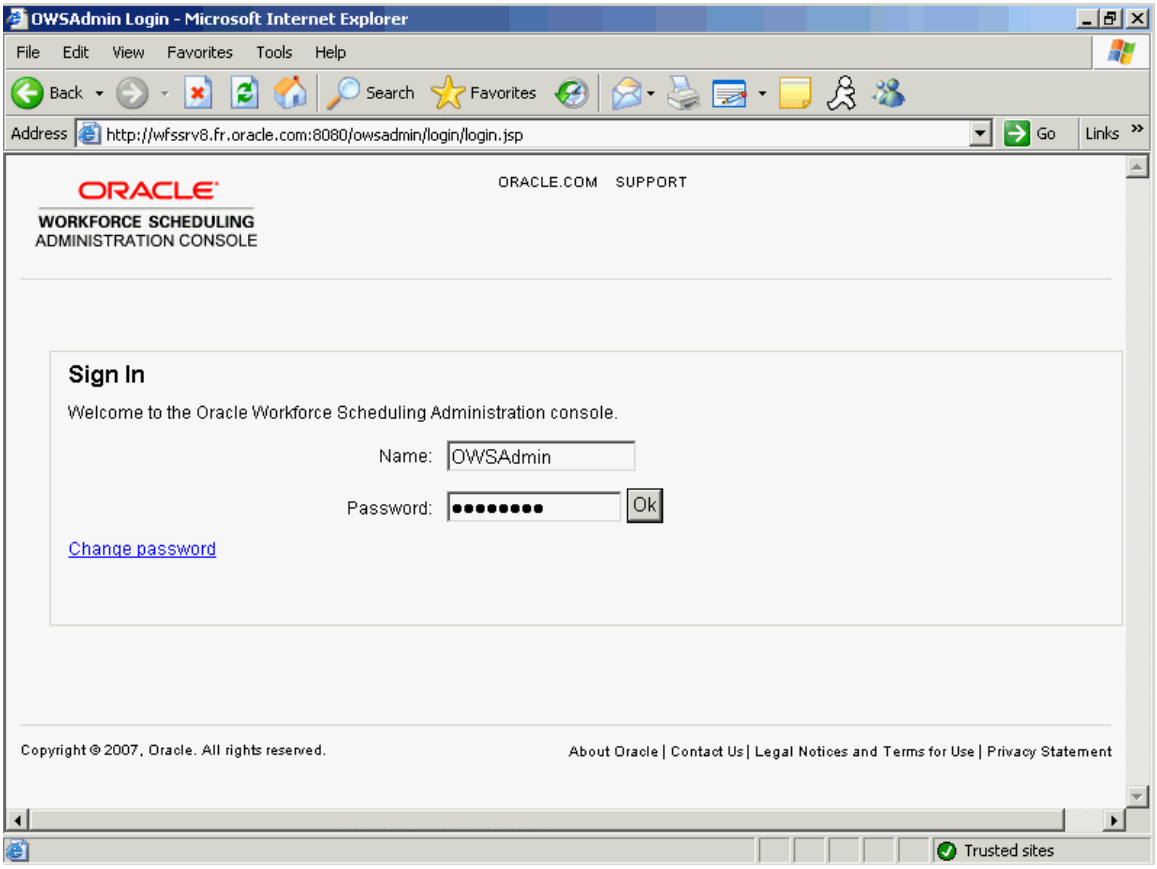
Login with OWS Admin

To login and access the OWS Admin Desktop:

1. Enter your name and password.

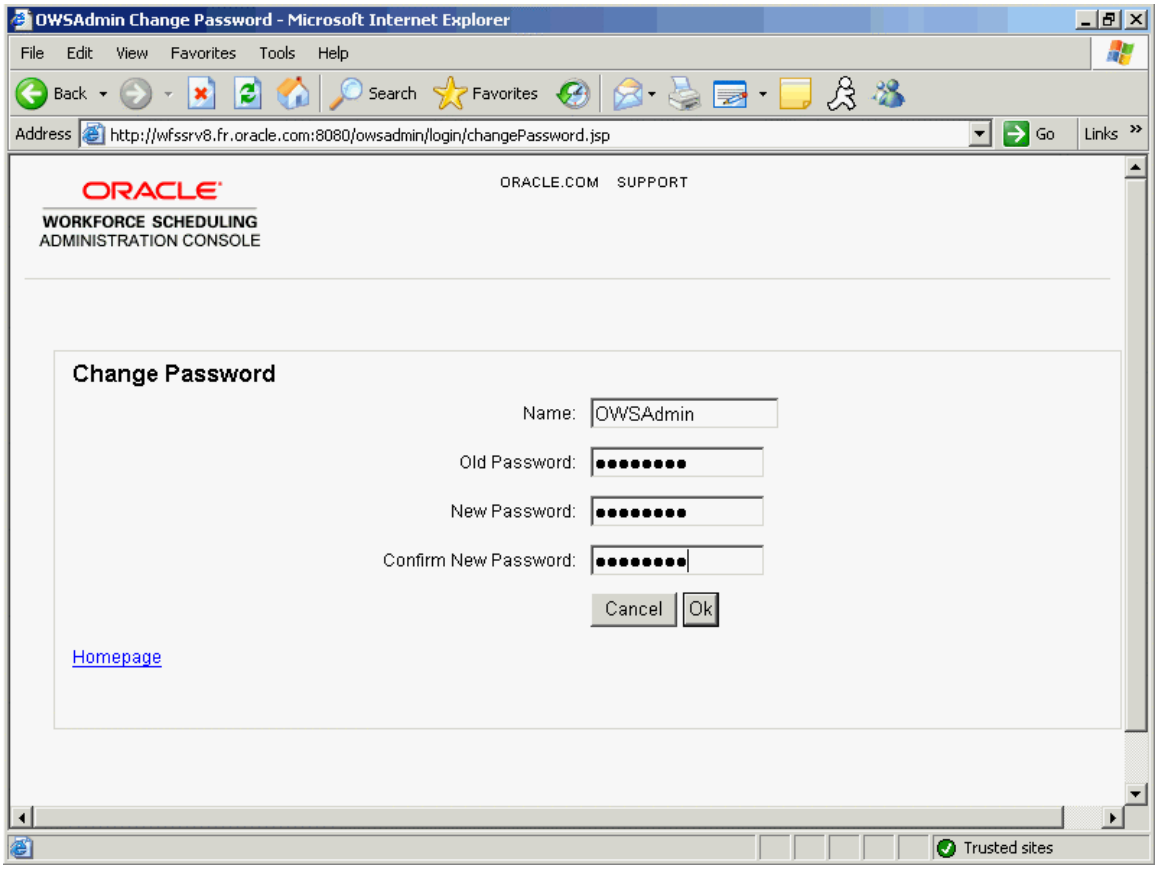
   Your login determines the level of access, such as the role of monitor, administrator, or operator.

   Note: The password is case sensitive.


OWSAdmin Login - Microsoft Internet Explorer
File Edit View Favorites Tools Help
Back Search Favorites
Address http://wfssrv8.fr.oracle.com:8080/owsadmin/login/login.jsp
Go Links
ORACLE
WORKFORCE SCHEDULING
ADMINISTRATION CONSOLE
ORACLE.COM SUPPORT
Sign In
Welcome to the Oracle Workforce Scheduling Administration console.
Name: OWSAdmin
Password:
Ok
Change password
Copyright © 2007, Oracle. All rights reserved.
About Oracle | Contact Us | Legal Notices and Terms for Use | Privacy Statement
Trusted sites

To change your password:

1. Click Change Password on the login screen.
2. In the Change Password window, enter the old password, new password and confirm the new password by re-entering it. Click Ok.



3. To return to the login window, click Homepage.

The OWS Admin Desktop

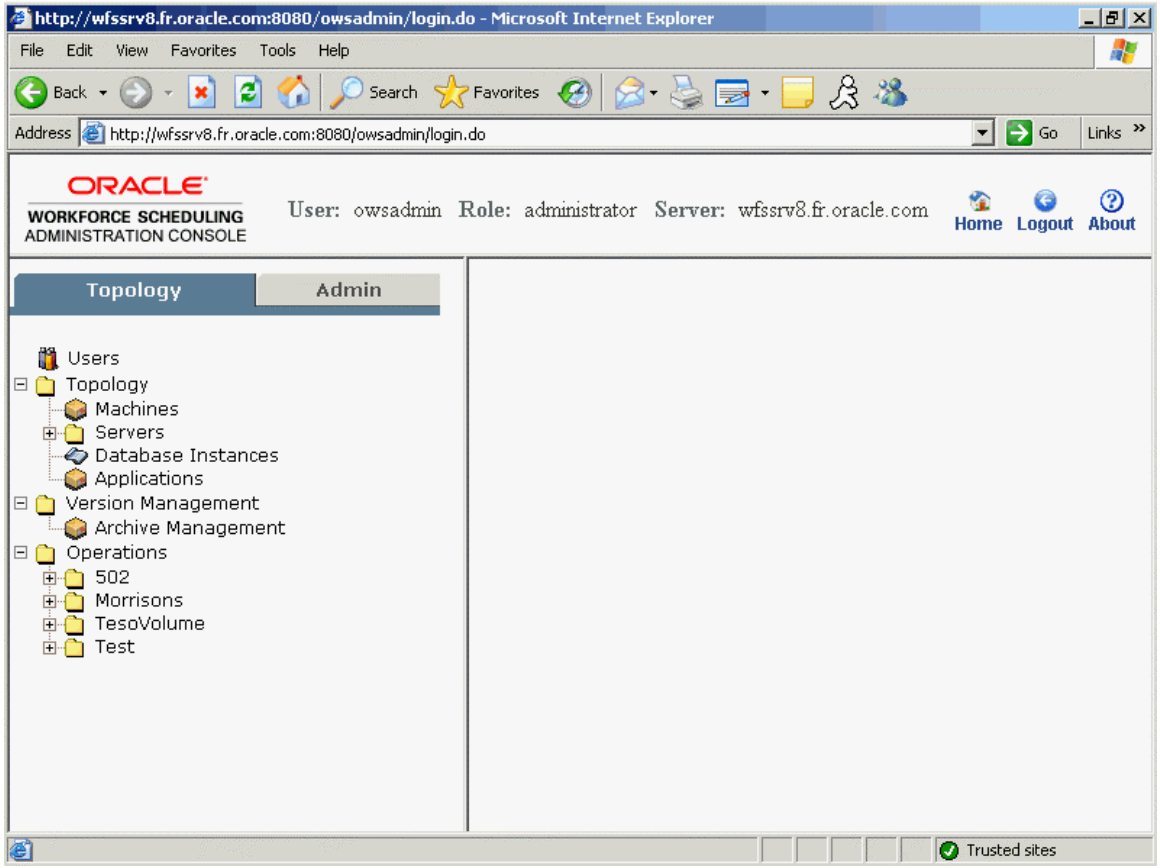
You access the OWS Admin console (desktop) initially when you login. Three navigation buttons appear in the application bar.

- Home: Click to display to the OWS Admin console
- Logout: Click to quit the OWS Admin session and return to the Login page

- About: Click to display information on the OWS Admin Server and Database versions

The OWS Admin console displays information about the login, including the login name of the user, the role assigned that login, and the machine name hosting the OWS Admin web server.

The OWS Admin console organizes the OWS Admin functions in two tabbed regions: Topology and Admin.

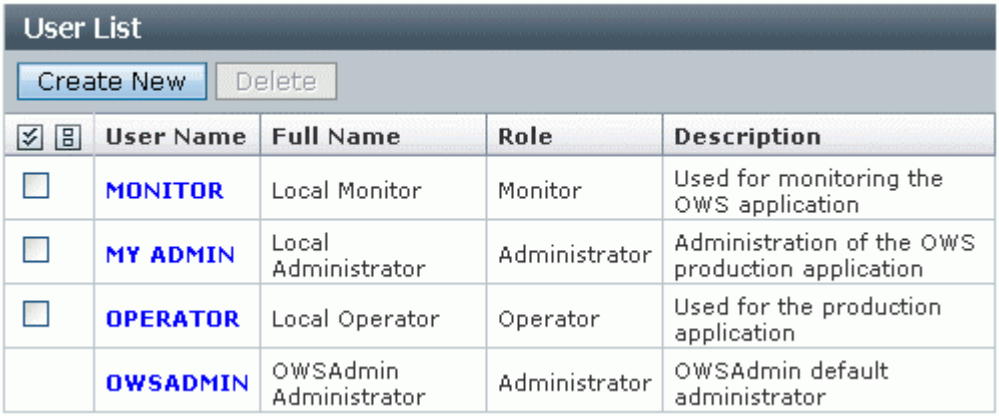


You can increase and decrease the displayed OWS Admin workspace by dragging the horizontal and vertical bars.

Selecting Items

When using the different OWS Admin windows, click:

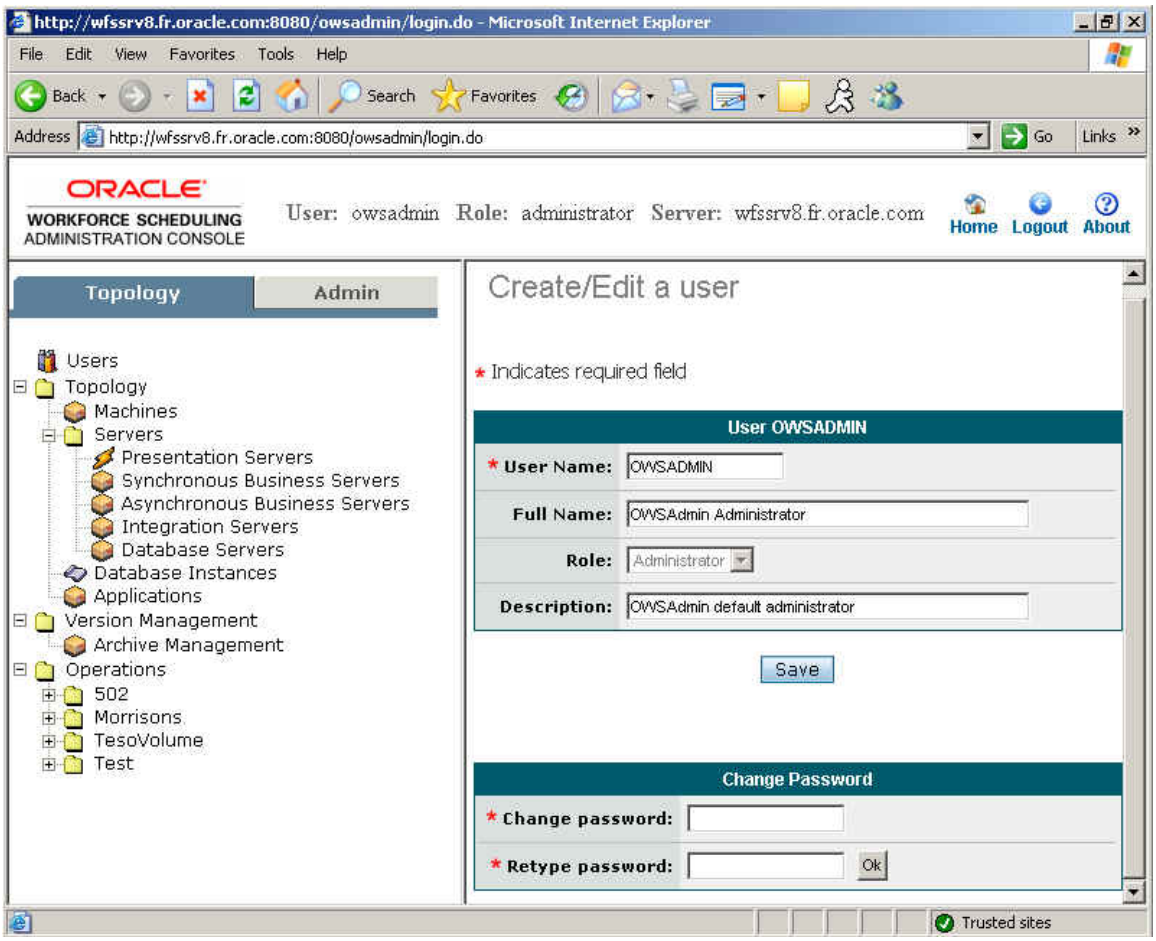
- an empty selection box to select its row
- to select all rows
- to deselect all rows



If a row does not contain a selection box, it means that there are no predefined actions for that item. In the example shown in the screenshot, you cannot create nor delete an OWS Admin Administrator.

Some items include hyperlinks. You can click the hyperlink to edit its information.

For example, clicking the OWS Admin link displays the login details for this username that you can then edit.


http://wfssrv8.fr.oracle.com:8080/owsadmin/login.do - Microsoft Internet Explorer
File Edit View Favorites Tools Help
Back Search Favorites
Address http://wfssrv8.fr.oracle.com:8080/owsadmin/login.do
Go Links
ORACLE
WORKFORCE SCHEDULING
ADMINISTRATION CONSOLE
User: owsadmin Role: administrator Server: wfssrv8.fr.oracle.com
Home Logout About
Topology
Admin
Users
Topology
Machines
Servers
Presentation Servers
Synchronous Business Servers
Asynchronous Business Servers
Integration Servers
Database Servers
Database Instances
Applications
Version Management
Archive Management
Operations
502
Morrisons
TesoVolume
Test
Create/Edit a user
* Indicates required field
User OWSADMIN
* User Name: OWSADMIN
Full Name: OWSAdmin Administrator
Role: Administrator
Description: OWSAdmin default administrator
Save
Change Password
* Change password:
* Retype password:
Ok
Trusted sites

Monitoring the OWS Application

OWS Admin Server Logins

The OWS Admin tree includes an Administrators branch that you can use to create, remove, and modify OWS Admin Server user login definitions.

User login definitions include three different access levels:

- Monitor: Access to application logs and monitoring actions
- Operator: All the permissions of the monitor role plus access to the topology information in read-only mode
- Administrator: Full access

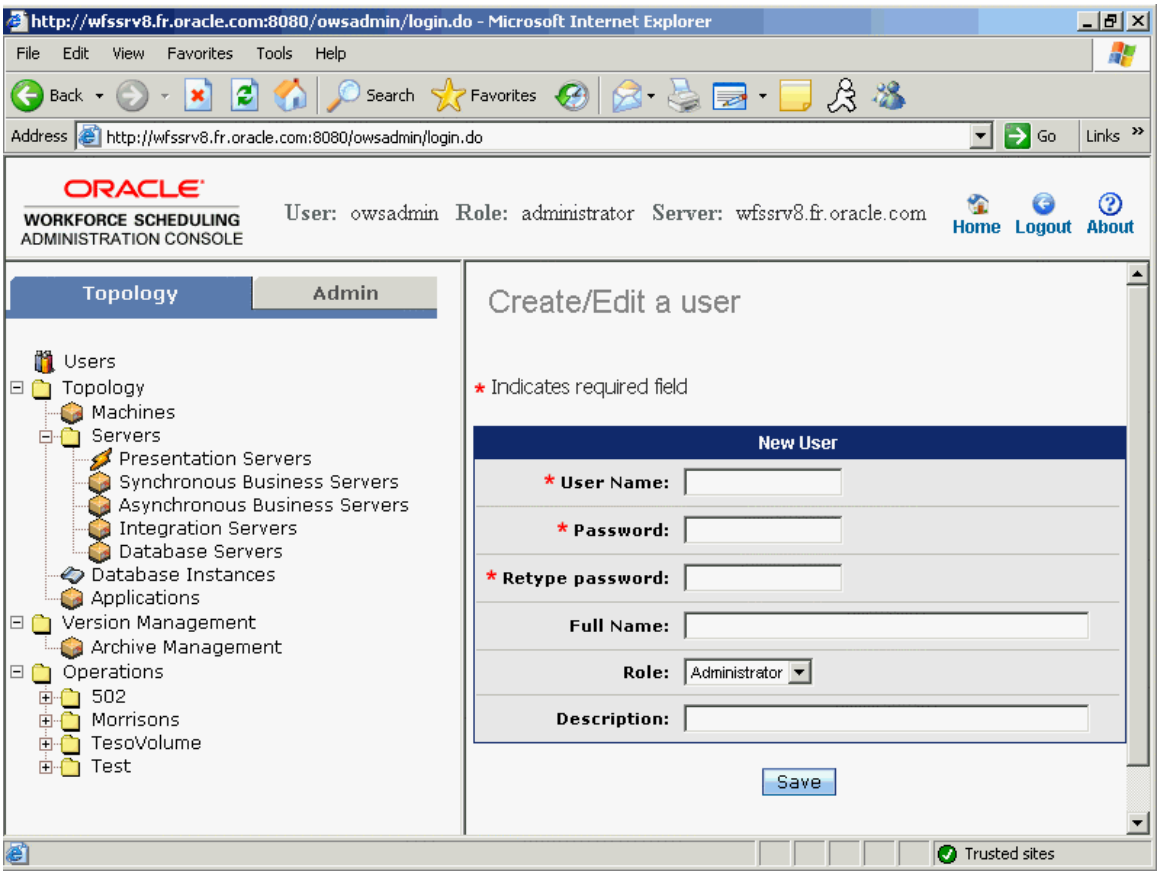
For more information about these roles, refer to the OWS Admin Role Model section above.

Creating, Editing, and Deleting User Logins

When logged in as an Administrator, you can create an unlimited number of user definitions. You can modify any user definition, including the user definition for your current login, but you cannot delete that login. To delete it, you must log in under a different user name.

To create a user login:

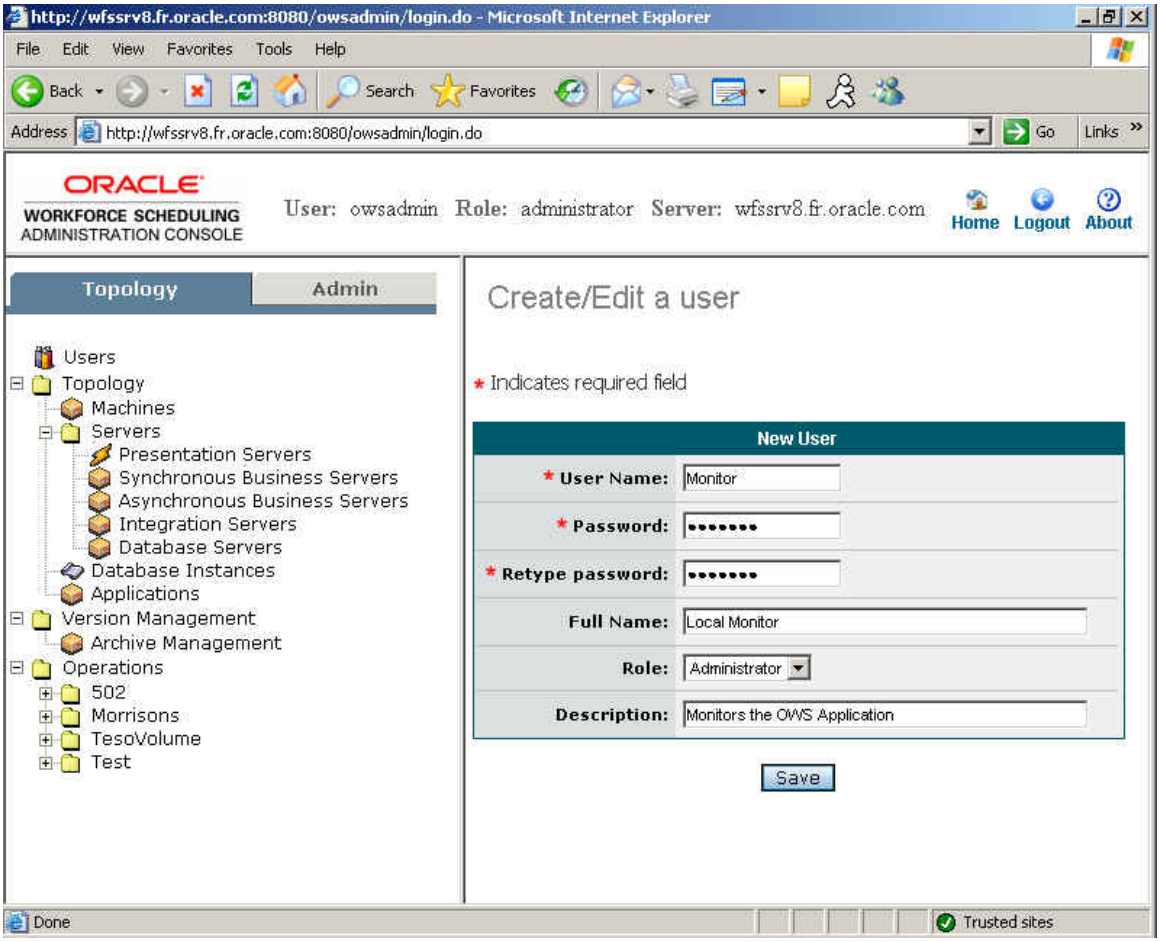
1. Click the Users node in the Topology tree.
2. Click Create New to create a new user definition.



To edit a user's login:

1. Locate the login.
2. Click the username.

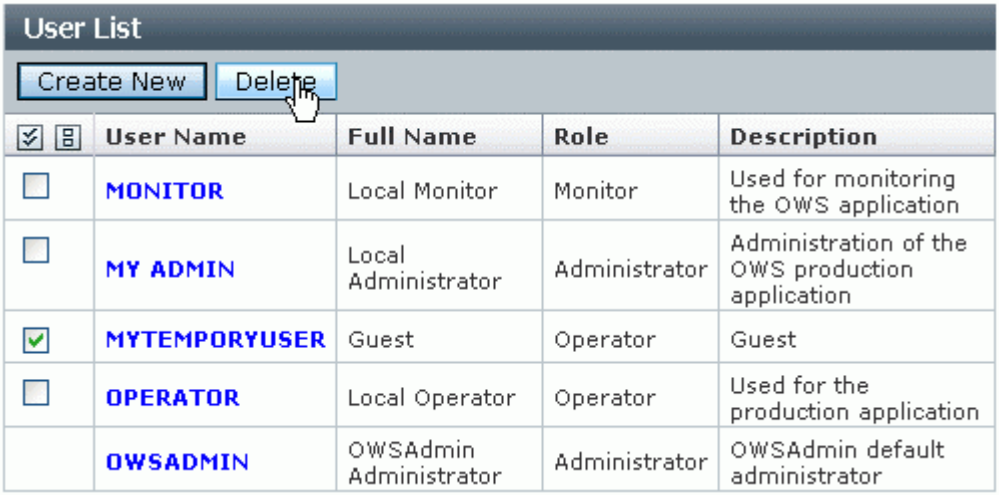
3. Change the login information and click Save.



To delete a user login:

1. Locate the login and click the selection box.

   You can delete user definitions that have a selection box before the username.



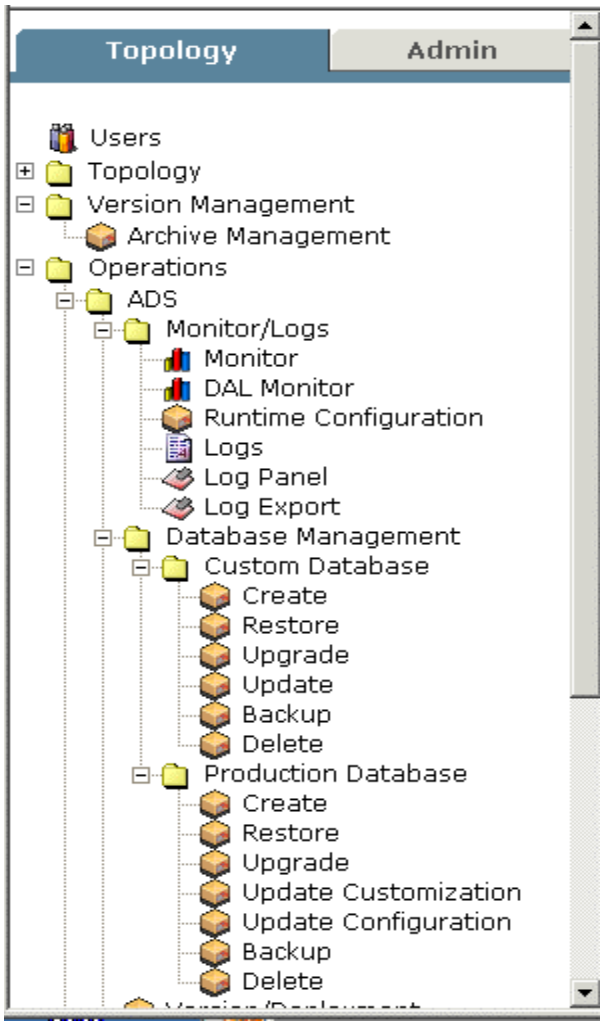
2. Click Delete to remove the selected user definition.

Operations

The Operations tree lists the actions that you can perform to monitor and maintain the OWS applications managed by the OWS Admin Server. The Operations tree contains three branches:

- Monitor/Logs: Monitors, operators, and administrators can view the logs and performance information generated by the OWS servers. They can also stop and start the servers.
- Database Management: Administrators can backup and restore the OWS databases
- Version/Deployment: Administrators can manage different versions of OWS

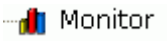
Expand the sub-trees to view the complete Operations tree.

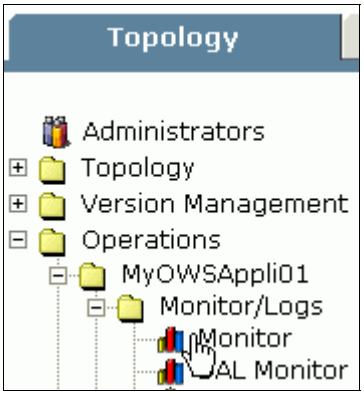


Monitoring the Server

The monitor function provides a snapshot of the OWS server run-time behavior. You can view statistics about the requests processed by the server.

To display server information:

- Navigate to the Monitor node and click 



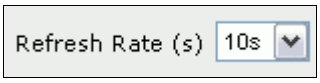
The following table explains the column headings of the Server Monitoring display.

Column	Content
Server name	Name of the logical server
IP Address	IP address or name of the physical server where the logical server is running
Type	Type of server as defined in the Topology
Total accesses	Total number of accesses
Total kbytes	Total bytes transferred from the server
Uptime	Number of seconds the server is running
Req/s	Number of requests per second
Bytes/s	Number of bytes transferred per second
Bytes/req	Number of bytes per request
Busy workers	Number of threads currently processing information
Idle Workers	Number of threads currently waiting for processes

Refreshing the Server Monitoring Page

To refresh the page:

1. Select a value in the Refresh Parameter from the Refresh Rate list.



2. Click OK.

Note: The Refresh Rate is given in seconds or minutes: 3s, 10 s, 30 s, 1 mn or 5mn

To stop the automatic refresh:

1. Select – (minus sign) in the Refresh list.
2. Click OK.

Resetting the Server Monitoring Page

To reset the data:

1. Select the Reset Stats check box.

2. Click OK.

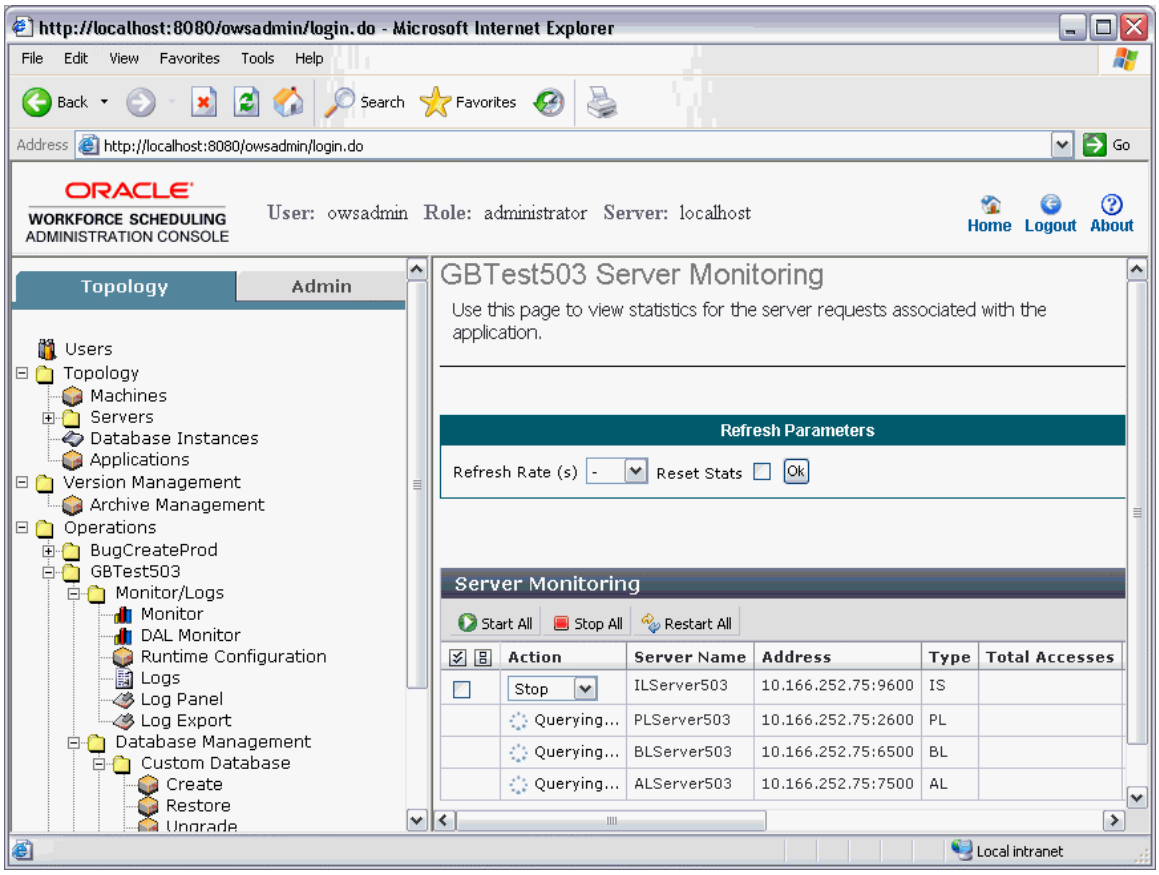
Starting and Stopping a Server

To run the application with all its components, you must start the presentation, synchronous, asynchronous, and integration servers.

Monitoring Server State

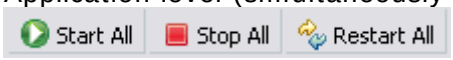
The OWSAdmin server can change the current state of each server associated with the application. To determine the state, the OWSAdmin server sends a “ping” request to each server in parallel. If a server is unresponsive, it is considered as stopped, and OWSAdmin displays the next available action, a Start action. If the server is running, OWSAdmin displays the next available action, a Stop or a Restart (Stop followed by a Start) action.

By reviewing the actions on the Server Monitoring page, you can determine the state of the servers. For example, on the page below, the ILServer503 is started, and the next available action is to Stop the server. OWSAdmin is still determining the state of the other servers (Querying), so the next available action is not listed yet.



Operating On Server State

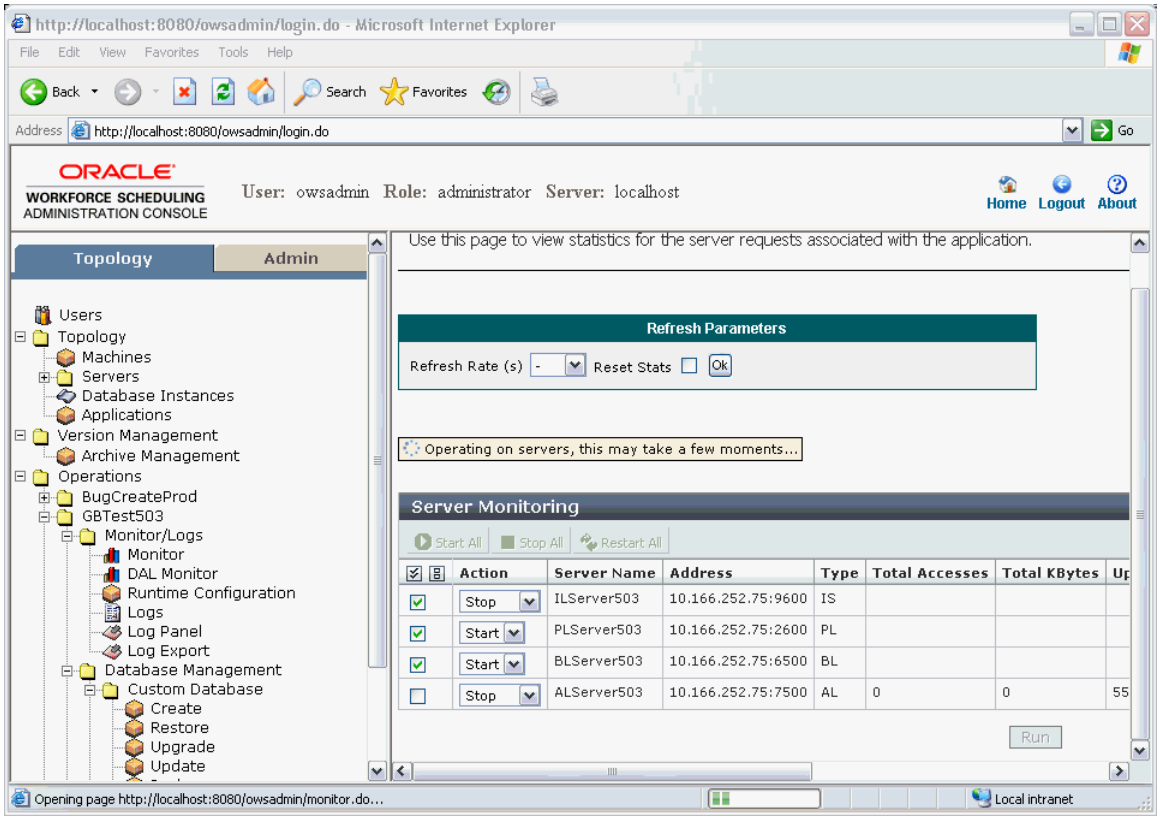
The administrator can operate servers on two levels:

- Application level (simultaneously on all application servers): Use the 

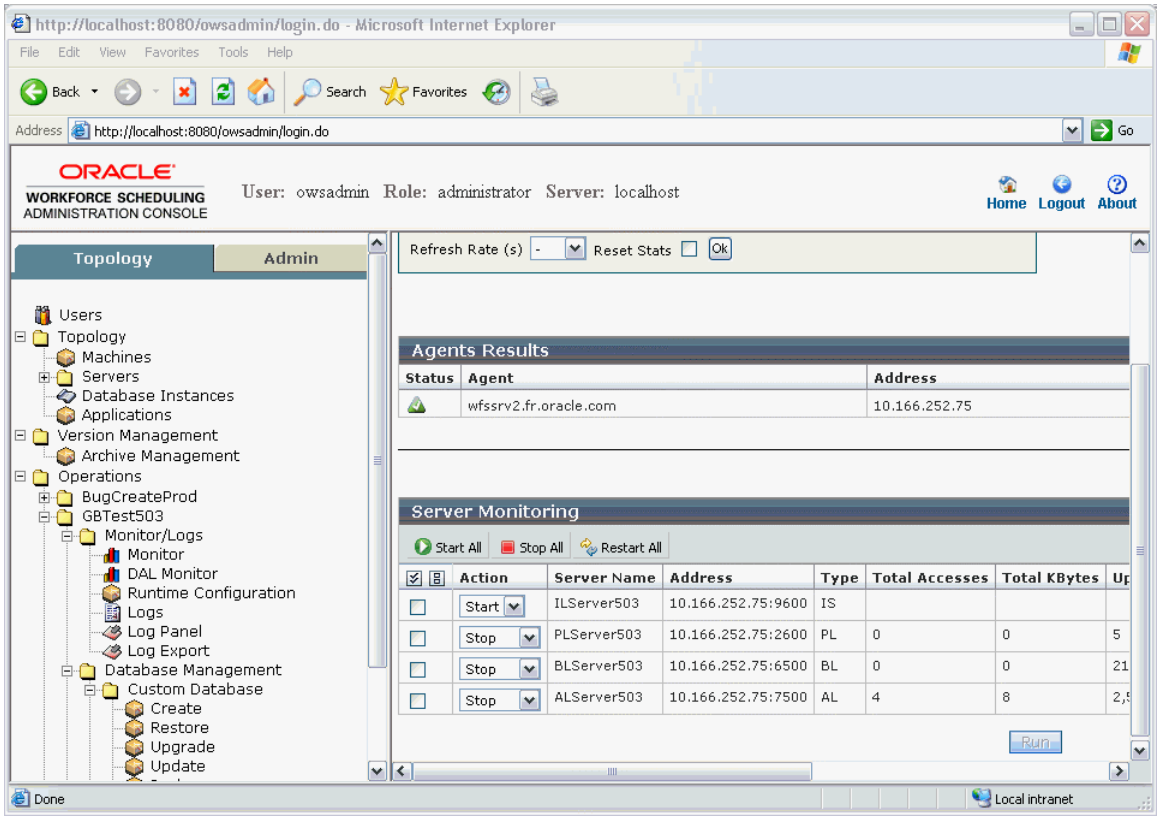
toolbar.
Note: "Restart All" operates on started servers. It does not start a stopped server.
- Server level: Select the server(s) on which to perform the action and click 

.

The page below shows that the administrator ran actions to stop the integration server ILServer3, and to start the presentation server PLServer503 and the synchronous business server BLServer503.



The results show that the actions were successfully performed by the OWSAdmin agents. OWSAdmin updates the Action column with the next available action the administrator would likely perform on the server. For example, if OWSAdmin stopped the server, OWSAdmin would update the Action to Start.



Server Validation

After starting the servers, you validate the installation of the servers and the associated services. The servers that run the corresponding services should have the same names as the servers. For example, the:

- Presentation server (PL) runs the Presentation service
- Synchronous business server (BL) runs the synchronous business service
- Integration server (IS) runs the integration service
- Asynchronous business server (AL) runs the asynchronous service

You have two options for checking the server status:

- Use the standard Microsoft Windows services tool on each server

  OWS Admin sets up Microsoft Windows services on each physical machine to run the logical server.

- Use the OWS Admin Server when you have server layers running on different physical machines

If a server fails to start, review the logs to determine the problem.

To confirm the server status from OWS Admin:

1. Select the Monitor node from the Monitor/Logs branch.
2. Specify a Refresh Rate.
3. Confirm that each server is started and running.

   If data appears in the columns, the server is running.

Server Monitoring

Start All | Stop All | Restart All

Action	Server Name	Address	Type	Total Accesses	Total KBytes	Up Time (s)	Req/s	Bytes/s	Bytes/req	Busy Workers	Idle
Start	ILServer503	10.166.252.75:9600	IS								
Stop	PLServer503	10.166.252.75:2600	PL	1	1	15,864	0	0.06	1,024	1	99
Stop	BLServer503	10.166.252.75:6500	BL	1	1	15,861	0	0.06	1,024	1	63
Stop	ALServer503	10.166.252.75:7500	AL	5	10	18,419	0	0.56	2,048	1	63

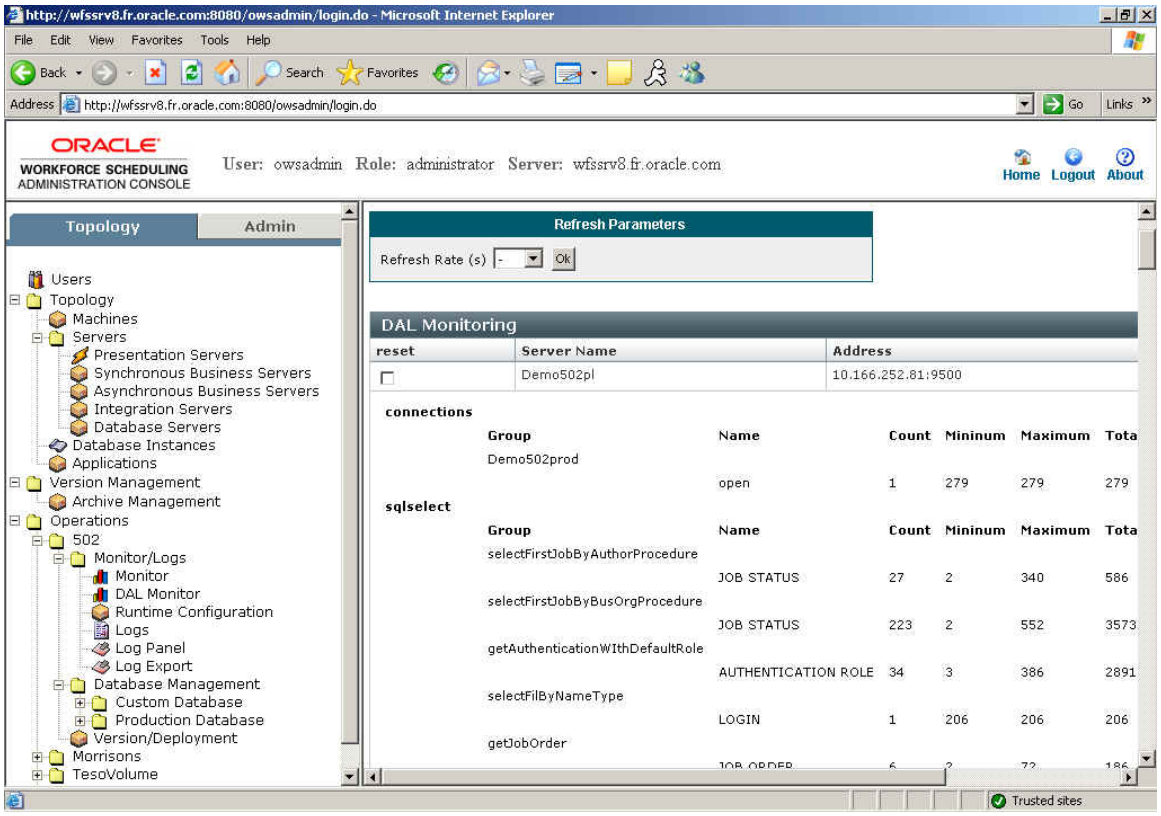
DAL Monitoring

The Data Access Layer component (DAL) displays statistics about the servers. Use it to:

- View the type and quantity of the database requests executed by OWS (primarily, the synchronous and asynchronous business servers)
- Determine the total number of connections opened on the database server
- Track bugs

To monitor DAL:

- Select the DAL Monitor node from the Operations Monitor/Logs branch.



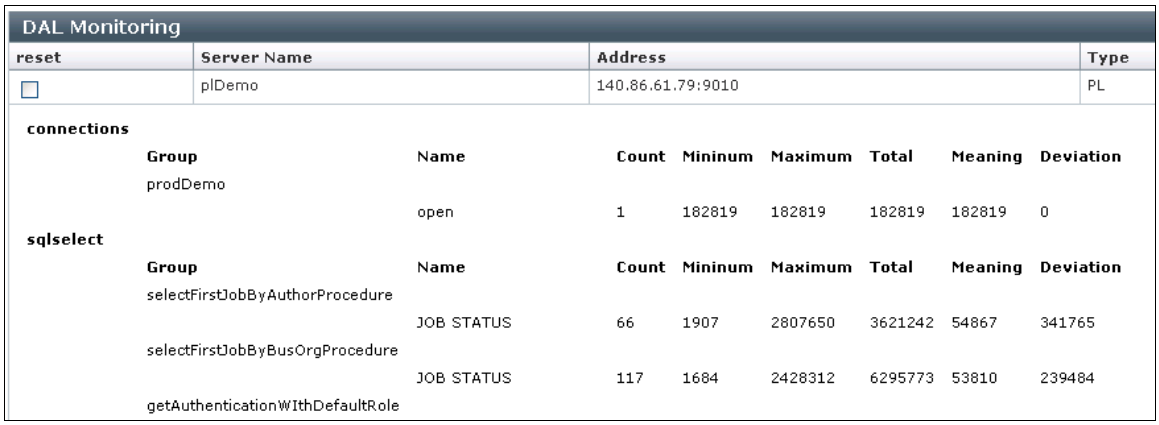
The following table explains the column headings of the Data Access Layer monitor.

Category	**Content**
Group	Used to group statements by type: one group for the database connections and another group for the SQL statements
SQL pattern	Name of the SQL pattern used to produce the SQL statement sent to the database server.
Name	Name of the logical structure used to produce the SQL statement sent to the database. The SQL pattern combined with and the logical structure name results in the exact SQL query executed.
Count	Number of times the query was executed
Minimum	Minimum execution time for the query, in microseconds.
Maximum	Maximum execution time for the query, in microseconds.
Total	Total execution time for the query, in microseconds.
Meaning	Mean execution time for the query, in microseconds. This is equal to the Total divided by the count.
Deviation	Standard deviation of the execution time. It helps to understand the deviation of the execution time over the meaning.

OWS Admin displays statistics on the SQL requests of the following servers:

- PL: Presentation server
- BL: Synchronous Business Server
- AL: Asynchronous Business Server

For example, in the following example, you can review the statistical information for the Presentation server (PL).



DAL Monitoring

reset	Server Name	Address	Type
☐	plDemo	140.86.61.79:9010	PL

connections

Group	Name	Count	Mininum	Maximum	Total	Meaning	Deviation
prodDemo							
	open	1	182819	182819	182819	182819	0

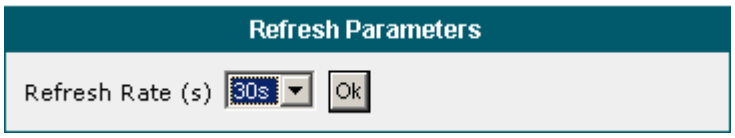
sqlselect

Group	Name	Count	Mininum	Maximum	Total	Meaning	Deviation
selectFirstJobByAuthorProcedure							
	JOB STATUS	66	1907	2807650	3621242	54867	341765
selectFirstJobByBusOrgProcedure							
	JOB STATUS	117	1684	2428312	6295773	53810	239484
getAuthenticationWIthDefaultRole							

Refreshing the Server Monitoring Page

To refresh the page:

- Select a value in the Refresh Parameter from the Refresh Rate list and click Ok.



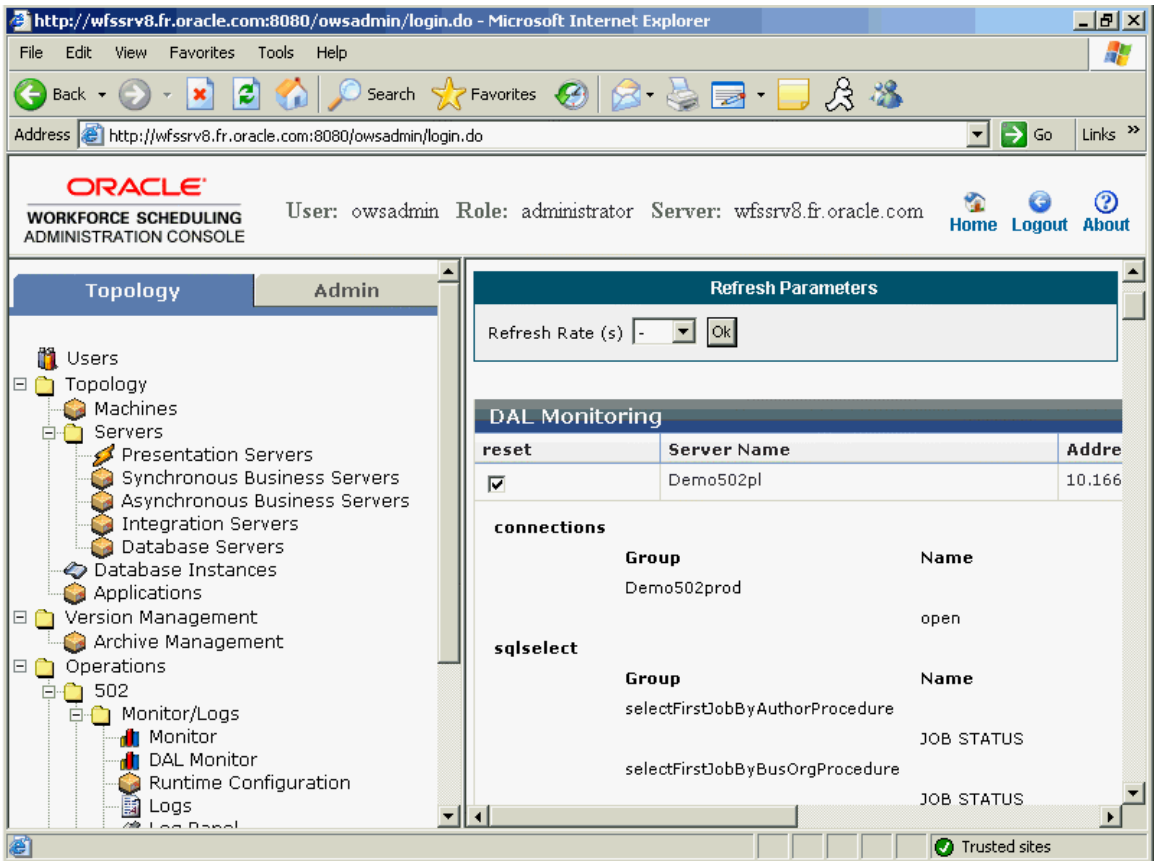
To stop the automatic refresh:

- Select – (minus sign) in the Refresh drop down list and click Ok.

Resetting the Server Monitoring Page

To reset the statistics for a specific server:

1. Select the Reset check box next to the server name.



2. Click Ok.

Runtime Configuration

An OWS Admin Server user (operator or administrator) can use the Runtime Configuration function to:

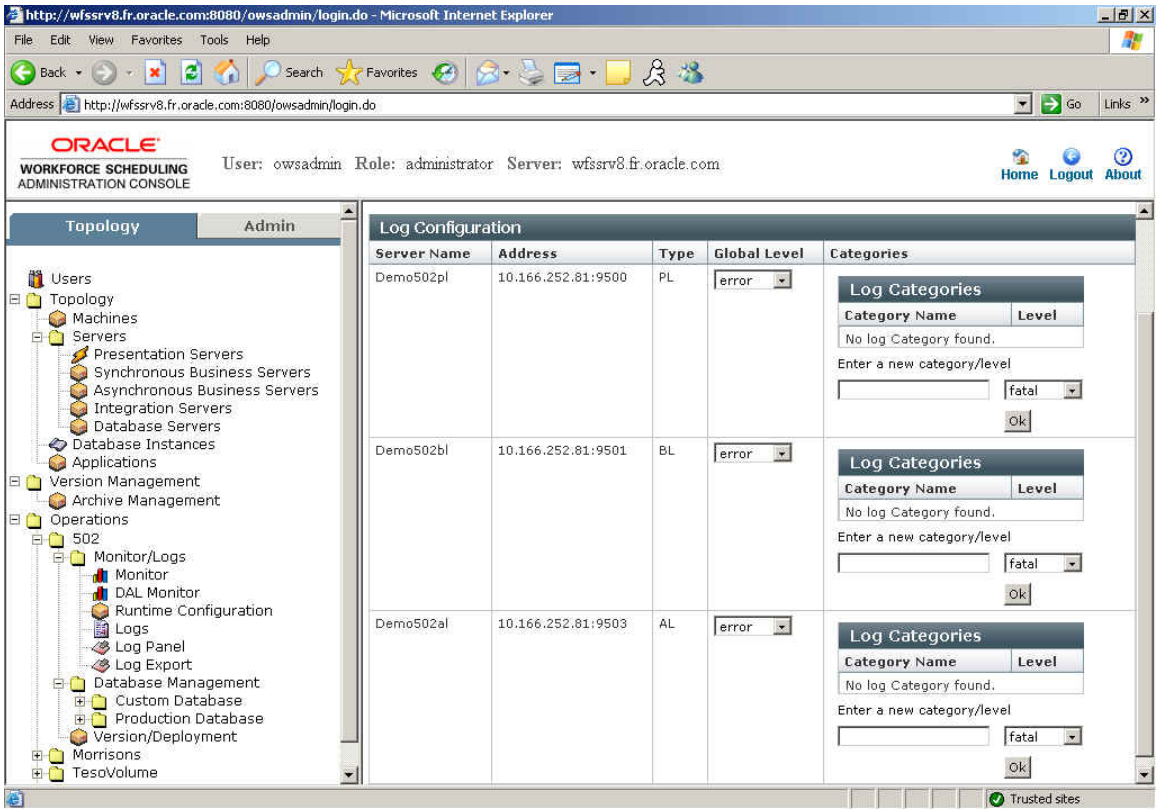
- Change the global log level
- Modify log levels for existing categories
- Set a category or server to a specific level

For each logical server in the OWS application, you define a global log level, such as fatal or error. The application filters the incoming messages, and stores only those messages that have the same or more severe level than the one you defined. For example, if you define the global log level as Error, the application stores messages with a log level of Error or Fatal.

You can also establish a log level for specific log categories, such as loadbalancer or data access layer. Setting this secondary level enables you reduce the number of messages to only those you want to review. For example, if you set the global level to Error, you could limit the incoming messages stored for the Navigate category by setting the level to Fatal.

Logs

A log includes a category, a level, and a message.



Log Level

There are five different log levels defined in the system.

Level	Definition	Value
Fatal	Very severe error events that could result in the application aborting.	0
Error	Error events that might allow the application to continue running.	1
Warning	Potentially harmful situations.	2
Info	Messages that provide detailed information on the application's status and performance.	3
Debug	Detailed informational events that are most useful for debug purposes.	4

Log Category

The following table lists the log categories. The category name is case sensitive, so use the exact spelling when defining a category log level.

Category	Content
Navigate	Logs information related to web (HTTP) navigation. Numbers for this log display navigation results *before* the user executes the query.
Exetime	Logs information related to web (HTTP) navigation. Numbers for this log display navigation results *after* the user executes the query. Use with the Navigate category to analyze the total execution time of an HTML page.

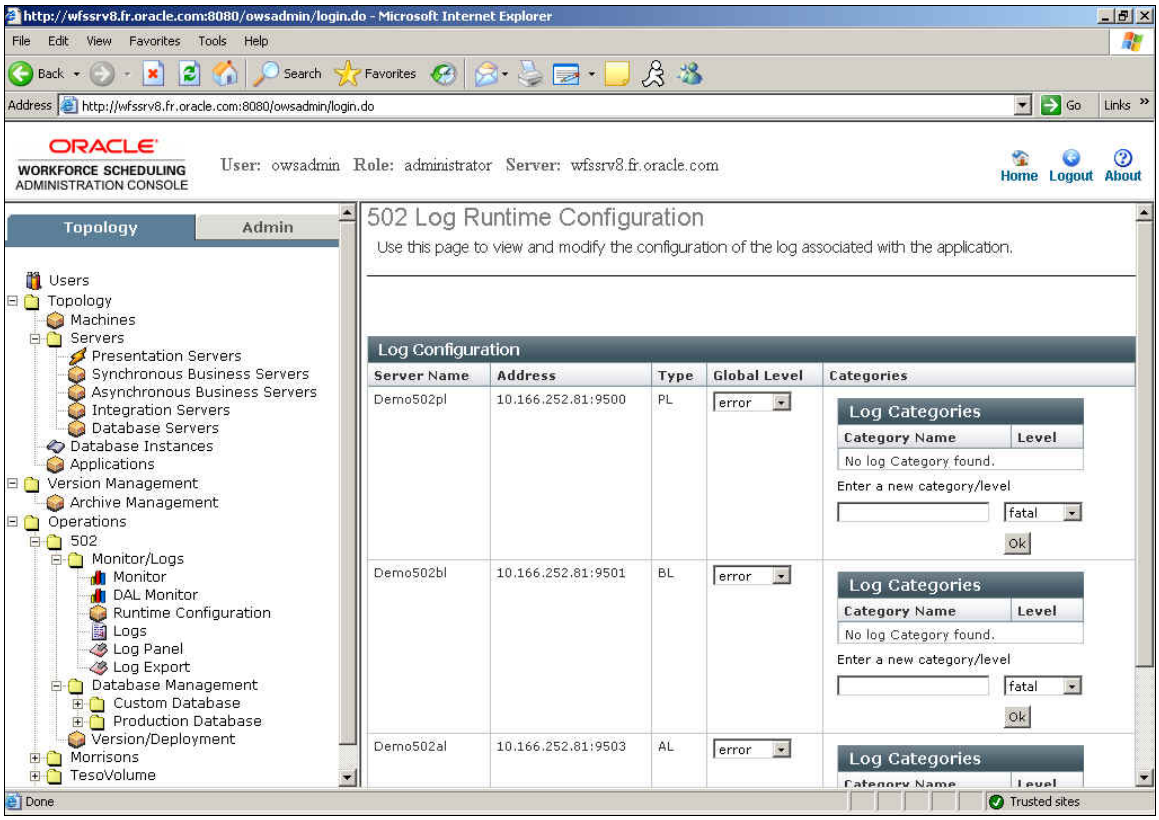
DAL	Logs information related to the database connections (request, RDBMS response, and so on).
LoadBalancer	Logs information related to load balancing due to client requests, unavailable servers, and so on.
Apache	Logs internal Apache errors.
Admin	Logs information-related changes made inside the OWS Admin Server. You cannot disable this category.
OWSerror	Logs other errors that are not trapped by the system.
ISAPIWorkItem	Logs information related to an empty response sent by the web server.

Setting a Global Log Level

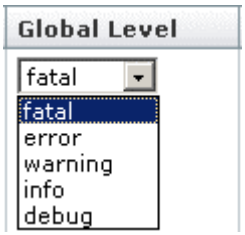
You must set the global log level for each logical server in the OWS application. You can specify a global log level without defining individual category levels.

To set the global category level:

1. Select the Runtime Configuration node from the Monitor/Logs branch.



2. Specify an appropriate level for the server in the Global Level drop down list and click Ok.



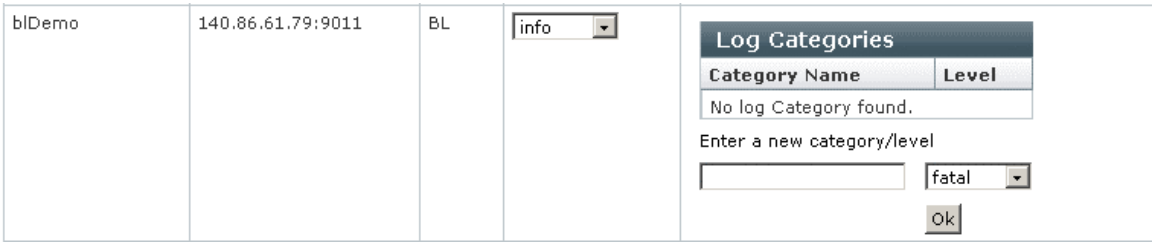
Note: Oracle does not recommend setting the Global Level to Debug, Info, or Warning in a production environment. Doing so would generate a large number of messages and could have a significant impact on the application's performance.

Setting a Category Log Level

After setting the global log level, you can set different levels for specific categories or servers that you want to monitor. When you define individual log categories, you specify the levels of one or more of the predefined categories for each server.

To set a specific level for a specific server:

1. Select the Runtime Configuration node from the Monitor/Logs branch.
2. Enter one of the following categories for the name of the category:
    - Navigate
    - Exetime
    - DAL
    - LoadBalancer
    - Apache
    - Admin
    - OWSerror
    - ISAPIWorkItem



3. In the Level drop down list, select the appropriate level for the new category.
4. Click Ok to save your changes.

Removing a Log Category Level

If you want to remove a log category, you can remove it by changing the log level to none. If you no longer want any log categories defined, you can remove them all by changing each category level to none.

To remove a category level:

1. Select – none from the Level drop down list for the Log Categories.
2. Click Ok to save your changes.

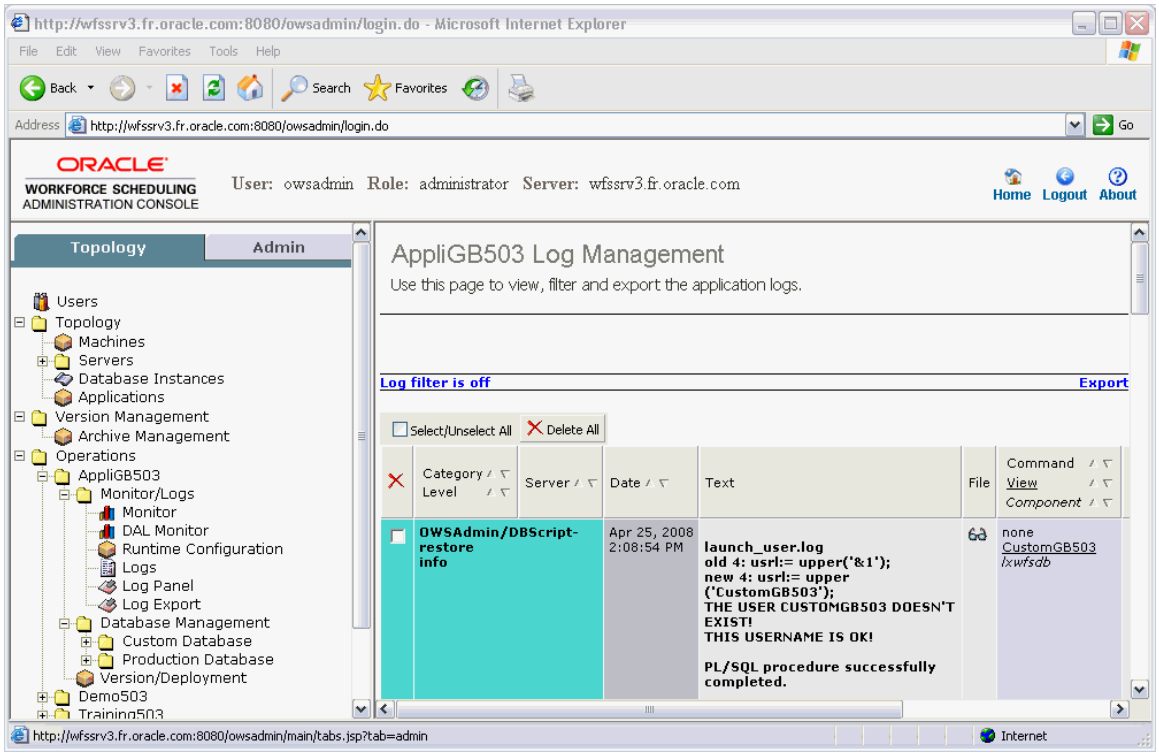
Application Log Management

Use the Logs function to view the logs generated for the OWS servers.

To view a log:

1. Select the Logs node from the Operations Monitor/Logs branch.

   The OWS Admin Server displays a list of logs. Each log category level has a different color. The columns displayed depend on what you selected in the log panel window.



2. Scroll through the logs by clicking the numbers. For the logs of previous days, click the double-arrows in the brackets.

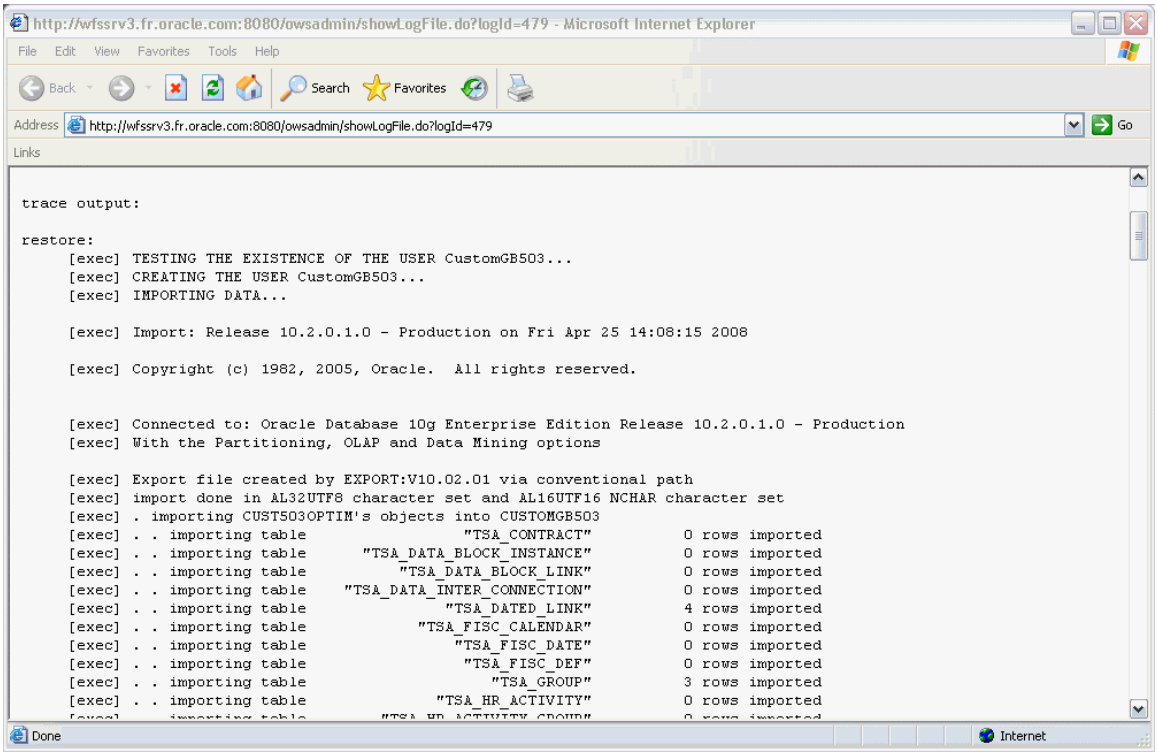
3. Sort the logs in ascending or descending order by clicking the arrows at the top of each column.

4. You can filter the log listings using the filters that you have defined in the Logs Panel. (Refer to the section on Filtering Log Applications.)

   - To view all the logs, click Log Filter is On.
   - To view the logs based on the filter applied to the log, click Log Filter is Off.
   -

5. View the full content of logs which include the view icon .

Application database operations can generate logs whose length exceeds the maximum length of the log text column. The text column shows only the truncated log content. The full log content is stored using blobs in the OWSAdmin repository. To view the full log in a separate window, as shown below, click the icon.

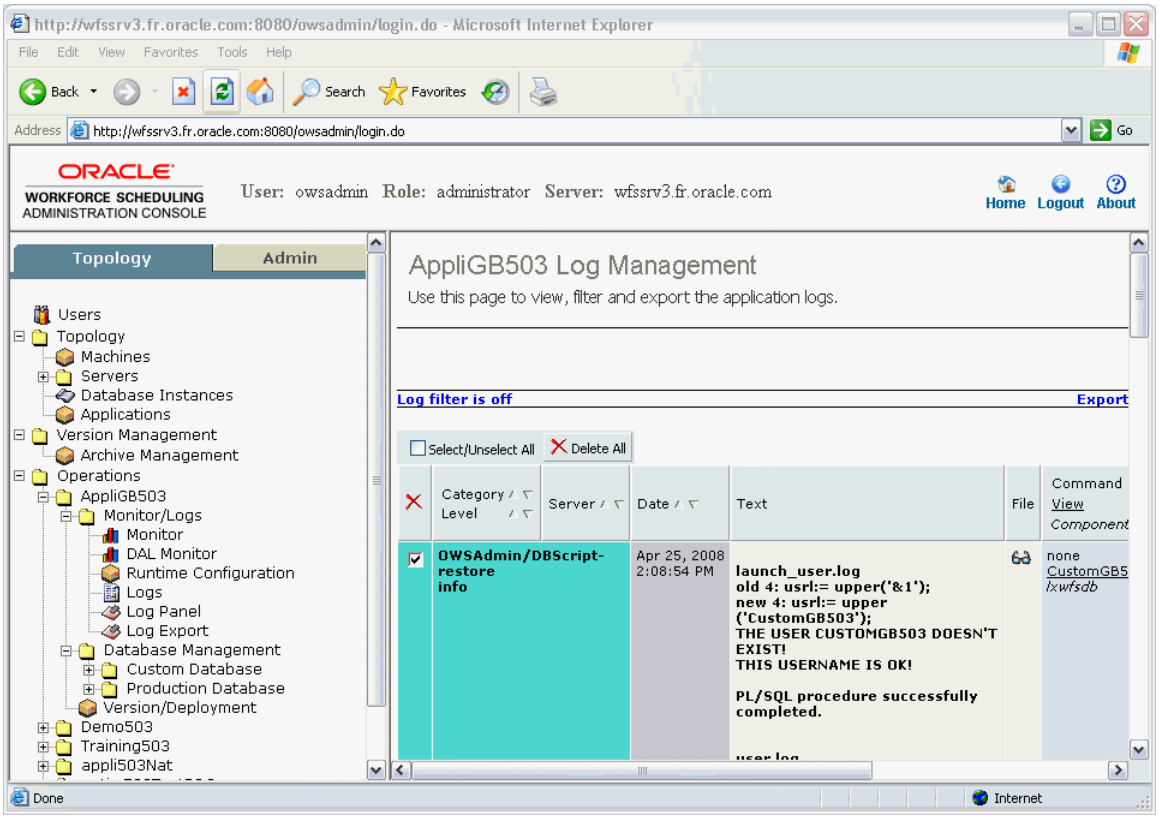


Deleting Logs

Periodically, as part of your routine maintenance, you can delete outdated and obsolete logs.

To delete logs:

1. To delete one or more logs, click the check box next to each log you want to delete.



2. Click ✕.

To delete all the logs on a page:

1. Click the Select/Unselect All checkbox to select all logs.
2. Click ✕.

To delete all the logs associated with the application

- Click ✕ Delete All.

If the application locates:

- No active log filter (for example, if the filter is off), the application deletes all application logs stored in the OWSAdmin repository.

- Any active log filters, the application deletes only those application logs that match the filter.

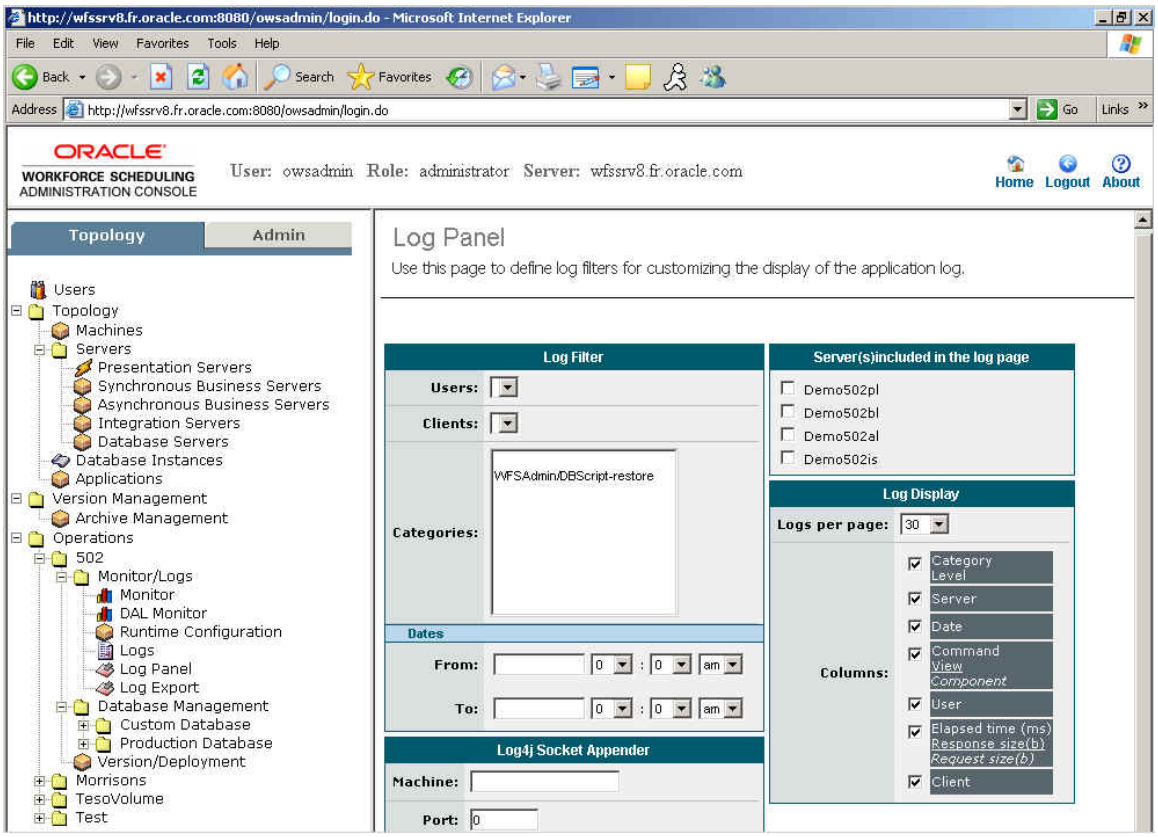
Filtering Application Logs

Use the Log Panel function to apply filters to the Logs window.

Using the Log Panel function, you can define the information displayed in the Log window. For example, you might specify filters that display logs that belong to specific categories, users, clients, servers, and so on.

To create a filter:

1. Select the Log Panel node from the Operations Monitor/Logs branch.



2. In the Log Filter window, specify:

   - Users: Displays the last 100 users in the list box. A user id is the concatenation of the OWS login plus a number.

- Clients: Displays the IP address of the client sending the request. For a Web server, the client is the user IP address. For an application server, the client is the loadbalancer IP address.
- Categories: Lists the categories in the logs. To deselect all categories (to remove all filters), select the first entry (empty).

3. In the Dates region, enter the start and end date for the logged events.
4. In the Servers region, select the servers you want to include.
5. In the Log4j Socket Appender region, enter the machine and port to redirect (append) OWS logs to a logs monitor to display and refresh the logs in real time.
6. In the Log Display region, enter the number of logs to display on each page and the columns of information you want to display.
7. Click Ok to complete the filter definition.

   The Logs window displays only the selected logs.

Archiving and Exporting Application Logs

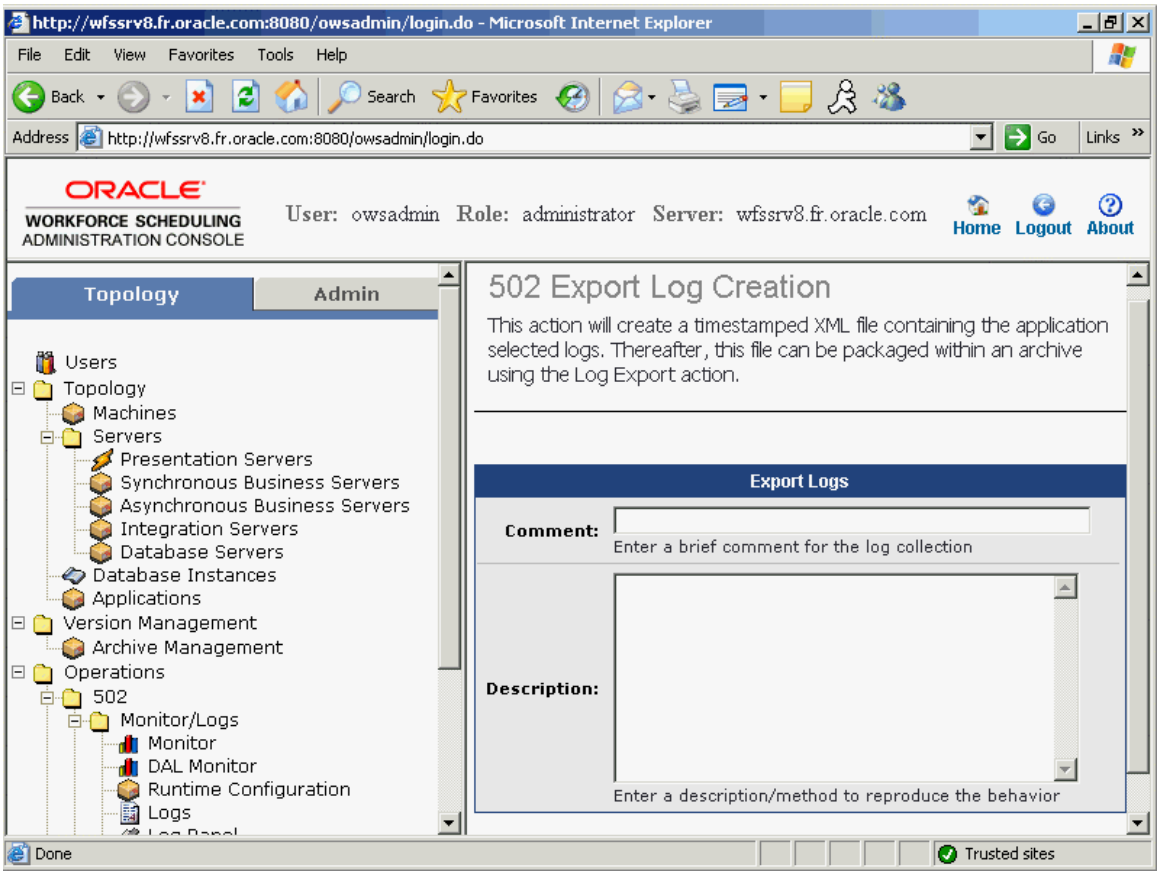
You may want to save logs for future reuse, for example to forward to your support organization. You can export and archive logs for later reference.

Exporting Logs

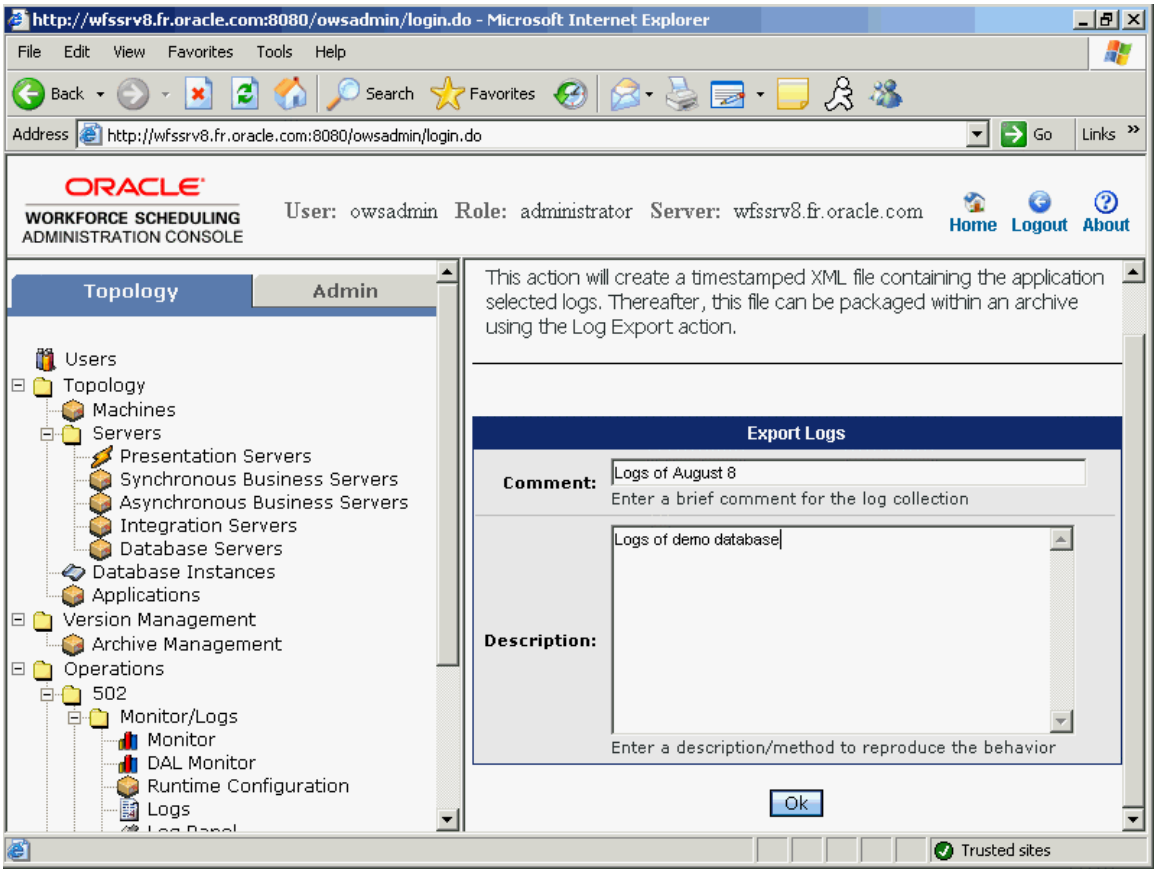
To export the logs for archiving:

1. Select the Logs node from the Operations Monitor/Logs branch.
2. Decide whether to export all the logs or only logs produced by filtering the data.
   - Click Log Filter is Off to have the application archive all logs
   - Click Log Filter is On to have the application archive only logs that apply to the filter

3. Click the Export link to display the Export a Log Creation window.



4. Enter comments and descriptions that help you later identify the log and the reasons for exporting it.



5. Click Ok to export the log.

To archive the log:

1. Select the Log Export node from the Operations Monitor/Logs branch.

   You see a list of logs exported from the Log Panel window.

2. Click the check box next to the log you want to package for archiving.
3. Click Package Exports.

   The application creates a zip archive of the logs.

Deleting Log Export

To delete an exported log:

1. Select the Log Export node from the Monitor/Logs branch.
2. Select the check box next to the log you want to delete.
3. Click the Delete button.

Real-Time Log Monitoring

Logs in the logs window are not refreshed in real time. To view the logs in real time, you need to redirect the logs to third party monitoring tools. You can use any monitoring tool that is compatible with the Log4j log format to display logs sent from the OWS Admin Server.

Redirecting the Logs

To redirect the log:

1. Select the Log Panel node from the Monitor/Logs branch.
2. Set the parameter for the Log4j Socket Appender.

   When OWS Admin Server receives a log, OWS forwards this log to the Log4j Socket Appender.
3. To configure the socket appender, specify the machine name and port number where the third party monitoring tool runs.

Updating the OWS Application on the Servers

Managing OWS Application Versions in the Repository

You can use OWS Admin to manage different versions of the OWS application. OWS applications are delivered as baseline or update archives. A baseline archive contains the full distribution of an OWS application. An update archives contains patches and refers to a baseline archive.

To deploy a version, you must have installed the OWS Agent on all physical machines using the application. Refer to the *Oracle Workforce Scheduling Installation Guide 5.0.2* for instructions on installing the OWS Agent.

Uploading a New Version

To upload a new version of the application into the repository:

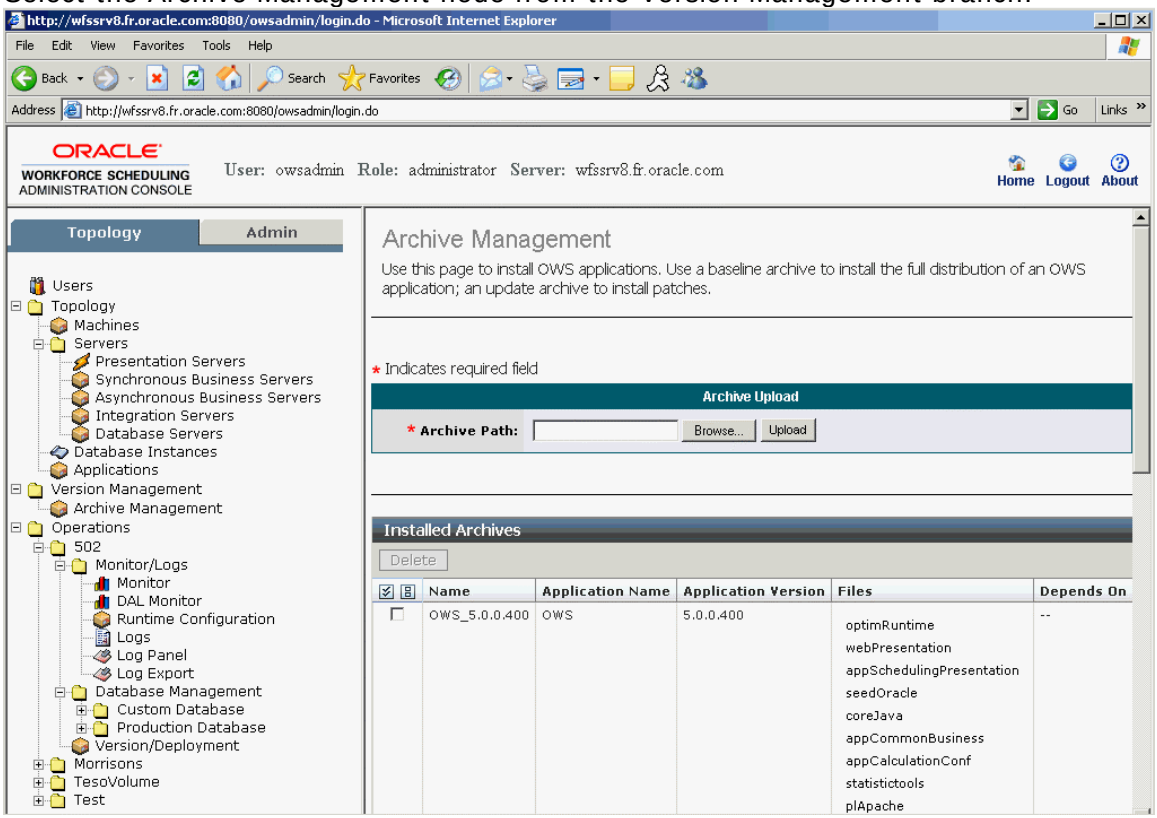
1. Select the Archive Management node from the Version Management branch.
2. Click Browse, and select the archive file containing the version of the application you want to upload.
3. Click the Upload Button.

   You see a confirmation message when the application completes the upload.

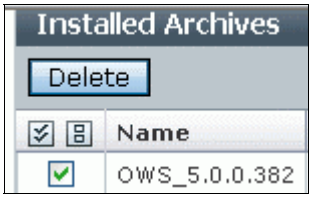
Deleting an Existing Version

To delete a version of the application:

1. Select the Archive Management node from the Version Management branch.



2. Select the check box next to the application version you want to delete.
3. Click the Delete icon.



You cannot delete an application that is currently deployed on physical servers. Undeploy the application before removing it from the repository.

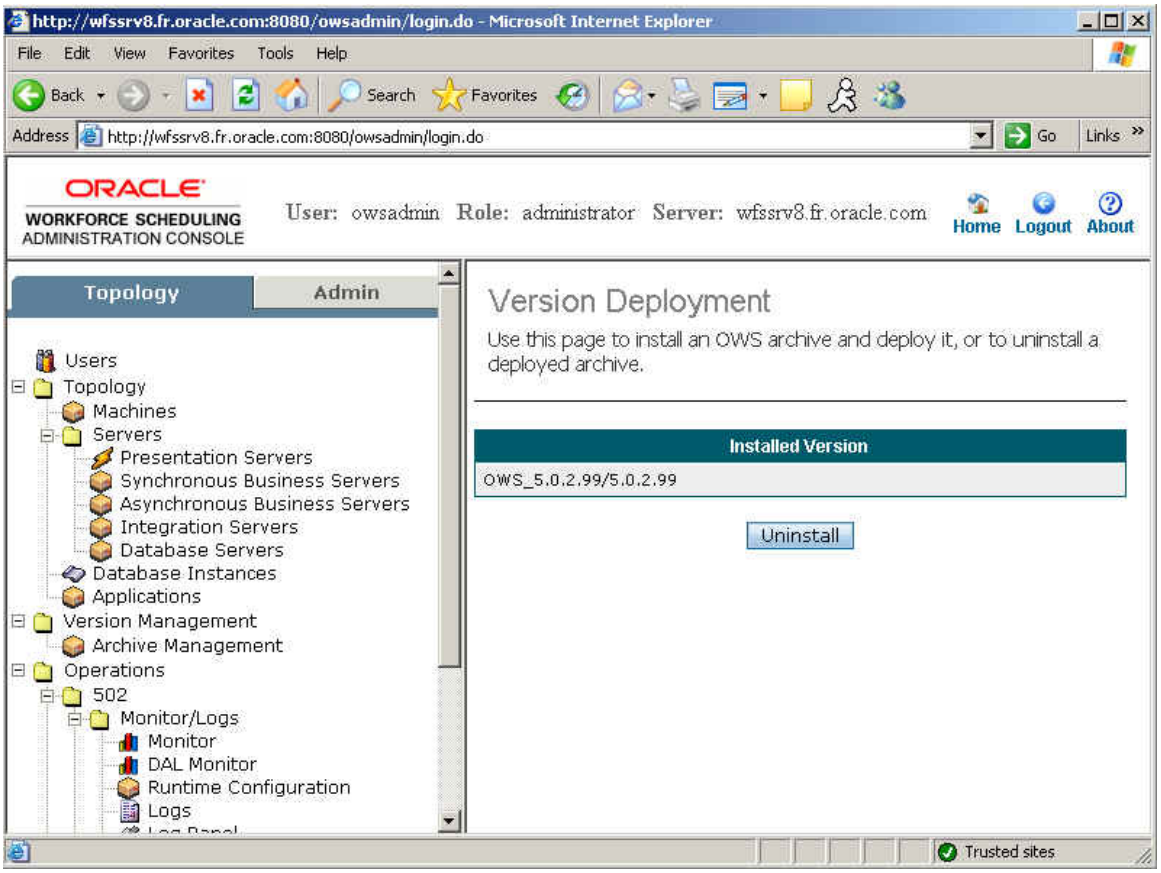
Deploying an Existing Version

After uploading the baseline or full distribution application archive, you can install the application.

To deploy a new version of the OWS application:

1. Select the Version/Deployment node from the Operations branch.

The Version Deployment form lists the versions of the application available for installation.



Note: Before you can deploy a new version, you must have uploaded the version to the repository.

2. Select the application you want to install and click Ok.

   The deployment process starts and upon completion, displays a summary of the results.

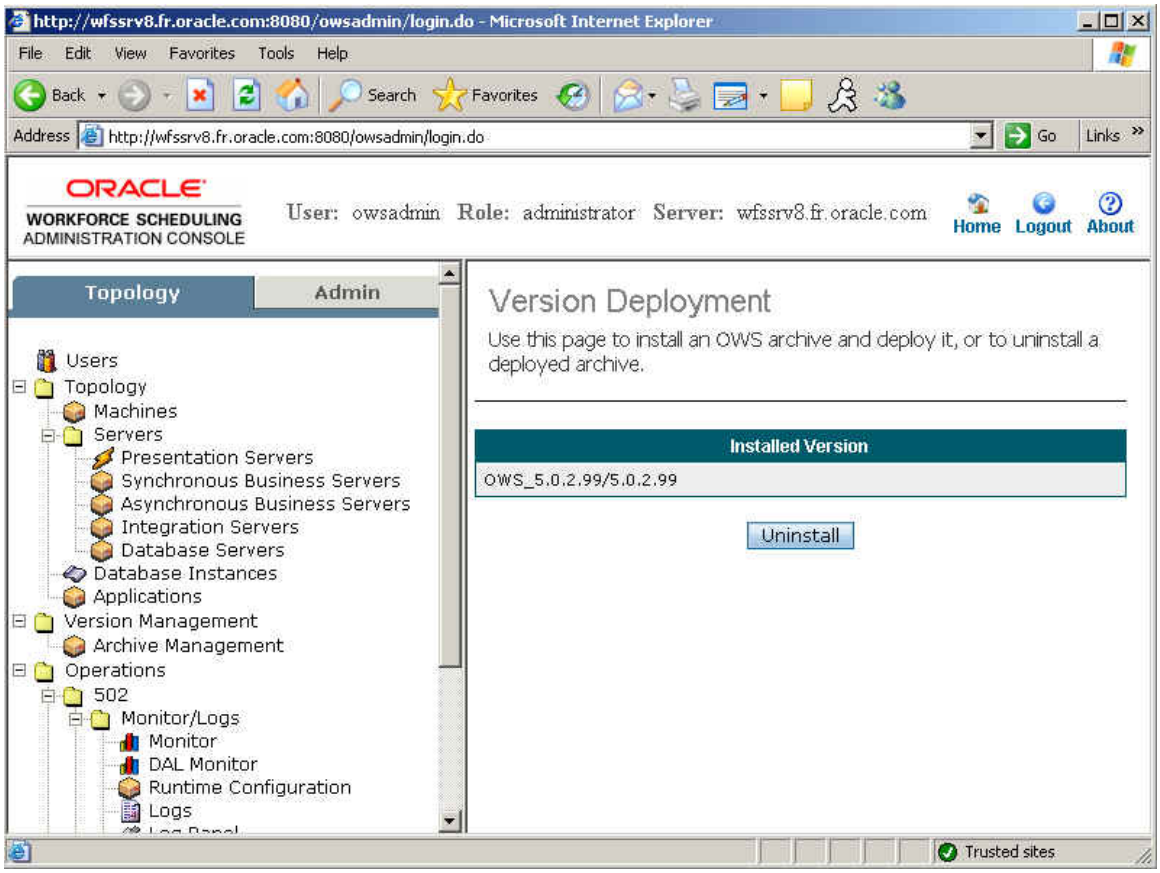
Uninstalling a Deployed Version

Before uninstalling a version of the application, you can confirm which version is currently in use.

To view the current version:

- Select the Version/Deployment node from the Operations branch.

  OWS Admin lists the application version currently in use on the server.



To uninstall the current application version:

1. Select the Version/Deployment node from the Operations branch.
2. Click Uninstall.

   After receiving the confirmation message, you can install a new version of the application.

Database Management

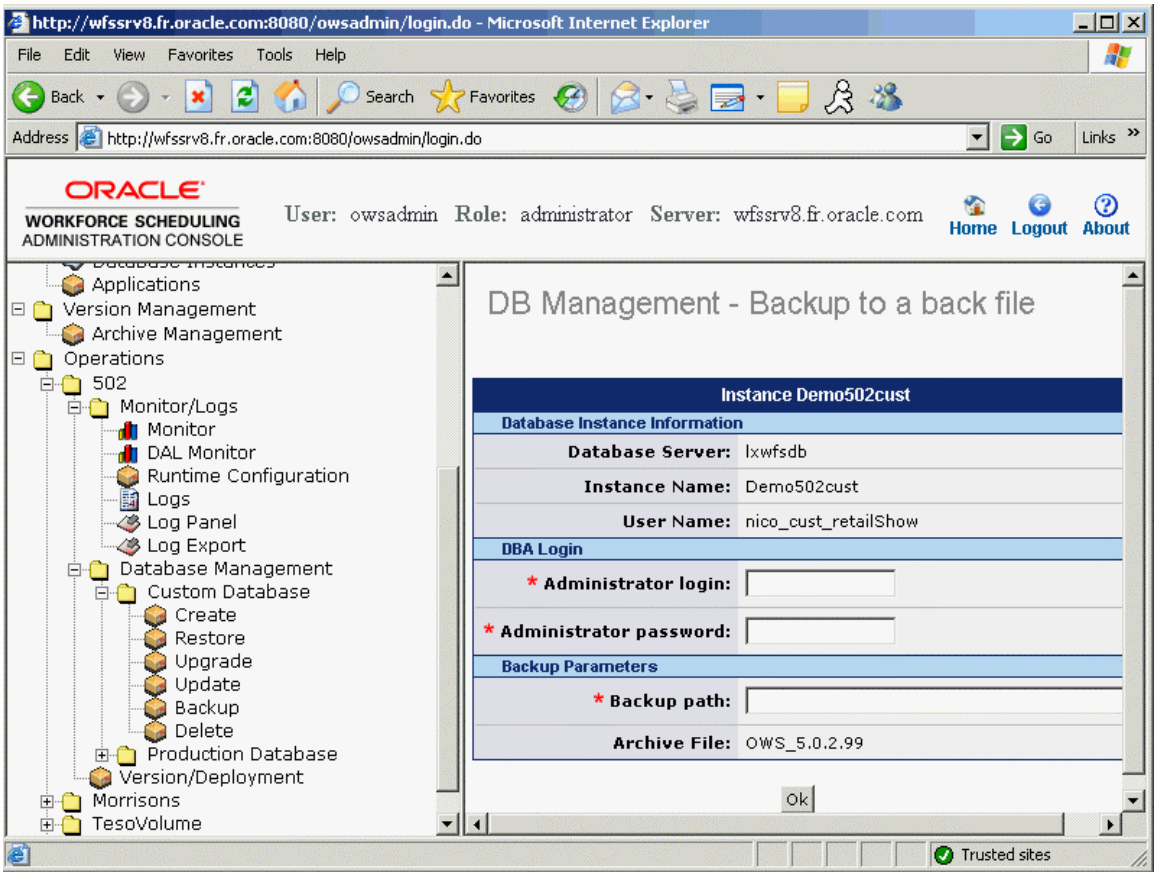
Database Backup

Using the administrator's login, you can backup the database instance to the same server (the machine hosting the OWS Admin tool).

To backup the OWS database:

1. Select the Database Management node from the Operations branch.
2. Select the Backup node from the Database Management node.

   The DB Management – Backup to a Backup File window appears with the database server, instance name, and user name information.



3. Enter your Administrator's login and password.
4. Enter the path for the backup file.

   Specify a path on the local machine hosting the OWS Admin tool.
5. Select an archive file.

   OWS Admin lists the archive file deployed, or if you have not yet deployed the application, it displays a list of archive files.
6. Click OK.

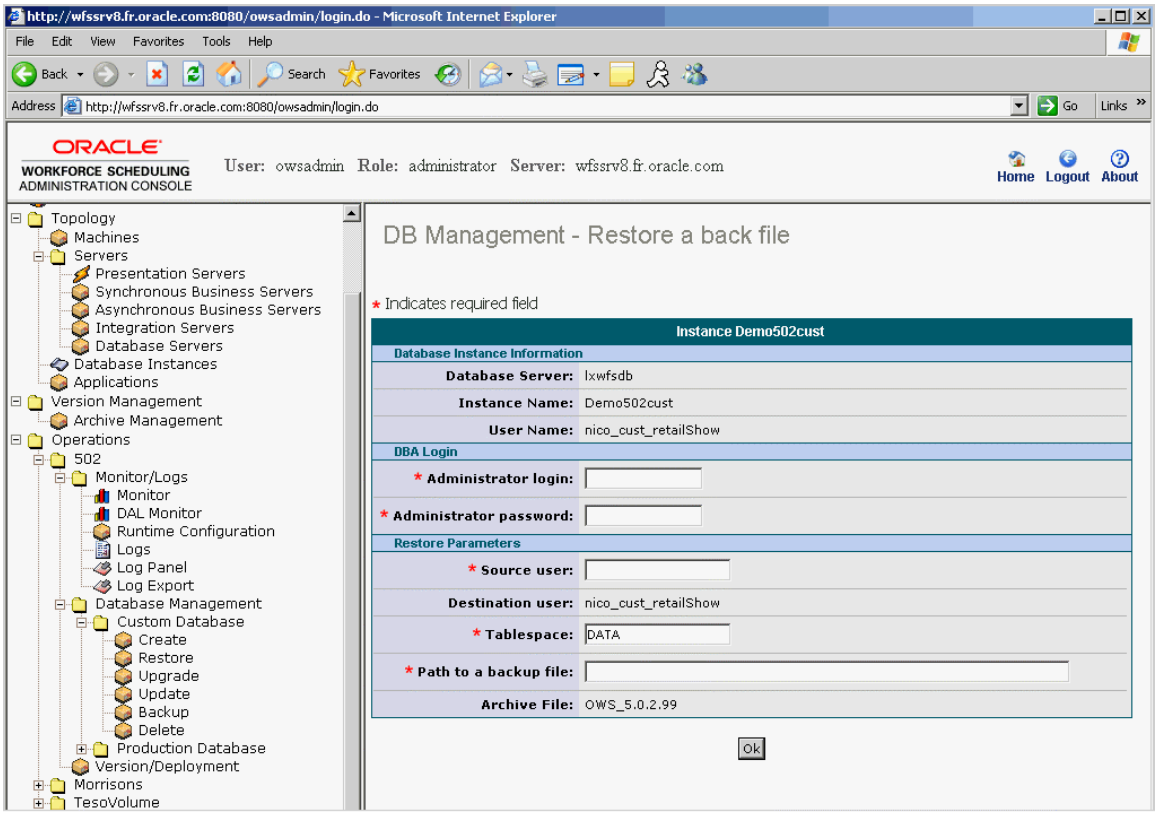
Database Restore

If you encounter a situation where you must restore the OWS database, you can easily recover it.

To restore the OWS database:

1. Select the Database Management node from the Operations branch.
2. Select the Restore node.

   The DB Management – Restore a Backup File form appears.



3. Enter your Administrator's login and password.
4. In the Restore Parameters, enter the:
    - Source User: your user name when you created the dump file from the schema
    - Destination user: the application enters the user name
      When you define the database instance, you assign a name and user name that you then use later to restore a dump file from the schema
    - Table space: OWS Admin enters a default of DATA for the location where you store the schema that you can change based on information supplied by your database administrator
5. Specify the location of the backup file by entering the entire path, including the file name. The backup path you specify is local to the database server (the actual physical machine hosting OWS Admin).

   The supplied backup path is the 'restore path'.
6. Select an archive file.

   OWS Admin lists the archive file deployed, or if you have not yet deployed the application, it displays a list of archive files.
7. Click Ok.

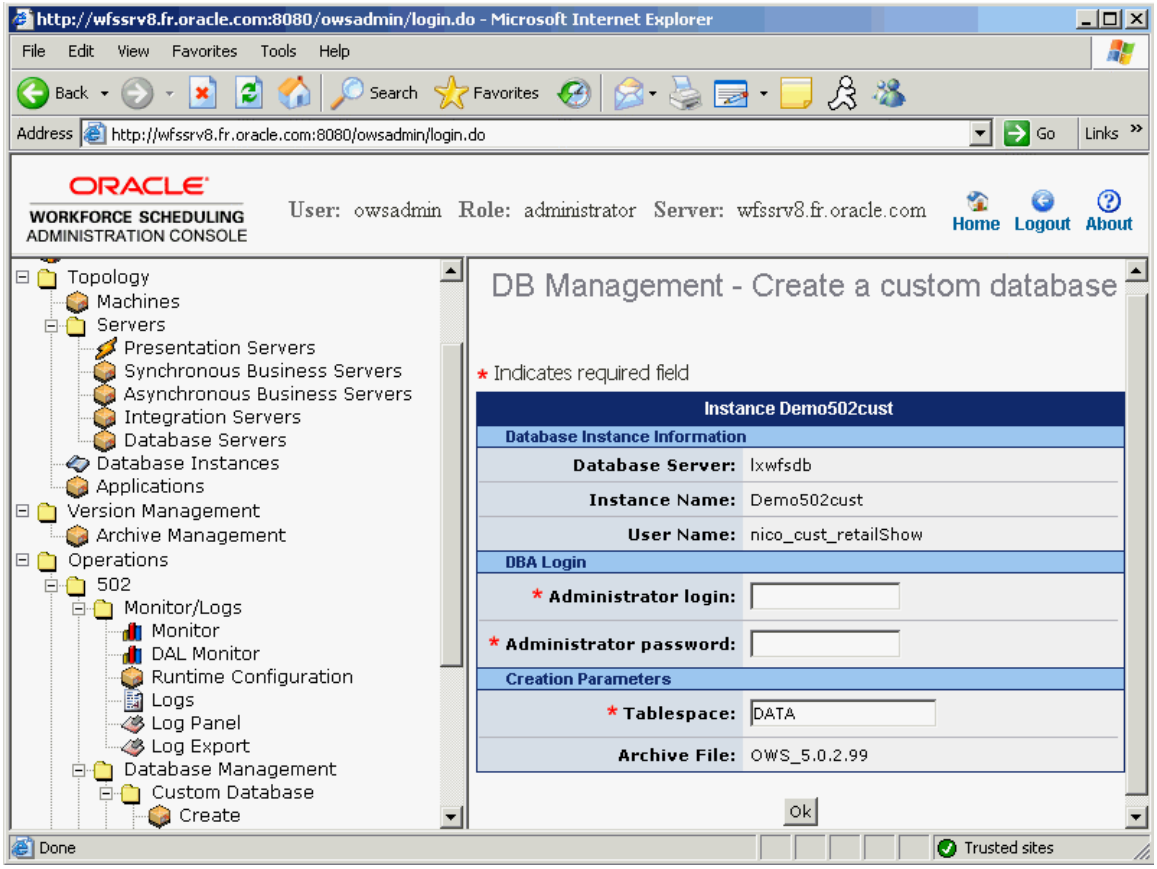
Custom Database Create

Before you set up a configuration, you must create a custom OWS database.

To create a custom OWS database:

1. Select the Database Management node from the Operations branch.
2. Select the Create node.

   The DB Management – Create a custom database form appears.



3. Enter your Administrator's login and password.
4. In the Creation Parameters, enter the Table Space.

   OWS Admin enters a default of DATA for the location where you store the schema that you can change based on information supplied by your database administrator.
5. OWS Admin lists the archive file deployed.
6. Click OK.

   You see a message confirming that the custom database is successfully created.

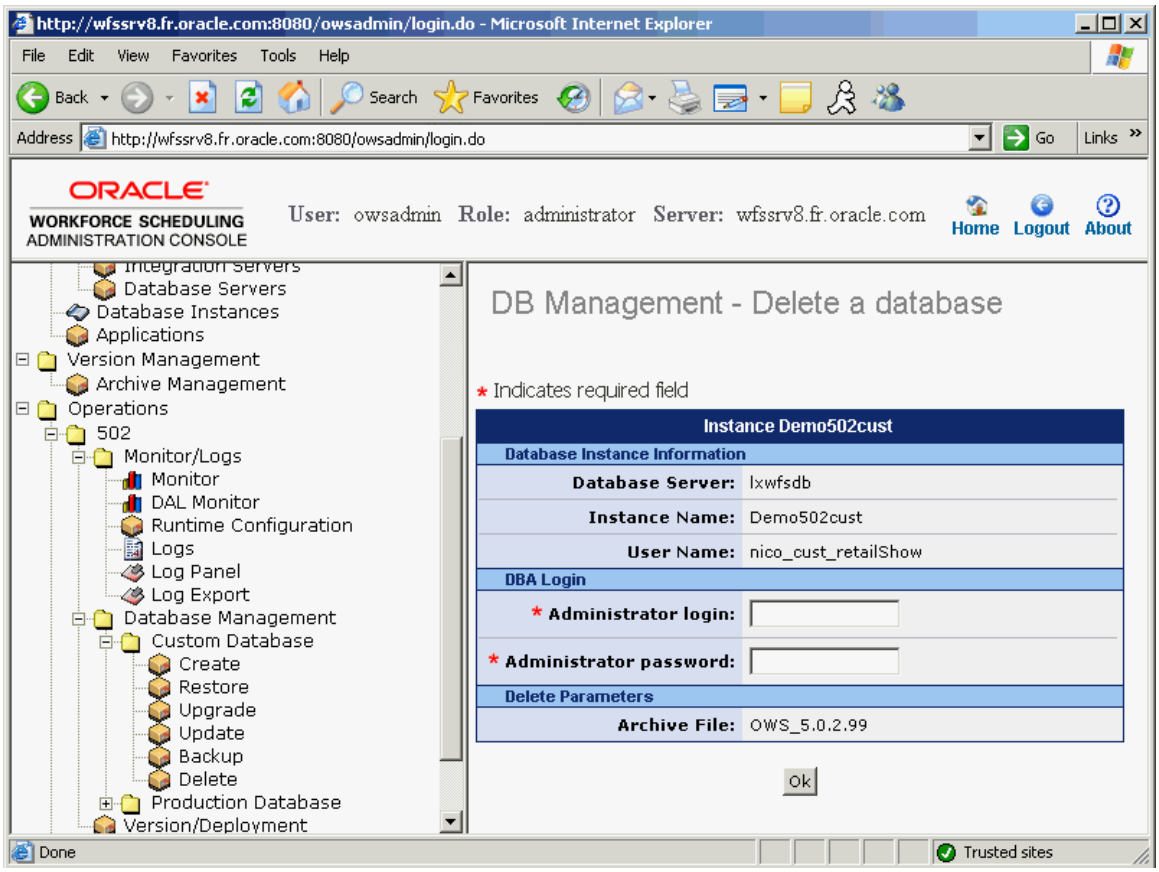
Database Delete

If you have decided that you want to redo your configuration, you may want to delete the production database and create a new one.

To delete an OWS database:

1. Select the Database Management node from the Operations branch.
2. Select the Delete node.

   The DB Management – Delete a database form appears.



3. Enter your Administrator Login and Administrator Password.
4. In the Delete Parameters, select an archive file.

   OWS Admin lists the archive file deployed, or if you have not yet deployed the application, it displays a list of archive files.
5. Click OK.

   You see a message confirming that the custom database is successfully deleted.

Database Upgrade, Configuration, Customization

In managing the database, you periodically *upgrade* it to deploy a new version, *update the configuration* to push the configured objects stored in the customization database to the production database, and *update the customization* to selectively update specific objects in the production database.

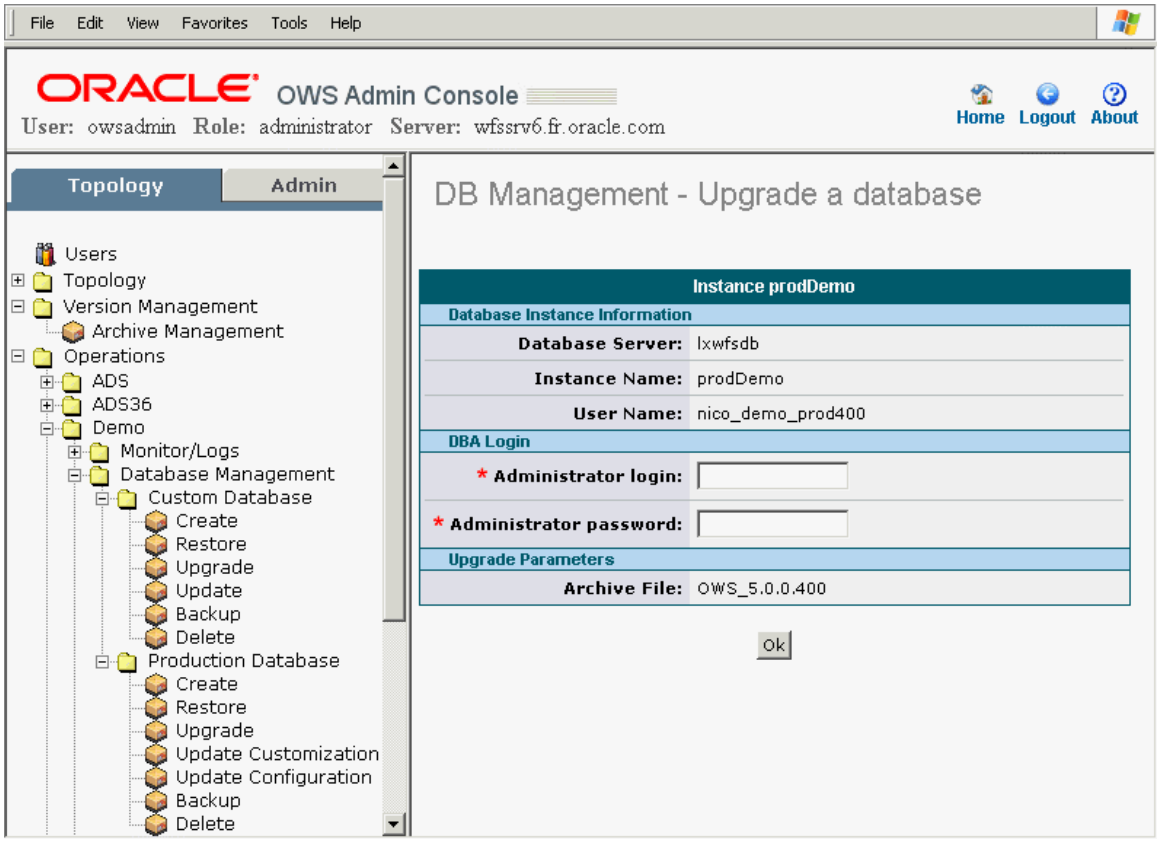
Database Upgrade

When you receive an upgrade for the OWS application, you can easily deploy the newest version.

To upgrade an OWS database:

1. Select the Database Management node from the Operations branch.
2. Select the Upgrade node.

   The DB Management – Upgrade a database form appears.



3. Enter your Administrator's login and password.
4. In the Upgrade Parameters, select an archive file.

   OWS Admin lists the archive file deployed, or if you have not yet deployed the application, it displays a list of archive files.
5. Click Ok.

Update Database Configuration

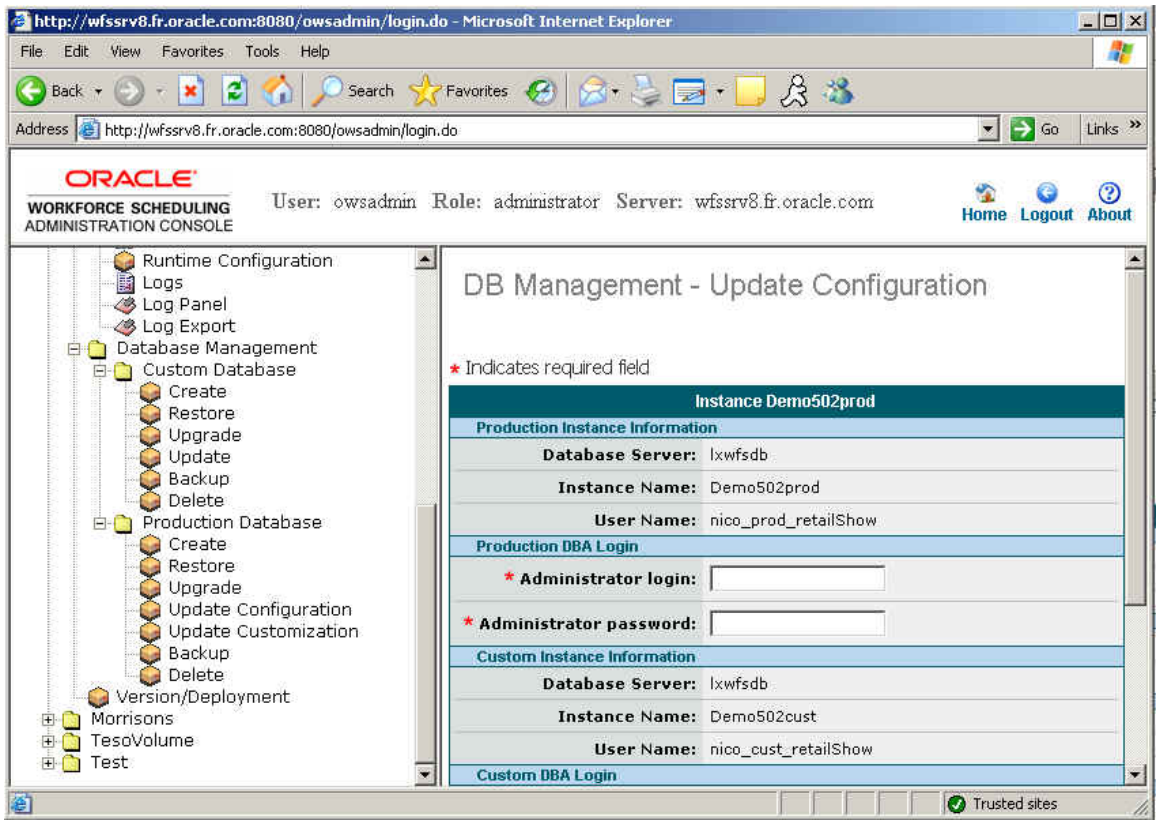
After you complete the configuration of your custom database, you can update the production database by moving the configuration objects from your custom to production instance.

The process of upgrading usually adds new tables and relationships between tables. For example, upgrading the production instance might add a new table to store human relations data.

To update your database configuration:

1. Select the Database Management node from the Operations branch.
2. Select the Update Configuration node.

   The DB Management – Update Configuration form appears.



3. In the Production DBA login, enter your Administrator's login and password.
4. In the Custom DBA login, enter your Administrator's login and password.
5. In the Update Configuration Parameters, select an archive file.

   OWS Admin lists the archive file deployed, or if you have not yet deployed the application, it displays a list of archive files.
6. Click OK.

   You see a message confirming that you have successfully updated your configuration.

Update Customization

You update the customization to selectively update specific objects. For example, if you want to add a new activity such as storing products to the stores, you can update the customization to add this new activity so that all the stores include it.

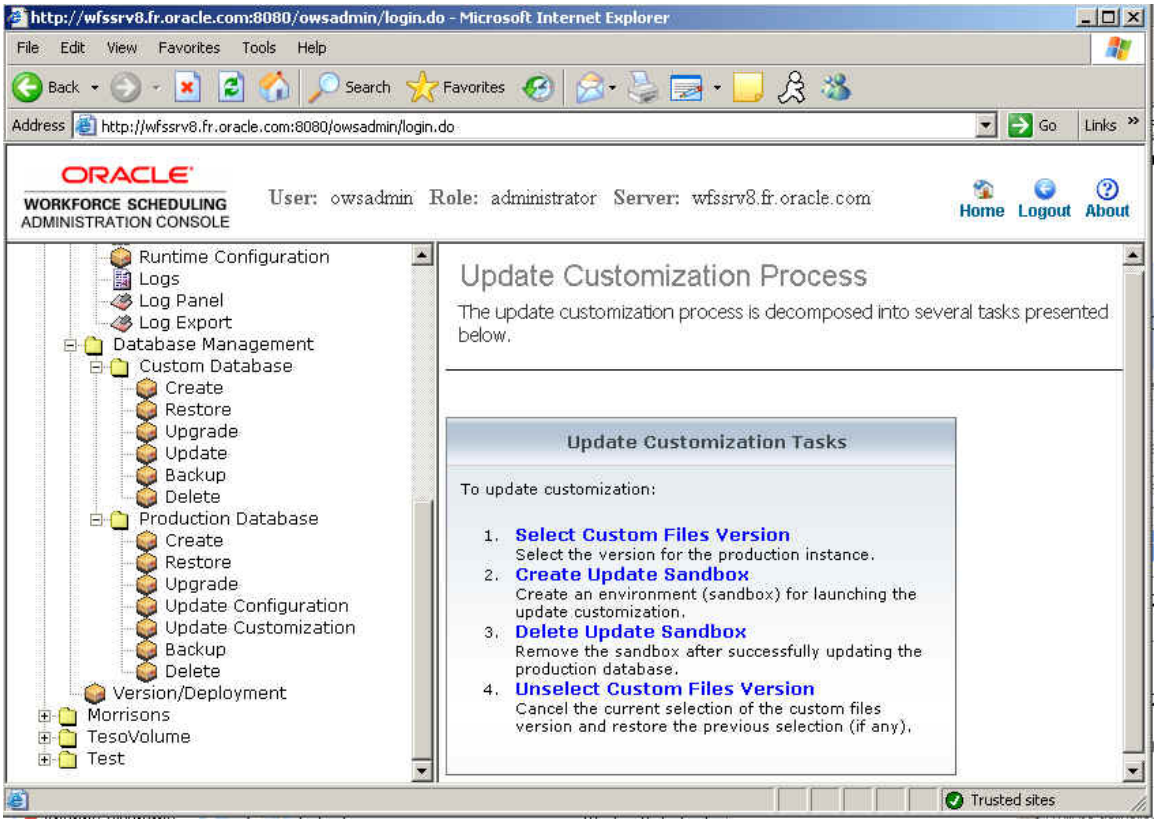
Before you update the customization:

- Back up the database (Refer to Database Backup)
- Uninstall the deployed version (Refer to Managing OWS Application Versions in the Repository)
- Update the configuration (Refer to Update Configuration)
- Update the customization

To update your customization:

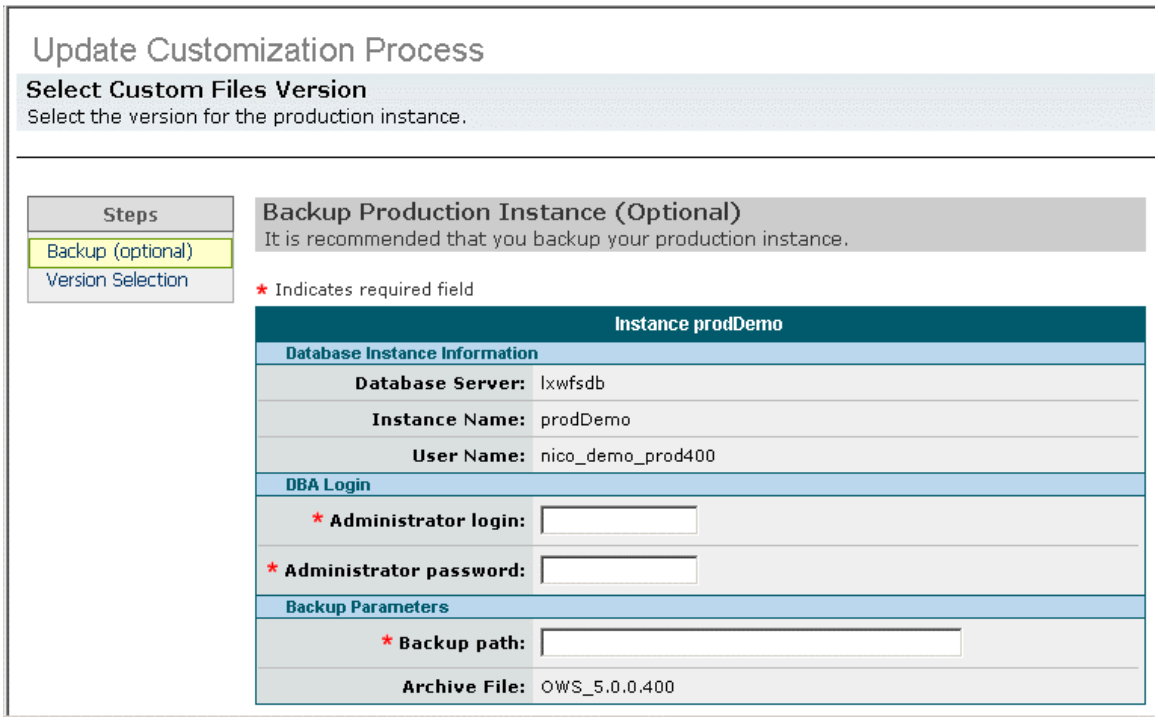
1. Select the Database Management node from the Operations branch.
2. Select the Update Customization node.

   The Update Customization Process window lists the three tasks you perform to complete the customization.

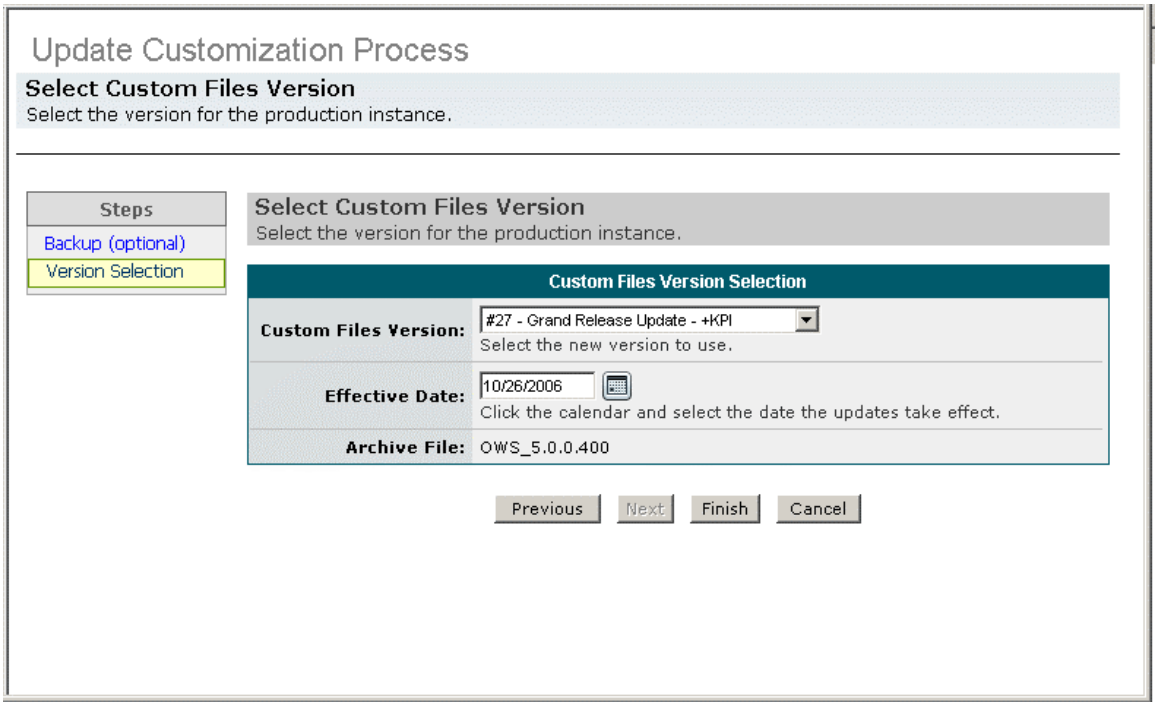


3. Click Select Custom Files Version to display a window where you can back up your current production instance.

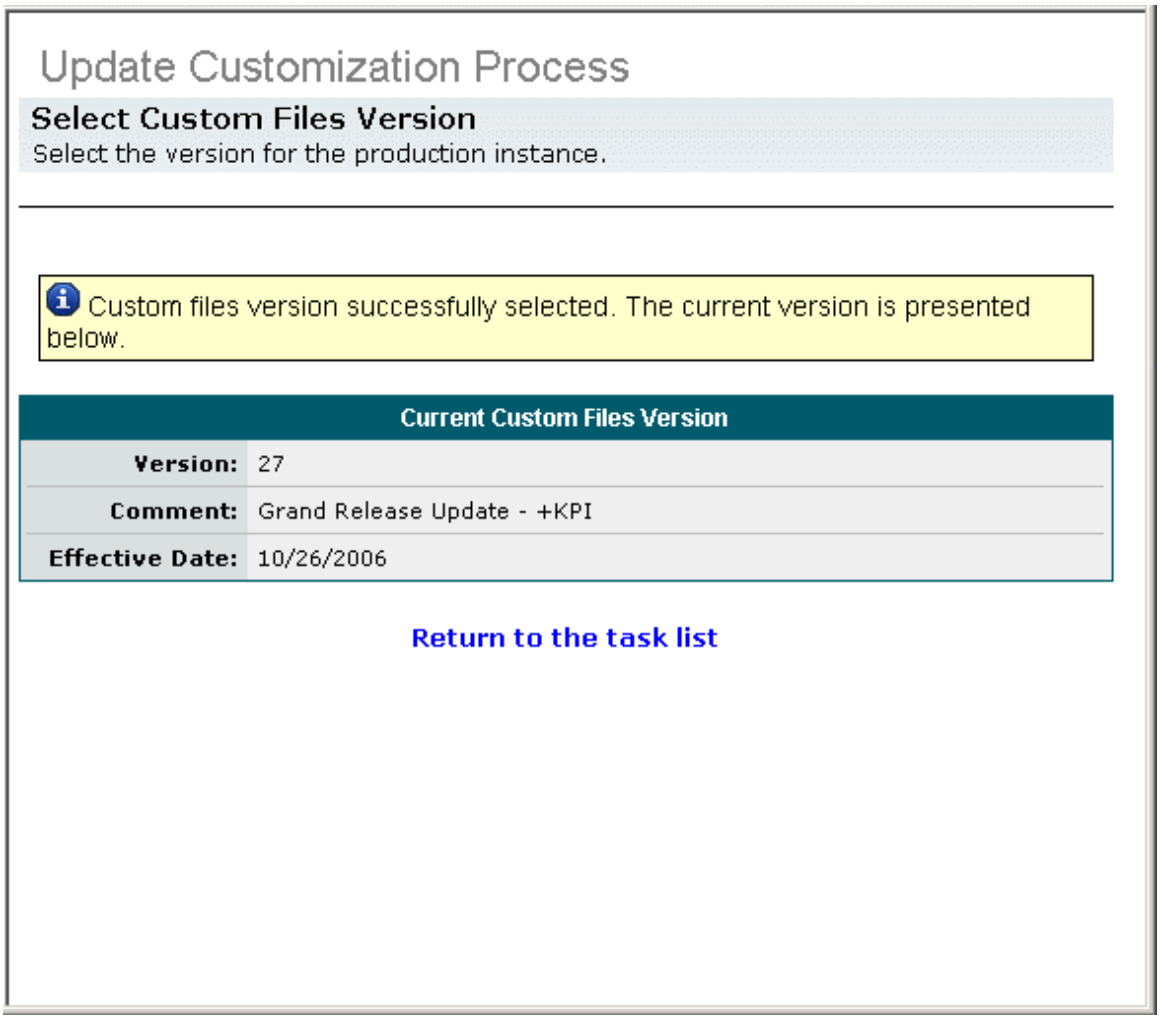
   If you have already backed up the database, you can click Skip to proceed to the next step.



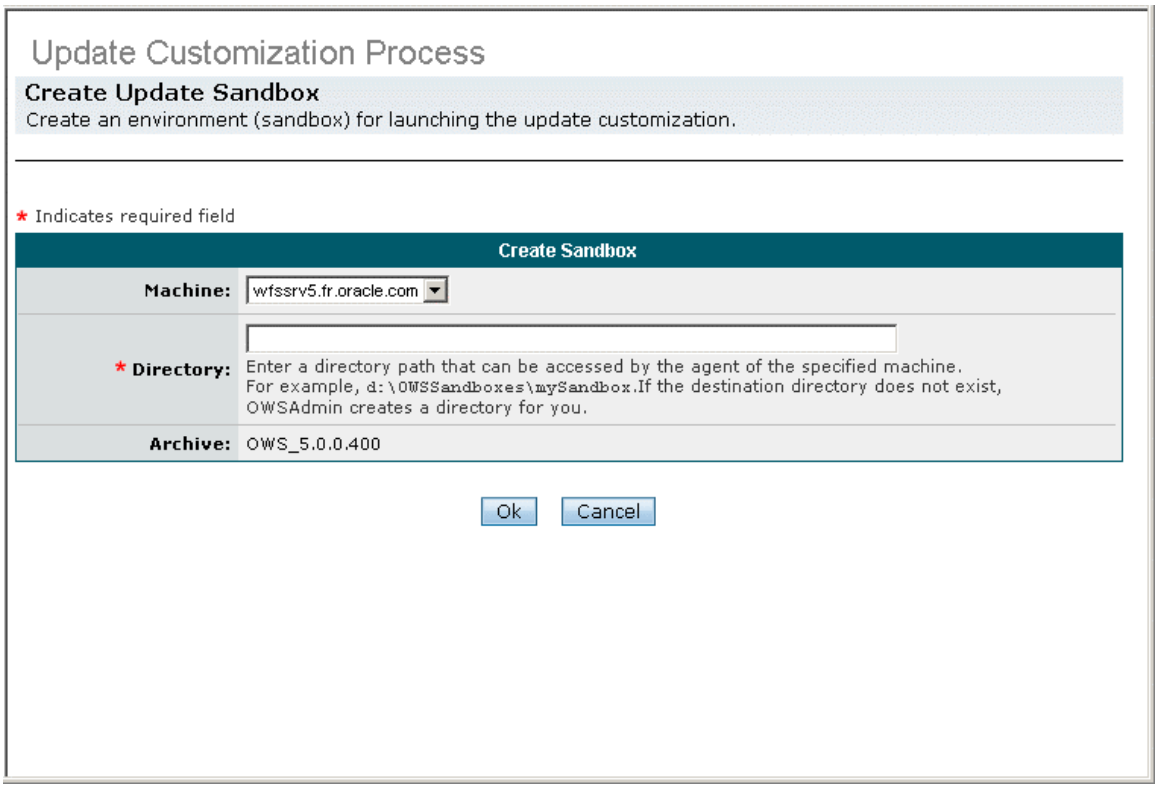
4. Enter your log in name and password.
5. Enter the destination path for the backup on the server and click Next.
6. In the Select Custom Files Version window, enter the following information:



7. Select the file that you want to move from the custom to the production environment, such as an updated forecast configuration
8. Click the calendar icon and select the date on which that new file takes effect.
9. Click Finish to select the version.



10. Click Return to Task List to proceed with the customization.
11. Click Step 2 Create Update Sandbox.
12. In the Machine field, select the server that will host the sandbox (the directory) and run the process locally.

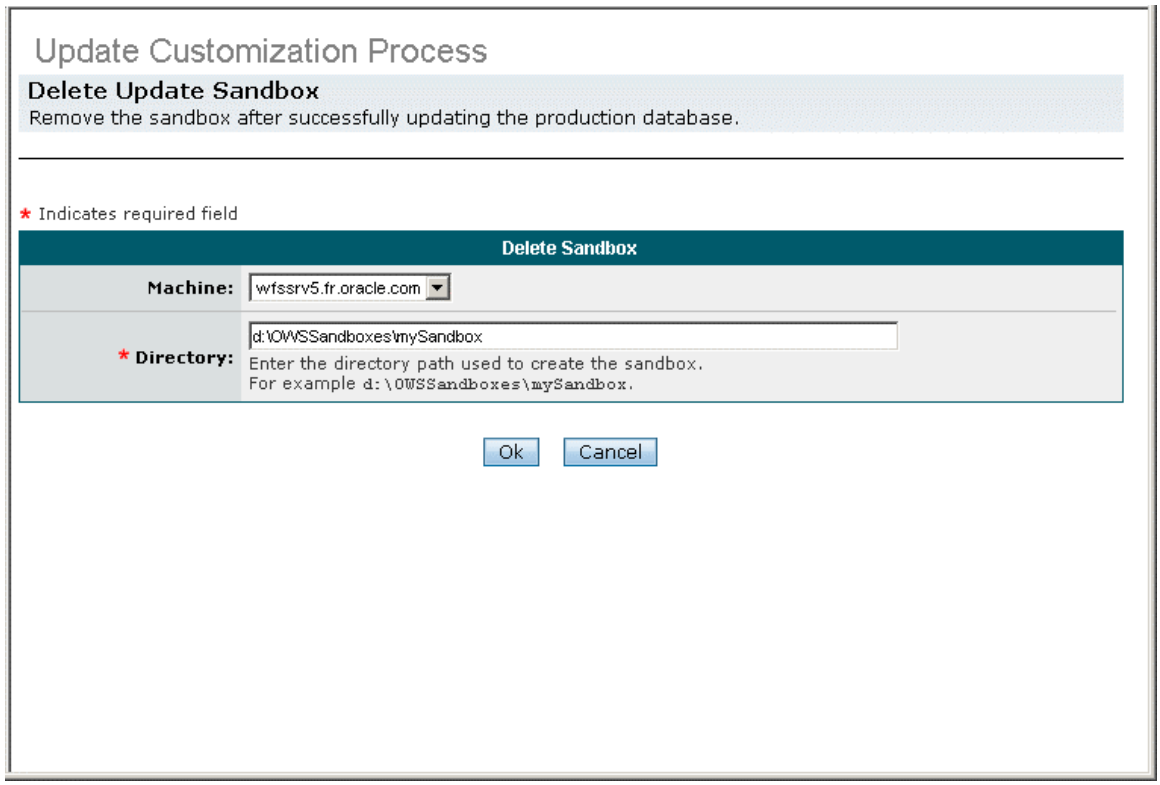


13. Specify a directory on a dedicated machine and click Ok to create the environment to run the process in the sandbox in batch mode.

    A window appears that confirms the successful creation of the sandbox and provides instructions for running the customization operation on the dedicated machine.
14. Validate the results of the update process.

    After you validate the results, you can remove the sandbox.
15. Click Return to Task List and click the Delete Update Sandbox step.

    The Delete Update Sandbox window appears where you can remove the existing sandbox directory and its contents.



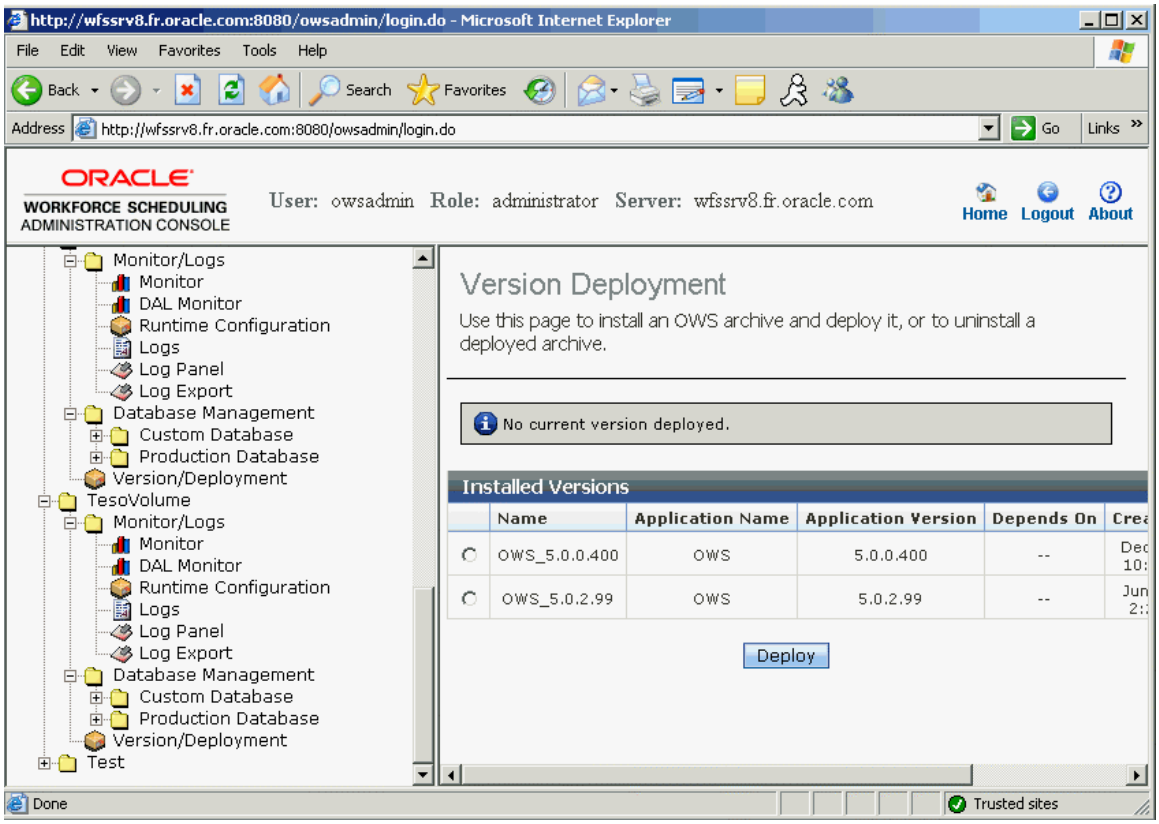
16. Select the machine on which you created the sandbox. Enter the directory on that machine where you placed the sandbox.

17. Click Ok to delete the existing directory and its contents.

    A window appears with a message confirming that the sandbox has been deleted.

18. Redeploy the application:

    - Navigate to the Operations Version/Deployment window.
    - Select the application you are redeploying.
    - Click the Deploy button.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Runtime Configuration
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Production Database
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Monitor
DAL Monitor
Runtime Configuration
Logs
Log Panel
Log Export
Database Management
Custom Database
Production Database
Version/Deployment
Test
Version Deployment
Use this page to install an OWS archive and deploy it, or to uninstall a deployed archive.
No current version deployed.
Installed Versions
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Application Name
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OWS_5.0.2.99
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Deploy
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Trusted sites