Oracle® Insurance Claims Adjudication for Health

Installation Guide

Version: 1.4.0.0.0
Part number: E26164-01
October 26, 2011

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Table of Contents

Preface

This document describes the installation information for the Oracle Insurance Claims Adjudication for Health application.

AUDIENCE

This document is intended for database managers and system managers and others responsible for the installation of Oracle products.

TYPOGRAPHIC CONVENTIONS

The following conventions are used in this document

Note Note layout is used to draw the readers attention to additional information on the topic.

Warning Warning layout is used to warn the reader that not handling correctly the instructions that are listed may cause errors in the (installation of) software or data.

```
Monospace formatted text is used to display OS commands, shell scripts,
SQL queries, etc.
```

COMMAND SYNTAX

Command syntax is represented in font monospace.

The following conventions apply to command syntax:

```
monospace formatted
```

Monospace type indicates OS commands, directory names, user names, path names, and file names.

brackets [ ]
Words enclosed by brackets indicate keys (e.g., Key [Return]).

Note Brackets have a different meaning when used in command syntax.

italics
Italics indicates a variable, including variable parts of the file names. It is also used for emphasizing.

UPPERCASE

Uppercase letters indicate Structured Query Language (SQL) reserved words, initialization parameters and environment variables.

backslash \
Each backslash indicates a command that is too long to fit on one line:
dd if=/dev/rdsk/c0t1d0s6 of=/dev/rst0 bs=10b \
count=10000

braces { }
Braces indicate mandatory items: .DEFINE {macro1}

brackets [ ]
Brackets indicate optional items: cvtcrt *termname* [*outfil*e]

Note Brackets have a different meaning when used in ordinary text.

ellipses ...
Ellipses indicate a random number of similar items:
CHKVAL fieldname *value1 value2* ... *valueN*

italics
Italics indicates a variable. Replace the variable by value:

library_name

vertical bar |
The vertical bar allows choosing either braces or brackets:

SIZE *filesize* [K|M]

PRODUCT NAME

'OHI Claims' and 'OHI Claims Adjudication' are used in this document as an alias for the product name Oracle Insurance Claims Adjudication for Health.

RELATED DOCUMENTATION

For more documentation on Oracle products, see Oracle technetwork[1].

[1] http://www.oracle.com/technetwork/indexes/documentation/index.html

Chapter 1

Introduction

Disclaimer:
This document is intended to outline our general product direction. It is intended for information purposes only, and may not be incorporated into any contract. It is not a commitment to deliver any material, code, or functionality, and should not be relied upon in making purchasing decisions. The development, release, and timing of any features or functionality described for Oracle’s products remains at the sole discretion of Oracle.

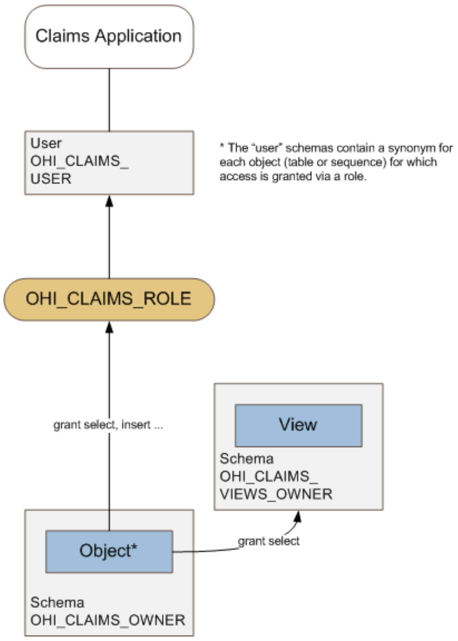
CONCEPTS

APPLICATION MODULARITY

The Oracle Health Insurance suite (OHI) is composed of several applications. In order to ensure full compatibility between these applications, they share a common base. The applications you have licensed are installed and upgraded together; each application has the same version number.

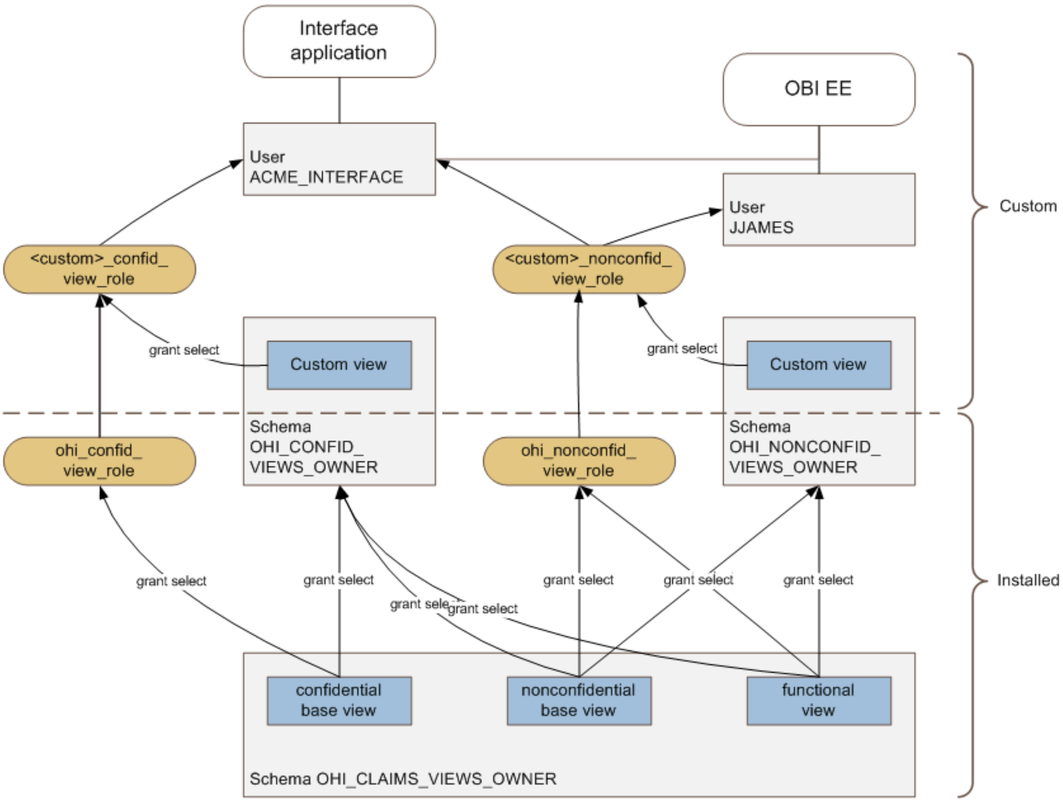
DATABASE USERS AND ROLES

In order to support the modularity, each application has a separate database schema. The following diagram shows the schemas and their relationships:



* The "user" schemas contain a synonym for each object (table or sequence) for which access is granted via a role.

The diagram below shows how the operational reporting views and the corresponding roles are defined, and how the roles can be assigned for specific purposes:



ENABLING REPLICATION OF SETUP DATA

During the lifecycle of the application, there is a regular need to transport seed data or setup data from one environment to another using the Configuration Migration tool. This data is identified by an ID, a numeric field.

In order to prevent clashes between data created in one environment and existing data in the target environment, it is a prerequisite to ensure that a generated ID is unique across environments. The mechanism used for this purpose is to have the last digit of an ID indicate the source of the row. We recommend the following convention:

Source environment	**Description**	**Discriminator Digit**	**Examples**
OHI Factory	This is the environment at Oracle where the seed data is maintained. The seed data delivered by Oracle always has an ID ending on a zero.	0	17650 17660
Setup	The environment in which you maintain your setup and configuration. This environment should not contain test data.	1	6341 6351
Production	The production environment.	2	3452 3462
Test	The environment in which you test the setup. Setup changes made in the Setup environment are transferred to this environment for testing.	3	165423 165433

Plan the environments and assign unique discriminator values for each environment.

DIRECTORY STRUCTURE RELEASE

OVERVIEW OF THE DIRECTORY STRUCTURE

The distribution contains a number of directories that contain all the necessary information and sources to perform the install. The root directory is the directory where you decide to host the released files. It can be any location or name of your choosing and will be referenced throughout this document as <OHI_ROOT>.

For the database installation it is required to have this directory structure available on a windows based machine running Oracle database client software. For the Application server installation, the required installation / configuration files can be made available by copying them to a location on the server or sharing them from their original location.

Chapter 2

Initial installation requirements

This chapter lists specific instructions for installation of the Oracle software components that are required to run the OHI Claims Adjuducation application.

See the Certification Guide for specific versions of operating systems and Oracle software that the OHI Claims Adjudication application is certified to work with.

Note All OHI Claims Adjudication releases contain the *complete* application. The only difference between installing OHI Claims Adjudication for the *first time* and *upgrading* it to a new release, is thus the *pre-installation activities* (which only need to be executed when installing OHI Claims Adjudication for the *first* time).

When the pre-installation requirements are met, continue with chapter *Installation*.

INSTALL AND CONFIGURE AN OHI DATABASE

INSTALL ORACLE DATABASE SOFTWARE

First install Oracle Database software required for Oracle Insurance Claims Adjudication for Health (OHI Claims); for specific certification details see OHI Claims Certification Guide.

Set up Real Application Clusters

Set up RAC when required.

CREATE OHI CLAIMS DATABASE

Now create the OHI Claims database. For this activity, following requirements and restrictions apply.

Character Set

The character set of the database must be AL32UTF8.

Block size

For OHI Claims, use an 8K block size.

Tablespaces

Make sure the following tablespaces exist:

- OHI_CLAIMS_TAB

- OHI_CLAIMS_IDX

All tablespaces must be created 11gR2 default style (locally managed, system/uniform managed extent allocation, Automatic Segment Space Management).

Temporary tablespace

A default temporary tablespace TEMP (this name is mandatory) should be created.

Undo

Automatic undo must be used.

Parameters

- OPTIMIZER_MODE = FIRST_ROWS_10
- NLS_LENGTH_SEMANTICS = CHAR
- STATISTICS_LEVEL=TYPICAL

Note Unless specified otherwise, keep all optimizer parameters (gv$sys_optimizer_env) default.

Required privileges

OHI Claims uses queues in the Oracle database. The owner of the queue objects, the base owner schema, requires execute privileges on the SYS.DBMS_AQIN package.

For installing OHI Claims database artifacts the SYSTEM account is used. In this process also database grants are given by the system database user. To be able to do that, SYSTEM user needs GRANT ANY OBJECT PRIVILEGE (without grant option).

Functional reporting views are based on access restrictions, that use a Context to determine the user. This context needs to be created as user sys.

Thus, following commands should be executed as SYS:

```
connect sys as sysdba
GRANT EXECUTE ON sys.dbms_aqin TO system WITH GRANT OPTION;
GRANT GRANT ANY OBJECT PRIVILEGE TO system;
create context FUN_USER_CONTEXT using OHI_CLAIMS_OWNER.FUN_CONTEXT_PKG;
```

Creating additional schemas in the database

Oracle recommends that the Oracle database instance that is used by OHI Claims is used solely for the purpose of running the OHI Claims system.

Warning In the case that additional database schemas are created in the Oracle database instance, make sure that these are not prefixed with *OHI.*

Set up Total Recall (optional)

The Total Recall Option of Oracle Server (also known as Flashback Archiving) is used to log changes to setup tables. Configuring which table to archive and how is considered a responsibility of the database administrator.
In order to use Flashback Archiving the following settings need to be made:

- The user that will be used to switch archiving on tables on and off should be granted the "FLASHBACK ARCHIVE ADMINISTER" privilege (grant FLASHBACK ARCHIVE ADMINISTER to <user>)
- This user should be granted "ALTER TABLE" rights on the tables that need to be archived (or stopped being archived).
- It is advisable to create a separate tablespace for the Flashback Archive.
- Create a Flashback Archive, for example:

```
CREATE FLASHBACK ARCHIVE [DEFAULT] fda1 TABLESPACE tbs1 QUOTA 10G
RETENTION 5 YEAR;
```

INSTALL AND CONFIGURE ORACLE FUSION MIDDLEWARE

OHI Claims runs on an Oracle Fusion Middleware Application Server. This may also be referred to as Oracle WebLogic Server. When running on more than one node, the application servers should be configured as a cluster.

This guide assumes experience with setting up Oracle WebLogic Server. For details regarding the installation process please consult the product documentation.

The Certification Guide specifies the required version of the Oracle WebLogic Server software that must be installed. It also describes how the software can be obtained and how the documentation can be accessed.

This chapter outlines the installation of the Oracle WebLogic Server software. Subsequently, the setup of a domain is explained for the following situations:

- A simple, non-clustered environment that is suitable for development and testing purposes. The description of this configuration also demonstrates how Oracle ADF runtime libraries are added to a WebLogic Server domain.
- An advanced, clustered setup that is typically used in production deployments and that is executed on multiple nodes.

INSTALLING ORACLE WEBLOGIC SERVER

The following steps describe how to install Oracle WebLogic Server.

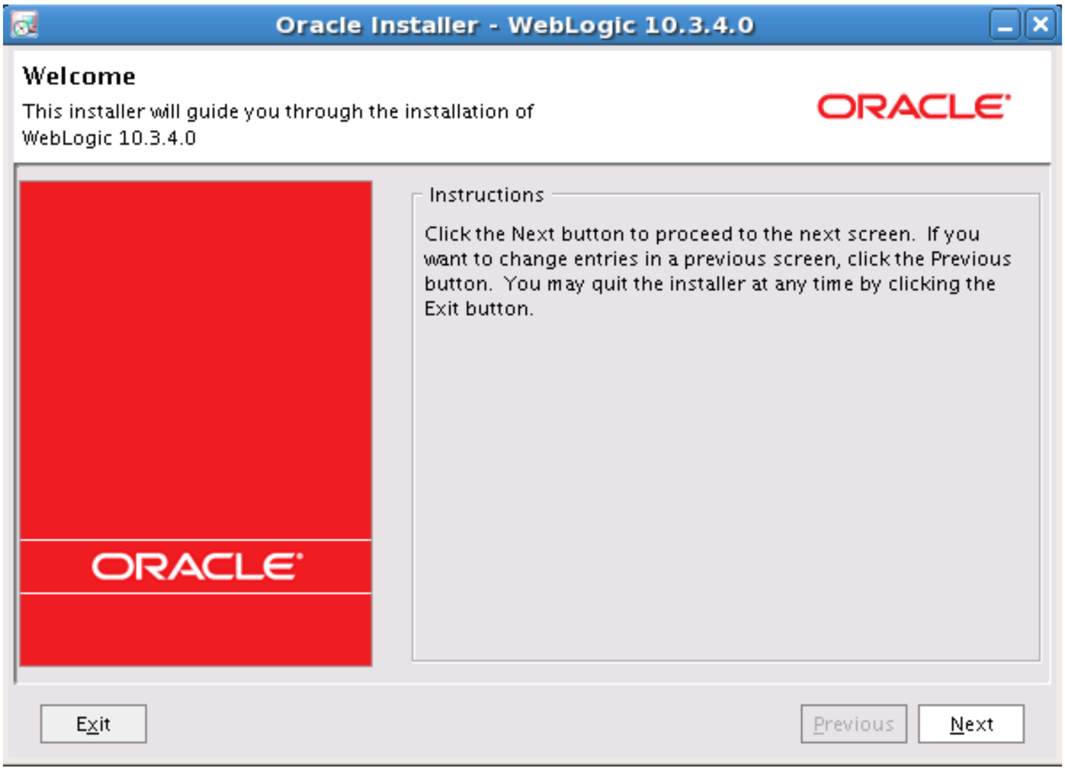
Step 1: Download **Oracle WebLogic Server 11gR1 (10.3.4) Generic and Coherence** (***Part Number: V24338-01***) from edelivery.oracle.com

Step 2: Unizp **V24338-01.zip** into a temporary folder

Step 3: Navigate to that folder and run the installer by entering the following command in command line: **java -jar wls1034_generic.jar**

NoteJAVA_HOME should be set before running the installer

Step 4: In the **Welcome** screen click on **Next** button



Oracle Installer - WebLogic 10.3.4.0

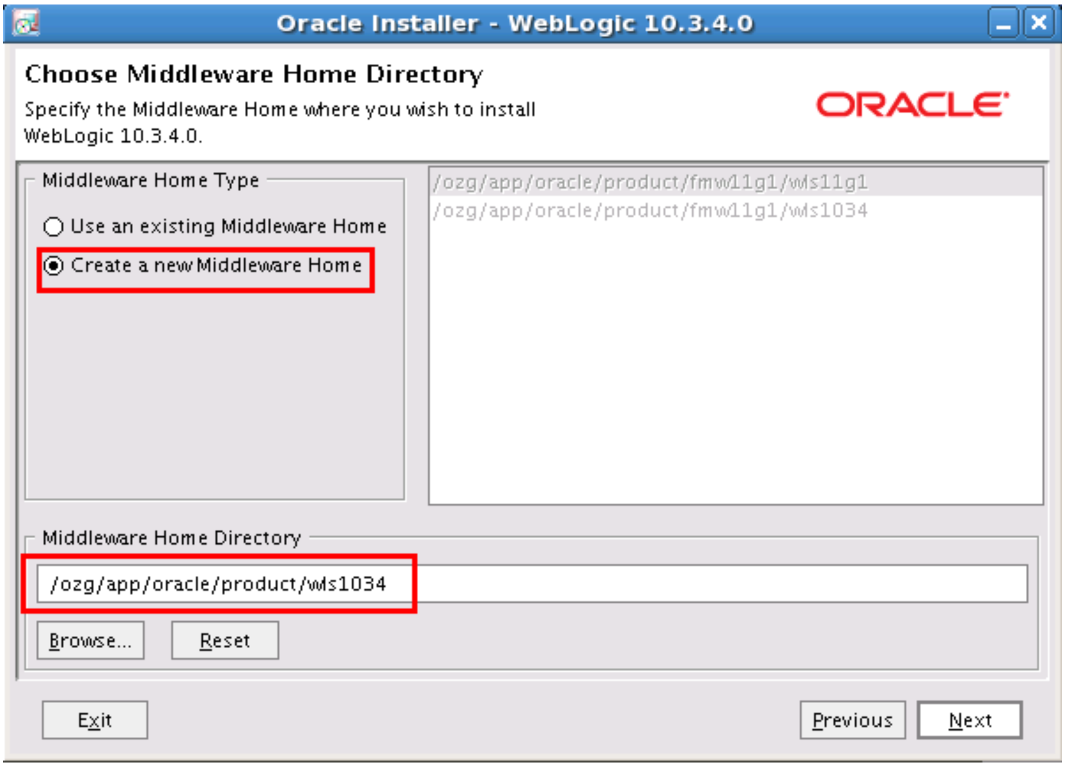
Welcome

This installer will guide you through the installation of WebLogic 10.3.4.0

Instructions

Click the Next button to proceed to the next screen. If you want to change entries in a previous screen, click the Previous button. You may quit the installer at any time by clicking the Exit button.

Step 5: In the **Choose Middleware Home Directory** page, select the option **Create a new Middleware Home** and enter the path in **Middleware Home Directory**. Click on **Next** button



Oracle Installer - WebLogic 10.3.4.0

Choose Middleware Home Directory

Specify the Middleware Home where you wish to install WebLogic 10.3.4.0.

Middleware Home Type

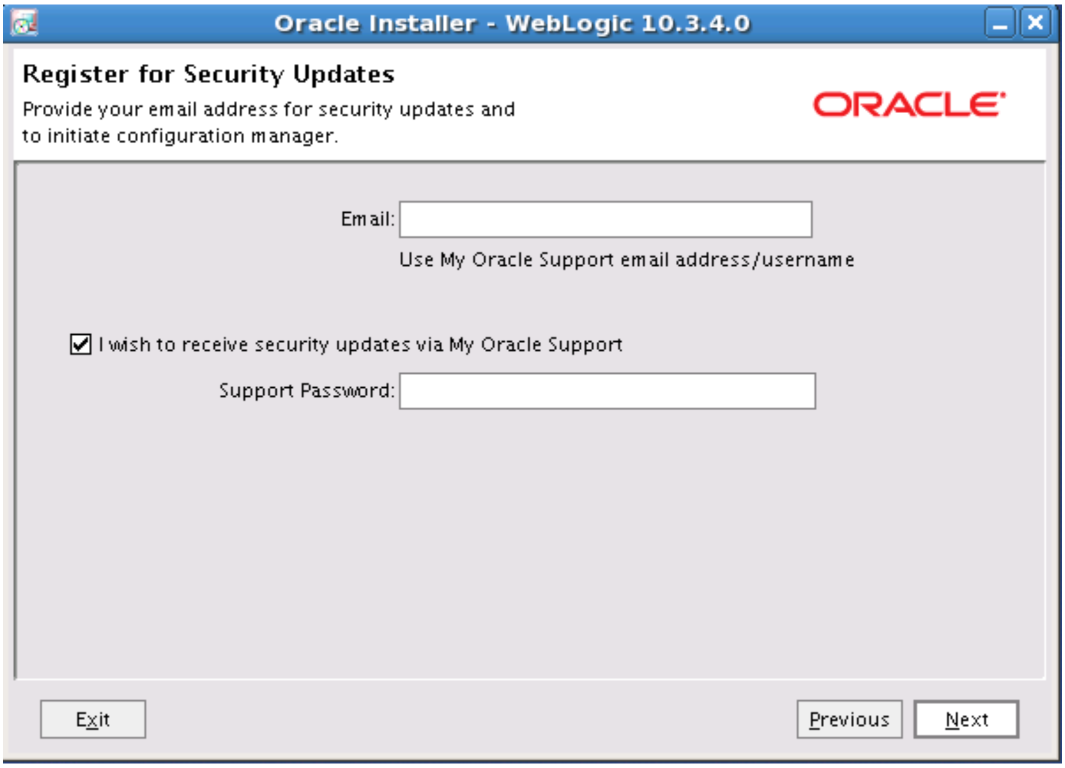
○ Use an existing Middleware Home

● Create a new Middleware Home

/ozg/app/oracle/product/fmw11g1/wls11g1
/ozg/app/oracle/product/fmw11g1/wls1034

Middleware Home Directory: /ozg/app/oracle/product/wls1034

Step 6: In the **Register for Security Updates** page, enter your My Oracle Support Email address and Support Password (optionally, this can be skipped). Click on **Next** button



Oracle Installer - WebLogic 10.3.4.0

Register for Security Updates

Provide your email address for security updates and to initiate configuration manager.

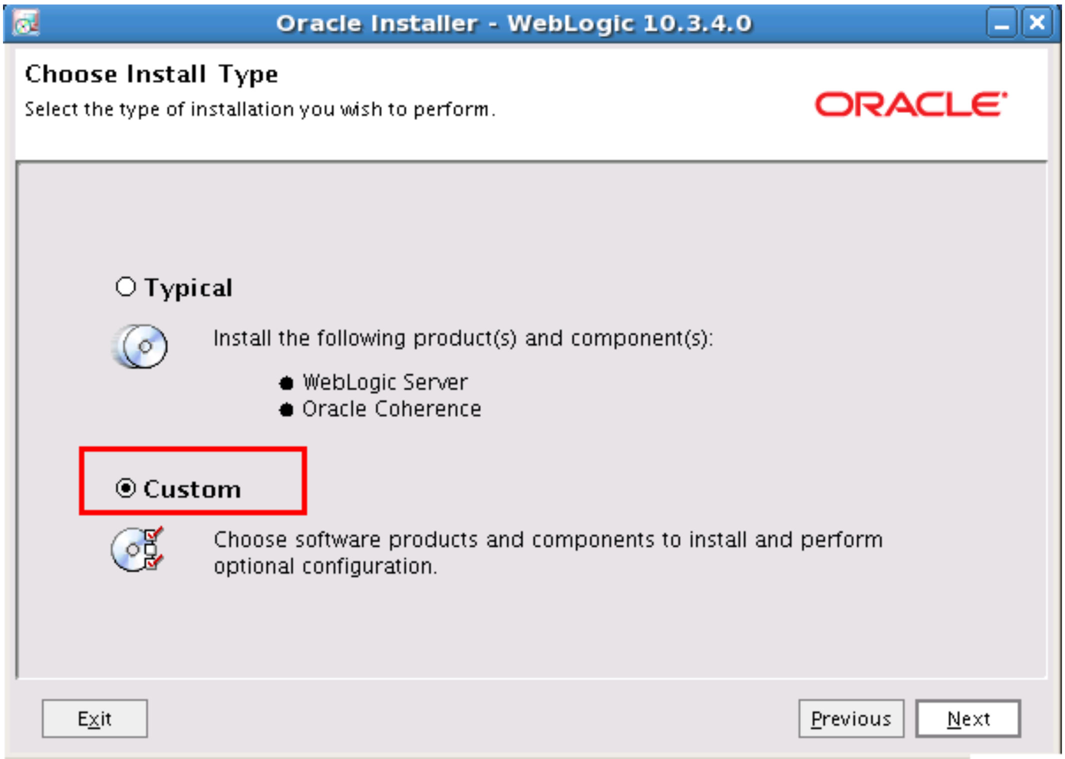
Email:

Use My Oracle Support email address/username

☑ I wish to receive security updates via My Oracle Support

Support Password:

Step 7: In the **Choose Install Type** page, select the option **Custom.** Click on **Next** button



Oracle Installer - WebLogic 10.3.4.0

Choose Install Type

Select the type of installation you wish to perform.

○ Typical

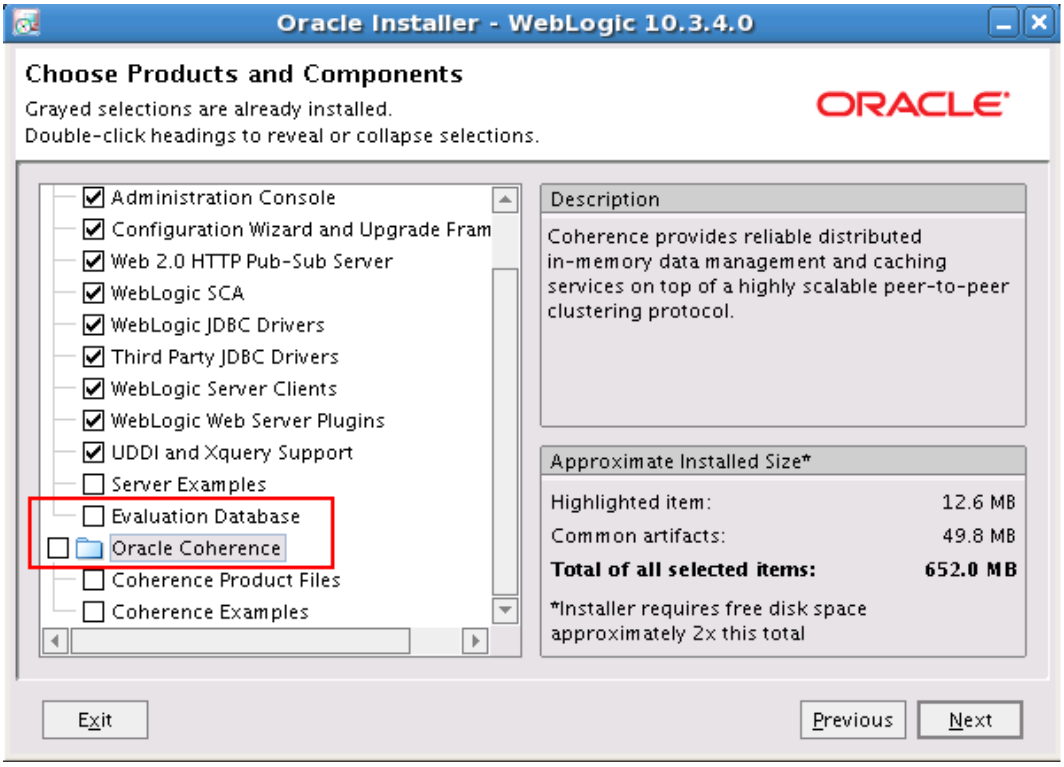
Install the following product(s) and component(s):

- WebLogic Server
- Oracle Coherence

● Custom

Choose software products and components to install and perform optional configuration.

Step 8: In the **Choose Products and Components** page, **deselect** the options **Evaluation Database** and **Oracle Coherence**. Click on **Next** button



Oracle Installer - WebLogic 10.3.4.0

Choose Products and Components

Grayed selections are already installed.
Double-click headings to reveal or collapse selections.

- ☑ Administration Console
- ☑ Configuration Wizard and Upgrade Fram
- ☑ Web 2.0 HTTP Pub-Sub Server
- ☑ WebLogic SCA
- ☑ WebLogic JDBC Drivers
- ☑ Third Party JDBC Drivers
- ☑ WebLogic Server Clients
- ☑ WebLogic Web Server Plugins
- ☑ UDDI and Xquery Support
- □ Server Examples
- □ Evaluation Database
- □ Oracle Coherence
- □ Coherence Product Files
- □ Coherence Examples

Description

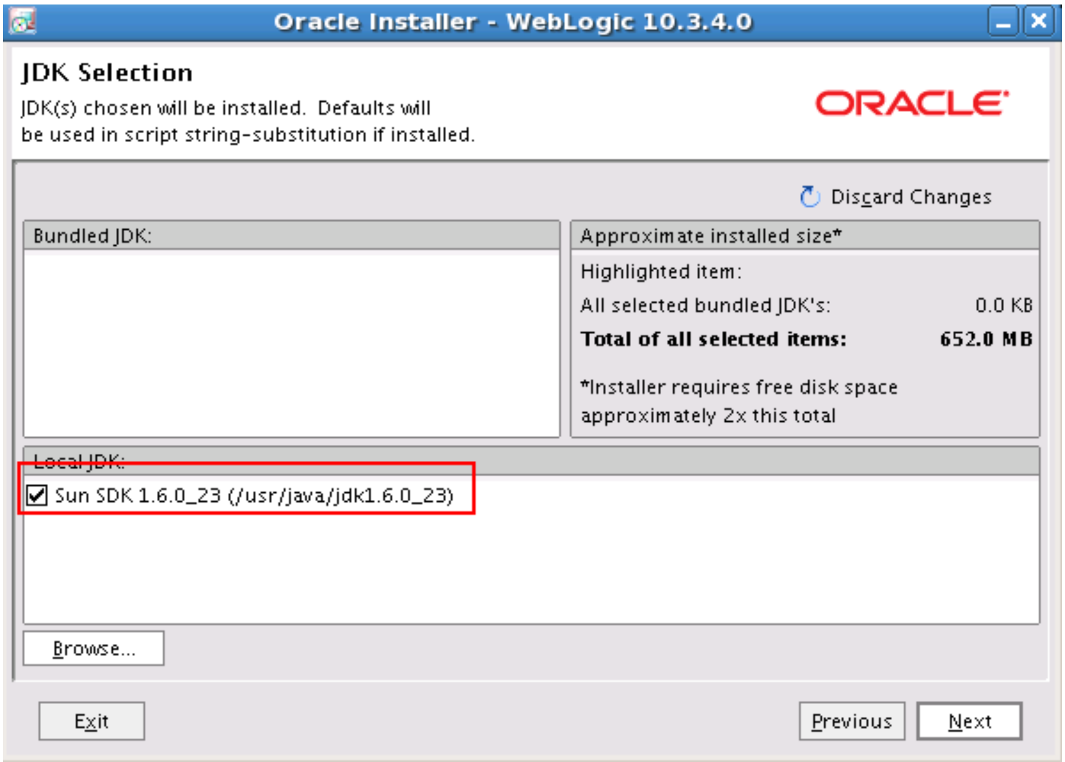
Coherence provides reliable distributed in-memory data management and caching services on top of a highly scalable peer-to-peer clustering protocol.

Approximate Installed Size*

Highlighted item:	12.6 MB
Common artifacts:	49.8 MB
Total of all selected items:	**652.0 MB**

*Installer requires free disk space approximately 2x this total

Step 9: The installer for 64-bit machines does not have bundled JDK. So, In **JDK Selection** page, click on **Browse** button to navigate to your JDK installation directory. Click on **Next** button



Oracle Installer - WebLogic 10.3.4.0

JDK Selection

JDK(s) chosen will be installed. Defaults will be used in script string-substitution if installed.

Bundled JDK:

Approximate installed size*

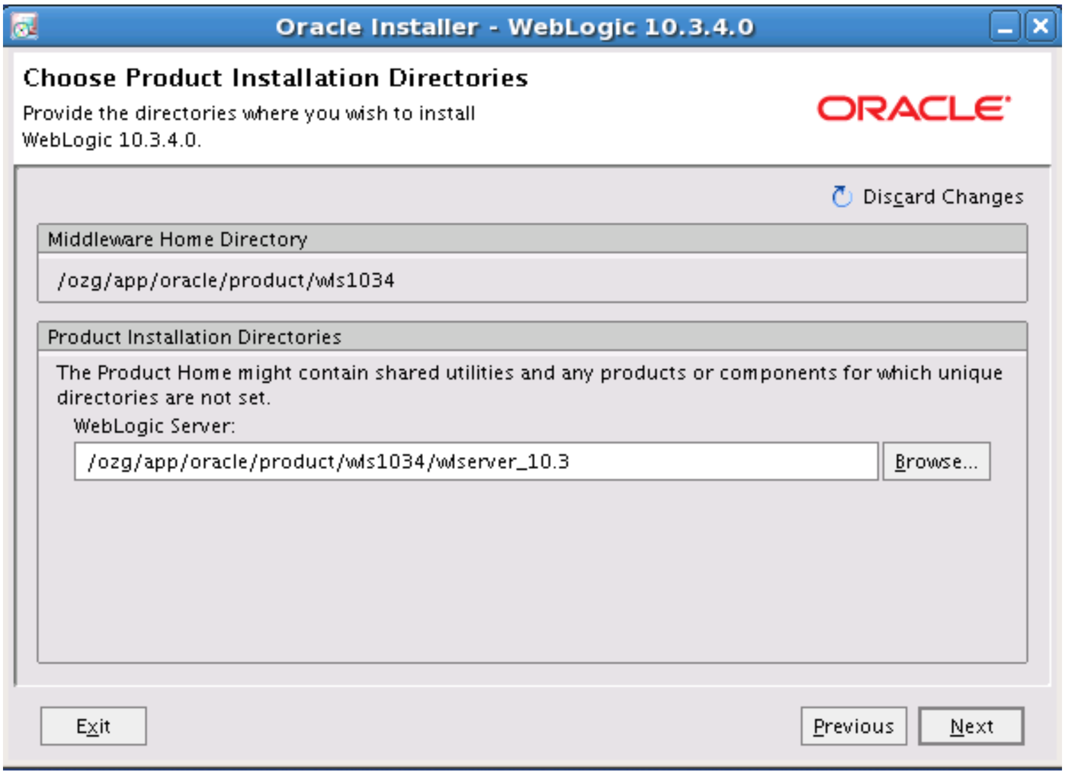
Highlighted item:	
All selected bundled JDK's:	0.0 KB
Total of all selected items:	**652.0 MB**

*Installer requires free disk space approximately 2x this total

Local JDK:

☑ Sun SDK 1.6.0_23 (/usr/java/jdk1.6.0_23)

Step 10: In the **Choose Product Installation Directories** page accept the default setting and click on **Next** button



Oracle Installer - WebLogic 10.3.4.0

Choose Product Installation Directories

Provide the directories where you wish to install WebLogic 10.3.4.0.

Middleware Home Directory

/ozg/app/oracle/product/wls1034

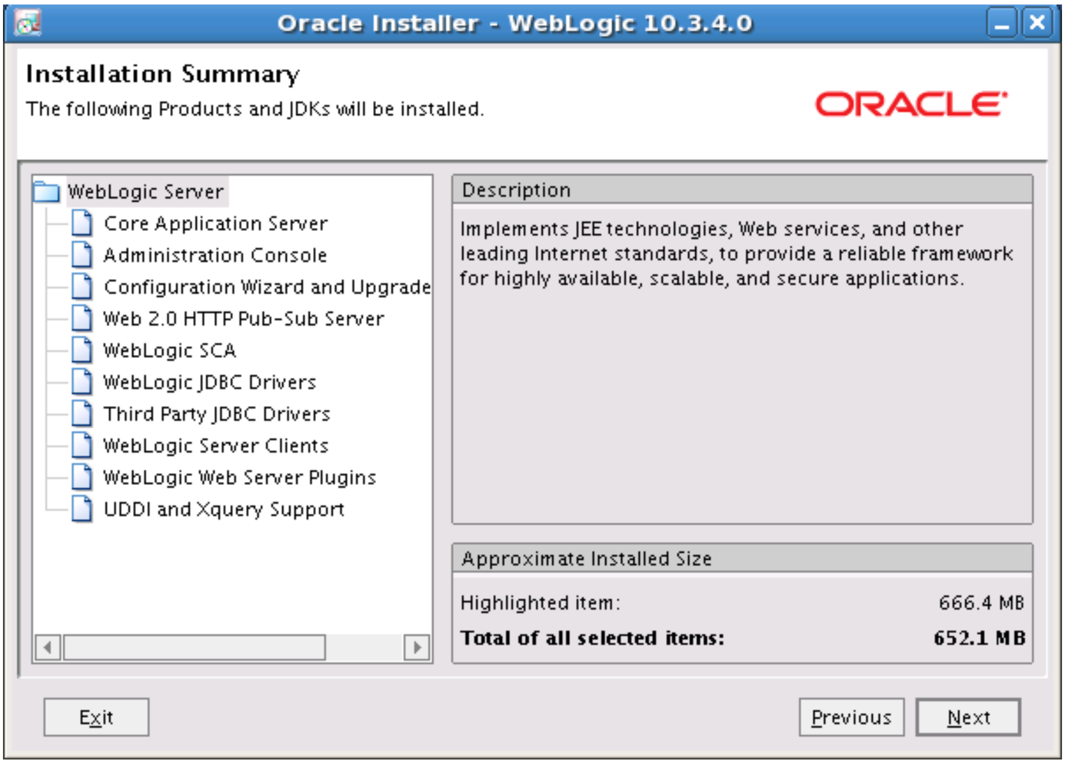
Product Installation Directories

The Product Home might contain shared utilities and any products or components for which unique directories are not set.

WebLogic Server:

/ozg/app/oracle/product/wls1034/wlserver_10.3

Step 11: In **Installation Summary** page, click on **Next** button



Oracle Installer - WebLogic 10.3.4.0

Installation Summary

The following Products and JDKs will be installed.

- WebLogic Server
  - Core Application Server
  - Administration Console
  - Configuration Wizard and Upgrade
  - Web 2.0 HTTP Pub-Sub Server
  - WebLogic SCA
  - WebLogic JDBC Drivers
  - Third Party JDBC Drivers
  - WebLogic Server Clients
  - WebLogic Web Server Plugins
  - UDDI and Xquery Support

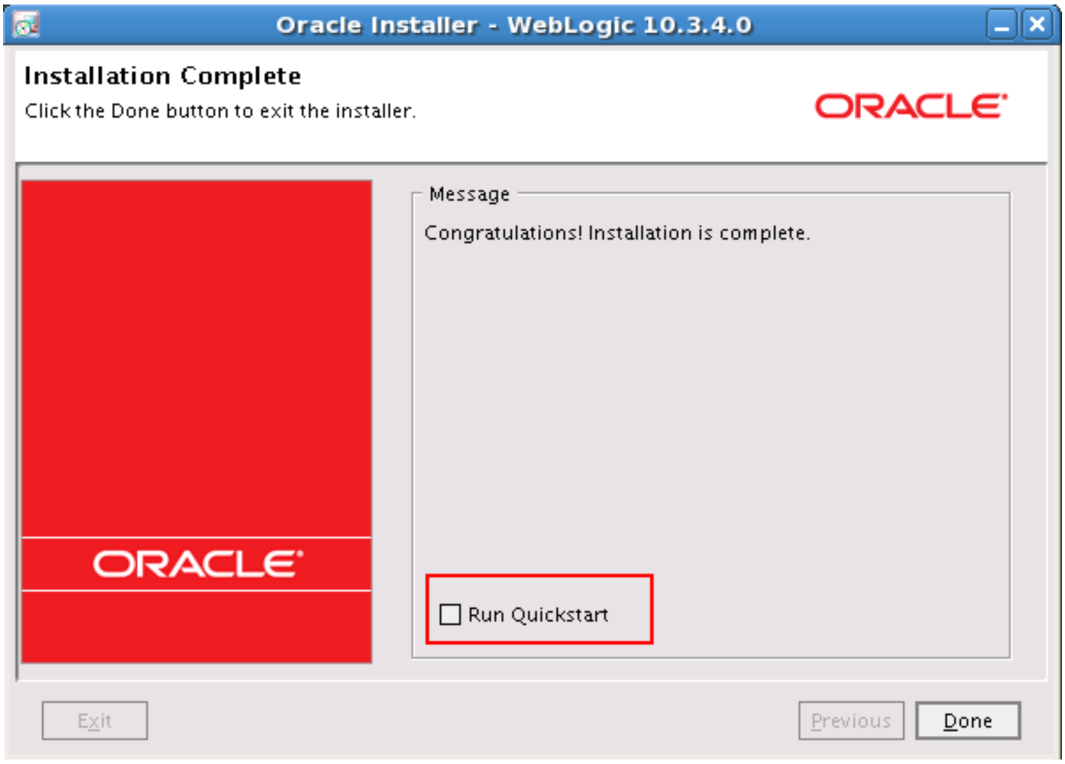
Description

Implements JEE technologies, Web services, and other leading Internet standards, to provide a reliable framework for highly available, scalable, and secure applications.

Approximate Installed Size

Highlighted item:	666.4 MB
Total of all selected items:	**652.1 MB**

Step 12: When the installation is complete, un-check the check box **Run Quickstart** and click on **Done** button. Oracle WebLogic Server 10.3.4 is now installed.



Installation Complete

Click the Done button to exit the installer.

Message

Congratulations! Installation is complete.

□ Run Quickstart

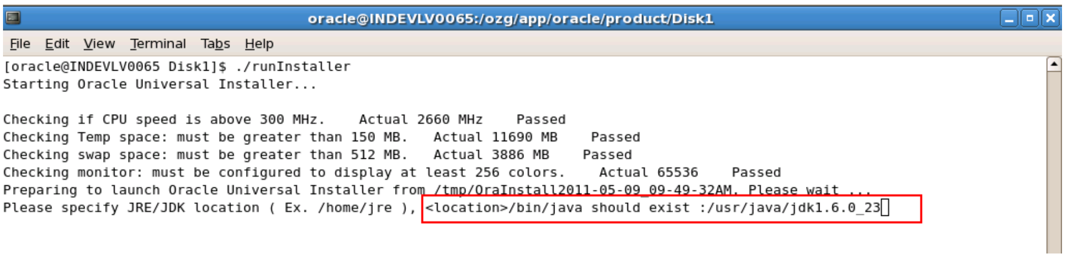
INSTALLING ORACLE APPLICATION DEVELOPMENT RUNTIME

The following steps describe how to install Oracle Application Development Runtime.

Step 1: Download **Oracle Application Development Runtime 11g Patch Set 3 (11.1.1.4.0)** (***Part Number: V24315-01***) from edelivery.oracle.com

Step 2: Unizp **V24315-01.zip**. Navigate to **Disk1** folder and run the installer by entering the following command in command line: **./runInstaller**

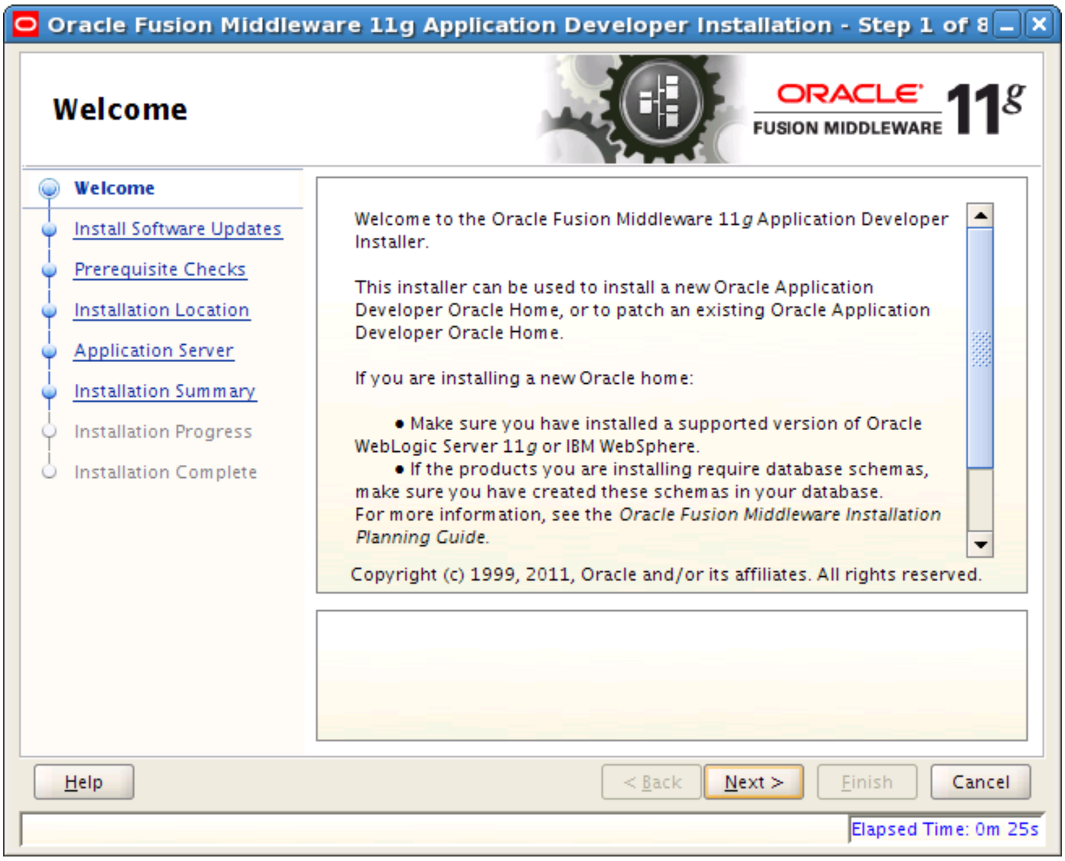
Note The installer will ask you to enter JDK installation directory


oracle@INDEVLV0065:/ozg/app/oracle/product/Disk1
File Edit View Terminal Tabs Help

```
[oracle@INDEVLV0065 Disk1]$ ./runInstaller
Starting Oracle Universal Installer...

Checking if CPU speed is above 300 MHz.    Actual 2660 MHz    Passed
Checking Temp space: must be greater than 150 MB.   Actual 11690 MB    Passed
Checking swap space: must be greater than 512 MB.   Actual 3886 MB    Passed
Checking monitor: must be configured to display at least 256 colors.    Actual 65536    Passed
Preparing to launch Oracle Universal Installer from /tmp/OraInstall2011-05-09_09-49-32AM. Please wait ...
Please specify JRE/JDK location ( Ex. /home/jre ), <location>/bin/java should exist :/usr/java/jdk1.6.0_23
```

Step 3: In **Welcome** page, click on **Next** button



Oracle Fusion Middleware 11g Application Developer Installation - Step 1 of 8

Welcome

Welcome to the Oracle Fusion Middleware 11*g* Application Developer Installer.

This installer can be used to install a new Oracle Application Developer Oracle Home, or to patch an existing Oracle Application Developer Oracle Home.

If you are installing a new Oracle home:

- Make sure you have installed a supported version of Oracle WebLogic Server 11*g* or IBM WebSphere.
- If the products you are installing require database schemas, make sure you have created these schemas in your database.

For more information, see the *Oracle Fusion Middleware Installation Planning Guide*.

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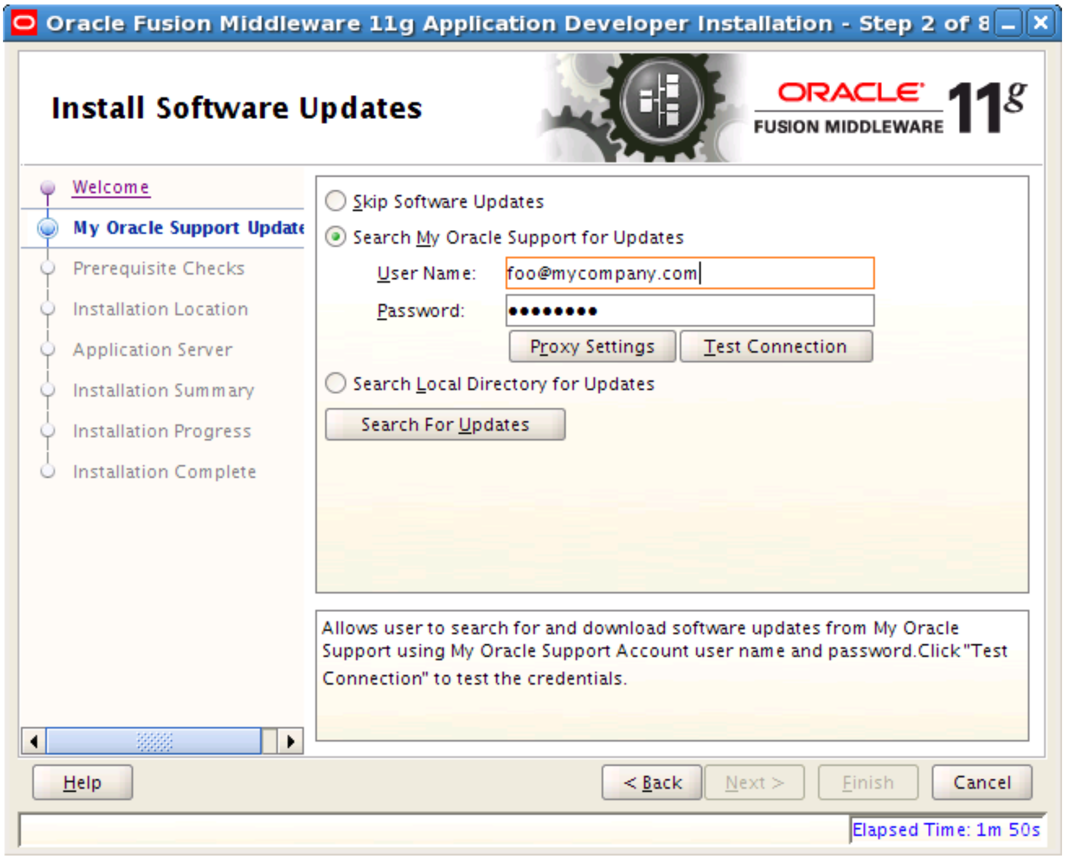
Elapsed Time: 0m 25s

Step 4: In **Install Software Updates** page, enter your My Oracle Support User Name and Password (optionally, this can be skipped). Click on **Next** button



Oracle Fusion Middleware 11g Application Developer Installation - Step 2 of 8

Install Software Updates

○ Skip Software Updates

● Search My Oracle Support for Updates

User Name: foo@mycompany.com

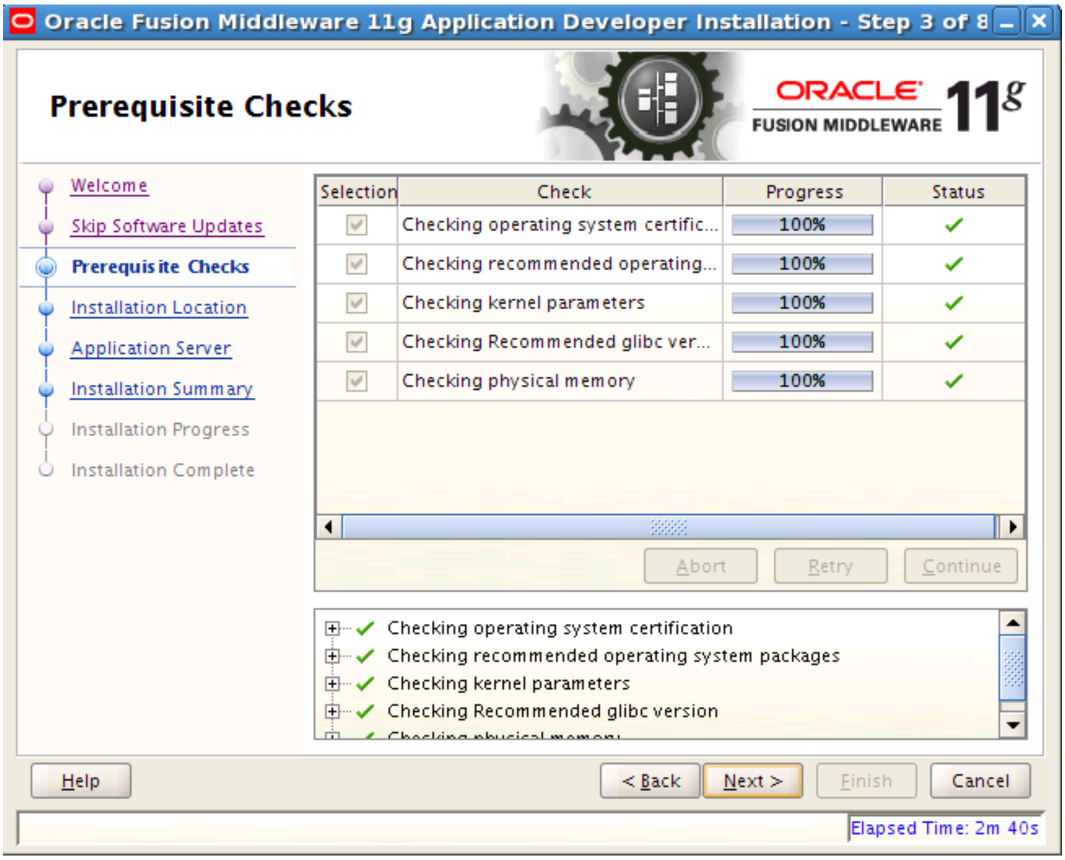
Password: ••••••••

○ Search Local Directory for Updates

Allows user to search for and download software updates from My Oracle Support using My Oracle Support Account user name and password.Click "Test Connection" to test the credentials.

Elapsed Time: 1m 50s

Step 5: Once **Prerequisite Checks** is completed, click on **Next** button

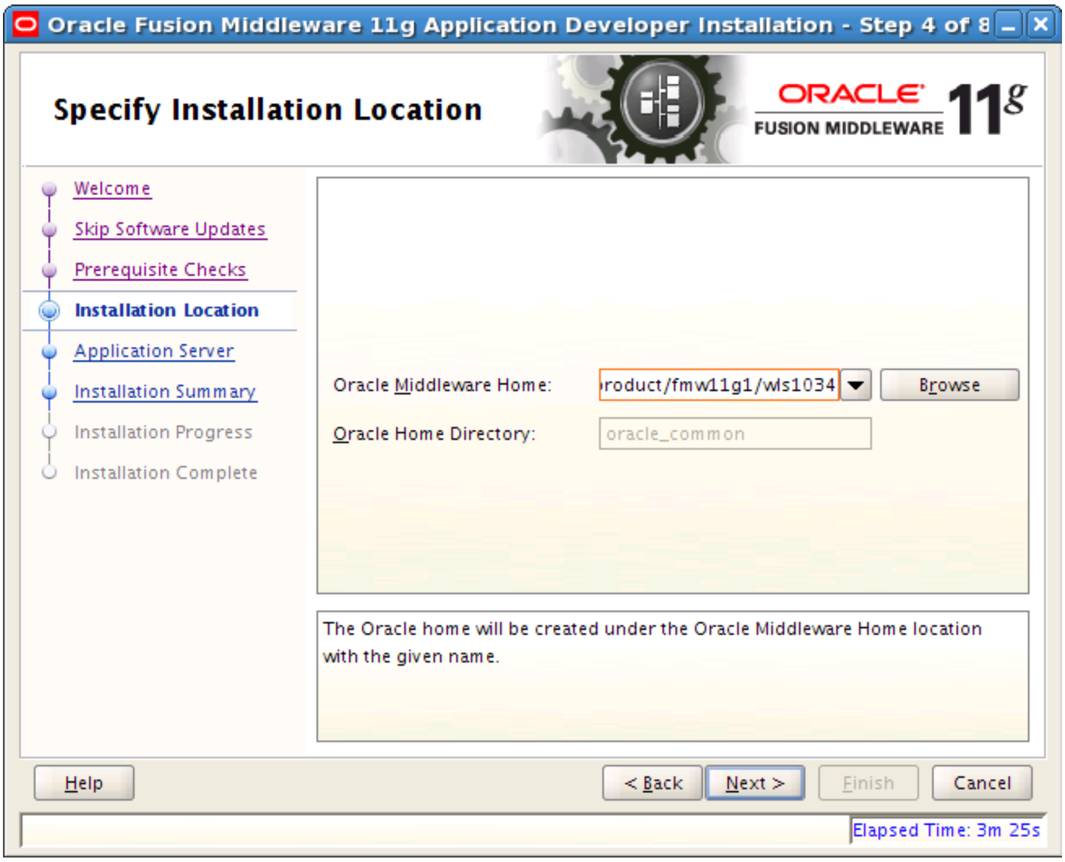


Selection	Check	Progress	Status
☑	Checking operating system certific...	100%	✓
☑	Checking recommended operating...	100%	✓
☑	Checking kernel parameters	100%	✓
☑	Checking Recommended glibc ver...	100%	✓
☑	Checking physical memory	100%	✓

- ✓ Checking operating system certification
- ✓ Checking recommended operating system packages
- ✓ Checking kernel parameters
- ✓ Checking Recommended glibc version
- ✓ Checking physical memory

Elapsed Time: 2m 40s

Step 6: In **Specify Installation Location** page, change the value of **Oracle Middleware Home** to suit your WLS installation directory and click on **Next** button


Oracle Fusion Middleware 11g Application Developer Installation - Step 4 of 8

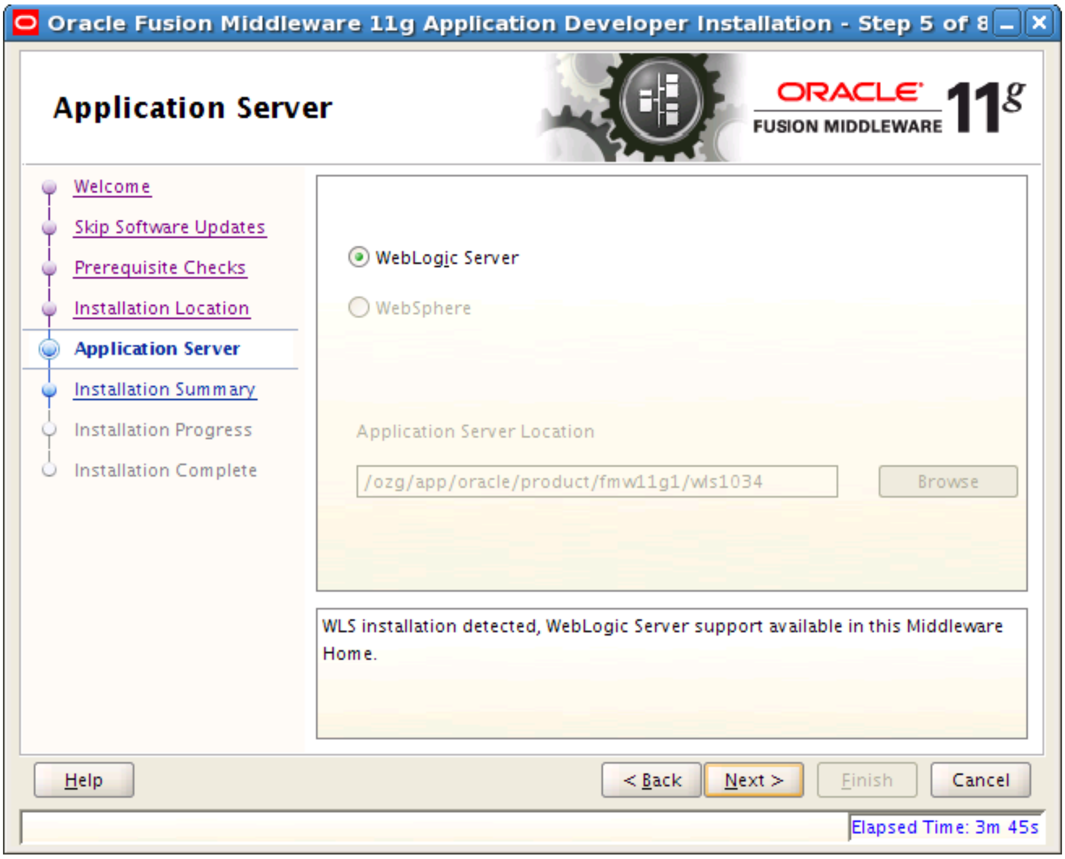
Specify Installation Location

Oracle Middleware Home: ›roduct/fmw11g1/wls1034

Oracle Home Directory: oracle_common

The Oracle home will be created under the Oracle Middleware Home location with the given name.

Step 7: In **Application Server** page, accept the default values and click on **Next** button


Oracle Fusion Middleware 11g Application Developer Installation - Step 5 of 8

Application Server

● WebLogic Server

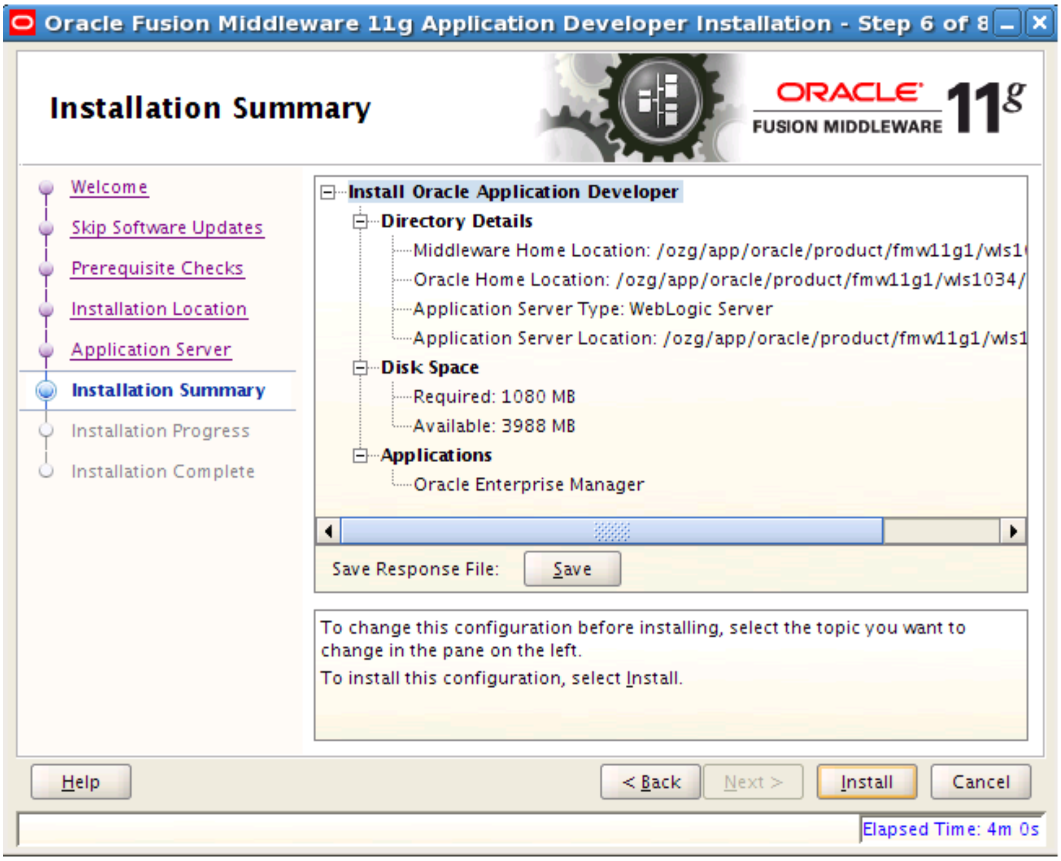
○ WebSphere

Application Server Location

/ozg/app/oracle/product/fmw11g1/wls1034

WLS installation detected, WebLogic Server support available in this Middleware Home.

Step 8: In **Installation Summary** page, click on **Install** button



Oracle Fusion Middleware 11g Application Developer Installation - Step 6 of 8

Installation Summary

Install Oracle Application Developer
- Directory Details
  - Middleware Home Location: /ozg/app/oracle/product/fmw11g1/wls1
  - Oracle Home Location: /ozg/app/oracle/product/fmw11g1/wls1034/
  - Application Server Type: WebLogic Server
  - Application Server Location: /ozg/app/oracle/product/fmw11g1/wls1
- Disk Space
  - Required: 1080 MB
  - Available: 3988 MB
- Applications
  - Oracle Enterprise Manager

Save Response File: Save

To change this configuration before installing, select the topic you want to change in the pane on the left.

To install this configuration, select Install.

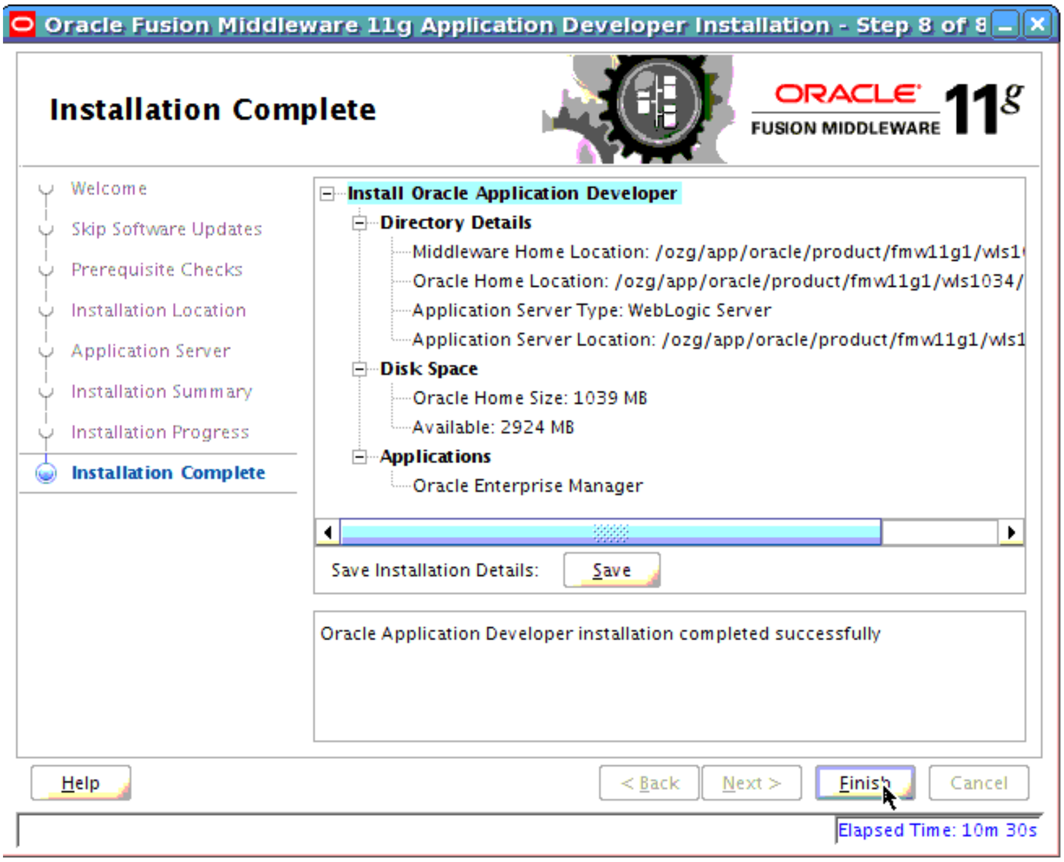
Elapsed Time: 4m 0s

Step 9: Once the installation is complete, click on **Finish** button in **Installation Complete** page. Oracle Application Development Runtime 11.1.1.4.0 is now installed.

[1] http://coherence.oracle.com/display/COH34UG/well-known-addresses

[2] http://coherence.oracle.com/display/COH34UG/Production+Checklist#ProductionChecklist-CoherenceEditionsandModes

[4] http://download.oracle.com/javase/1.4.2/docs/guide/awt/AWTChanges.html#headless



Install Oracle Application Developer
Directory Details
Middleware Home Location: /ozg/app/oracle/product/fmw11g1/wls1
Oracle Home Location: /ozg/app/oracle/product/fmw11g1/wls1034/
Application Server Type: WebLogic Server
Application Server Location: /ozg/app/oracle/product/fmw11g1/wls1
Disk Space
Oracle Home Size: 1039 MB
Available: 2924 MB
Applications
Oracle Enterprise Manager

Oracle Application Developer installation completed successfully

CONFIGURING ORACLE FUSION MIDDLEWARE FOR RUNNING ADF APPLICATIONS

After installing Oracle WebLogic Server and Oracle Application Development Runtime, perform the following steps:

- Create a domain in which the OHI Claims application will be configured and installed.
- Detailed instructions are available in the documentation library (http://download.oracle.com/docs/cd/E12839_01/web.1111/b31974/deployment_topics.htm#ADFFD1831).

Alternatively, follow these steps to create a domain.

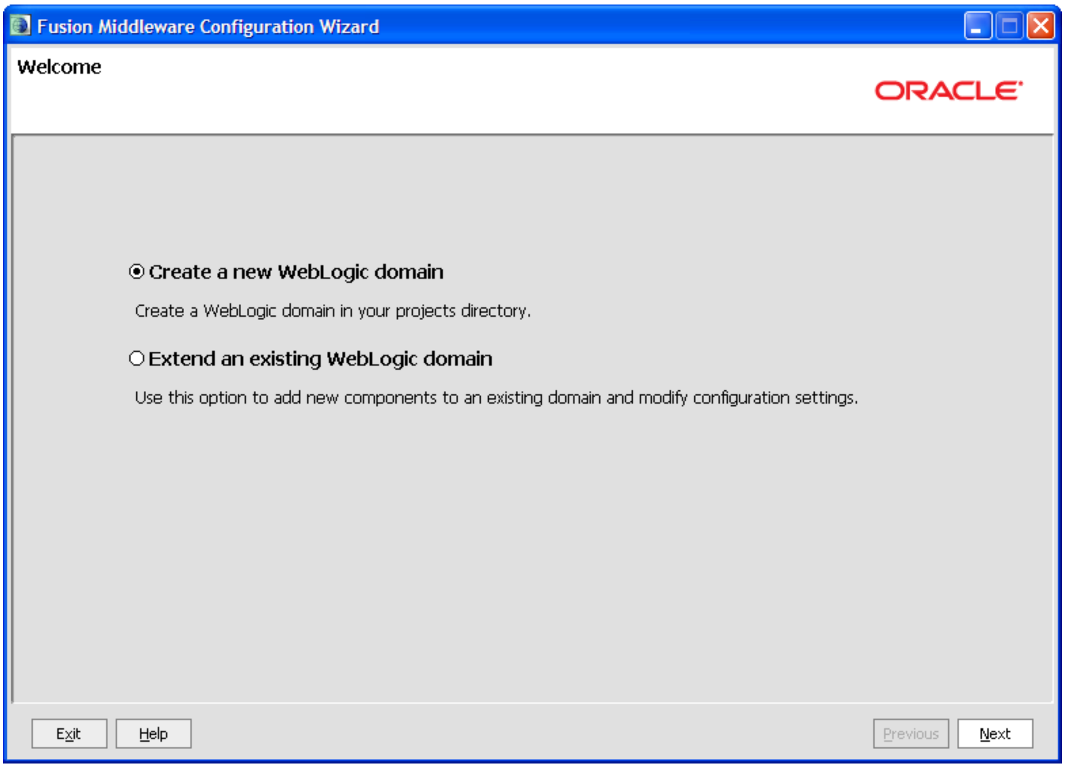
Note The following domain setup is suitable for development and testing purposes but should not be used in production situations.

Step 1: Go to **<MIDDLEWARE_HOME_DIRECTORY>/wlserver_10.3/common/bin** in command prompt . Here MIDDLEWARE_HOME_DIRECTORY is the path where you instaled WLS 10.3.4.

Step 2: Issue the following command: **./config.sh**

Step 3: **Fusion Middleware Configuration Wizard - Welcome** screen appears.

Step 4: In **Welcome** page, leave the default selection **Create a new WebLogic domain** and click on **Next** button



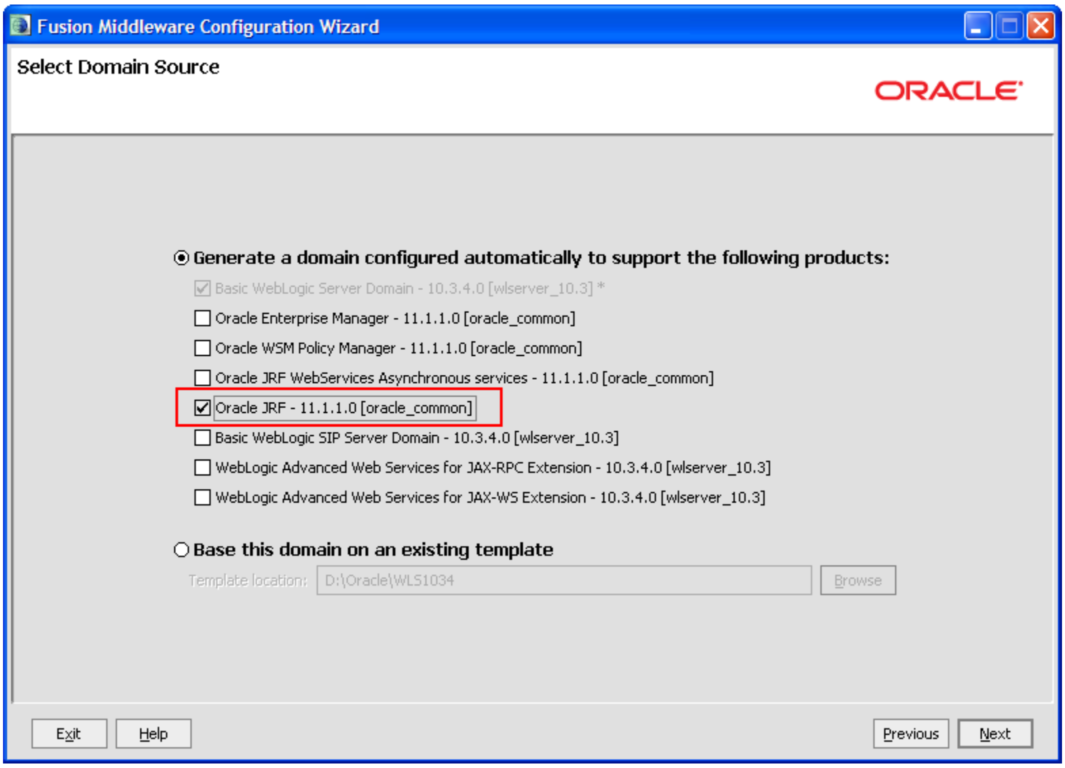
● Create a new WebLogic domain

Create a WebLogic domain in your projects directory.

○ Extend an existing WebLogic domain

Use this option to add new components to an existing domain and modify configuration settings.

Step 5: In the **Select Domain Source** page, select the check box **Oracle JRF - 11.1.1.0 [oracle_common]** and click on **Next** button



● Generate a domain configured automatically to support the following products:

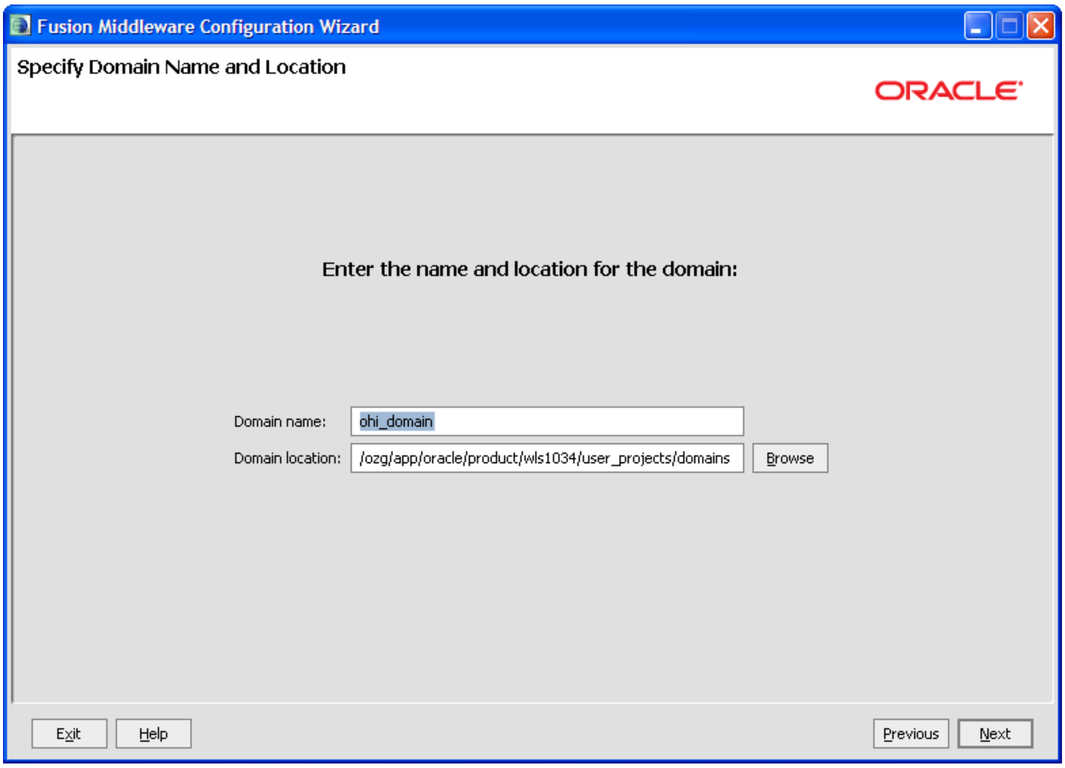
☑ Basic WebLogic Server Domain - 10.3.4.0 [wlserver_10.3] *
□ Oracle Enterprise Manager - 11.1.1.0 [oracle_common]
□ Oracle WSM Policy Manager - 11.1.1.0 [oracle_common]
□ Oracle JRF WebServices Asynchronous services - 11.1.1.0 [oracle_common]
☑ Oracle JRF - 11.1.1.0 [oracle_common]
□ Basic WebLogic SIP Server Domain - 10.3.4.0 [wlserver_10.3]
□ WebLogic Advanced Web Services for JAX-RPC Extension - 10.3.4.0 [wlserver_10.3]
□ WebLogic Advanced Web Services for JAX-WS Extension - 10.3.4.0 [wlserver_10.3]

○ Base this domain on an existing template

Template location: D:\Oracle\WLS1034

Step 6: In the **Specify Domain Name and Location** page, edit the values for **Domain name** and **Domain location** to suit your requirements or leave the default values and click on **Next** button.

Note For consistency, Oracle recommends the value "ohi_domain" as domain name.



Fusion Middleware Configuration Wizard

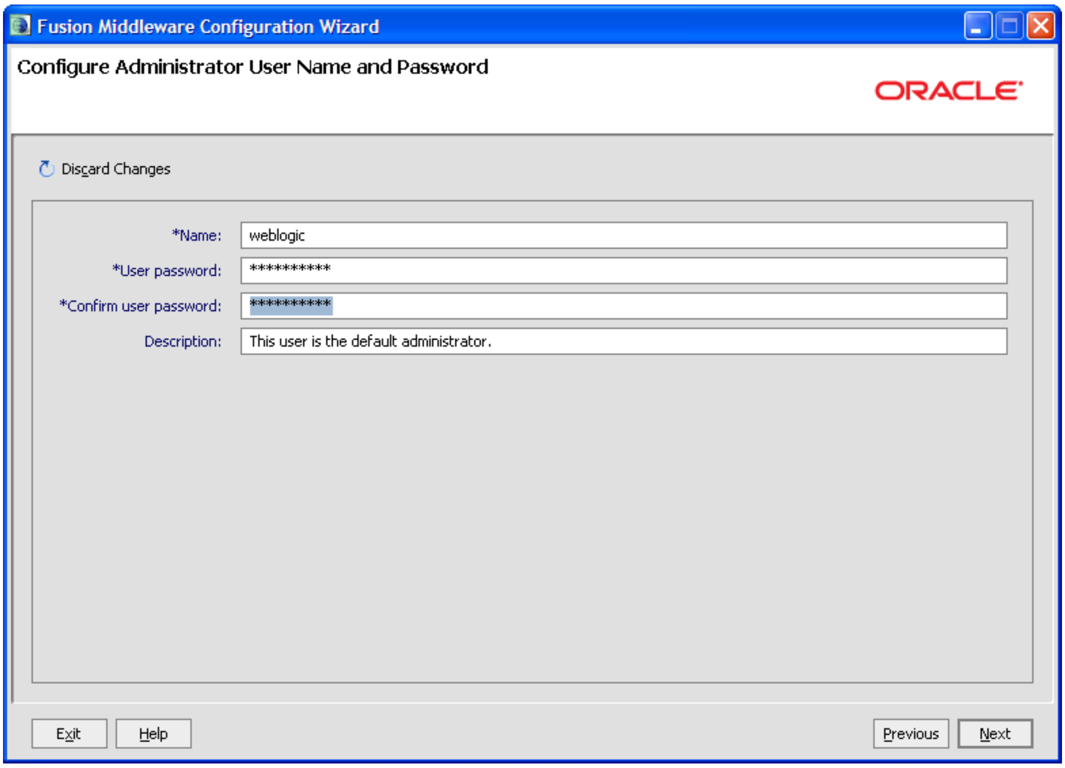
Specify Domain Name and Location

Enter the name and location for the domain:

Domain name: ohi_domain

Domain location: /ozg/app/oracle/product/wls1034/user_projects/domains

Step 7: In the **Configure Administrator User Name and Password** page, enter the values for **User password** and **Confirm user password** and click on **Next** button.



Fusion Middleware Configuration Wizard

Configure Administrator User Name and Password

*Name: weblogic

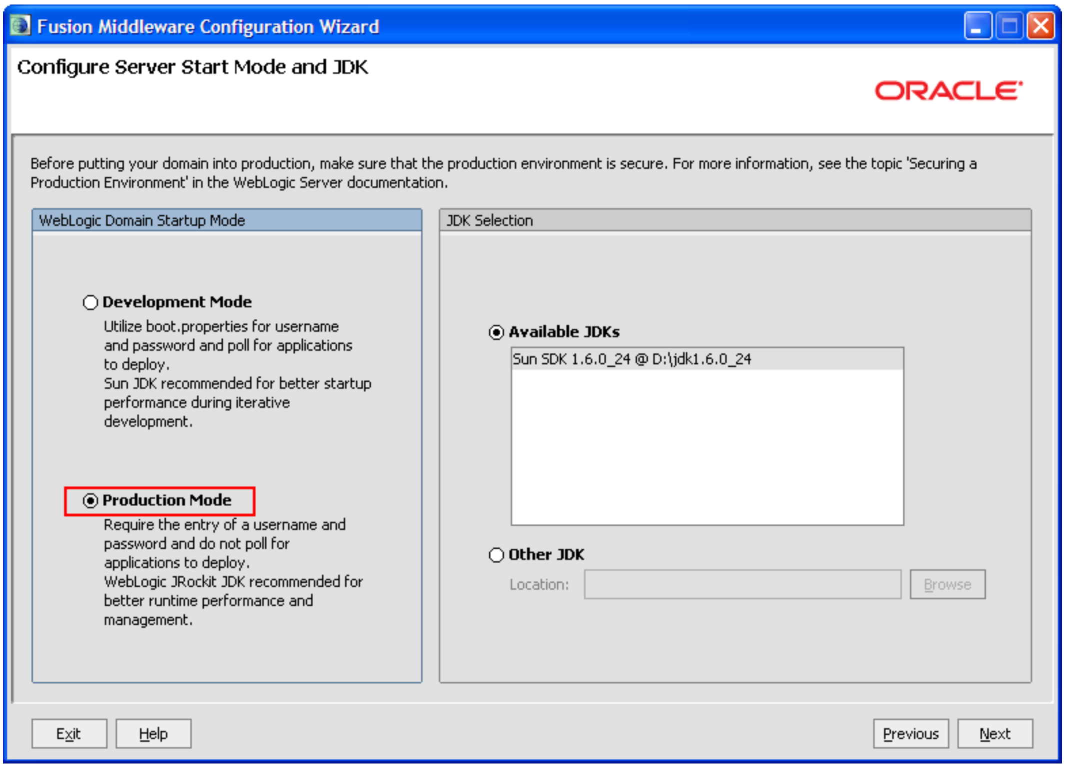
*User password: **********

*Confirm user password: **********

Description: This user is the default administrator.

Warning The password must be at least 8 alphanumeric characters with at least one number or special character.

Step 8: In the **Configure Server Start Mode and JDK** page, change the value for **WebLogic Domain Startup Mode** to **Production Mode** and click on **Next** button.



Fusion Middleware Configuration Wizard

Configure Server Start Mode and JDK

Before putting your domain into production, make sure that the production environment is secure. For more information, see the topic 'Securing a Production Environment' in the WebLogic Server documentation.

WebLogic Domain Startup Mode

○ **Development Mode**
Utilize boot.properties for username and password and poll for applications to deploy.
Sun JDK recommended for better startup performance during iterative development.

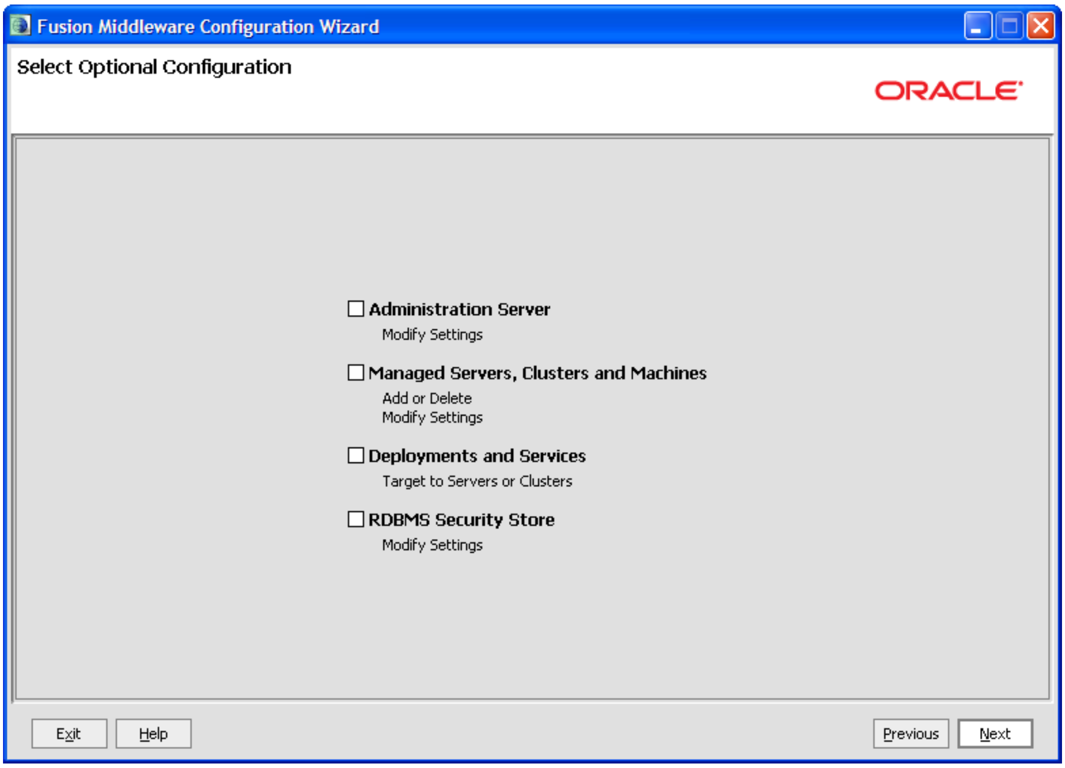
● **Production Mode**
Require the entry of a username and password and do not poll for applications to deploy.
WebLogic JRockit JDK recommended for better runtime performance and management.

JDK Selection

● **Available JDKs**
Sun SDK 1.6.0_24 @ D:\jdk1.6.0_24

○ **Other JDK**
Location:

Step 9: In the **Select Optional Configuration** page, select the options that you want to configure. Else, leave with the default settings and click on **Next** button.



Fusion Middleware Configuration Wizard

Select Optional Configuration

□ **Administration Server**
Modify Settings

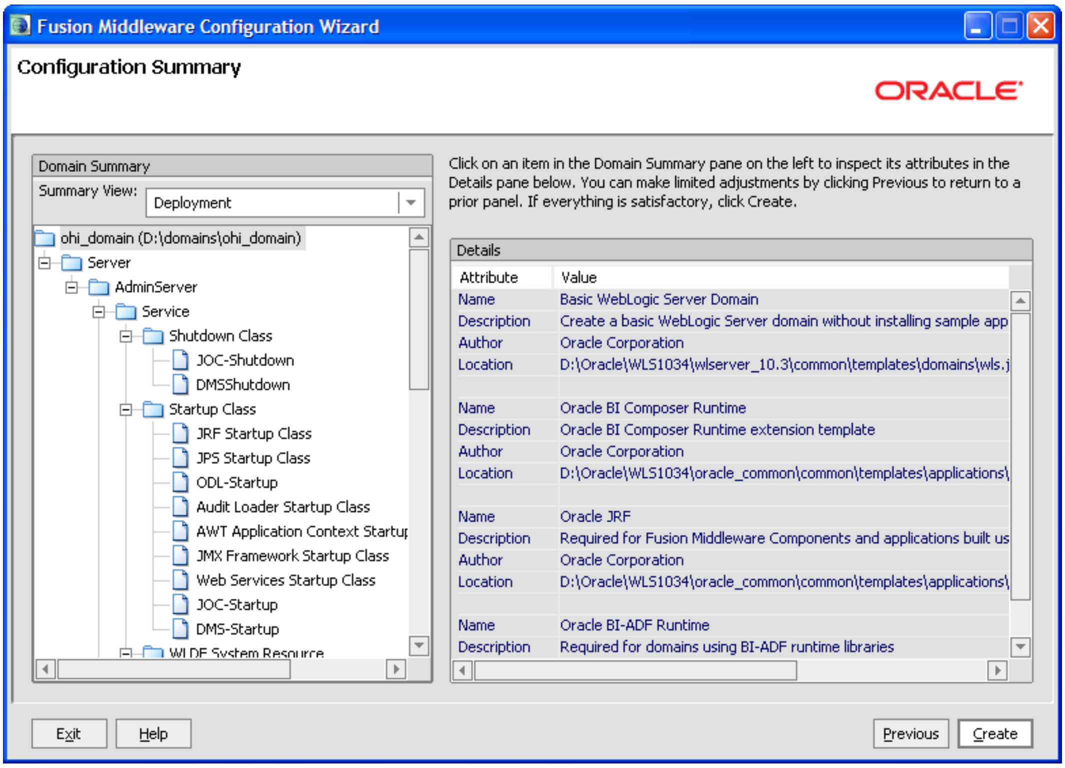
□ **Managed Servers, Clusters and Machines**
Add or Delete
Modify Settings

□ **Deployments and Services**
Target to Servers or Clusters

□ **RDBMS Security Store**
Modify Settings

Note The default AdminServer listening port is 7001.

Step 10: In the **Configuration Summary** page, click on **Create** button.



Summary View: Deployment

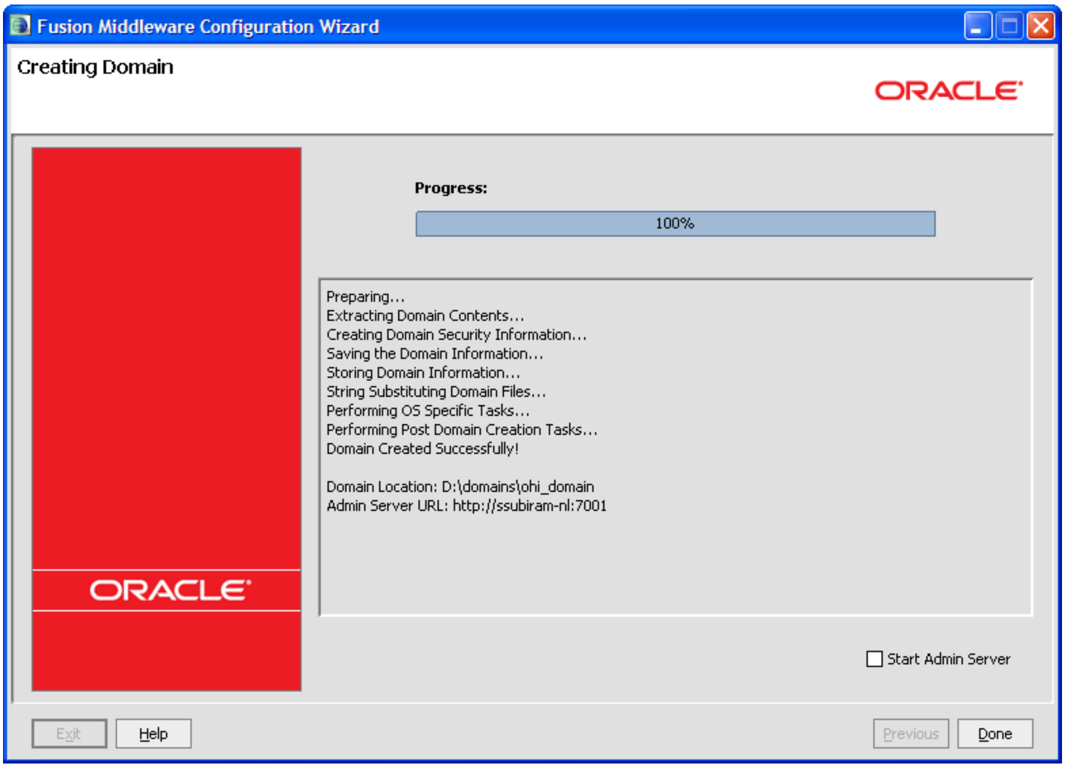
- ohi_domain (D:\domains\ohi_domain)
  - Server
    - AdminServer
      - Service
        - Shutdown Class
          - JOC-Shutdown
          - DMSShutdown
        - Startup Class
          - JRF Startup Class
          - JPS Startup Class
          - ODL-Startup
          - Audit Loader Startup Class
          - AWT Application Context Startup
          - JMX Framework Startup Class
          - Web Services Startup Class
          - JOC-Startup
          - DMS-Startup
        - WLDF System Resource

Click on an item in the Domain Summary pane on the left to inspect its attributes in the Details pane below. You can make limited adjustments by clicking Previous to return to a prior panel. If everything is satisfactory, click Create.

Details

Attribute	Value
Name	Basic WebLogic Server Domain
Description	Create a basic WebLogic Server domain without installing sample app
Author	Oracle Corporation
Location	D:\Oracle\WLS1034\wlserver_10.3\common\templates\domains\wls.j
Name	Oracle BI Composer Runtime
Description	Oracle BI Composer Runtime extension template
Author	Oracle Corporation
Location	D:\Oracle\WLS1034\oracle_common\common\templates\applications\
Name	Oracle JRF
Description	Required for Fusion Middleware Components and applications built us
Author	Oracle Corporation
Location	D:\Oracle\WLS1034\oracle_common\common\templates\applications\
Name	Oracle BI-ADF Runtime
Description	Required for domains using BI-ADF runtime libraries

Step 11: In the **Creating Domain** page, click on **Done** button once the domain is created.



Progress: 100%

```
Preparing...
Extracting Domain Contents...
Creating Domain Security Information...
Saving the Domain Information...
Storing Domain Information...
String Substituting Domain Files...
Performing OS Specific Tasks...
Performing Post Domain Creation Tasks...
Domain Created Successfully!

Domain Location: D:\domains\ohi_domain
Admin Server URL: http://ssubiram-nl:7001
```

□ Start Admin Server

DOMAIN CONFIGURATION FOR OHI CLAIMS

This chapter contains directions for the following topics:

- Redirecting console log output
- Setting up OHI Claims properties files
- Coherence settings
- Setting OHI Claims Domain environment variables

Redirect JVM Output to a Log File

By default, the JVM output for a WebLogic server is written to the console. It is recommended to redirect the console output to file.
Note that in development mode, the default size of a logfile before it is rotated is only 500Kb. Hence, it is also recommended to change the size of the log files before rollover to 10240 Kb and to specify the number of log files that will be retained. These configuration settings can be changed through the WebLogic Server Console.

Setting up OHI Claims Properties Files

Create a directory that will hold OHI Claims properties and configuration files. This directory will be referenced as **<PROPERTIES_ROOT>** throughout this document.

Copy the following files that were delivered as part of the specific release from the **<OHI_ROOT>/properties** directory to the **<PROPERTIES_ROOT>**:

- log4j.xml
- ohi-claims.properties

A description of the properties files is available here (page0).

Also copy file **<OHI_ROOT**>/util/security/ohi-claims-security.config to the < **PROPERTIES_ROOT**>.

Coherence settings

OHI Claims uses Oracle Coherence. The IT infrastructure on which the system is installed determines the configuration for Oracle Coherence. This paragraph describes the following configuration options:

- Restrict a Coherence cluster to one machine
- Control multiple Coherence clusters that are spread across multiple machines
- Control multiple Coherence clusters that are executed on one machine
- Specific settings for running Coherence in a Production environment

Restrict a Coherence cluster to one machine

The **<PROPERTIES_ROOT>** directory contains a Coherence configuration file (single-server-tangosol-coherence-override.xml) that ensures that a Coherence cluster is restricted to a single machine.
Note: these settings will constrain Coherence to run on a single machine. It will not prevent Coherence from clustering with other JVMs on the same machine that

also run Coherence. Therefor, it is not suitable for setting up multiple Coherence clusters on a single machine.

Copy the following properties file that was delivered as part of the specific release from the **<OHI_ROOT>**\properties directory to the **<PROPERTIES_ROOT>**:

- single-server-tangosol-coherence-override.xml

Run multiple Coherence clusters of multiple JVMs on the same machine of same set of machines

In order to control which JVMs can join in a particular Coherence cluster, the Coherence Well Known Addresses (WKA) feature may be used.
This can be used to:

- Control multiple Coherence clusters that are spread across multiple machines
- Control multiple Coherence clusters that are executed on one machine

A preconfigured tangosol-coherence-override.xml file for these situations cannot be provided as required host names or IP addresses must be used. The following sample files show the basic structure.

Example: Building a cluster across multiple machines

The following sample override file controls a Coherence cluster that runs on JVMs on several machines (host1, host2, ..., hostN):

```
<coherence>
  <cluster-config>
    <unicast-listener>
      <well-known-addresses>
        <socket-address id="1">
          <address system-property="tangosol.coherence.wka1">host1<
/address>
          <port system-property="tangosol.coherence.wka1.port">8088</port>
        </socket-address>
        <socket-address id="2">
          <address system-property="tangosol.coherence.wka2">host2<
/address>
          <port system-property="tangosol.coherence.wka2.port">8088</port>
        </socket-address>
        ...
        <socket-address id="N">
          <address system-property="tangosol.coherence.wkaN">hostN<
/address>
          <port system-property="tangosol.coherence.wkaN.port">8088</port>
        </socket-address>
      </well-known-addresses>
    </unicast-listener>
  </cluster-config>
</coherence>
```

Start the JVM on host1 with the following command-line parameters:

```
-Dtangosol.coherence.wka1=host1
-Dtangosol.coherence.wka1.port=8088
-Dtangosol.coherence.localport=8088
-Dtangosol.coherence.override=tangosol-coherence-override.xml
```

Start the JVM on host2 with the following command-line parameters:

```
-Dtangosol.coherence.wka2=host2
-Dtangosol.coherence.wka2.port=8088
-Dtangosol.coherence.localport=8088
-Dtangosol.coherence.override=tangosol-coherence-override.xml
```

Note: these options should be specified on one line, it was formatted differently in this guide for readability.

Example: Controlling a cluster of multiple JVMs on one machine

The following sample override file controls a Coherence cluster that runs on multiple JVMs on the same machine (host1):

```
<coherence>
  <cluster-config>
    <unicast-listener>
      <well-known-addresses>
        <socket-address id="1">
          <address system-property="tangosol.coherence.wka1">host1<
/address>
          <port system-property="tangosol.coherence.wka1.port">8088</port>
        </socket-address>
        <socket-address id="2">
          <address system-property="tangosol.coherence.wka2">host1<
/address>
          <port system-property="tangosol.coherence.wka2.port">8089</port>
        </socket-address>
        ...
        <socket-address id="N">
          <address system-property="tangosol.coherence.wkaN">host1<
/address>
          <port system-property="tangosol.coherence.wkaN.port">8090</port>
        </socket-address>
      </well-known-addresses>
    </unicast-listener>
  </cluster-config>
</coherence>
```

Start the first JVM on host1 with the following command-line parameters:

```
-Dtangosol.coherence.wka1=host1
-Dtangosol.coherence.wka1.port=8088
-Dtangosol.coherence.localport=8088
-Dtangosol.coherence.override=tangosol-coherence-override.xml
```

Start the second JVM on host1 with the following command-line parameters:

```
-Dtangosol.coherence.wka2=host1
-Dtangosol.coherence.wka2.port=8089
-Dtangosol.coherence.localport=8089
-Dtangosol.coherence.override=tangosol-coherence-override.xml
```

Note: these options should be specified on one line, it was formatted differently in this guide for readability.

For more information please check the Coherence documentation on Well Known Addresses[1].

Specific settings for running Coherence in a Production environment

By default, Oracle Coherence runs in Development mode. The production checklist in the Coherence documentation[2] states that *it is recommended to use the development mode for all pre-production activities, such as development and testing. This is an important safety feature, because Coherence automatically prevents these nodes from joining a production cluster. The production mode must be explicitly specified when using Coherence in a production environment.*

In the Production environment (and only in the Production environment), the system property *tangosol.coherence.mode* should be set to value *prod* in the script that is used to start Coherence nodes.

Next to that, Oracle advises to use system property *tangosol.coherence.cluster* to name the cluster. To join the cluster, all members must specify the same cluster name. Suggested naming convention: *OHI-< systemproperty.ohi.environment.identifier>*.

```
-Dtangosol.coherence.mode=prod
-Dtangosol.coherence.cluster=<cluster_name>
```

Set Domain Environment Variables for OHI Claims

Go to **<MIDDLEWARE_HOME_DIRECTORY>/user_projects/domains/< DOMAIN_NAME>/bin** where **<DOMAIN_NAME>** is the name of the domain that was given in Step 6 of the previous section. Edit the file setDomainEnv.sh in that directory and add the following lines at the beginning as shown in this sample:

```
USER_MEM_ARGS=" -Xms2048m -Xmx2048m -XX:PermSize=512m -XX:MaxPermSize=512m
 "
USER_MEM_ARGS="$USER_MEM_ARGS -XX:+UseConcMarkSweepGC -XX:+UseParNewGC"
USER_MEM_ARGS="$USER_MEM_ARGS -XX:+ExplicitGCInvokesConcurrent "
export USER_MEM_ARGS

if [ "${ADMIN_URL}" = "" ] ; then

JAVA_OPTIONS="-Dohi.log4j.config.file=/home/aia/software/oracle/wls1032/pr
operties/log4j.xml"
 export JAVA_OPTIONS
else
 JAVA_OPTIONS=""
 JAVA_OPTIONS="$JAVA_OPTIONS
-Dohi.log4j.config.file=/home/aia/software/oracle/wls1032/properties/log4j
.xml "
 JAVA_OPTIONS="$JAVA_OPTIONS
-Dohi.properties.file=/home/aia/software/oracle/wls1032/properties/ohi-cla
ims.properties "
 JAVA_OPTIONS="$JAVA_OPTIONS
-Dtangosol.coherence.override=file:/home/aia/software/oracle/wls1032/prope
rties/single-server-tangosol-coherence-override.xml "
 JAVA_OPTIONS="$JAVA_OPTIONS -Dtangosol.coherence.cluster=<cluster_name> "
 JAVA_OPTIONS="$JAVA_OPTIONS -Dtangosol.coherence.member=<member_name> "
```

[1] http://coherence.oracle.com/display/COH34UG/well-known-addresses

[2] http://coherence.oracle.com/display/COH34UG/Production+Checklist#ProductionChecklist-CoherenceEditionsandModes

[4] http://download.oracle.com/javase/1.4.2/docs/guide/awt/AWTChanges.html#headless

```
 JAVA_OPTIONS="$JAVA_OPTIONS -Dohi.mds.country=US "
 JAVA_OPTIONS="$JAVA_OPTIONS
-Dcom.sun.org.apache.xml.internal.dtm.DTMManager=com.sun.org.apache.xml.in
ternal.dtm.ref.DTMManagerDefault "
 JAVA_OPTIONS="$JAVA_OPTIONS
-Djavax.xml.datatype.DatatypeFactory=com.sun.org.apache.xerces.internal.ja
xp.datatype.DatatypeFactoryImpl "
 export JAVA_OPTIONS
fi
```

USER_MEM_ARGS Explanation:

- -Xms<SOME_SIZE>m -Xmx<SOME_SIZE>m -- this represents the heap size allocated for the JVM. SOME_SIZE should always be the same number.
    - Determining what these sizes should be in production environments requires a full JVM sizing exercise. More on JVM sizing for production is available at OHI-Claims JVM Sizing (page35).
- -XX:PermSize=<SMALLER_SIZE>m -XX:MaxPermSize=< SMALLER_SIZE>m -- this sets the size for the permanent generation of the JVM's heap. This should be set between 256m and 768m.
- -XX:+UseConcMarkSweepGC -XX:+UseParNewGC -XX:+ExplicitGCInvokesConcurrent -- these are the garbage collector settings recommended for use with the OHI-Claims application. More information on JVM options and garbage collector settings is at Java HotSpot VM Options[3].

JAVA_OPTIONS Explanation:

- tangosol.coherence.mode: use this property for production environments only.
- tangosol.coherence.cluster: the same name needs to be specified by all members in order to join a specific cluster.
- tangosol.coherence.member: the member-name element contains the name of the member itself. This name makes it possible to easily differentiate among members, such as when multiple members run on the same machine. If a name is not specified, the node will fail to start (IllegalArgumentException). Suggested naming convention: OHI-< systemproperty.ohi.environment.identifier>-<machinename_or_ip-address>-< unique-identifier>.

Limited support for the X window system

For displaying gauges in UI pages on systems that do not have the X windows system or have limited access to it add the following JAVA_OPTION to the setDomainEnv script:

```
JAVA_OPTIONS="$JAVA_OPTIONS  -Djava.awt.headless=true"
```

[3] http://www.oracle.com/technetwork/java/javase/tech/vmoptions-jsp-140102.html

[4] http://download.oracle.com/javase/1.4.2/docs/guide/awt/AWTChanges.html#headless

See the Java documentation[4] for more information. Typically, on a system that lacks X windows support and that does not have this option specified, gauges will not display correctly and the following exception will be in the logs (formatted for displaying it in this guide):

```
<Aug 31, 2011 12:39:00 PM CEST> <Error> <
oracle.adfinternal.view.faces.config.rich.RegistrationConfigurator>
 <BEA-000000> <ADF_FACES-60096:Server Exception during PPR, #1
javax.servlet.ServletException:
  java.lang.InternalError: Can't connect to X11 window server using ':0'
as the value of the DISPLAY variable.
```

SETTING UP A WEBLOGIC CLUSTER FOR RUNNING OHI CLAIMS ON MULTIPLE NODES

A WebLogic Server cluster consists of multiple WebLogic Server Managed server instances running simultaneously and working together to provide increased scalability and reliability. A cluster appears to clients to be a single WebLogic Server instance. The server instances that constitute a cluster can run on the same machine, or be located on different machines.

A cluster’s capacity can be increased by adding additional Managed server instances to the cluster on an existing machine, or by adding machines to the cluster to host the incremental Managed server instances. Each server instance in a cluster must run the same version of WebLogic Server.

Typically, the administration for the WebLogic Server instance is done through an Administration Server or Admin Server. The Managed Servers do not require the Administration Server to be up and running.

Prerequisites

Make sure that the following prerequisites are met before configuring a WebLogic cluster:

- Experience setting up a WebLogic Server cluster is required!
- The WebLogic software needs to be installed on all the machines that will be part of the cluster (that will run WebLogic server instances). Make sure that the same version of the WebLogic software is installed on all nodes.

The OHI Claims release bundle contains scripts that may be used to automate the creation of a WebLogic Cluster.

Note Using these requires experience setting up a WebLogic Server cluster. The scripts are located in **<OHI_ROOT>\util\wlst.** Note that the scripts are provided "as is".

Before using the scripts, stage these to the environment in which they will be applied and make sure that the scripts can be executed.

Note If the cluster setup is for a distributed environment, make sure to stage the files on a shared disk so that all machines can access these.

[4] http://download.oracle.com/javase/1.4.2/docs/guide/awt/AWTChanges.html#headless

Before executing the steps to create a WebLogic Cluster, the following must be done in preparation:

- Change the **setEnv.sh** script to match the settings of the environment in which the scripts will be applied, e.g. set the correct Middleware Home (MW_HOME) and reference a Java Home.
- Populate the **wlst\properties\createOHIDomain.properties** file with the values for the desired setup.

The OHI Domain creation script supports the following Domain Topologies:

1. Admin Server only
2. Admin Server + single Managed Server (single host)
3. Admin Server + single Managed Server (distributed)
4. Admin Server + multiple Managed Servers (single host)
5. Admin Server + multiple Managed Servers (distributed)
6. Admin Server + multiple Clustered Managed Servers (single host)
7. Admin Server + multiple Clustered Managed Servers (distributed)

Sample configuration files are provided in **<OHI_ROOT>\util\wlst\properties\samples** for all Domain Topologies mentioned.

Steps for setting up a WebLogic Cluster

Perform the following steps for setting up a WebLogic Cluster:

- Set up a Node Manager on all hosts in the cluster
- Create a WebLogic domain for OHI Claims
- Generate node manager boot & startup properties
- Register the Domain with the Node Manager
- Optional: Create WebLogic Domain Template for secondary hosts
- Set up a load balancer to distribute requests to different managed servers in the cluster

Warning Before putting the domain into production, make sure that the environment is secure. See the specific WebLogic documentation with respect to "Securing a Production Environment".

Starting and stopping WebLogic Server is covered in the Operations Guide.

Set up a Node Manager for all nodes in the cluster

Note This step must be performed on all hosts (primary and secondary) that will be part of the WebLogic Server domain.

Node Manager is a WebLogic Server utility that controls start, shut down, and restart of Administration Server and Managed Server instances from a remote location. A Node Manager process is not associated with a specific WebLogic domain but with a machine. The same Node Manager process can be used to control server instances in any WebLogic Server domain, as long as the server instances reside on the same machine as the Node Manager process. Node Manager must run on each computer that hosts WebLogic Server instances -whether Administration Server or Managed Server- that need to be controlled with Node Manager.

Before a domain is created set up a Node Manager.The Node Manager will run as "init.d" service. Use the **<OHI_ROOT>\util\wlst\registerNodeManagerService.sh** script (as ***root***) to create the nodemgrservice file and to set the correct property values in the nodemanager.properties file:

- StopScriptEnabled=true
- CrashRecoveryEnabled=true
- StartScriptEnabled=true

Note All scripts are driven from properties for which the values are specified in the **<OHI_ROOT>\util\wlst\properties\createOHIDomain.properties** file.

Create a WebLogic domain for OHI Claims in the cluster

Note This step must be performed on the primary host only.

Use the WebLogic Configuration Wizard to create a domain for OHI Claims. Alternatively, use the **<OHI_ROOT>\util\wlst\createOHIDomain.sh** script (as ***oracle*** user).

Oracle suggested values for configuration of the WebLogic Cluster are listed in the following table:

Parameter	Suggested Value
Domain Name	ohi_domain
Administration Server Name	ohi_admin_server
Managed Server Name(s)	ohi_managed_serverX (where X is an integer value that starts with 1)
Cluster Name	ohi_cluster

Note that these values can be set in the **<OHI_ROOT>\util\wlst\properties\createOHIDomain.properties** file.

Required setting: make sure that the Server Start Mode for the domain is set to *Production Mode*.

Generate node manager boot & startup properties

Make sure that the server is up and running.

The easiest way to do is by using the **<OHI_ROOT>\util\wlst\generateNMPropsOHIDomain.sh** script (as ***oracle*** user). Make sure that the **< OHI_ROOT>\util\wlst\properties\createOHIDomain.properties** file has all required values.

Note The generateNMPropsOHIDomain.sh script needs to be executed from the root directory of the WebLogic domain that was created.

[5] http://download.oracle.com/docs/cd/E12839_01/web.1111/e13709/load_balancing.htm#CHDGFIBD

Verify that the boot.properties and startup.properties files were created correctly for all server instances and in the proper location ($DOMAIN_HOME/servers/[SERVER_NAME]/data/nodemanager.

Register the Domain with the Node Manager

Make sure that the server is up and running.

Enroll the domain (i.e. register the domain with the node manger service) by running **<OHI_ROOT>\util\wlst\properties\enrollOHIDomain.sh** (as ***oracle*** user). Verify that the enroll operation was successful, by checking the script output for "Successfully enrolled…".

Note The enrollOHIDomain.sh script needs to be executed from the root directory of the WebLogic domain that was created.

Optional: Create WebLogic Domain Template for secondary hosts

This step is only required if Managed Servers are defined that run on other hosts than the Admin Server.

Execute the "pack" command to create a WebLogic Domain Template for all secondary host machines. Alternatively, use the **<OHI_ROOT>\util\wlst\packOHIDomain.sh** script to do that. The scripts requires the fully qualified root directory of the WebLogic domain that was created as an input parameter. Transfer the generated WebLogic Domain Template to all secondary host machines. The template can now be removed from the primary host.

On any secondary host machine, use the "unpack" command to create the WLS Domain Directory. Alternatively, , use the **<OHI_ROOT>\util\wlst\unpackOHIDomain.sh** script to do that. The scripts requires two arguments:

- a reference to the generated WebLogic Domain Template and
- the fully qualified root directory of the WebLogic domain that was created as an input parameter.

Set up a Load Balancer

A load balancer is needed to distribute incoming requests to the participating nodes in the cluster. Details about configuration of load balancers can be found in **Oracle Fusion Middleware Using Clusters for Oracle WebLogic Server**[5].

OHI Claims requires that HTTP session "stick" to the same node; that needs to be supported by the load balancer. OHI Claims maintains the session by sending a cookie to the client. The name of the cookie is OHISESSION.

Note OHI Claims does not support HTTP Session state replication.

Final steps

The domain is almost ready to deploy the application. Perform these final steps before deployment:

- Update the setDomainEnv.sh scripts

[5] http://download.oracle.com/docs/cd/E12839_01/web.1111/e13709/load_balancing.htm#CHDGFIBD

- Set the ohi-claims.properties, log4j.xml and ohi-claims-security.config files.
- Configure the Coherence cluster

Set Domain Environment Variables for OHI Claims

Note This step must be performed on the primary host only.

Edit the file setDomainEnv.sh in that directory and add the following lines at the beginning as shown in this sample:

```
USER_MEM_ARGS="-Xms1024m -Xmx1024m -XX:PermSize=256m -XX:MaxPermSize=256m"
export USER_MEM_ARGS

if [ "${ADMIN_URL}" = "" ] ; then
 JAVA_OPTIONS=

"-Dohi.log4j.config.file=/home/aia/software/oracle/wls1032/properties/log4
j.xml"
 export JAVA_OPTIONS
else
 JAVA_OPTIONS="<for a managed server, apply the settings as listed earlier
 in this chapter>"
 export JAVA_OPTIONS
fi
```

Note: the JAVA_OPTIONS need to be specified on one line.

Warning Before putting a domain into production, make sure that the environment is secure. See the specific WebLogic documentation with respect to "Securing a Production Environment".

INITIAL CONFIGURATION FOR OHI CLAIMS IN ORACLE FUSION MIDDLEWARE

LOGGING CONFIGURATION

OHI Claims makes use of the Log4J library for generating log output. That log output is controlled by the log4j.xml file that is referenced in the WebLogic Server configuration. Through the configuration file, the logging level can be controlled as well as the output channels (referred to as 'appenders') for log messages. An example of an output channel for logging is a file.

Predefined logging configurations

OHI Claims comes bundled with a number of predefined log4j configurations:

1. log4j.xml: a default logging config file.
2. production-log4j.xml: for maximum performance, will reveal errors.
3. trace-log4j.xml: provides trace-level output (most detailed).

By default, log4j.xml is used. To use one of the others, use the -Dohi.log4j.type Java option in the setDomainenv script:

```
-Dohi.log4j.type=production | trace
```

Note that this is overruled if the flag -Dohi.log4j.config.file is specified. The OHI Claims Operations Guide describes log files and how to control log output.

Logging Configuration For Web Services

To enable logging web services request and response, enable debug logging on DefaultServerSOAPHandler class. Add the following entries in log4j.xml:

```
<logger
name="com.oracle.healthinsurance.jaxws.ext.handlers.DefaultServerSOAPHandl
er">

    <level value="debug"/>

</logger>
```

SET REQUIRED DEFAULTS

The application requires default settings for a number of objects. Before default settings can be applied, users must be provisioned in order to access the system. Make sure the following prerequisites are met:

- Set up users in an LDAP Directory Server as outlined below.
- Provision the users in OHI Claims. For this purpose, a Provisioning service is provided.

Countries

Log into the application and navigate to the Relation Management / Countries page. Execute a query on the page.

If no countries are available, set up at least a default country using the directions in the following table:

Field	Description	Example
Code	The country code that conforms to the ISO 3166-1 standard for representation of countries.	US
Name	Name of the country	United States
Primary Date format	Set the primary date format for the country.	MM/dd/yyyy
Default	There is one and only one default country. The first country that is entered must be the default.	Check the check box.
Active	Make sure the default country is activated in order to be used.	Check the check box.

In case a list of countries was optionally loaded as sample data, verify that a default country is set and that the primary date format is set.

SET UP A DIRECTORY FOR FILE EXCHANGE

In a number of scenarios OHI Claims processes files, for example for the File Import integration points. It is recommended to set up a shared directory structure that can be accessed by any machine that executes the system.

For example:

- For inbound files: /<MOUNT_POINT>/ohi-claims/transfer/in
- For outbound or response files: /<MOUNT_POINT>/ohi-claims/transfer/out

AUTHENTICATION AND USER PROVISIONING

Before users can access the OHI Claims application, the following prerequisites must be met:

- Users need to authenticate themselves by entering a valid combination of username and password credentials. All pages (other than the login page) are only available to authenticated (and properly authorized) users.
- A user must be provisioned to access the OHI Claims application. The main purpose of OHI Claims user accounts is authorization: the administration of (role-based) access rights for users is handled in the OHI Claims application.

The following paragraphs provide details on authentication and provisioning.

Authentication

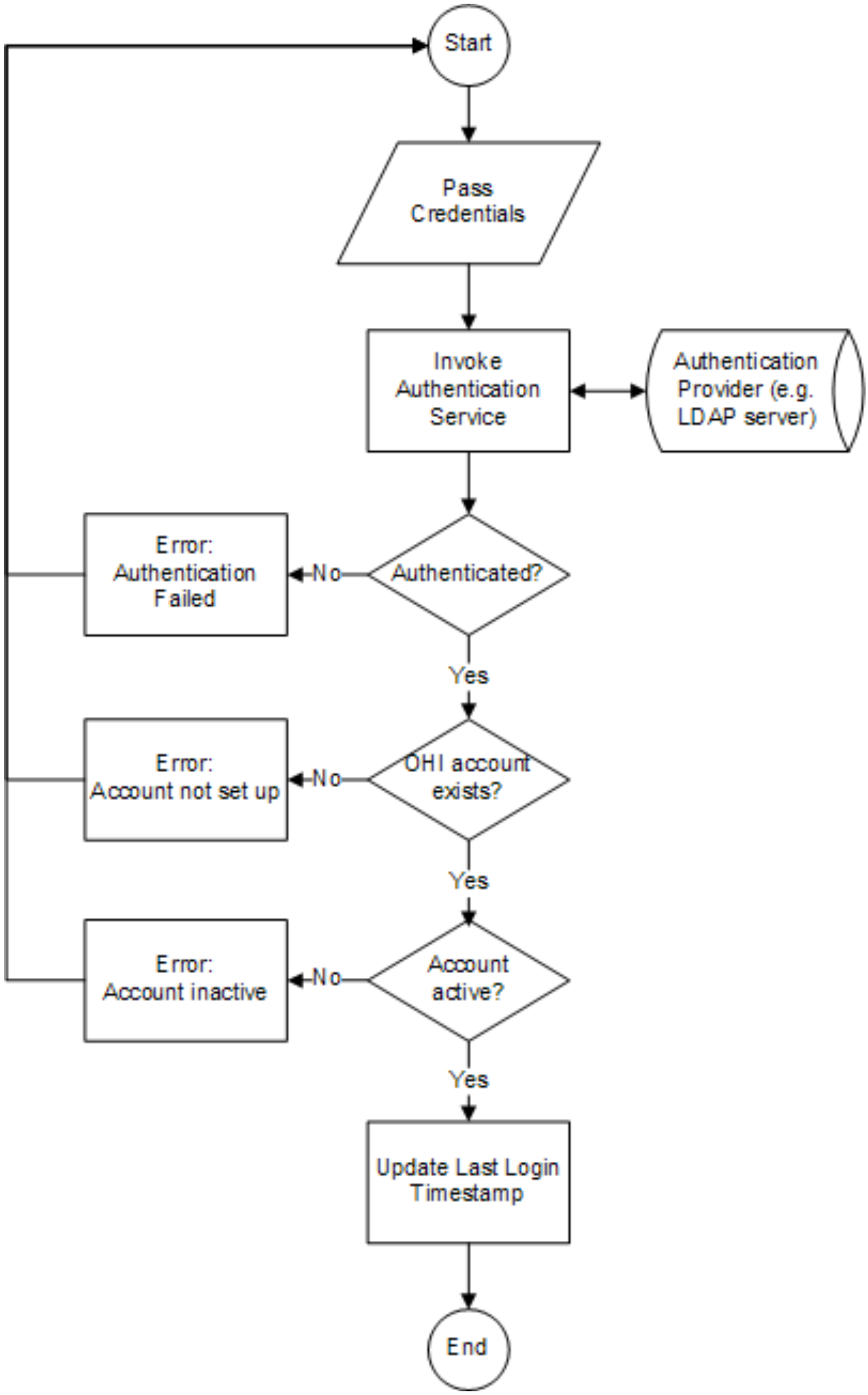
Although user accounts are stored in the application, user passwords are not. As a result, the application relies on external services for authentication. It provides support for LDAP based authentication (LDAP version 3).

The application supports LDAP authentication by binding to the LDAP server using the user-supplied credentials. This way, no LDAP-specific account info needs to be stored in OHI Claims.

Users in the LDAP server are expected to be defined using the industry standard *inetOrgPerson* object class (which is derived from the *organizationalPerson* object class). Typically, in that class, the properties *uid* and *userpassword* are used to store the credentials used for logging in.

The following picture shows the flow of the authentication process:

[6] http://www.oracle.com/technetwork/java/javase/tech/vmoptions-jsp-140102.html


Start
Pass Credentials
Invoke Authentication Service
Authentication Provider (e.g. LDAP server)
Authenticated?
No
Error: Authentication Failed
Yes
OHI account exists?
No
Error: Account not set up
Yes
Account active?
No
Error: Account inactive
Yes
Update Last Login Timestamp
End

Credentials are passed by the user via the OHI Claims Login page.

In the authentication process, the user account data that is stored in OHI Claims is accessed, for example for logging the last time the user successfully logged in to the system. Before someone can authenticate and subsequently access OHI Claims, an account has to be set up. For that purpose, OHI Claims offers a user provisioning service which is documented in the Integration Guide.

LDAP access configuration

Configure the properties as described in Configuration Parameters (page0).

Authentication using SSL: Steps for LDAPS Configuration

The system can authenticate using SSL-secured traffic by changing the LDAP connect string to **ldaps**://<machine>.<domain>:<ssl_port>. The SSL port is usually 636.

This paragraph describes the configuration for enabling SSL encrypted traffic between OHI Claims and Oracle Internet Directory (OID). OID supports three SSL Modes that are listed in the following table. Note that Mode 1 (No SSL Authentication) is not supported by OHI CLaims.

SSL Authentication Method	Description	Supported by OHI Claims?
Mode 1: No SSL Authentication	Neither the client nor the server authenticates itself to the other. No certificates are sent or exchanged. Only SSL encryption and decryption is used.	No
Mode 2: SSL Server Authentication	The directory server authenticates itself to the client. The directory server sends the client a certificate verifying that the server is authentic.	Yes
Mode 3: SSL Client and Server Authentication	The client and server authenticate themselves to each other and send certificates to each other.	Yes

To use the LDAPS feature, an SSL certificate needs to be obtained and installed on the Directory Server. Recommended steps for configuring Oracle Internet Directory 11g (OID) SSL Server Authentication (mode 2) are listed in this paragraph. The listed process is applicable for OID releases 11.1.1.2 to 11.1.1.4 and is based on Support Article 1203271.1 that is published on the Oracle Support website (and takes precedence over the product documentation). Article 12 03271.1 covers steps 1 to 4 in the following list:

1. Support Article 1203271.1 suggests to create an additional OID Instance / Configset. Rationale as given in the article:"By default, the SSL authentication mode is set to authentication mode 1 (encryption only, no authentication). Be sure at least one Oracle Internet Directory server instance has this default authentication mode. Otherwise, you break Oracle Delegated Administration Services and other applications that expect to communicate with Oracle Internet Directory on the encrypted SSL port.". Create an additional OID instance (requires migrating the data of the original instance) or make sure that a configuration set is configured to also support authentication mode 1.

[6] http://www.oracle.com/technetwork/java/javase/tech/vmoptions-jsp-140102.html

2. Use the Fusion Middleware Enterprise Manager to create a Wallet. For test systems Self-Signed Wallets are sufficient. For production systems Self-Signed Certificates are not recommended: Self-Signed Certificates typically lead to Certificate Trust messages. Users could react to these messages but in OHI Claims the user authentication process will fail as a result of an error in the SSL handshake. Create a proper Wallet for production systems.
   For a production setup, generate a certificate request and send that to a Certificate Authority (CA). Import the SSL certificate that was issued by the CA before continuing with the following step.
3. Enable SSL for the OID server using the Wallet that was created in the previous step.
4. Restart the OID instance.
5. Stop the WebLogic (managed) servers that execute OHI Claims.
6. If a Self-Signed certificate was used, prevent Certificate Trust warnings that will break the authentication process by importing the self-signed root certificate in the cacerts certificates store of the JVM that executes OHI Claims.
   - Export the Self-Signed root certificate from the Self-Signed Wallet using the Fusion Middleware Enterprise Manager.
   - Make a backup of the JVM's cacerts file.
   - Import the root certificate into the cacerts certificate store using the keytool:

     ```
     keytool -import -trustcacerts -keystore cacerts -storepass
     changeit -noprompt -alias <alias>
     -file <path_to_exported_root_certificate_file>
     ```

   - where alias is a self-chosen, meaningful name for the root certificate (note: the alias has to be unique within the cacerts file!).
7. Start the WebLogic (managed) servers that execute OHI Claims.
8. In the WebLogic Console, in the "Provider Specific" settings tab of the OHIClaimsAuthenticationProvider, set the SSLEnabled flag (restart of WebLogic server required).
9. Test the setup. If an additional OID instance was created and the original instance is no longer needed, the original OID Instance / Configuration set can be stopped using opmnctl. Optionally, it can be removed.

Note The OHI Claims User Interface is browser-based. Network traffic between browsers on user workstations and the application servers executing OHI Claims uses the HTTP protocol. It is highly recommended to also secure the HTTP traffic between user workstations and the application servers, for example by using HTTPS (secure HTTP traffic). For user credentials and sensitive data to be encrypted always, properly secure all channels.

INTERNAL SYSTEM USER

During installation, an acount for the Internal System User is created in the OHI_USERS table with the following characteristics:

- ID=10.
- IND_ACTIVE=Y.
- DISPLAY_NAME='Internal System User'.
- LOGIN_NAME=null.

This user cannot be used to log in to the application via the UI pages, because the LOGIN_NAME is null. The Internal System User is used for the internal processing. For example, records created or updated by an Integration Point, will have CREATED_BY and/or LAST_UPDATED_BY = 10 (the id of the internal system user).

Seeded access roles

As said in the previous section, the seeded Internal System User cannot be used to log in to the application to use the UI pages. So after installation, new users should be created with appropriate roles.

There is a bootstrap issue here: new roles should be defined first in the OHI Claims application using the Setup access role page. To be able to access the setup access role page, a user should exists with a role that gives access to this page.

To solve the bootstrap issue, role SETUP_ACCESS_ROLE is seeded during installation as follows:

Table 2-1: Access Role

Acces Role Attribute	Value
Code	SETUP_ACCESS_ROLE
Name	Setup Access Role
Description	System role that gives access to setup access role page only.
Active	Y
Enabled	Y
Ohi specific?	Y

Table 2-2: Access Restriction Grants for SETUP_ACCESS_ROLE

Acces Restriction Grant Attribute	Value
Access Restriction	AccessRoles
Create?	Y
Retrieve?	Y
Update?	Y
Delete?	Y
OHI specific?	Y

So the role SETUP_ACCESS_ROLE gives access to the setup access role page only.

After installation, the following steps needs to be taken to setup a new user with the SETUP_ACCESS_ROLE granted:

1. Create a new access role SETUP_ACCESS_ROLE in the external identity store.
2. Create a new user in the external identity store and grant the SETUP_ACCESS_ROLE to that user.
3. Provision the user with the SETUP_ACCESS_ROLE granted to the OHI Claims application.

For explanation of these steps, see Function Authorization (page0).

To facilitate testing, role ALL_FUNCTIONS_ACCESS_ROLE is seeded also. This role gives access to all pages of the application. This role is not intended to be used in production environments, so this role is disabled by default.

Table 2-3: Access Role for testing

Acces Role Attribute	**Value**
Code	ALL_FUNCTIONS_ACCESS_ROLE
Name	All Functions Access Role
Description	System role that gives access to all pages (disabled by default)
Active	Y
Enabled	N
Ohi specific?	Y

Table 2-4: Access Restriction Grants for ALL_FUNCTIONS_ACCESS_ROLE

Acces Restriction Grant Attribute	**Value**
Access Restriction	All access restrictions of type 'Function'
Create?	Y
Retrieve?	Y
Update?	Y
Delete?	Y
OHI specific?	Y

After installation, the following steps needs to be taken to setup a new user with the ALL_FUNCTIONS_ACCESS_ROLE granted:

1. Create a new access role ALL_FUNCTIONS_ACCESS_ROLE in the external identity store.
2. Create a new user in the external identity store and grant the ALL_FUNCTIONS_ACCESS_ROLE to that user.
3. Provision the user with the ALL_FUNCTIONS_ACCESS_ROLE granted to the OHI Claims application.
4. Enable to access role ALL_FUNCTIONS_ACCESS_ROLE.

SYSTEM SIZING GUIDE

OVERVIEW

Getting the best performance in production environments requires a properly configured system. The most critical elements of that configuration surround JVM memory usage and garbage collection settings. This section covers:

- A subset of JVM options relevant to the sizing and tuning of the OHI Claims application.
- Sizing guidelines for the JDBC Connection Pool.

JVM OPTIONS

A full list of JVM options can be found at Java HotSpot VM Options.[6]

Setting	Description
-Xms	Initial java heap size.
-Xmn	Minimum java heap size.
-Xmx	Maximum java heap size.
-XX:PermSize	The default value is 64MB for a server JVM. Setting it to a more appropriate value eliminates the overhead of increasing this part of the heap.
-XX:MaxPermSize	Maximum size of the permanent generation.

Heap size does not determine the amount of memory your JVM will consume.

Java will allocate a certain amount of memory for the native part of the JVM, as well as a per thread call stack and reserved code cache for JIT compilation. The native part of JVM allocation can not be influenced and depends on a number of factors including platform and heap heuristics.

-XX:PermSize

The perm size should be set to 384 Megabytes.

-XX:MaxPermSize

The maximum perm size should be set to 512 Megabytes. On 64-bit JVMs it should be sized ~30% larger (768 Megabytes recommended).

-Xms -Xmn -Xmx

Oracle recommends that -Xmn and -Xmx be set to the same value. This eliminates potentially costly heap reallocations, and can reduce the amount of heap fragmentation that can occur. Setting -Xms is then unnecessary since the heap size itself is static.

UI Related Memory Sizing

Oracle recommends allocating 10 Megabytes of heap per tab per user session as a minimum. A session maps mostly directly to a user, and a tab is an OHI Claims major UI element. For example: if someone is using the OHI Claims application

[6] http://www.oracle.com/technetwork/java/javase/tech/vmoptions-jsp-140102.html

and has 3 tabs open in the browser (e.g. a tab for searching claims and 2 tabs for changing claims) the total heap size allocated for the users session is 30 Megabytes. Note that the number of tabs is limited to a maximum of 15 for Claims pages and also 15 for non-Claims pages so a total of 30 tabs per user.

Processing Related Memory Sizing

Oracle recommends allocating 30 Megabytes of heap per Claims processing thread. There are 10 processing threads that will always be allocated (JMS related threads) and by default an additional 15 threads will be allocated unless the ohi.processing.maxThreads is used to change that number. Note: consult Oracle before changing the default value for ohi.processing.maxThreads.

Web Services Related Memory Sizing

Similar to the sizing for Claims processing threads, Oracle recommends allocating 30 Megabytes of heap for servicing a Web Service request.

Working Space Memory

Once the UI and processing contributions have been calculated, the entire value should be increased by 30%. This accounts for working space for the garbage collector. Oracle recommends the use of the through put collector (concurrent mark and sweep or CMS) as well as the parallel new generation collector. Both of these collectors require extra working space for carry over objects during concurrent collection.

Sample Worksheet for heap size calculations

PermSize	**512Mb**	
	Users	10
	Tabs per User	3
	Megabytes per tab per user	10
UI Memory	**300Mb**	10 * 3 * 10
	JMS Threads	10
	Processing Threads	15
	Threads for servicing Web Services requests	15
	Megabytes per Thread	30
Processing Memory	**1200Mb**	(10 + 15 + 15) * 30
Total Memory	**2012Mb**	PermSize + UI Memory + Processing Memory
Heap Setting (-Xmn -Xmx)	**2615Mb**	2012Mb * 1.3 (garbage collector overhead)

In this scenario, the -Xmn and -Xmx values would be set to a minimum of 2615M in the setDomainEnv.sh script for the OHI Claims installation.

Allocating too much Memory

For 32 bit environments the effective maximum heap size is approximately 2.5Gb. For 64 bit environments there is basically no side effect to allocating too much memory. Because of the use of the CMS garbage collector memory will always eventually get used, though allocating more than 100% of the calculated heap could result in rare but very costly full collections in the event that a very long uptime system needs to occasionally execute a full garbage collect. Oracle generally recommends that if more physical memory is available to the JVM process, it should be allocated to the heap.

Allocating too little Memory

Allocating too little memory can have significant performance impacts. It can lead to garbage collector issues, system freeze and severe system performance issues.

CONNECTION POOL SIZING GUIDELINES

OHI Claims utilizes a WebLogic Data Source & Connection Pool to connect to the database. The number of connections in the Connection Pool should be properly sized. This paragraph contains guidelines for that sizing exercise.

Connection Pool management

The connection pool is managed by the WebLogic application server. For example, WebLogic may temporarily test a connection before it is handed to the process that requested it. For determining the size of the connection pool the total amount of connections is corrected for this overhead by increasing it with 30%.

UI Related Connection Pool Sizing

The number of connections for servicing UI requests depends largely on the number of (concurrent) users. Roughly, servicing a user's request requires the use of one connection. After the system's response is completed "think time" (before the user initiates a follow-up request) needs to be taken into account. Oracle assumes that a user spends 75% of his time evaluating the response and for initiating the next activity. The formula for determining the number of connections for servicing UI requests is: number of concurrent users *75% with a minimum of 50 connections for handling UI requests.

Processing Related Connection Pool Sizing

For Claims processing, the number of database connections required is similar to the amount of processing threads.

Web Services Related Connection Pool Sizing

For handling a Web Service request, OHI Claims uses more than one database connection. For auditing purposes, information is logged using a separate connection. As a result, for handling Web Services requests the number of database connections required is: the number of concurrent requests * 2.

Sample Worksheet for connection pool calculations

	Users	40
UI Database Connections	**50**	40 * 0.75 = 30 (with a minimum of 50)
	JMS Threads	10
	Processing Threads	15
Processing Database Connections	**25**	(10 + 15)
	Number of concurrent Web Services Requests	15
Web Services Database Connections	**30**	15 * 2
Total number of Database Connections	**137**	(50 + 25 + 30) * 1.3 (management overhead)

As a result, the maximum number of database connections in the pool should be set to 137. Make sure that the number of sessions that the database can accommodate is larger than that amount.

Chapter 3

Release installation

In this chapter, the generic process for Installing an OHI Claims release is described.
Release specific instructions are documented in the Release Notes for that specific release.

INSTALL DATABASE OBJECTS

CHANGE INSTALLATION CONFIGURATION

1. In **<OHI_ROOT>\util\install**, make a copy of **ohi_install.cfg.template** and name it **ohi_install.cfg**.
2. Edit **ohi_install.cfg** to contain your specific database connection data and other configuration settings. The settings are explained in the file itself.

Note By default, the schema passwords will be similar to the schema user names. The ohi_install.cfg files allows the specification of different passwords. Alternatively, specify empty string passwords to have the option of entering the passwords at the command prompt. In the latter case, the passwords will not end up in a configuration file.

Warning Default schema passwords should not be used.

Warning Oracle recommends that schema passwords are entered at the command prompt. Never store passwords in configuration files.

Configure Instance Discriminator

In accordance with the concepts explained in the paragraph Enabling Replication of Setup Data, the correct environment or instance must be configured during a new installation. The data that is entered for ohiInstances in the ohi_install.cfg file is stored in the database when a fresh install is performed. Make sure to assign unique discriminator values for each environment.

RUN INSTALLER

1. Open a command window and browse to **<OHI_ROOT>\util\install**.
2. Run the installer by typing **ohi_install.bat**. This will assume that the config file ohi_install.cfg is present in the same directory where ohi_install.bat is present and uses the default configuration from ohi_install.cfg. To specify a

different location of ohi_install.cfg or to specify a different environment from ohi_install.cfg, follow the next step.

3. Specify the command line options to specify the location of ohi_install.cfg file and environment to use from ohi_install.cfg.
   - Eg: **ohi_install.bat -c /home/oracle/someLocation/ohi_install.cfg -e dev**
4. The command line arguments are explained below:

Option		Argument	Description
Short	**Long**		
-c	--cfg	config file path	The location of the configuration file. Default is ohi_install.cfg
-e	--env	environment name	The name that specifies which of the environment settings from the config file to use

Install Seed Data

Part of the database objects installation is the installation of Seed Data

Types of Seed Data

Generic Seed Data

Seed data is maintained by Oracle. Customers should not change this data. It is delivered as part of a release and may be updated by software upgrades.

Tables containing Seed Data include:

Localization Seed Data

This category covers specific data that is required by localizations. The data is maintained by Oracle. There is currently no data in this category. Examples:

- Flex code definitions for a specific page
- Specific messages for localizations.

Sample Data

Sample data is provided by Oracle to give you a headstart during configuration. You can opt to install this data. It is *not* modified during future upgrades. Tables containing Sample Data include:

Table Name	Remarks
To be determined	

[1] http://download.oracle.com/docs/cd/E12840_01/wls/docs103/config_wls/self_tuned.html

Restrictions on using Seed Data

Because Seed Data is maintained by Oracle, it may be modified or even deleted as part of an upgrade. Customers should therefore exercise caution when using seed data in their configuration by abiding these rules.

1. Do not remove (delete) Seed Data rows. A patch may re-insert the row.
2. Do not update columns, other than those indicated as updateble below.
3. Do not make references to rows that may be deleted by Oracle (see table below).

Violations of the rules above (especially rule 3) may lead to failures during the installation of upgrades.

The table below lists the Seed Data tables.

- **Data**: The table or logical entity
- **Updatable columns**: The customer may update the values in these columns. They will not be overwritten by upgrade scripts. Other columns should not be updated by the customer.
- **Physical Delete**: Upgrade scripts may delete this data. The customer should not create references to this data. Example: Do not use OHI messages for your own dynamic checks.

Data	Updatable columns	Physical Delete	Remarks
Access Restrictions		Yes	Also deletes Access Restriction Grants referring to this row
Access Restriction Grants		Yes	
Access Roles		No	Two roles are seeded
Boilerplate Texts		Yes	
Claim Forms		No	
Countries	all _b columns	No	
Country Regions		No	
Coverage Labels		No	
Dynamic Field Usages		No	
Dynamic Logic		No	
Fields (+ dynamic logic)		No	
Flex Codes		No	
Flex Code Sets (+ details)		No	
Flex Code Systems		No	
Languages	ind_default ind_installed	No	

[1] http://download.oracle.com/docs/cd/E12840_01/wls/docs103/config_wls/self_tuned.html

Messages	ind_suppress_log_in_ui ind_suppress_log_in_ext ind_mark external_code	Yes	
Single Flex Code Definitions (+ usage)		No	
Task Types		Yes	Customer is not allowed to change anything in base table
Task Type Attributes	value_char value_number value_datetime value_clob	Yes	
Users		No	One User will be seeded (system user)

ENABLE TOTAL RECALL (OPTIONAL)

When Total Recall Option is activated, you should decide if one or more of the new tables should be added to a Flashback Data Archive.

Syntax to enable history tracking for a table is:

```
ALTER TABLE <tablename> FLASHBACK ARCHIVE [<Flashback Data Archive name>];
```

Note that the FDA name is required only when adding the table to a non-default FDA.

To disable history tracking for a table use:

```
ALTER TABLE <tablename> NO FLASHBACK ARCHIVE;
```

For convenience, we provide an *example* script that can help configuring archived tables:

```
import groovy.sql.Sql
import java.util.logging.*

def logger = Logger.getLogger(this.class.getName());

def config = new Config(args, 'setFlashbackArchive.cfg')
// Override the default level for the top-level logger
Logger.getLogger("").setLevel(config.log.level);
config.log()

def db = Sql.newInstance( config.db.url
                        , config.db.user
                        , config.db.passwd
                        , 'oracle.jdbc.driver.OracleDriver')
this.db = db

// Get the set of tables For which FBA needs to be switched off
def getTablesToSwitchOff(tables) {
    def tableList = tables.join("', '")
    switch_off = db.rows("""select fba.owner_name as owner
                            ,      fba.table_name
                            from   dba_flashback_archive_tables fba
                            where  fba.status = 'ENABLED'
                            and    fba.owner_name||'.'||fba.table_name not
 in ('""" + tableList + """')
                        """)
}
```

```
for (table in config.flashback.tables) {
    switch_on = db.firstRow("""select fba.owner_name as owner
                              ,      fba.table_name
                              from   dba_flashback_archive_tables fba
                              where  fba.owner_name||'.'||fba.table_name
= $table
                              and    (  fba.status is null
                                     or fba.status != 'ENABLED'
                                     )
                           """)
    if (switch_on) {
        logger.info "Switching Flashback Archiving on for table ${table}"
        def stmt = "alter table " + table + " flashback archive
${config.flashback.archive}"
        try {
            println stmt
            db.execute(stmt)
        } catch (java.sql.SQLException e) {
            logger.warning "Error occurred while executing SQL " + stmt
            logger.warning "Error was " + e.getMessage()
            println "Unable to set Flashback Archive to
${config.flashback.archive} for table ${table} " + e.getMessage()
            println "Press enter to continue"
            new InputStreamReader(System.in).readLine()
        }
    }
}

// For every table that is not in the config-list but has FBA turned on, a
 confirmation is asked before actually
// turning off FBA
getTablesToSwitchOff(config.flashback.tables).each { it ->
    def tableName = "${it.owner}.${it.table_name}"
    println "Switching Flashback Archiving OFF for table ${tableName}"
    println "Are you sure you want to do that? This will purge all history
 for this table!! (Y/N)"
    response = new InputStreamReader(System.in).readLine()
    while (response.toUpperCase() != "Y" && response.toUpperCase() != "N")
 {
        println "Please respond with \"Y\" or \"N\""
        response = new InputStreamReader(System.in).readLine()
    }
    if (response.toUpperCase() == "Y") {
        def stmt = "alter table " + tableName + " no flashback archive"
        try {
            println stmt
            db.execute(stmt)
            logger.warning "Flashback Archiving was switched off for table
 ${tableName} as per users request"
        } catch (java.sql.SQLException e) {
            logger.warning "Error occurred while executing SQL " + stmt
            logger.warning "Error was " + e.getMessage()
            println "Unable to switch off Flashback Archive for table
${tableName} " + e.getMessage()
            println "Press enter to continue"
            new InputStreamReader(System.in).readLine()
        }
    } else {
        println "Flashback Archiving was NOT switched off for table
${tableName}."
        logger.warning "Flashback Archiving was NOT switched off for table
 ${tableName} as per users request"
    }
}

class Config {
  private static Logger logger = Logger.getLogger(Config.class.getName())
  def configFile
  def db = [:]
  def log = [:]
  def flashback
  def Config(args, configFile) {
    this.configFile = configFile
    def parsedConfig
    def cl = new CliBuilder(usage:
             'setFlashbackArchive.groovy [-c configFile]')

    cl.h(longOpt:'help', 'Show usage information and quit')
    cl.c(argName:'configFile', longOpt:'cfg', args:1, required:false,
'Config file, default is ' + configFile)

    def opt = cl.parse(args)

    if (!opt) {
      // the parse failed, the usage will be shown automatically
      println "\nInvalid command line, exiting..."
      System.exit(-1)
    } else if (opt.h) {
      cl.usage()
      System.exit(0)
    }

    if (opt.c) {
      this.configFile = opt.c
    }
    try {
      parsedConfig = new ConfigSlurper().parse(new
File(this.configFile).toURL())
    } catch (FileNotFoundException e) {
      logger.severe "Config file ${this.configFile} not found"
      System.exit(-1)
    }
    db = parsedConfig.db
    db.url = db.protocol + "//" + db.hostname + ":"  + db.port + "/"  +
db.sid
    log = parsedConfig.log
    flashback = parsedConfig.flashback
    if (!flashback) {
      println("\nflashback is not set in Config file")
      System.exit(-1)
    }
  }

  def log() {
    logger.config "db=" + db.toString()
  }
}
```

This script works in conjunction with a configuration file that can be created by copying the following to a file named setFlashbackArchive.cfg and changing its settings to appropriate values:

```
import java.util.logging.Level
// Allowable values: SEVERE | WARNING | INFO | CONFIG | FINE | FINER |
FINEST
log.level = Level.INFO

// user has to be a database user with the FLASHBACK ARCHIVE object
privilege granted
// on the Archive used.
db {
  protocol = 'jdbc:oracle:thin:@'
  hostname = '<your hostname>'
  port     = '<your port>'
  sid      = '<your sid>'
  user     = '<your dbuser>'
  passwd   = '<your dbpassword>'
}

// This Flashback Archive has to exist.
// It can be created by a SYSDBA or a user with
// The tables argument contains a list of tables that should be archived.
// If you remove a table from this list, archiving will be disabled.
flashback {
    archive = '<name of your FlashBack Archive>'
    tables = ['<owner.table1>', '<owner.table2>']
}
```

The script can be run using Groovy (groovy <scriptname>)

INSTALL APPLICATION

This section lists the steps that are required to install the OHI application on the Oracle Fusion Middleware WebLogic Server (WLS).

CREATING WEBLOGIC WORK MANAGER

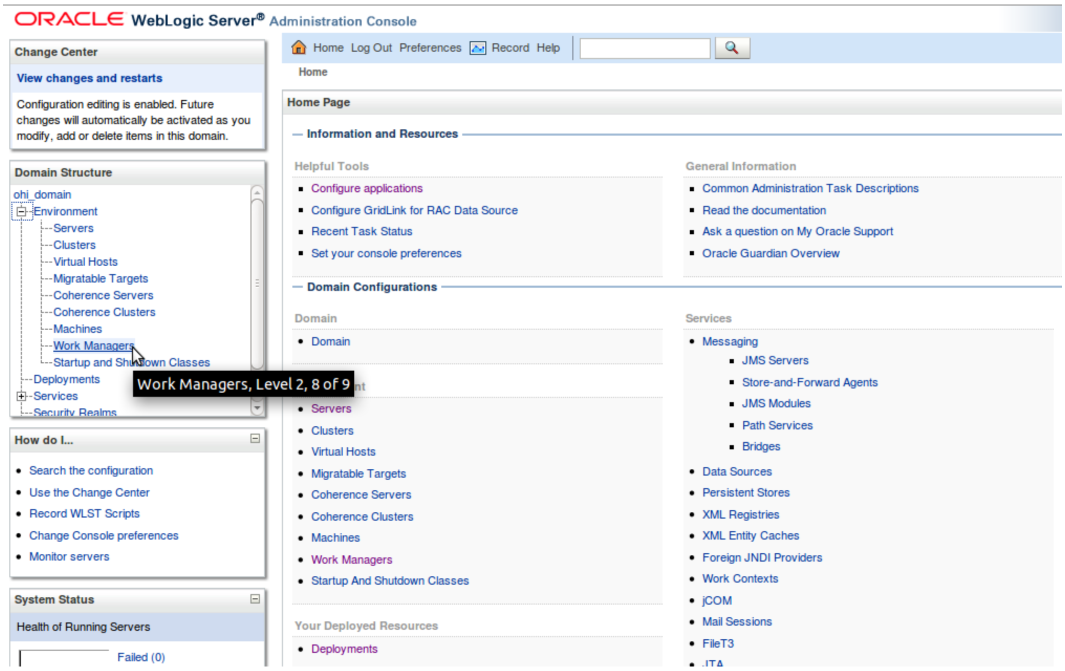
By default, WebLogic Server uses ***default*** work manager to handle thread management and perform self-tuning. This ***default*** Work Manager is used by an application when no other Work Managers are specified in the application's deployment descriptors. For more information, refer WLS documentation here[1].

However, it is recommended to have 2 different work managers - 1 to serve UI requests and 1 to serve WebService requests. By having UI & WebService requests isolated, the predictable behavior can be improved. Follow the steps mentioned below to create work managers in WebLogic Admin Console.

Note Creating these work managers is done by WLST scripts as part of creating a new domain.

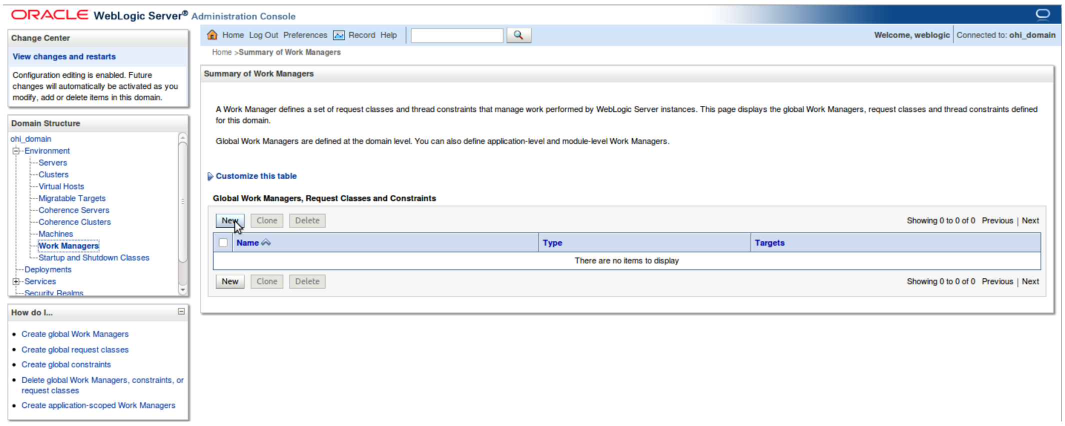
Step 1: Login to WebLogic Admin Console

Step 2: Click on **Environment > Work Managers**



Step 3: Click on **New** button to create a work manager to handle UI requests

[1] http://download.oracle.com/docs/cd/E12840_01/wls/docs103/config_wls/self_tuned.html


ORACLE WebLogic Server® Administration Console
Home Log Out Preferences Record Help
Welcome, weblogic | Connected to: ohi_domain
Home >Summary of Work Managers
Change Center
View changes and restarts
Domain Structure
ohi_domain
Environment
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Virtual Hosts
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Coherence Servers
Coherence Clusters
Machines
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Startup and Shutdown Classes
Deployments
Services
Security Realms
How do I...
Create global Work Managers
Create global request classes
Create global constraints
Delete global Work Managers, constraints, or request classes
Create application-scoped Work Managers
Customize this table
New Clone Delete
Showing 0 to 0 of 0 Previous | Next
Name
Type
Targets

Configuration editing is enabled. Future changes will automatically be activated as you modify, add or delete items in this domain.

Summary of Work Managers

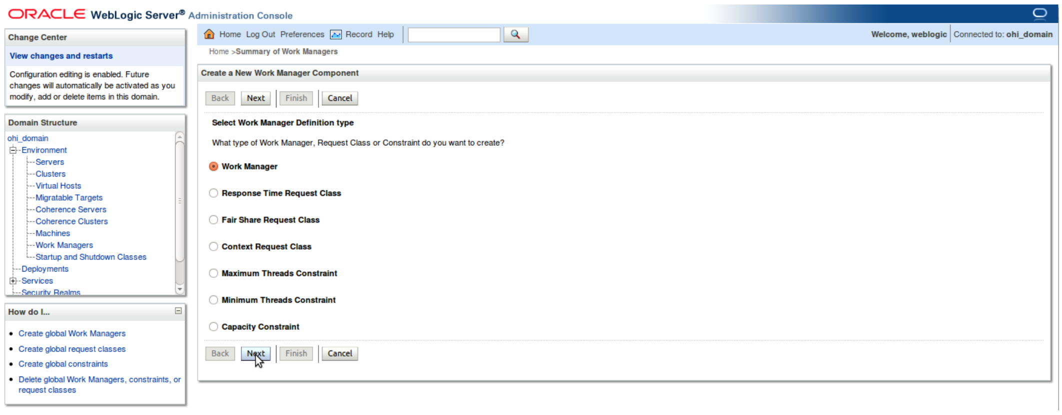
A Work Manager defines a set of request classes and thread constraints that manage work performed by WebLogic Server instances. This page displays the global Work Managers, request classes and thread constraints defined for this domain.

Global Work Managers are defined at the domain level. You can also define application-level and module-level Work Managers.

Global Work Managers, Request Classes and Constraints

There are no items to display

Step 4: Click on **Next** button


ORACLE WebLogic Server® Administration Console
Home Log Out Preferences Record Help
Welcome, weblogic | Connected to: ohi_domain
Home >Summary of Work Managers
Change Center
View changes and restarts
Domain Structure
How do I...
Back Next Finish Cancel

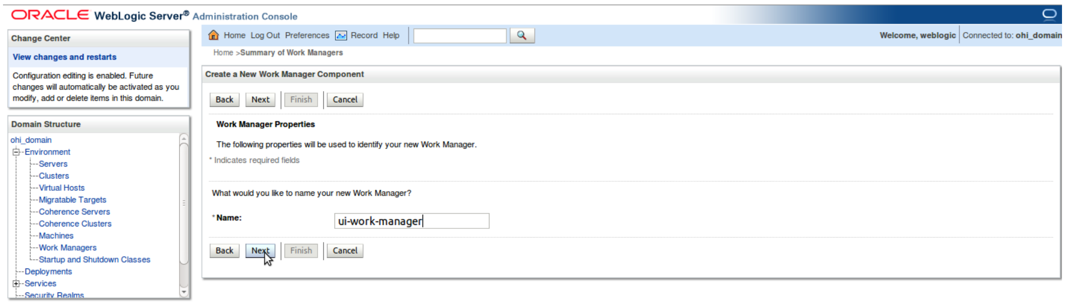
Create a New Work Manager Component

Select Work Manager Definition type

What type of Work Manager, Request Class or Constraint do you want to create?

- ● Work Manager
- ○ Response Time Request Class
- ○ Fair Share Request Class
- ○ Context Request Class
- ○ Maximum Threads Constraint
- ○ Minimum Threads Constraint
- ○ Capacity Constraint

Step 5: Change the **Name** to **ui-work-manager** and click on **Next** button


ORACLE WebLogic Server® Administration Console
Home Log Out Preferences Record Help
Welcome, weblogic | Connected to: ohi_domain
Home >Summary of Work Managers
Change Center
View changes and restarts
Domain Structure
Back Next Finish Cancel

Create a New Work Manager Component

Work Manager Properties

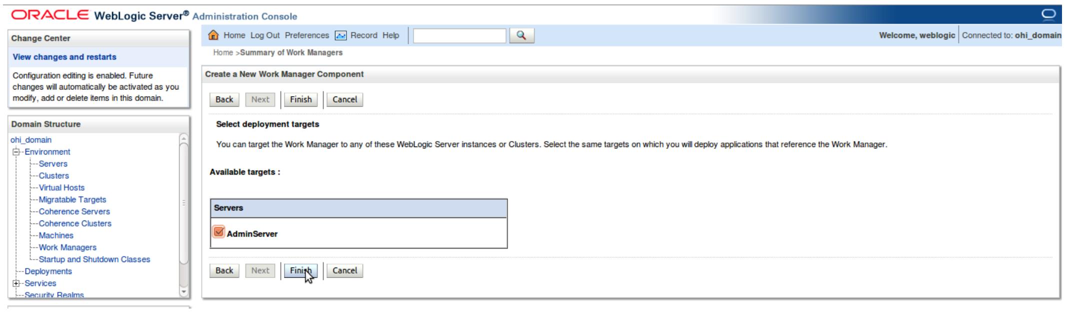
The following properties will be used to identify your new Work Manager.

* Indicates required fields

What would you like to name your new Work Manager?

* Name: ui-work-manager

Step 6: Select the appropriate target(s) from **Available targets** panel and click on **Finish** button


ORACLE WebLogic Server® Administration Console
Home Log Out Preferences Record Help
Welcome, weblogic | Connected to: ohi_domain
Home >Summary of Work Managers
Change Center
View changes and restarts
Domain Structure
Back Next Finish Cancel

Create a New Work Manager Component

Select deployment targets

You can target the Work Manager to any of these WebLogic Server instances or Clusters. Select the same targets on which you will deploy applications that reference the Work Manager.

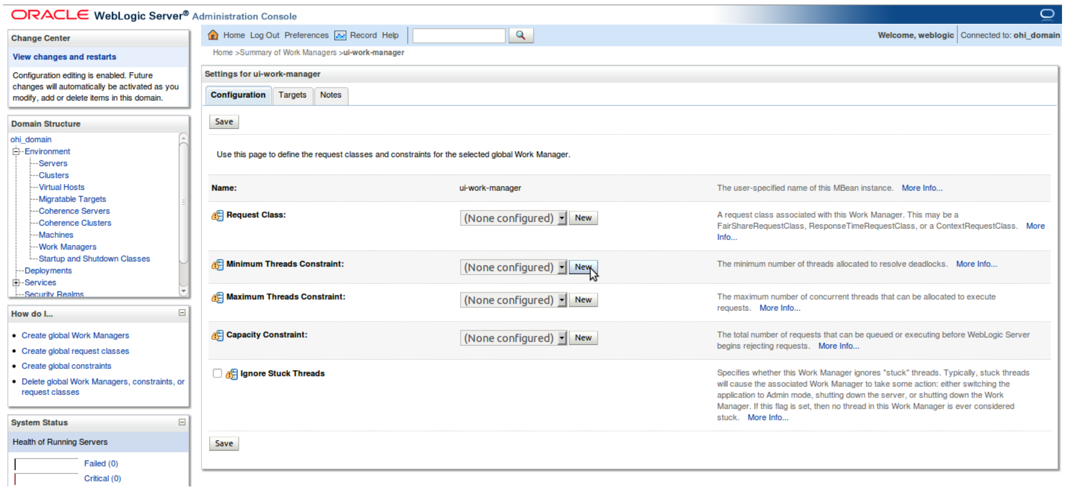
Available targets :

Servers

☑ AdminServer

Step 7: In the **Summary of Work Managers** page, click on **ui-work-manager** link

Step 8: Click on **New** button to create **Minimum Threads Constraint**


ORACLE WebLogic Server® Administration Console
Home Log Out Preferences Record Help
Welcome, weblogic | Connected to: ohi_domain
Home >Summary of Work Managers >ui-work-manager
Change Center
View changes and restarts
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Startup and Shutdown Classes
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Services
Security Realms
How do I...
Create global Work Managers
Create global request classes
Create global constraints
Delete global Work Managers, constraints, or request classes
System Status
Health of Running Servers
Failed (0)
Critical (0)
Configuration
Targets
Notes
Save
New

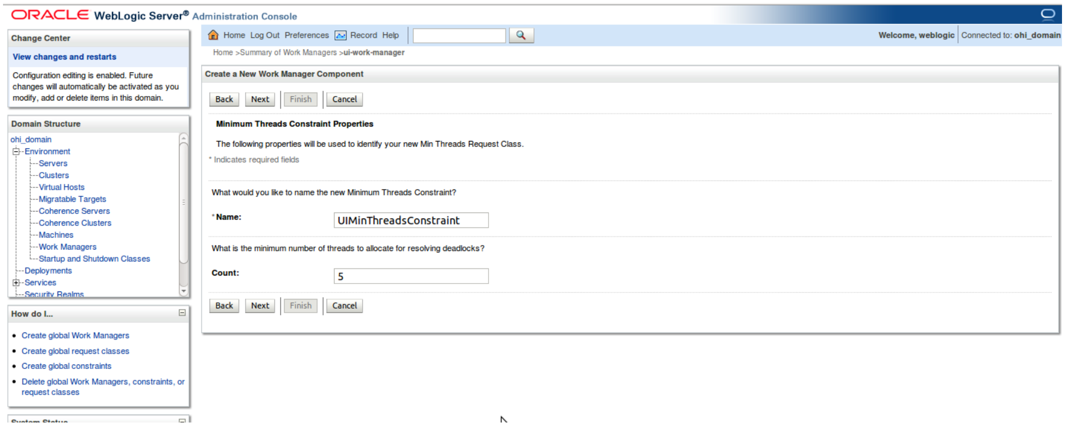
Configuration editing is enabled. Future changes will automatically be activated as you modify, add or delete items in this domain.

Settings for ui-work-manager

Use this page to define the request classes and constraints for the selected global Work Manager.

Name:	ui-work-manager	The user-specified name of this MBean instance. More Info...
Request Class:	(None configured)	A request class associated with this Work Manager. This may be a FairShareRequestClass, ResponseTimeRequestClass, or a ContextRequestClass. More Info...
Minimum Threads Constraint:	(None configured)	The minimum number of threads allocated to resolve deadlocks. More Info...
Maximum Threads Constraint:	(None configured)	The maximum number of concurrent threads that can be allocated to execute requests. More Info...
Capacity Constraint:	(None configured)	The total number of requests that can be queued or executing before WebLogic Server begins rejecting requests. More Info...
□ Ignore Stuck Threads		Specifies whether this Work Manager ignores "stuck" threads. Typically, stuck threads will cause the associated Work Manager to take some action: either switching the application to Admin mode, shutting down the server, or shutting down the Work Manager. If this flag is set, then no thread in this Work Manager is ever considered stuck. More Info...

Step 9: Change the **Name** and **Count** to **UIMinThreadsConstraint** and **5** respectively and click on **Next** button


ORACLE WebLogic Server® Administration Console
Home Log Out Preferences Record Help
Welcome, weblogic | Connected to: ohi_domain
Home >Summary of Work Managers >ui-work-manager
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View changes and restarts
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Machines
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Startup and Shutdown Classes
Deployments
Services
Security Realms
How do I...
Create global Work Managers
Create global request classes
Create global constraints
Delete global Work Managers, constraints, or request classes
Back
Next
Finish
Cancel

Configuration editing is enabled. Future changes will automatically be activated as you modify, add or delete items in this domain.

Create a New Work Manager Component

Minimum Threads Constraint Properties

The following properties will be used to identify your new Min Threads Request Class.

* Indicates required fields

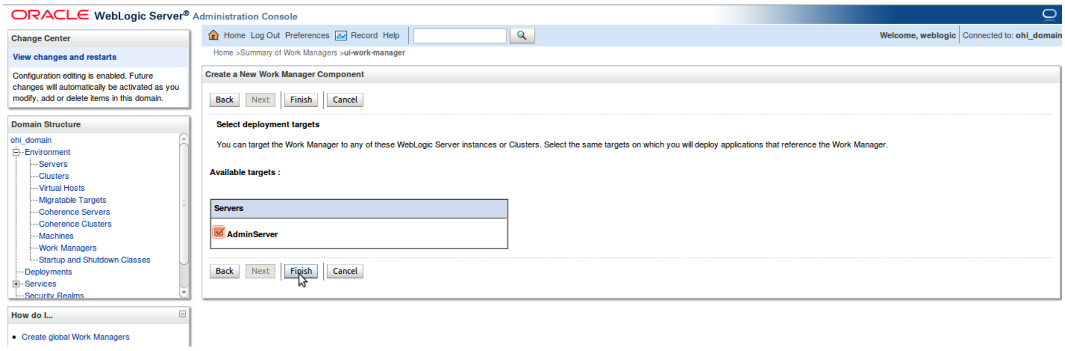
What would you like to name the new Minimum Threads Constraint?

* Name: UIMinThreadsConstraint

What is the minimum number of threads to allocate for resolving deadlocks?

Count: 5

Step 10: Select the appropriate target(s) from **Available targets** panel and click on **Finish** button


ORACLE WebLogic Server® Administration Console
Home Log Out Preferences Record Help
Welcome, weblogic | Connected to: ohi_domain
Home >Summary of Work Managers >ui-work-manager
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View changes and restarts
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Coherence Servers
Coherence Clusters
Machines
Work Managers
Startup and Shutdown Classes
Deployments
Services
Security Realms
How do I...
Create global Work Managers
Back
Next
Finish
Cancel

Configuration editing is enabled. Future changes will automatically be activated as you modify, add or delete items in this domain.

Create a New Work Manager Component

Select deployment targets

You can target the Work Manager to any of these WebLogic Server instances or Clusters. Select the same targets on which you will deploy applications that reference the Work Manager.

Available targets :

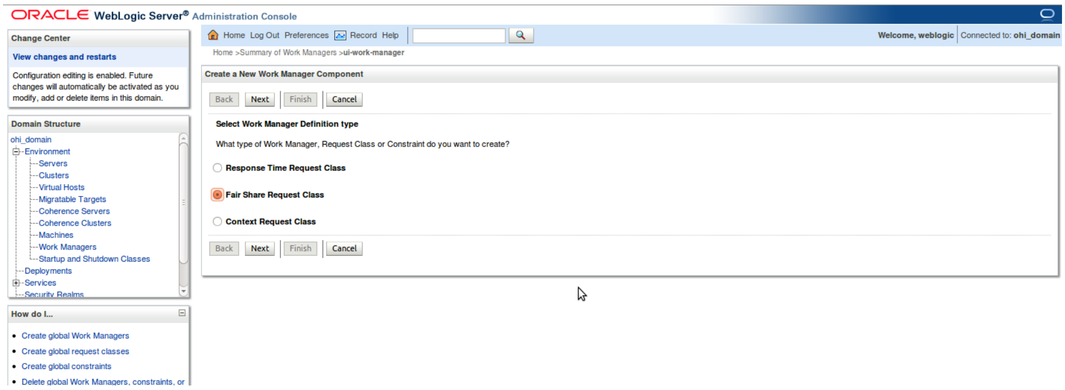
Servers

☑ AdminServer

Step 11: Click on **New** button to create **Fair Share Request Class**

Step 12: Select **Fair Share Request Class** and click on **Next** button

[2] http://download.oracle.com/docs/cd/E17904_01/web.1111/e13737/gridlink_datasources.htm


ORACLE WebLogic Server® Administration Console
Home Log Out Preferences Record Help
Welcome, weblogic Connected to: ohi_domain
Home >Summary of Work Managers >ui-work-manager
Change Center
View changes and restarts
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Services
Security Realms
How do I...
Create global Work Managers
Create global request classes
Create global constraints
Delete global Work Managers, constraints, or
Back Next Finish Cancel

Configuration editing is enabled. Future changes will automatically be activated as you modify, add or delete items in this domain.

Create a New Work Manager Component

Select Work Manager Definition type

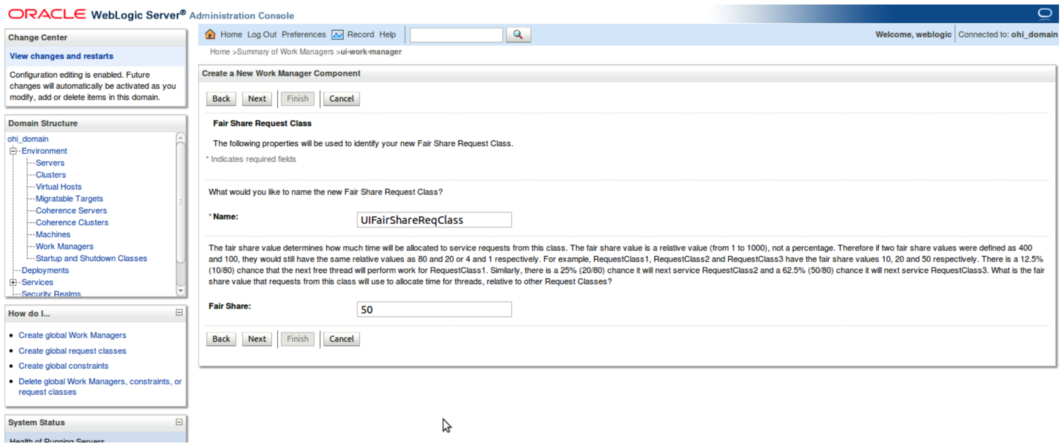
What type of Work Manager, Request Class or Constraint do you want to create?

○ Response Time Request Class

● Fair Share Request Class

○ Context Request Class

Step 13: Change the **Name** and **Fair share** to **UIFairShareReqClass** and **50** respectively.


ORACLE WebLogic Server® Administration Console
Home Log Out Preferences Record Help
Welcome, weblogic Connected to: ohi_domain
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Security Realms
How do I...
Create global Work Managers
Create global request classes
Create global constraints
Delete global Work Managers, constraints, or request classes
System Status
Health of Running Servers
Back Next Finish Cancel

Configuration editing is enabled. Future changes will automatically be activated as you modify, add or delete items in this domain.

Create a New Work Manager Component

Fair Share Request Class

The following properties will be used to identify your new Fair Share Request Class.

* Indicates required fields

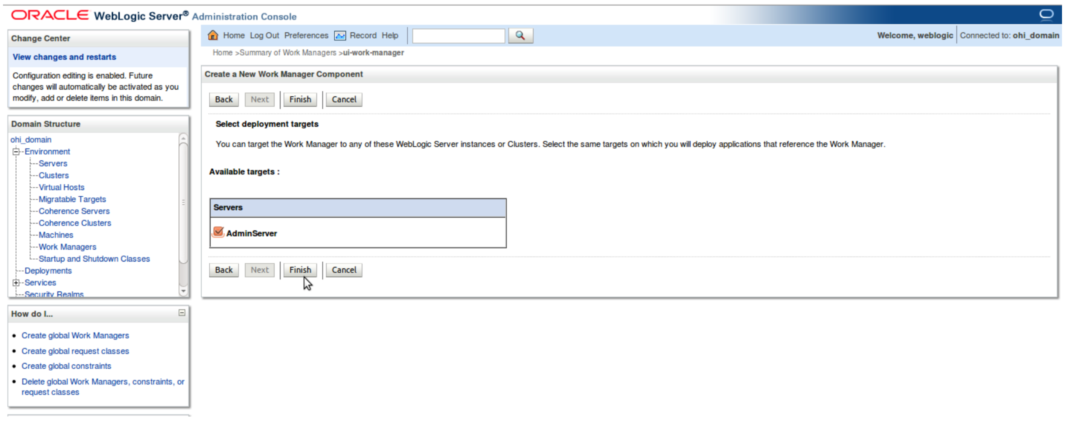
What would you like to name the new Fair Share Request Class?

* Name: UIFairShareReqClass

The fair share value determines how much time will be allocated to service requests from this class. The fair share value is a relative value (from 1 to 1000), not a percentage. Therefore if two fair share values were defined as 400 and 100, they would still have the same relative values as 80 and 20 or 4 and 1 respectively. For example, RequestClass1, RequestClass2 and RequestClass3 have the fair share values 10, 20 and 50 respectively. There is a 12.5% (10/80) chance that the next free thread will perform work for RequestClass1. Similarly, there is a 25% (20/80) chance it will next service RequestClass2 and a 62.5% (50/80) chance it will next service RequestClass3. What is the fair share value that requests from this class will use to allocate time for threads, relative to other Request Classes?

Fair Share: 50

Step 14: Select the appropriate target(s) from **Available targets** panel and click on **Finish** button


ORACLE WebLogic Server® Administration Console
Home Log Out Preferences Record Help
Welcome, weblogic Connected to: ohi_domain
Home >Summary of Work Managers >ui-work-manager
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View changes and restarts
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How do I...
Create global Work Managers
Create global request classes
Create global constraints
Delete global Work Managers, constraints, or request classes
Back Next Finish Cancel

Configuration editing is enabled. Future changes will automatically be activated as you modify, add or delete items in this domain.

Create a New Work Manager Component

Select deployment targets

You can target the Work Manager to any of these WebLogic Server instances or Clusters. Select the same targets on which you will deploy applications that reference the Work Manager.

Available targets :

Servers

☑ AdminServer

Repeat the above steps to create work manager for WebService (Refer the table below).

Configuration	Value
Work Manager Name	ws-work-manager
Minimum Threads Constraint Name	WSMinThreadsConstraint
Minimum Threads Constraint Count	5
Fair Share Request Class Name	WSFairShareReqClass
Fair Share Request Class Fair share	50

The work manager configuration like minimum threads constraint and fair share class etc can be modified at any time in WLS Admin Console to suit the needs.

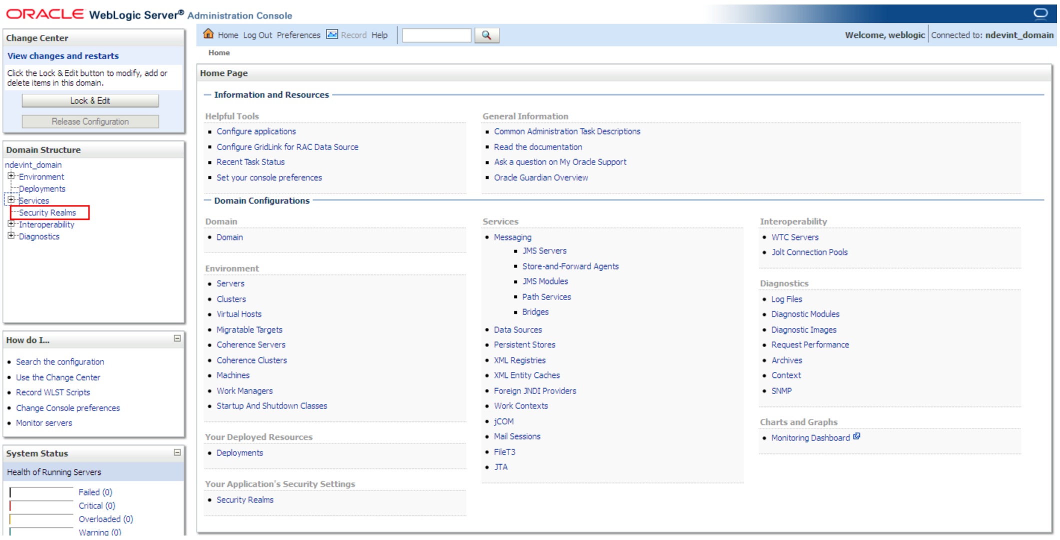
Note In these work managers, only ***Min Threads Constraint*** and ***Fair Share Request Class*** (50-50 between UI & WS) are configured. There is no need to configure Max Threads Constraint (The default is unlimited) and Capacity Constraint (The default is -1, which means the capacity is unlimited).

CONFIGURING OID AUTHENTICATION PROVIDER

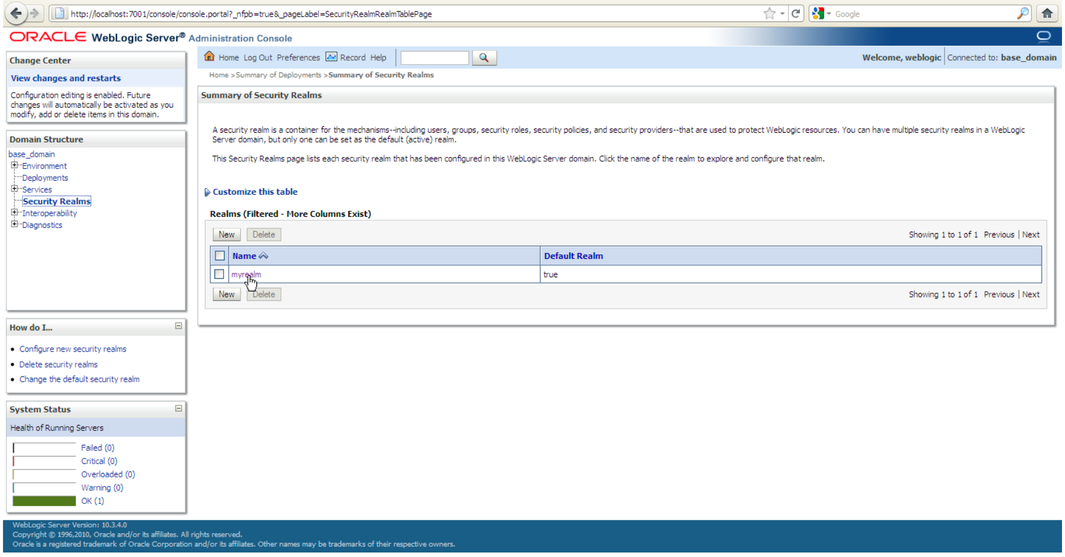
The application uses a WebLogic Authentication Provider to connect to Oracle Internet Directory (OID) or to a third party LDAP server. This section describes the configuration of an OID or third party LDAP Authentication Provider.

Note Alternatively, for creating a new WebLogic domain for OHI Claims use the WLST scripts for setting up the Authentication Provider.

Step 1: Login to WLS admin console and click on **Security Realms** link.



Step 2: Click on **myrealm** link.


http://localhost:7001/console/console.portal?_nfpb=true&_pageLabel=SecurityRealmRealmTablePage
Google
ORACLE WebLogic Server® Administration Console
Home Log Out Preferences Record Help
Welcome, weblogic | Connected to: base_domain
Home >Summary of Deployments >Summary of Security Realms
Change Center
View changes and restarts
Configuration editing is enabled. Future changes will automatically be activated as you modify, add or delete items in this domain.
Domain Structure
base_domain
Environment
Deployments
Services
Security Realms
Interoperability
Diagnostics
How do I...
Configure new security realms
Delete security realms
Change the default security realm
System Status
Health of Running Servers
Failed (0)
Critical (0)
Overloaded (0)
Warning (0)
OK (1)
Customize this table
New
Delete
Showing 1 to 1 of 1 Previous | Next

Summary of Security Realms

A security realm is a container for the mechanisms--including users, groups, security roles, security policies, and security providers--that are used to protect WebLogic resources. You can have multiple security realms in a WebLogic Server domain, but only one can be set as the default (active) realm.

This Security Realms page lists each security realm that has been configured in this WebLogic Server domain. Click the name of the realm to explore and configure that realm.

Realms (Filtered - More Columns Exist)

□	Name	Default Realm
□	myrealm	true

WebLogic Server Version: 10.3.4.0
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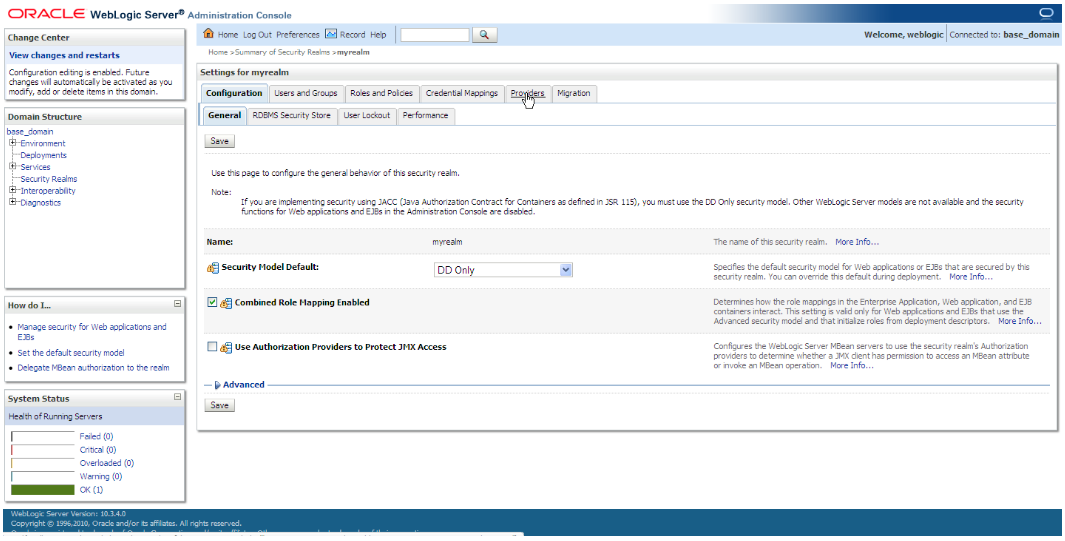
Note In WLS Production-mode use the **Lock & Edit** button before clicking on the **New** button.

Step 3: Click on **Providers** tab.



Configuration editing is enabled. Future changes will automatically be activated as you modify, add or delete items in this domain.

Use this page to configure the general behavior of this security realm.

Note:
If you are implementing security using JACC (Java Authorization Contract for Containers as defined in JSR 115), you must use the DD Only security model. Other WebLogic Server models are not available and the security functions for Web applications and EJBs in the Administration Console are disabled.

Name: myrealm — The name of this security realm. More Info...

Security Model Default: DD Only — Specifies the default security model for Web applications or EJBs that are secured by this security realm. You can override this default during deployment. More Info...

☑ Combined Role Mapping Enabled — Determines how the role mappings in the Enterprise Application, Web application, and EJB containers interact. This setting is valid only for Web applications and EJBs that use the Advanced security model and that initialize roles from deployment descriptors. More Info...

☐ Use Authorization Providers to Protect JMX Access — Configures the WebLogic Server MBean servers to use the security realm's Authorization providers to determine whether a JMX client has permission to access an MBean attribute or invoke an MBean operation. More Info...

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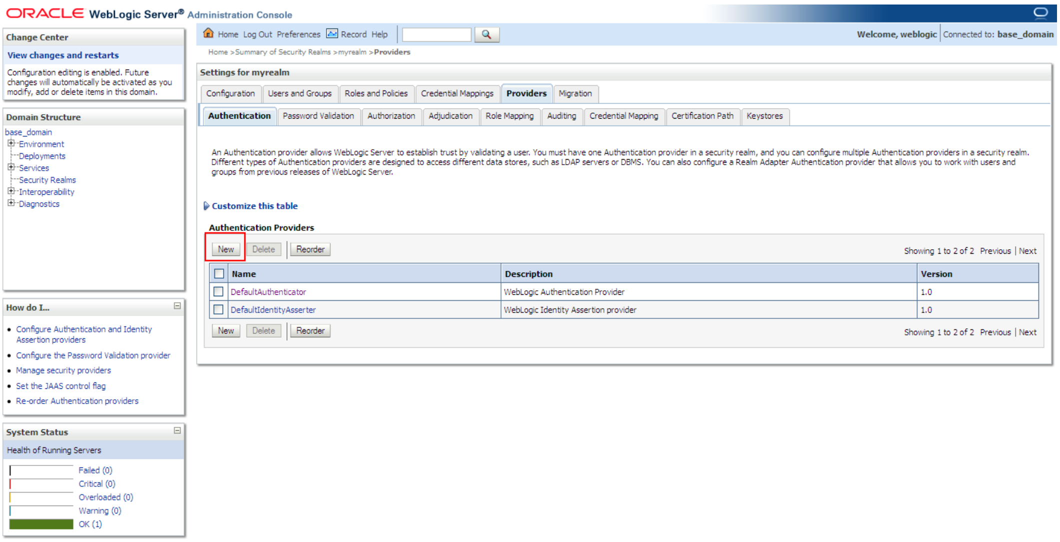
Step 4: Click on **New** button.



Configuration editing is enabled. Future changes will automatically be activated as you modify, add or delete items in this domain.

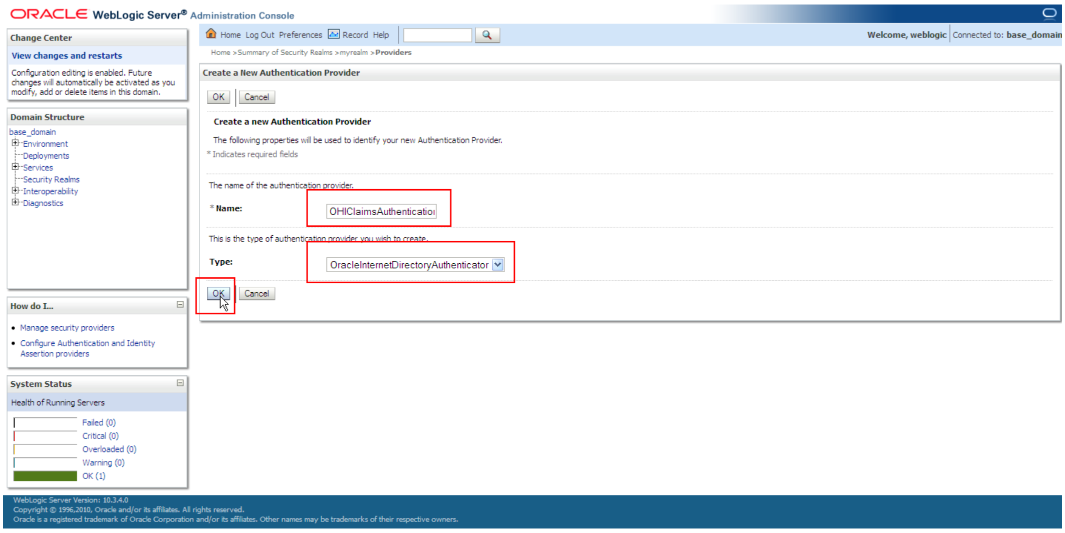
An Authentication provider allows WebLogic Server to establish trust by validating a user. You must have one Authentication provider in a security realm, and you can configure multiple Authentication providers in a security realm. Different types of Authentication providers are designed to access different data stores, such as LDAP servers or DBMS. You can also configure a Realm Adapter Authentication provider that allows you to work with users and groups from previous releases of WebLogic Server.

Authentication Providers

☐	Name	Description	Version
☐	DefaultAuthenticator	WebLogic Authentication Provider	1.0
☐	DefaultIdentityAsserter	WebLogic Identity Assertion provider	1.0

Step 5: Change **Name** and **Type** to **OHIClaimsAuthenticationProvider** and **OracleInternetDirectoryAuthenticator** (or to **LDAPAuthenticator** in case a third party LDAP server is used) respectively in **Create a new Authentication Provider page**. Click on **OK** button.

[2] http://download.oracle.com/docs/cd/E17904_01/web.1111/e13737/gridlink_datasources.htm


ORACLE WebLogic Server® Administration Console
Home Log Out Preferences Record Help
Welcome, weblogic Connected to: base_domain
Change Center
View changes and restarts
Domain Structure
base_domain
Environment
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Services
Security Realms
Interoperability
Diagnostics
How do I...
Manage security providers
Configure Authentication and Identity Assertion providers
System Status
Health of Running Servers
Failed (0)
Critical (0)
Overloaded (0)
Warning (0)
OK (1)
OK
Cancel

Configuration editing is enabled. Future changes will automatically be activated as you modify, add or delete items in this domain.

Home >Summary of Security Realms >myrealm >**Providers**

Create a New Authentication Provider

Create a new Authentication Provider

The following properties will be used to identify your new Authentication Provider.

* Indicates required fields

The name of the authentication provider.

* **Name:** OHIClaimsAuthenticatioı

This is the type of authentication provider you wish to create.

Type: OracleInternetDirectoryAuthenticator

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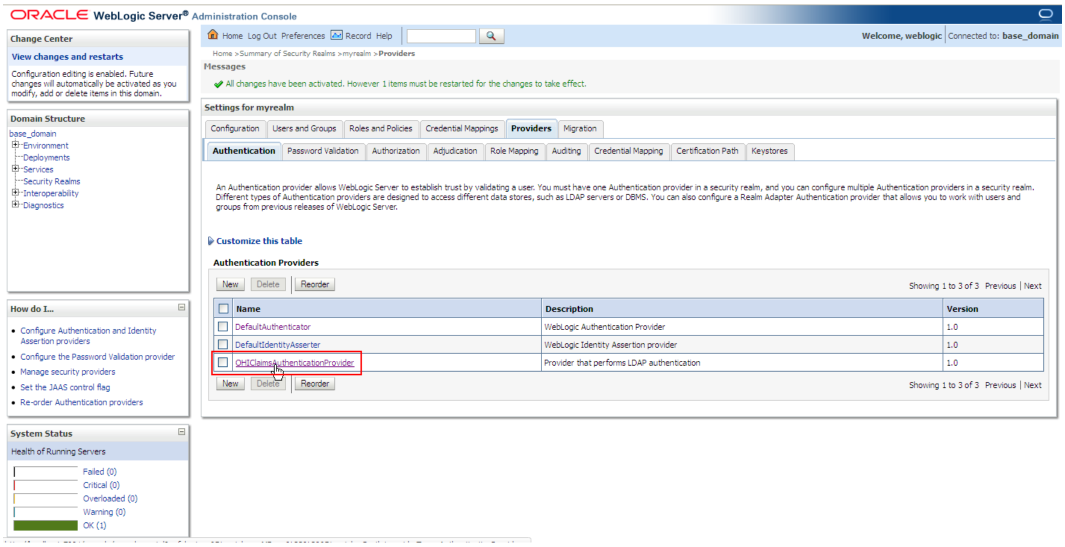
Step 6: Click on **OHIClaimsAuthenticationProvider** link.



Configuration editing is enabled. Future changes will automatically be activated as you modify, add or delete items in this domain.

Home >Summary of Security Realms >myrealm >**Providers**

Messages

✓ All changes have been activated. However 1 items must be restarted for the changes to take effect.

Settings for myrealm

An Authentication provider allows WebLogic Server to establish trust by validating a user. You must have one Authentication provider in a security realm, and you can configure multiple Authentication providers in a security realm. Different types of Authentication providers are designed to access different data stores, such as LDAP servers or DBMS. You can also configure a Realm Adapter Authentication provider that allows you to work with users and groups from previous releases of WebLogic Server.

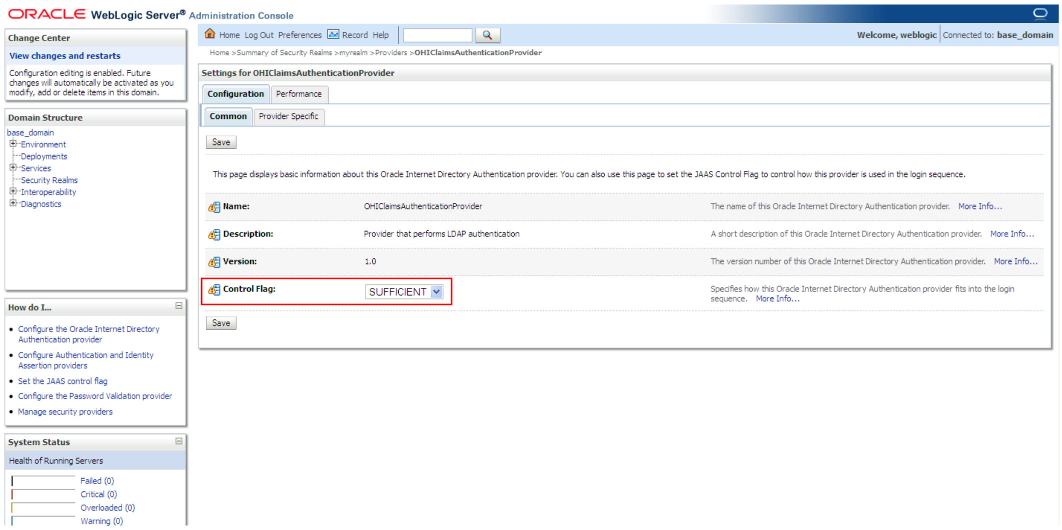
Authentication Providers

Showing 1 to 3 of 3 Previous | Next

□	Name	Description	Version
□	DefaultAuthenticator	WebLogic Authentication Provider	1.0
□	DefaultIdentityAsserter	WebLogic Identity Assertion provider	1.0
□	OHIClaimsAuthenticationProvider	Provider that performs LDAP authentication	1.0

Showing 1 to 3 of 3 Previous | Next

Step 7: Change the **Control Flag** to **SUFFICIENT** and click on **Save** button.


ORACLE WebLogic Server® Administration Console
Home Log Out Preferences Record Help
Welcome, weblogic Connected to: base_domain
Change Center
View changes and restarts
Domain Structure
base_domain
Environment
Deployments
Services
Security Realms
Interoperability
Diagnostics
How do I...
Configure the Oracle Internet Directory Authentication provider
Configure Authentication and Identity Assertion providers
Set the JAAS control flag
Configure the Password Validation provider
Manage security providers
System Status
Health of Running Servers
Failed (0)
Critical (0)
Overloaded (0)
Warning (0)
Configuration
Performance
Common
Provider Specific
Save

Configuration editing is enabled. Future changes will automatically be activated as you modify, add or delete items in this domain.

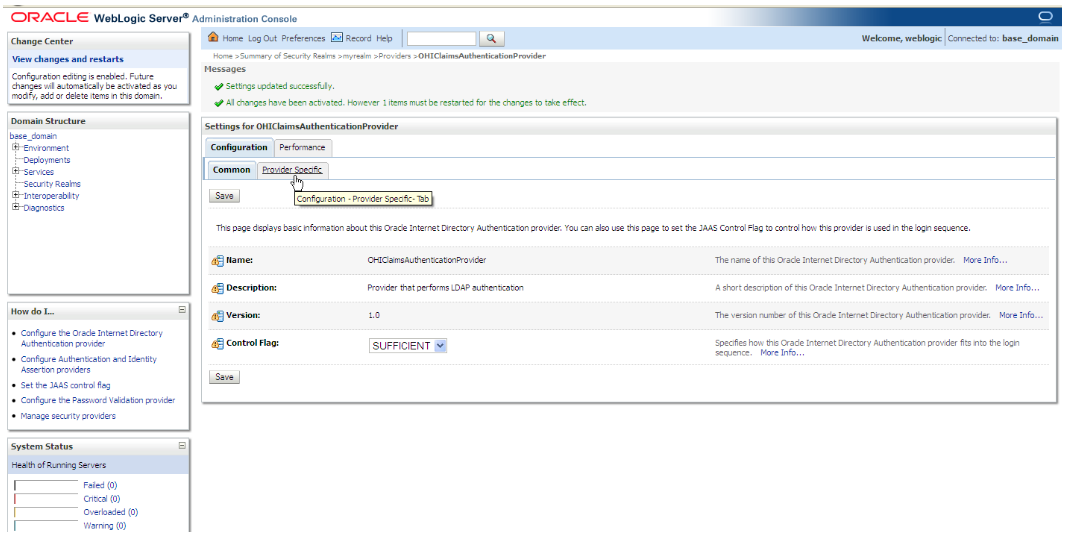
Home >Summary of Security Realms >myrealm >Providers >**OHIClaimsAuthenticationProvider**

Settings for OHIClaimsAuthenticationProvider

This page displays basic information about this Oracle Internet Directory Authentication provider. You can also use this page to set the JAAS Control Flag to control how this provider is used in the login sequence.

Name:	OHIClaimsAuthenticationProvider	The name of this Oracle Internet Directory Authentication provider. More Info...
Description:	Provider that performs LDAP authentication	A short description of this Oracle Internet Directory Authentication provider. More Info...
Version:	1.0	The version number of this Oracle Internet Directory Authentication provider. More Info...
Control Flag:	SUFFICIENT	Specifies how this Oracle Internet Directory Authentication provider fits into the login sequence. More Info...

Step 8: Click on **Provider Specific** tab.


ORACLE WebLogic Server® Administration Console
Home Log Out Preferences Record Help
Welcome, weblogic Connected to: base_domain
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Manage security providers
System Status
Health of Running Servers
Failed (0)
Critical (0)
Overloaded (0)
Warning (0)
Configuration
Performance
Common
Provider Specific
Configuration - Provider Specific- Tab
Save

Configuration editing is enabled. Future changes will automatically be activated as you modify, add or delete items in this domain.

Home >Summary of Security Realms >myrealm >Providers >OHIClaimsAuthenticationProvider

Messages

✓ Settings updated successfully.

✓ All changes have been activated. However 1 items must be restarted for the changes to take effect.

Settings for OHIClaimsAuthenticationProvider

This page displays basic information about this Oracle Internet Directory Authentication provider. You can also use this page to set the JAAS Control Flag to control how this provider is used in the login sequence.

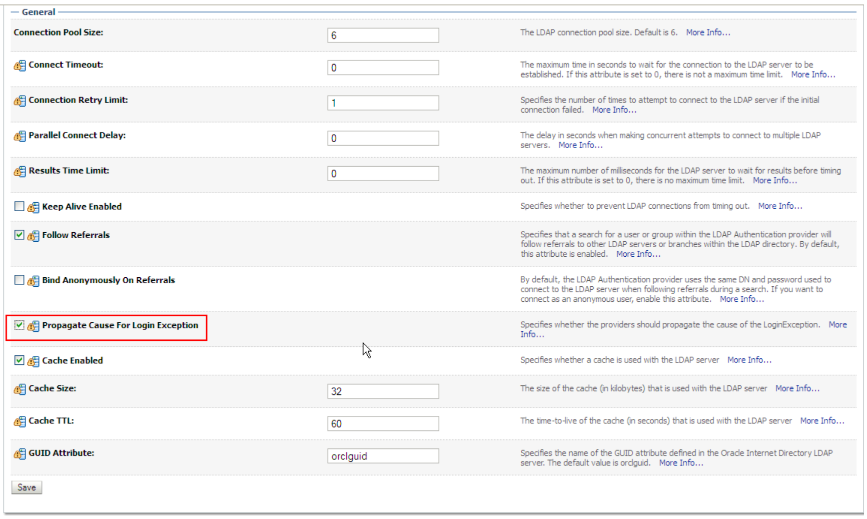
Name:	OHIClaimsAuthenticationProvider	The name of this Oracle Internet Directory Authentication provider. More Info...
Description:	Provider that performs LDAP authentication	A short description of this Oracle Internet Directory Authentication provider. More Info...
Version:	1.0	The version number of this Oracle Internet Directory Authentication provider. More Info...
Control Flag:	SUFFICIENT	Specifies how this Oracle Internet Directory Authentication provider fits into the login sequence. More Info...

Step 9: Enter/change the values for various fields as shown below and select the option **Propagate Cause For Login Exception**. Click on **Save** button.

Field	Value
Host	LDAP hostname or IP address
Port	LDAP Port or SSL Port if the LDAP is SSL enabled. E.g.: 3060. In case LDAPS is used, make sure to check the SSLEnabled flag as well.
Principal	LDAP admin principal: E.g.: cn=orcladmin
Credential	LDAP admin password
Confirm Credential	LDAP admin password
User Base DN	User Base distinguished name. E.g.: ou=Users,dc=healthinsurance,dc=oracle,dc=com
All Users Filter	E.g.: (&(uid=*)(objectclass=person))
User From Name Filter	E.g.: (&(uid=%u)(objectclass=person))
User Name Attribute	E.g.: uid
Group Base DN	If there are no groups in the LDAP, leave this field empty.

Note There are a few more properties (or fields in the page) which are not mentioned in the table above. Change the values of those fields to suit your LDAP settings.

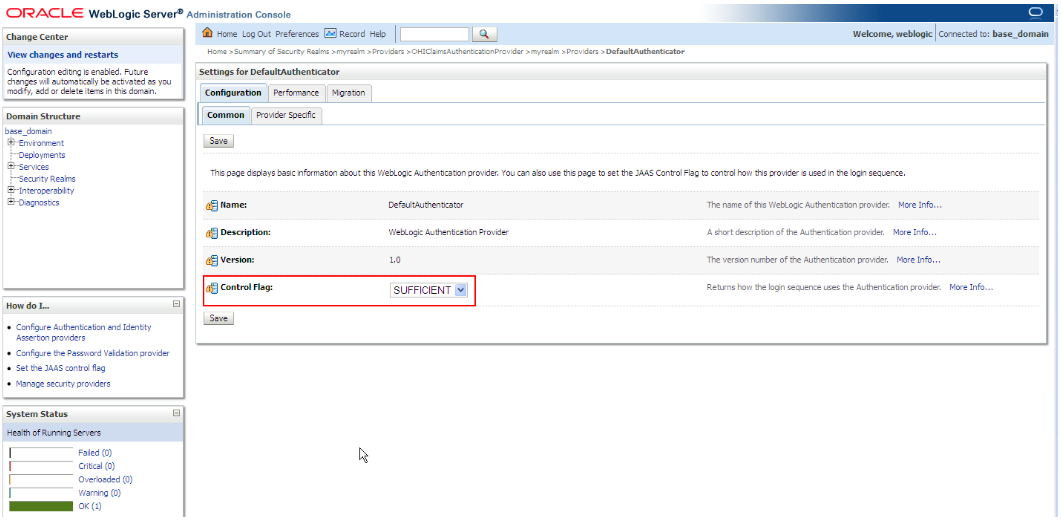
[2] http://download.oracle.com/docs/cd/E17904_01/web.1111/e13737/gridlink_datasources.htm



General

Connection Pool Size:	6	The LDAP connection pool size. Default is 6. More Info...
Connect Timeout:	0	The maximum time in seconds to wait for the connection to the LDAP server to be established. If this attribute is set to 0, there is not a maximum time limit. More Info...
Connection Retry Limit:	1	Specifies the number of times to attempt to connect to the LDAP server if the initial connection failed. More Info...
Parallel Connect Delay:	0	The delay in seconds when making concurrent attempts to connect to multiple LDAP servers. More Info...
Results Time Limit:	0	The maximum number of milliseconds for the LDAP server to wait for results before timing out. If this attribute is set to 0, there is no maximum time limit. More Info...
□ Keep Alive Enabled		Specifies whether to prevent LDAP connections from timing out. More Info...
☑ Follow Referrals		Specifies that a search for a user or group within the LDAP Authentication provider will follow referrals to other LDAP servers or branches within the LDAP directory. By default, this attribute is enabled. More Info...
□ Bind Anonymously On Referrals		By default, the LDAP Authentication provider uses the same DN and password used to connect to the LDAP server when following referrals during a search. If you want to connect as an anonymous user, enable this attribute. More Info...
☑ Propagate Cause For Login Exception		Specifies whether the providers should propagate the cause of the LoginException. More Info...
☑ Cache Enabled		Specifies whether a cache is used with the LDAP server More Info...
Cache Size:	32	The size of the cache (in kilobytes) that is used with the LDAP server More Info...
Cache TTL:	60	The time-to-live of the cache (in seconds) that is used with the LDAP server More Info...
GUID Attribute:	orclguid	Specifies the name of the GUID attribute defined in the Oracle Internet Directory LDAP server. The default value is orclguid. More Info...

Step 10: Click on **myrealm** link and then **DefaultAuthenticator** link. Change the **Control Flag** to **SUFFICIENT** and click on **Save** button.



ORACLE WebLogic Server® Administration Console
Home Log Out Preferences Record Help
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Manage security providers
System Status
Health of Running Servers
Failed (0)
Critical (0)
Overloaded (0)
Warning (0)
OK (1)
Configuration
Performance
Migration
Common
Provider Specific
Save

Home >Summary of Security Realms >myrealm >Providers >OHIClaimsAuthenticationProvider >myrealm >Providers >**DefaultAuthenticator**

Configuration editing is enabled. Future changes will automatically be activated as you modify, add or delete items in this domain.

Settings for DefaultAuthenticator

This page displays basic information about this WebLogic Authentication provider. You can also use this page to set the JAAS Control Flag to control how this provider is used in the login sequence.

Name:	DefaultAuthenticator	The name of this WebLogic Authentication provider. More Info...
Description:	WebLogic Authentication Provider	A short description of the Authentication provider. More Info...
Version:	1.0	The version number of the Authentication provider. More Info...
Control Flag:	SUFFICIENT	Returns how the login sequence uses the Authentication provider. More Info...

Step 11: Make sure that file **<OHI_ROOT>** /util/security/ohi-claims-security.config is available in the < **PROPERTIES_ROOT>** directory (that also contains the ohi-claim.properties and log4j.xml files).

Step 12: Add the following system property to the JAVA_OPTIONS in the setDomainEnv.sh script:

-Djava.security.auth.login.config=**<PROPERTIES_ROOT>** /ohi-claims-security.config

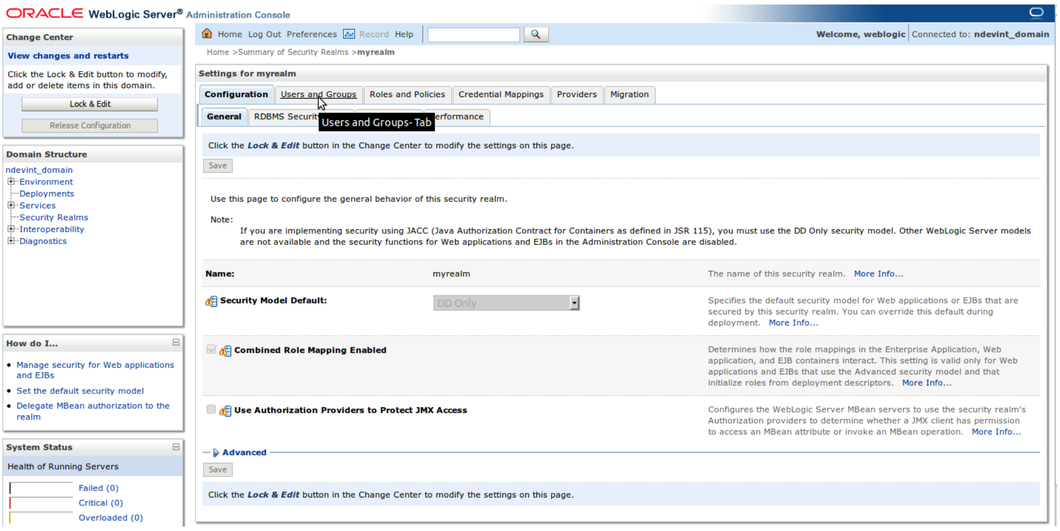
Step 12: Restart the WebLogic Server.

Optionally, verify that the authentication provider is configured successfully (after the WebLogic Server is restarted) by following the steps mentioned below:

Step 1: Login to WLS Admin Console and click on **Security Realms**

Step 2: Click on **myrealm**

Step 3: Click on **Users and Groups** tab



Click the Lock & Edit button to modify, add or delete items in this domain.

Settings for myrealm

Click the ***Lock & Edit*** button in the Change Center to modify the settings on this page.

Use this page to configure the general behavior of this security realm.

Note:
If you are implementing security using JACC (Java Authorization Contract for Containers as defined in JSR 115), you must use the DD Only security model. Other WebLogic Server models are not available and the security functions for Web applications and EJBs in the Administration Console are disabled.

Name: myrealm — The name of this security realm. More Info...

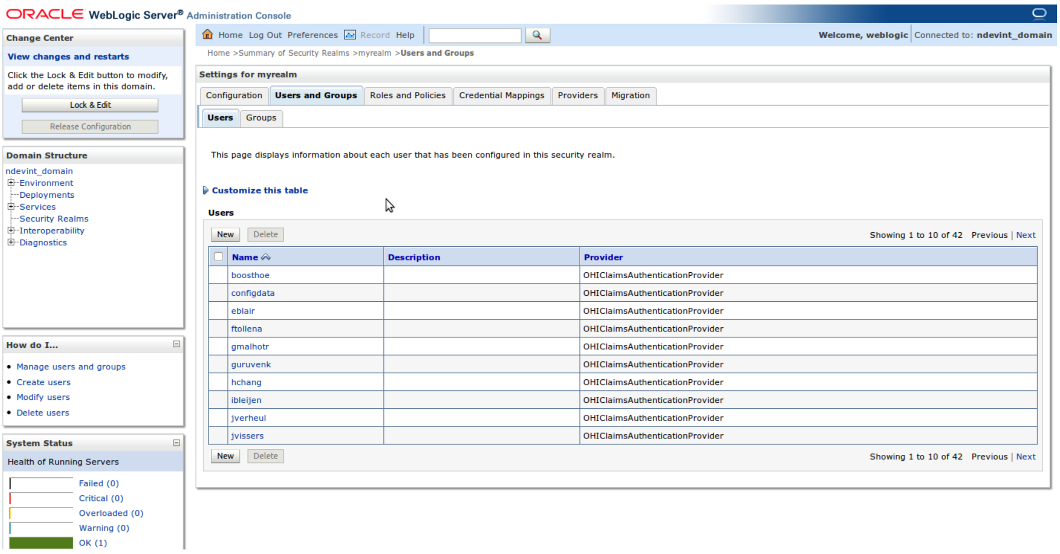
Security Model Default: DD Only — Specifies the default security model for Web applications or EJBs that are secured by this security realm. You can override this default during deployment. More Info...

☑ **Combined Role Mapping Enabled** — Determines how the role mappings in the Enterprise Application, Web application, and EJB containers interact. This setting is valid only for Web applications and EJBs that use the Advanced security model and that initialize roles from deployment descriptors. More Info...

□ **Use Authorization Providers to Protect JMX Access** — Configures the WebLogic Server MBean servers to use the security realm's Authorization providers to determine whether a JMX client has permission to access an MBean attribute or invoke an MBean operation. More Info...

Click the ***Lock & Edit*** button in the Change Center to modify the settings on this page.

Step 4: You should be able to see the list of users from **OHIClaimsAuthenticationProvider** (in addition to the default users from **DefaultAuthenticator**).



Click the Lock & Edit button to modify, add or delete items in this domain.

Settings for myrealm

This page displays information about each user that has been configured in this security realm.

Users

Showing 1 to 10 of 42

□	Name	Description	Provider
	boosthoe		OHIClaimsAuthenticationProvider
	configdata		OHIClaimsAuthenticationProvider
	eblair		OHIClaimsAuthenticationProvider
	ftollena		OHIClaimsAuthenticationProvider
	gmalhotr		OHIClaimsAuthenticationProvider
	guruvenk		OHIClaimsAuthenticationProvider
	hchang		OHIClaimsAuthenticationProvider
	ibleijen		OHIClaimsAuthenticationProvider
	jverheul		OHIClaimsAuthenticationProvider
	jvissers		OHIClaimsAuthenticationProvider

Showing 1 to 10 of 42

TESTING LDAP CONFIGURATION WITHOUT DEPLOYING OHI CLAIMS APPLICATION (OPTIONAL)

To quickly test the configuration of the WebLogic Authentication Provider, a sample web application is bundled with the OHI Claims release for convenience. It can be used to test the LDAP configuration without having to deploy the OHI Claims application.

Note Rationale: for every LDAP configuration change the WebLogic server needs to be restarted before the authentication can be tested again. Restarting the WebLogic server while the OHI Claims application is deployed takes a significant amount. To reduce the amount of WebLogic restart time, this sample web application will be useful - it is very easy to install & test.

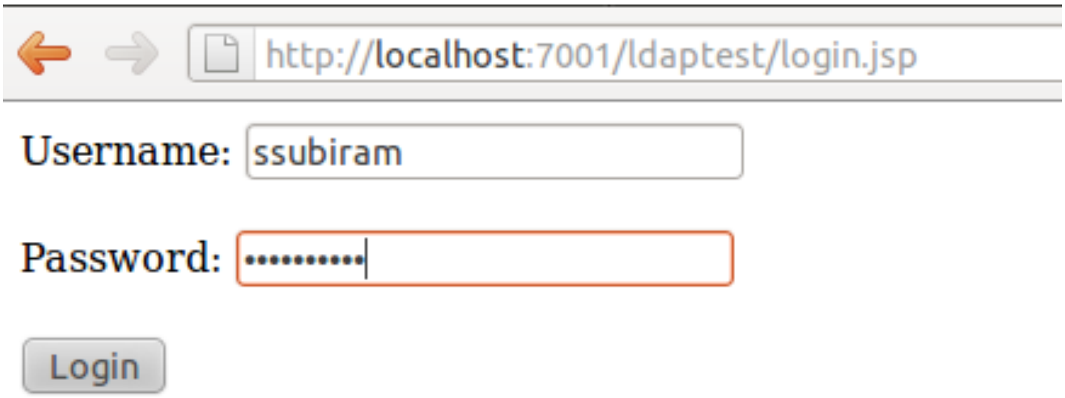
Follow the steps mentioned below to install and use the LDAP tester application:

Step 1: Login to the WebLogic AdminServer Console

Step 2: Install **<OHI_ROOT>/util/ldap/ldaptest.war**

Step 3: Navigate to **http://<MACHINE_NAME/IP_ADDRESS>:<PORT> /ldaptest/login.jsp**

Step 4: Enter a valid ***Username*** & ***Password***. Click on ***Login*** button

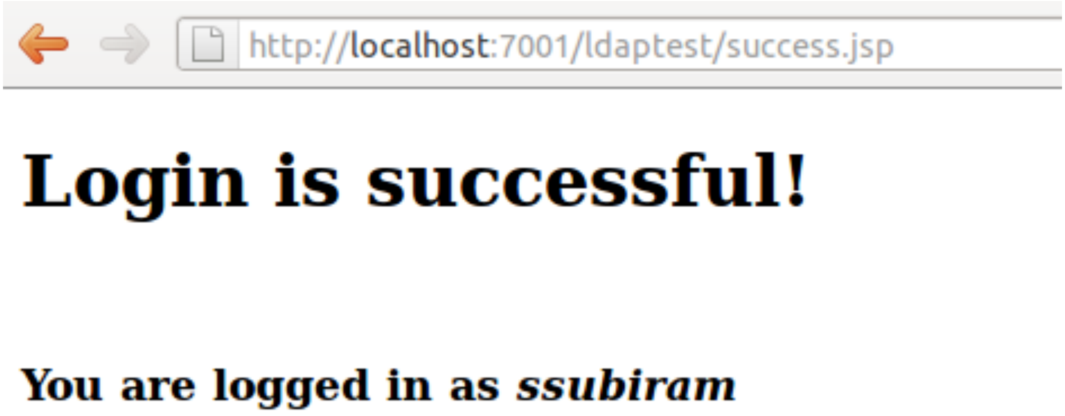


http://localhost:7001/ldaptest/login.jsp

Username: ssubiram

Password: •••••••••••

Step 5: Upon successful authentication a page similar to the following is shown:



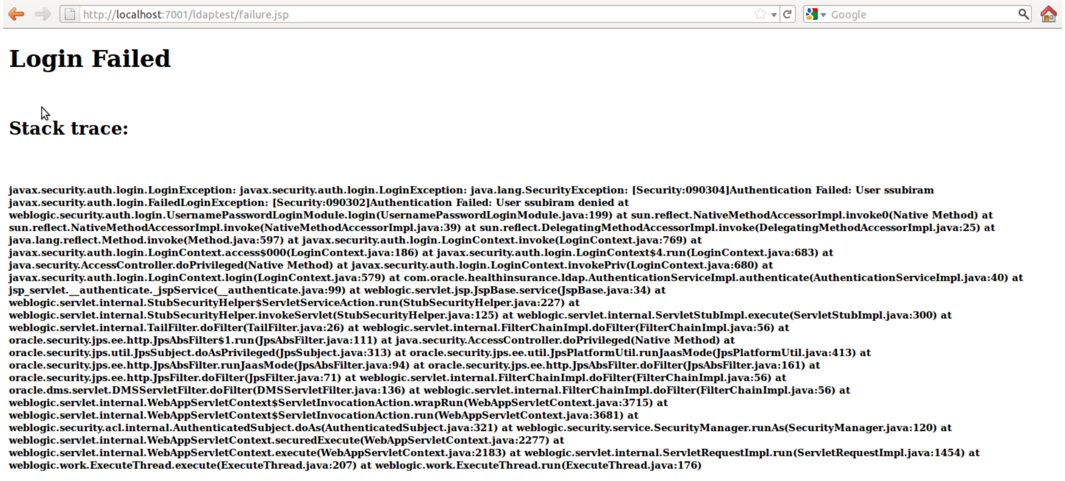
http://localhost:7001/ldaptest/success.jsp

Login is successful!

You are logged in as *ssubiram*

Step 6: If the authentication fails, the following page is shown:

2. http://download.oracle.com/docs/cd/E17904_01/web.1111/e13737/gridlink_datasources.htm



Login Failed

Stack trace:

```
javax.security.auth.login.LoginException: javax.security.auth.login.LoginException: java.lang.SecurityException: [Security:090304]Authentication Failed: User ssubiram
javax.security.auth.login.FailedLoginException: [Security:090302]Authentication Failed: User ssubiram denied at
weblogic.security.auth.login.UsernamePasswordLoginModule.login(UsernamePasswordLoginModule.java:199) at sun.reflect.NativeMethodAccessorImpl.invoke0(Native Method) at
sun.reflect.NativeMethodAccessorImpl.invoke(NativeMethodAccessorImpl.java:39) at sun.reflect.DelegatingMethodAccessorImpl.invoke(DelegatingMethodAccessorImpl.java:25) at
java.lang.reflect.Method.invoke(Method.java:597) at javax.security.auth.login.LoginContext.invoke(LoginContext.java:769) at
javax.security.auth.login.LoginContext.access$000(LoginContext.java:186) at javax.security.auth.login.LoginContext$4.run(LoginContext.java:683) at
java.security.AccessController.doPrivileged(Native Method) at javax.security.auth.login.LoginContext.invokePriv(LoginContext.java:680) at
javax.security.auth.login.LoginContext.login(LoginContext.java:579) at com.oracle.healthinsurance.ldap.AuthenticationServiceImpl.authenticate(AuthenticationServiceImpl.java:40) at
jsp_servlet.__authenticate._jspService(__authenticate.java:99) at weblogic.servlet.jsp.JspBase.service(JspBase.java:34) at
weblogic.servlet.internal.StubSecurityHelper$ServletServiceAction.run(StubSecurityHelper.java:227) at
weblogic.servlet.internal.StubSecurityHelper.invokeServlet(StubSecurityHelper.java:125) at weblogic.servlet.internal.ServletStubImpl.execute(ServletStubImpl.java:300) at
weblogic.servlet.internal.TailFilter.doFilter(TailFilter.java:26) at weblogic.servlet.internal.FilterChainImpl.doFilter(FilterChainImpl.java:56) at
oracle.security.jps.ee.http.JpsAbsFilter$1.run(JpsAbsFilter.java:111) at java.security.AccessController.doPrivileged(Native Method) at
oracle.security.jps.util.JpsSubject.doAsPrivileged(JpsSubject.java:313) at oracle.security.jps.ee.util.JpsPlatformUtil.runJaasMode(JpsPlatformUtil.java:413) at
oracle.security.jps.ee.http.JpsAbsFilter.runJaasMode(JpsAbsFilter.java:94) at oracle.security.jps.ee.http.JpsAbsFilter.doFilter(JpsAbsFilter.java:161) at
oracle.security.jps.ee.http.JpsFilter.doFilter(JpsFilter.java:71) at weblogic.servlet.internal.FilterChainImpl.doFilter(FilterChainImpl.java:56) at
oracle.dms.servlet.DMSServletFilter.doFilter(DMSServletFilter.java:136) at weblogic.servlet.internal.FilterChainImpl.doFilter(FilterChainImpl.java:56) at
weblogic.servlet.internal.WebAppServletContext$ServletInvocationAction.wrapRun(WebAppServletContext.java:3715) at
weblogic.servlet.internal.WebAppServletContext$ServletInvocationAction.run(WebAppServletContext.java:3681) at
weblogic.security.acl.internal.AuthenticatedSubject.doAs(AuthenticatedSubject.java:321) at weblogic.security.service.SecurityManager.runAs(SecurityManager.java:120) at
weblogic.servlet.internal.WebAppServletContext.securedExecute(WebAppServletContext.java:2277) at
weblogic.servlet.internal.WebAppServletContext.execute(WebAppServletContext.java:2183) at weblogic.servlet.internal.ServletRequestImpl.run(ServletRequestImpl.java:1454) at
weblogic.work.ExecuteThread.execute(ExecuteThread.java:207) at weblogic.work.ExecuteThread.run(ExecuteThread.java:176)
```

SET UP JDBC DATA SOURCES

The application connects to the Oracle database through a Data Source that need to be specified in the WLS Server.

Note For security reasons, the database connections used by the application connect to database schemas that do not own database objects. These schemas are only granted the required privileges to use the objects.

The following sections describe setting up data sources for connecting to:

- an Oracle database that is running on a single machine
- a RAC-enabled Oracle database that is running on multiple machines

Data Source for connecting to an Oracle database that is running on a single machine

The following table lists the Data Source that must be configured in WLS before installing the application for use with an Oracle database that is executed on a single machine (not clustered):

Data Source Parameters	Non-clustered database	Explanation
Data Source Name	ohi-application-datasource	Logical name
JNDI Name	jdbc/claimsUserOhiApplicationDS	Used by the application to resolve the Data Source
Database Type	Oracle	
Database Driver	Oracle's Driver (Thin) for Instance connections; Versions:9.0.1,9.2.0,10,11 or Oracle's Driver (Thin) for Service connections; Versions:9.0.1,9.2.0,10,11	

2. http://download.oracle.com/docs/cd/E17904_01/web.1111/e13737/gridlink_datasources.htm

Database Name	SID or service name of the database If the name of the Oracle driver that was selected contains the words "for Instance connections" enter the SID. If the name of the Oracle driver contains the words "for Service connections" enter the service name.	
Host Name	Name or IP address of the machine where the database is running	
Port	Port on which the database is running	
Database User Name	ohi_claims_user	Fixed value, do not change
Password & Confirm Password	Password of "ohi_claims_user"	The schema password as selected during the installation
Service Name	Service name of the database	SID or service name

The data sources can be created by either

1. using the **<OHI_ROOT>\util\wlst\createOHIDomain.sh** script (i.e. the data sources are created at the time the domain is created) or
2. creating them through WLS Admin Server console (see sample below).

Data Source for connecting to an Oracle RAC database that is running on multiple machines

To support Oracle RAC features within Oracle WebLogic Server, Oracle recommends using Oracle WebLogic Server **GridLink Data Source**. A single GridLink data source provides connectivity between WebLogic Server and an Oracle Database service targeted to an Oracle RAC cluster. It uses the Oracle Notification Service (ONS) to adaptively respond to state changes in an Oracle RAC instance. An Oracle Database service represents a workload with common attributes that enables administrators to manage the workload as a single entity.

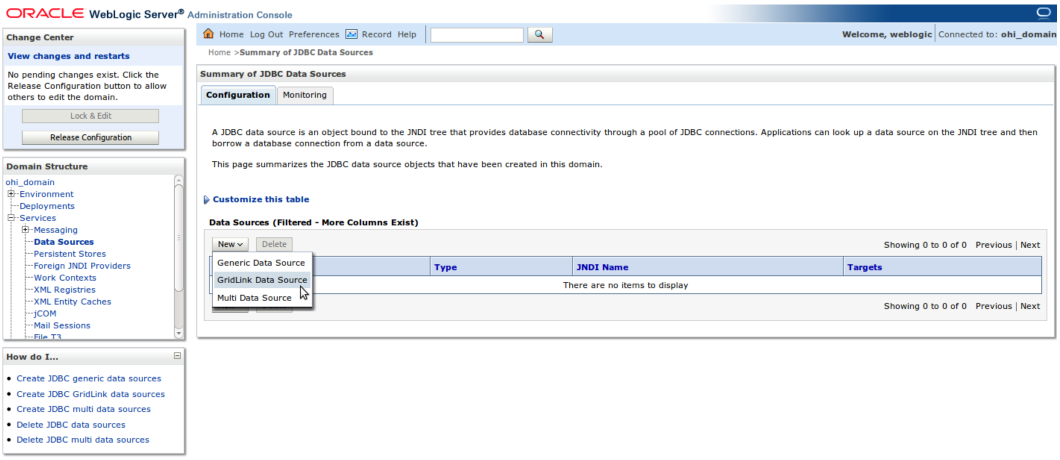
To configure this, the following steps need to be performed. For more details about GridLink Data Source configration, see the Oracle WebLogic Server documentation here[2].

Configuring GridLink Data Source

Step 1: Login to WLS admin console and click the **Services/Data Sources** link.

Step 2: Click on **New** button and select the option **GridLink Data Source**

[2] http://download.oracle.com/docs/cd/E17904_01/web.1111/e13737/gridlink_datasources.htm


ORACLE WebLogic Server® Administration Console
Home Log Out Preferences Record Help
Welcome, weblogic Connected to: ohi_domain
Home >Summary of JDBC Data Sources
Change Center
View changes and restarts
Lock & Edit
Release Configuration
Domain Structure
ohi_domain
Environment
Deployments
Services
Messaging
Data Sources
Persistent Stores
Foreign JNDI Providers
Work Contexts
XML Registries
XML Entity Caches
jCOM
Mail Sessions
File T3
How do I...
Create JDBC generic data sources
Create JDBC GridLink data sources
Create JDBC multi data sources
Delete JDBC data sources
Delete JDBC multi data sources
Summary of JDBC Data Sources
Configuration
Monitoring
Customize this table
Data Sources (Filtered - More Columns Exist)
New
Delete
Generic Data Source
GridLink Data Source
Multi Data Source
Type
JNDI Name
Targets
Showing 0 to 0 of 0 Previous | Next

No pending changes exist. Click the Release Configuration button to allow others to edit the domain.

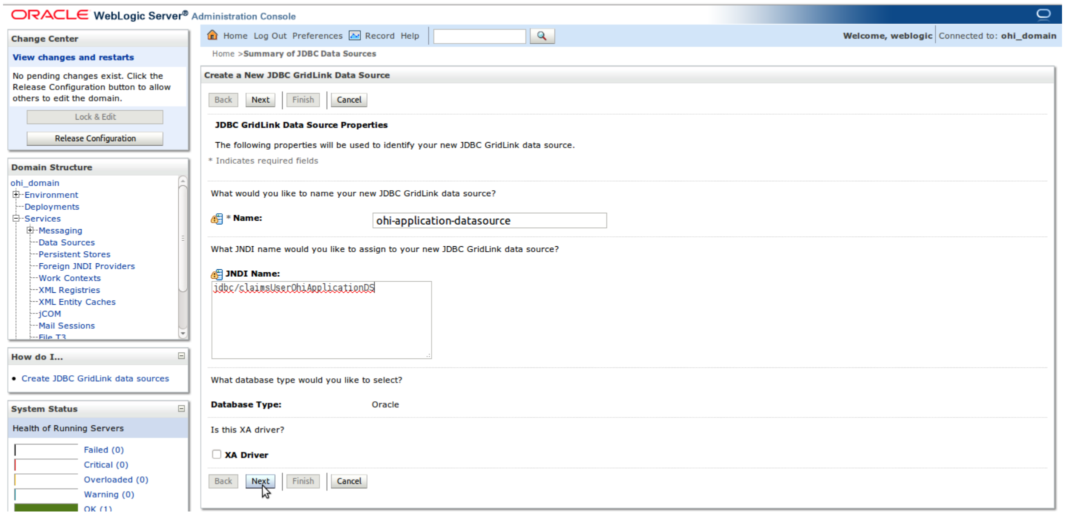
A JDBC data source is an object bound to the JNDI tree that provides database connectivity through a pool of JDBC connections. Applications can look up a data source on the JNDI tree and then borrow a database connection from a data source.

This page summarizes the JDBC data source objects that have been created in this domain.

There are no items to display

Note In WLS Production-mode use the **Lock & Edit** button before clicking on the **New** button.

Step 3: Change the value of **Name** to **ohi-application-datasource** and enter **jdbc/claimsUserOhiApplicationDS** in **JNDI Name**. Click the **Next** button.



No pending changes exist. Click the Release Configuration button to allow others to edit the domain.

Create a New JDBC GridLink Data Source

JDBC GridLink Data Source Properties

The following properties will be used to identify your new JDBC GridLink data source.

* Indicates required fields

What would you like to name your new JDBC GridLink data source?

* Name: ohi-application-datasource

What JNDI name would you like to assign to your new JDBC GridLink data source?

JNDI Name: jdbc/claimsUserOhiApplicationDS

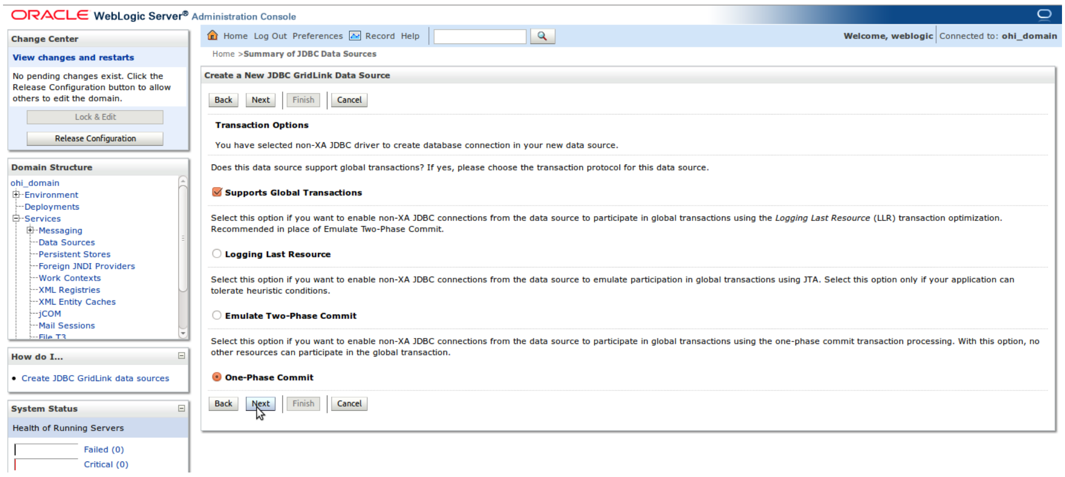
What database type would you like to select?

Database Type: Oracle

Is this XA driver?

□ XA Driver

Step 4: In **Transaction Options** page, accept the default settings (Supports Global Transactions and One-Phase Commit) and click the **Next** button.



No pending changes exist. Click the Release Configuration button to allow others to edit the domain.

Create a New JDBC GridLink Data Source

Transaction Options

You have selected non-XA JDBC driver to create database connection in your new data source.

Does this data source support global transactions? If yes, please choose the transaction protocol for this data source.

☑ Supports Global Transactions

Select this option if you want to enable non-XA JDBC connections from the data source to participate in global transactions using the *Logging Last Resource* (LLR) transaction optimization. Recommended in place of Emulate Two-Phase Commit.

○ Logging Last Resource

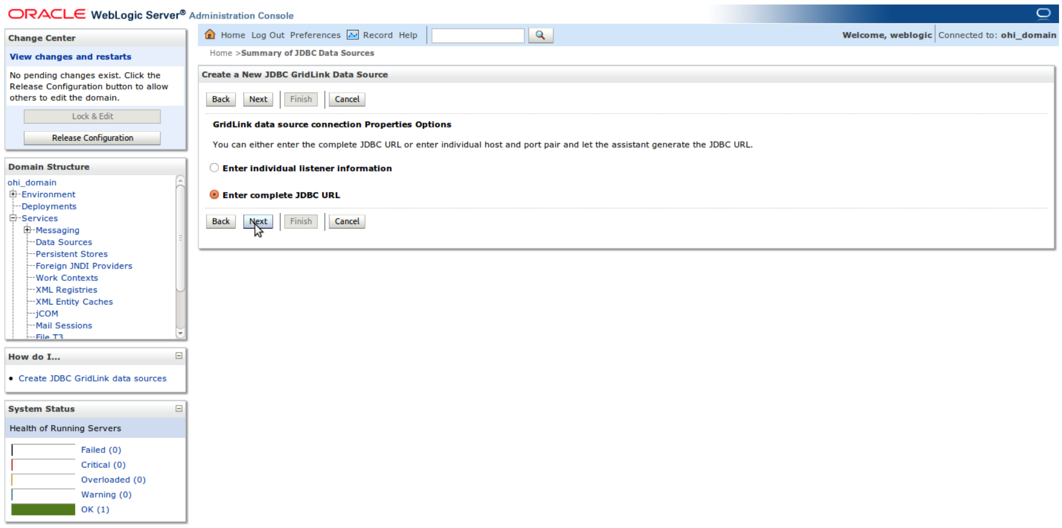
Select this option if you want to enable non-XA JDBC connections from the data source to emulate participation in global transactions using JTA. Select this option only if your application can tolerate heuristic conditions.

○ Emulate Two-Phase Commit

Select this option if you want to enable non-XA JDBC connections from the data source to participate in global transactions using the one-phase commit transaction processing. With this option, no other resources can participate in the global transaction.

● One-Phase Commit

Step 5: If SCAN (Single Client Access Name) is used for the Oracle RAC database, select the option **Enter complete JDBC URL**. Else, select the option **Enter individual listener information**.



No pending changes exist. Click the Release Configuration button to allow others to edit the domain.

Create a New JDBC GridLink Data Source

GridLink data source connection Properties Options

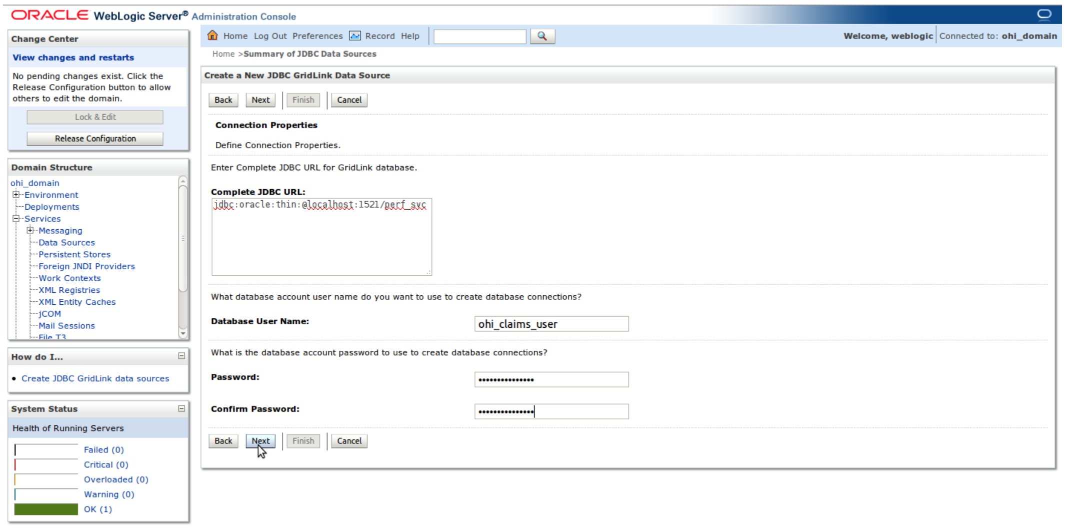
You can either enter the complete JDBC URL or enter individual host and port pair and let the assistant generate the JDBC URL.

○ Enter individual listener information

● Enter complete JDBC URL

Step 6: In **Connection Properties** page either

- enter the values of various fields as outlined in the table below if option **Enter complete JDBC URL** is selected:



No pending changes exist. Click the Release Configuration button to allow others to edit the domain.

Create a New JDBC GridLink Data Source

Connection Properties

Define Connection Properties.

Enter Complete JDBC URL for GridLink database.

Complete JDBC URL: jdbc:oracle:thin:@localhost:1521/perf_svc

What database account user name do you want to use to create database connections?

Database User Name: ohi_claims_user

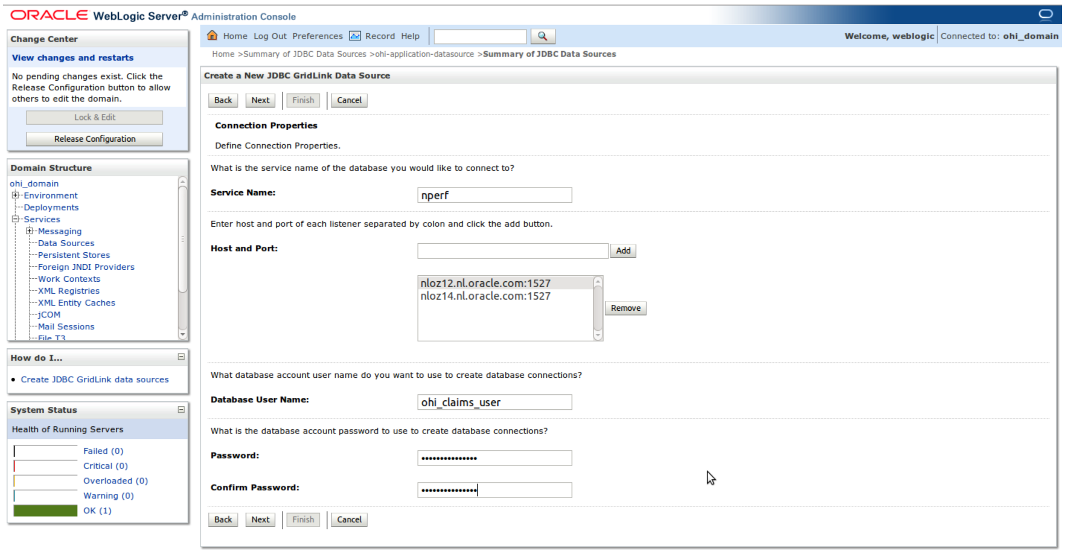
What is the database account password to use to create database connections?

Password: •••••••••••••••

Confirm Password: •••••••••••••••

Parameters	**Value**	**Explanation**
Complete JDBC URL	jdbc:oracle:thin:@{scan-listener-host}:{scan-listener-port}/{service-name}	JDBC URL using SCAN
Database User Name	ohi_claims_user	Fixed value, do not change
Password & Confirm Password	Password of "ohi_claims_user"	The schema password as selected during the installation

- or enter the values of various fields as outlined in the table below if option **Enter individual listener information** is selected:



Home >Summary of JDBC Data Sources >ohi-application-datasource >**Summary of JDBC Data Sources**

No pending changes exist. Click the Release Configuration button to allow others to edit the domain.

Create a New JDBC GridLink Data Source

Connection Properties

Define Connection Properties.

What is the service name of the database you would like to connect to?

Service Name: nperf

Enter host and port of each listener separated by colon and click the add button.

Host and Port:

nloz12.nl.oracle.com:1527
nloz14.nl.oracle.com:1527

What database account user name do you want to use to create database connections?

Database User Name: ohi_claims_user

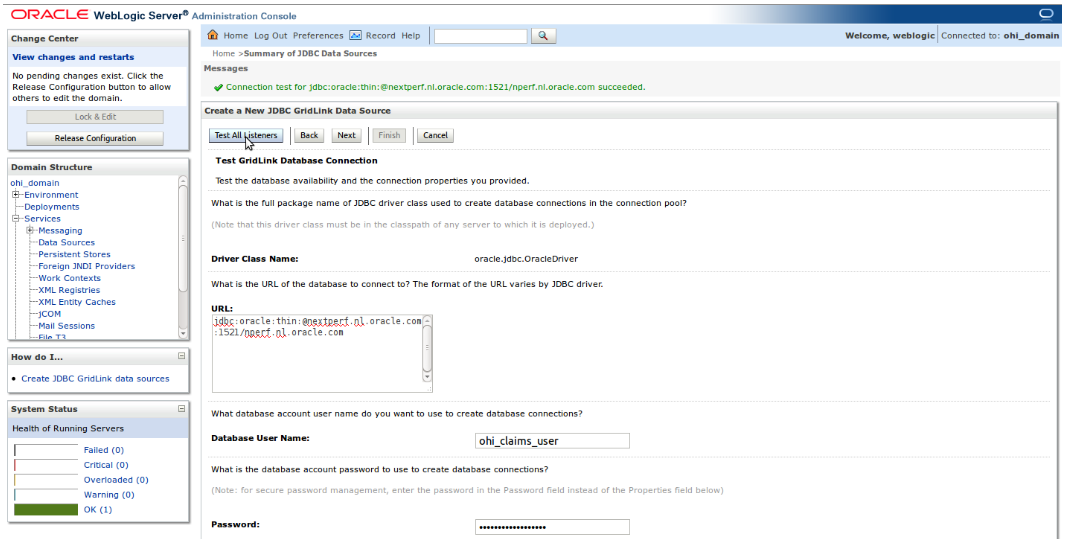
What is the database account password to use to create database connections?

Password: •••••••••••••••

Confirm Password: •••••••••••••••

Parameters	Value	Explanation
Service Name		Oracle RAC service name
Host and Port	hostname1:port hostname2:port	Individual RAC node details. The format is <HOSTNAME>:<PORT>
Database User Name	ohi_claims_user	Fixed value, do not change
Password & Confirm Password	Password of "ohi_claims_user"	The schema password as selected during the installation

Step 7: In **Test GridLink Database Connection** page, click on **Test All Listeners** to see if the connection is successful. Once the test connection succeeds, click on **Next** button.



Home >**Summary of JDBC Data Sources**

No pending changes exist. Click the Release Configuration button to allow others to edit the domain.

Messages

✓ Connection test for jdbc:oracle:thin:@nextperf.nl.oracle.com:1521/nperf.nl.oracle.com succeeded.

Create a New JDBC GridLink Data Source

Test GridLink Database Connection

Test the database availability and the connection properties you provided.

What is the full package name of JDBC driver class used to create database connections in the connection pool?

(Note that this driver class must be in the classpath of any server to which it is deployed.)

Driver Class Name: oracle.jdbc.OracleDriver

What is the URL of the database to connect to? The format of the URL varies by JDBC driver.

URL:

```
jdbc:oracle:thin:@nextperf.nl.oracle.com
:1521/nperf.nl.oracle.com
```

What database account user name do you want to use to create database connections?

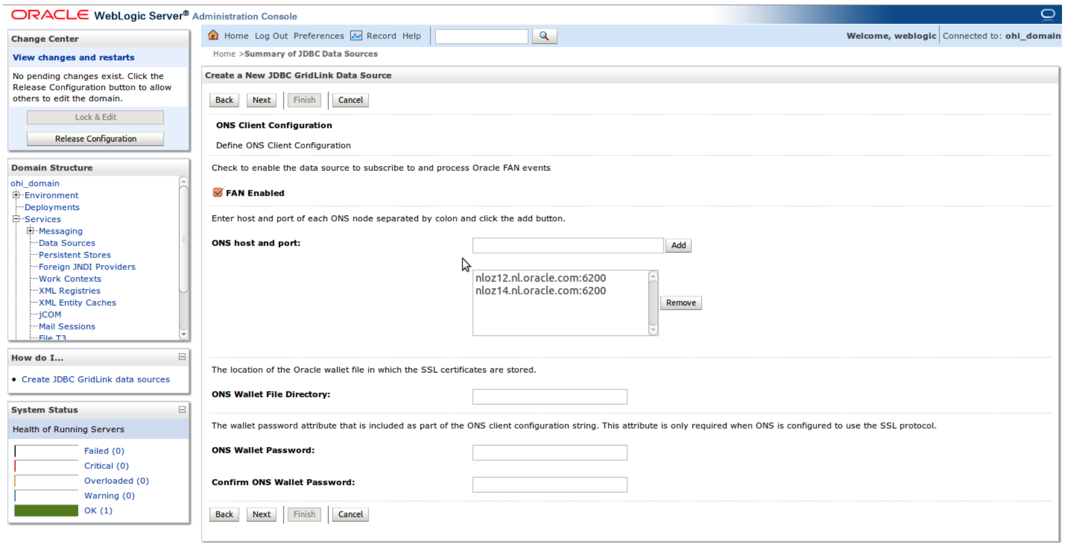
Database User Name: ohi_claims_user

What is the database account password to use to create database connections?

(Note: for secure password management, enter the password in the Password field instead of the Properties field below)

Password: ••••••••••••••••••

Step 8: Enter the details of ONS client configuration as outlined in the table below and click the **Next** button.



No pending changes exist. Click the Release Configuration button to allow others to edit the domain.

Home >Summary of JDBC Data Sources

Create a New JDBC GridLink Data Source

ONS Client Configuration

Define ONS Client Configuration

Check to enable the data source to subscribe to and process Oracle FAN events

☑ FAN Enabled

Enter host and port of each ONS node separated by colon and click the add button.

ONS host and port:

nloz12.nl.oracle.com:6200
nloz14.nl.oracle.com:6200

The location of the Oracle wallet file in which the SSL certificates are stored.

ONS Wallet File Directory:

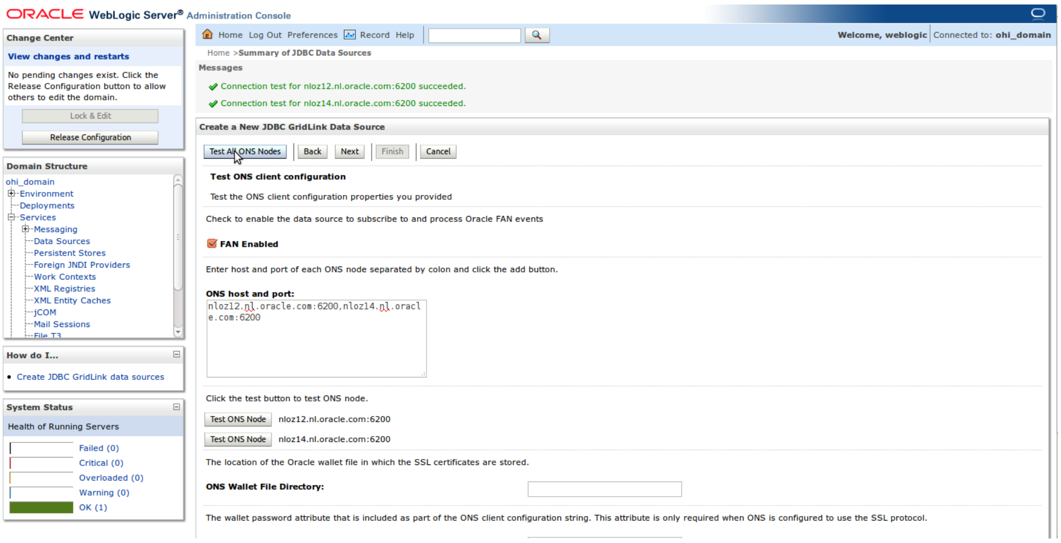
The wallet password attribute that is included as part of the ONS client configuration string. This attribute is only required when ONS is configured to use the SSL protocol.

ONS Wallet Password:

Confirm ONS Wallet Password:

Parameters	Value	Explanation
Fan Enabled	Check-box selected	Enables the data source to subscribe to and process Oracle FAN events. This attribute is only applicable for RAC configurations that publish FAN notification events using the ONS protocol.
ONS Nodes	Eg: hostname1:6200,hostname2:6200	A comma-separated list of ONS daemon listen addresses and ports to connect to for receiving ONS-based FAN events.
ONS Wallet File	Location of ONS Wallet File (including the file name)	The location of the Oracle wallet file in which the SSL certificates are stored. Only required when the ONS client is configured to communicate with ONS daemons using SSL.
ONS Wallet Password & Confirm ONS Wallet Password	The wallet password	The wallet password attribute that is included as part of the ONS client configuration string. This attribute is only required when ONS is configured to use the SSL protocol.

Step 9: Click on **Test All ONS Nodes** to see if the connection is successful. Once the connection test succeeds, click the **Next** button.



No pending changes exist. Click the Release Configuration button to allow others to edit the domain.

Home >Summary of JDBC Data Sources

Messages

✓ Connection test for nloz12.nl.oracle.com:6200 succeeded.

✓ Connection test for nloz14.nl.oracle.com:6200 succeeded.

Create a New JDBC GridLink Data Source

Test ONS client configuration

Test the ONS client configuration properties you provided

Check to enable the data source to subscribe to and process Oracle FAN events

☑ FAN Enabled

Enter host and port of each ONS node separated by colon and click the add button.

ONS host and port:

```
nloz12.nl.oracle.com:6200,nloz14.nl.oracl
e.com:6200
```

Click the test button to test ONS node.

Test ONS Node nloz12.nl.oracle.com:6200

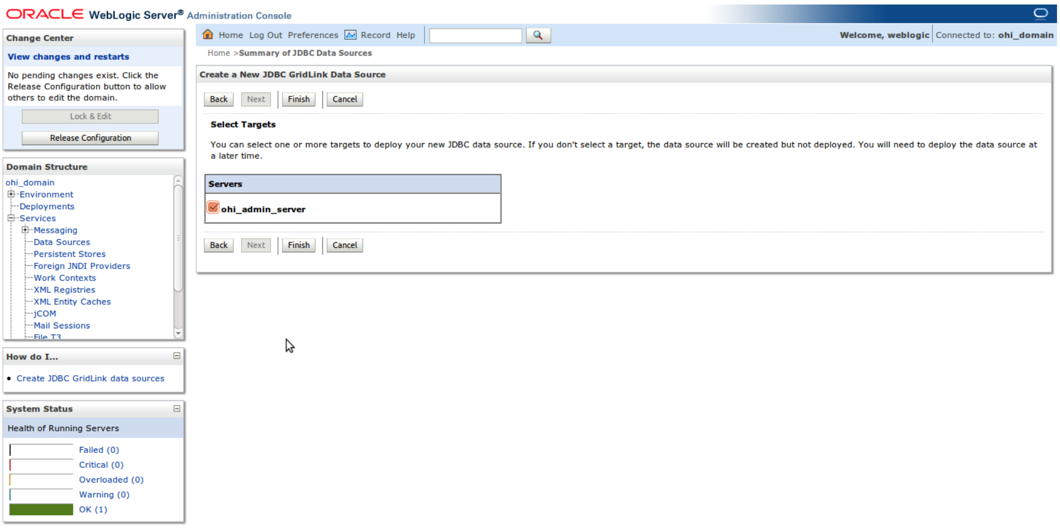
Test ONS Node nloz14.nl.oracle.com:6200

The location of the Oracle wallet file in which the SSL certificates are stored.

ONS Wallet File Directory:

The wallet password attribute that is included as part of the ONS client configuration string. This attribute is only required when ONS is configured to use the SSL protocol.

Step 10: Select the Target(s) in the next page and click the **Finish** button.



No pending changes exist. Click the Release Configuration button to allow others to edit the domain.

Home >Summary of JDBC Data Sources

Create a New JDBC GridLink Data Source

Select Targets

You can select one or more targets to deploy your new JDBC data source. If you don't select a target, the data source will be created but not deployed. You will need to deploy the data source at a later time.

Servers
☑ ohi_admin_server

Make sure to specify the managed server as target for the GridLink Data Source and change the connection pool settings by executing the following steps:

1. Select the newly created GridLink Data Source
2. Click on the tab **Connection Pool**
3. Expand the **Advanced** node at the bottom of the page to display all properties and set the following:

Property	Value
Initial Capacity	0
Test Connections On Reserve	Checked
Test Frequency	300
Connection Creation Retry Frequency	30
Seconds to Trust an Idle Pool Connection	10

Set the following driver property:

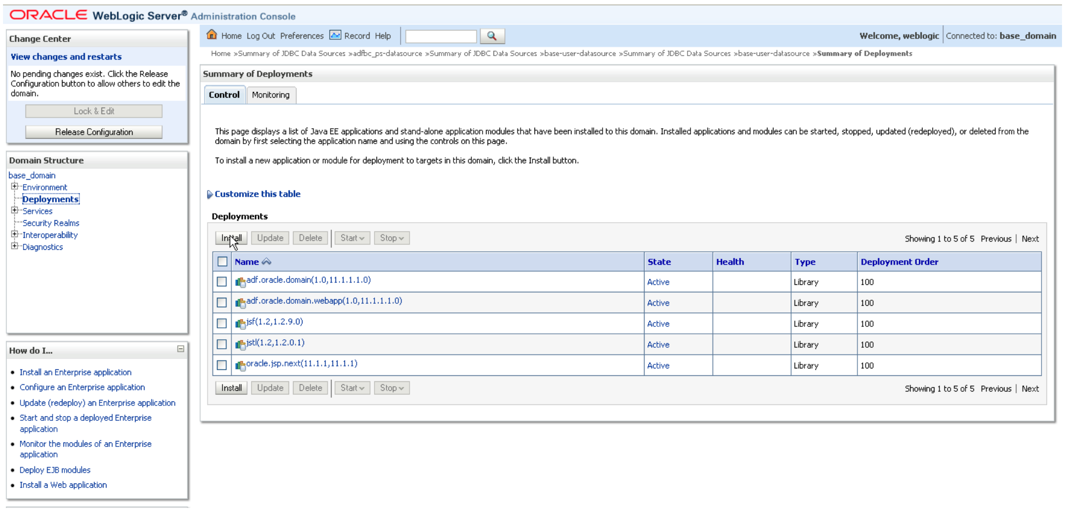
Property	Value
oracle.net.CONNECT_TIMEOUT	10000

INSTALLING THE UI CUSTOMIZATION LIBRARY THROUGH WLS ADMIN SERVER CONSOLE

To enable the creation of site-level UI Customizations, without having to change the OHI Application itself, an initially empty library called custom.oracle.healthinsurance needs to be installed before the OHI application can be installed.

Step 1: Login to the Admin Server console (for example: http://machine.domain:port/console).

Step 2: Click the "**Deployment**" link and then click on the "**Install**" button as shown in the following screen shot. If the Install button is disabled, click the Lock & Edit button first (in the upper left section of the page).


ORACLE WebLogic Server® Administration Console
Home Log Out Preferences Record Help
Welcome, weblogic Connected to: base_domain
Change Center
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Lock & Edit
Release Configuration
Domain Structure
base_domain
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Monitor the modules of an Enterprise application
Deploy EJB modules
Install a Web application
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Home >Summary of JDBC Data Sources >adfbc_ps-datasource >Summary of JDBC Data Sources >base-user-datasource >Summary of JDBC Data Sources >base-user-datasource >**Summary of Deployments**

No pending changes exist. Click the Release Configuration button to allow others to edit the domain.

This page displays a list of Java EE applications and stand-alone application modules that have been installed to this domain. Installed applications and modules can be started, stopped, updated (redeployed), or deleted from the domain by first selecting the application name and using the controls on this page.

To install a new application or module for deployment to targets in this domain, click the Install button.

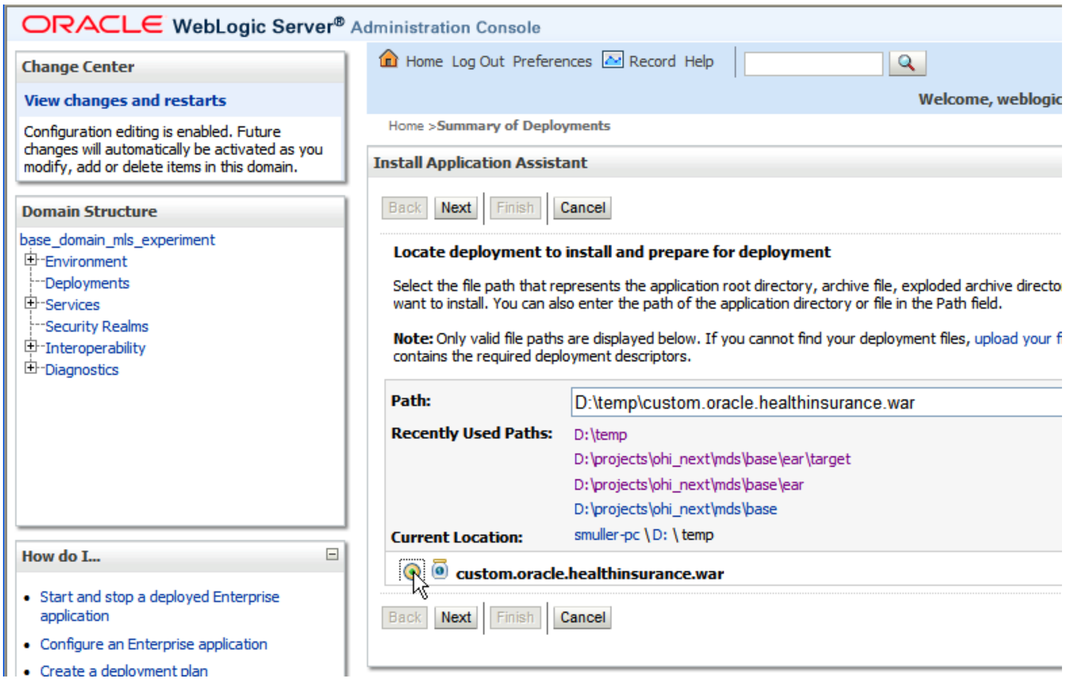
Deployments

Showing 1 to 5 of 5

□	Name	State	Health	Type	Deployment Order
□	adf.oracle.domain(1.0,11.1.1.1.0)	Active		Library	100
□	adf.oracle.domain.webapp(1.0,11.1.1.1.0)	Active		Library	100
□	jsf(1.2,1.2.9.0)	Active		Library	100
□	jstl(1.2,1.2.0.1)	Active		Library	100
□	oracle.jsp.next(11.1.1,11.1.1)	Active		Library	100

Showing 1 to 5 of 5

Step 3: Select the path where the library **custom.oracle.healthinsurance.war** file is located (**<OHI_ROOT>\lib**) and click the "**Next**" button as shown in the following sample screen shot:


ORACLE WebLogic Server® Administration Console
Change Center
View changes and restarts
Home Log Out Preferences Record Help
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Home >Summary of Deployments
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base_domain_mls_experiment
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Create a deployment plan
Back
Next
Finish
Cancel

Configuration editing is enabled. Future changes will automatically be activated as you modify, add or delete items in this domain.

Install Application Assistant

Locate deployment to install and prepare for deployment

Select the file path that represents the application root directory, archive file, exploded archive directo want to install. You can also enter the path of the application directory or file in the Path field.

Note: Only valid file paths are displayed below. If you cannot find your deployment files, upload your f contains the required deployment descriptors.

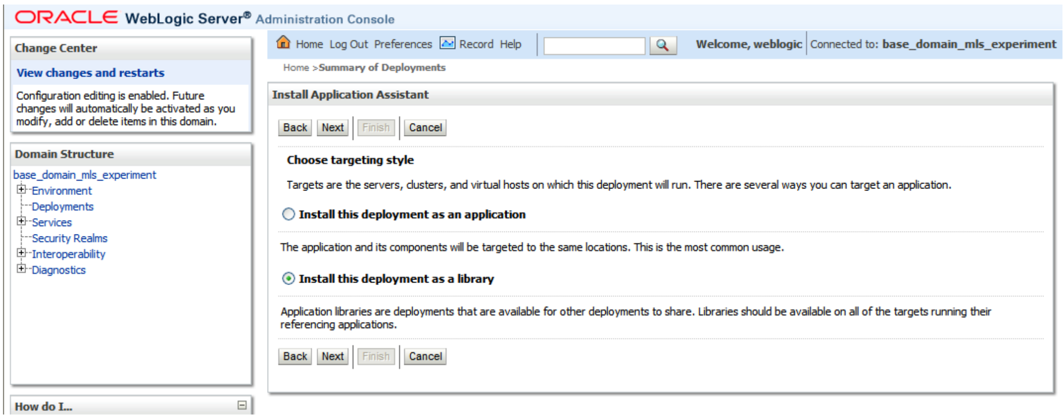
Path: D:\temp\custom.oracle.healthinsurance.war

Recently Used Paths: D:\temp
D:\projects\ohi_next\mds\base\ear\target
D:\projects\ohi_next\mds\base\ear
D:\projects\ohi_next\mds\base

Current Location: smuller-pc \ D: \ temp

● custom.oracle.healthinsurance.war

Step 4: Select the option "**Install this deployment as a library**" and click on " **Next**" button as shown below:


ORACLE WebLogic Server® Administration Console
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Cancel

Configuration editing is enabled. Future changes will automatically be activated as you modify, add or delete items in this domain.

Install Application Assistant

Choose targeting style

Targets are the servers, clusters, and virtual hosts on which this deployment will run. There are several ways you can target an application.

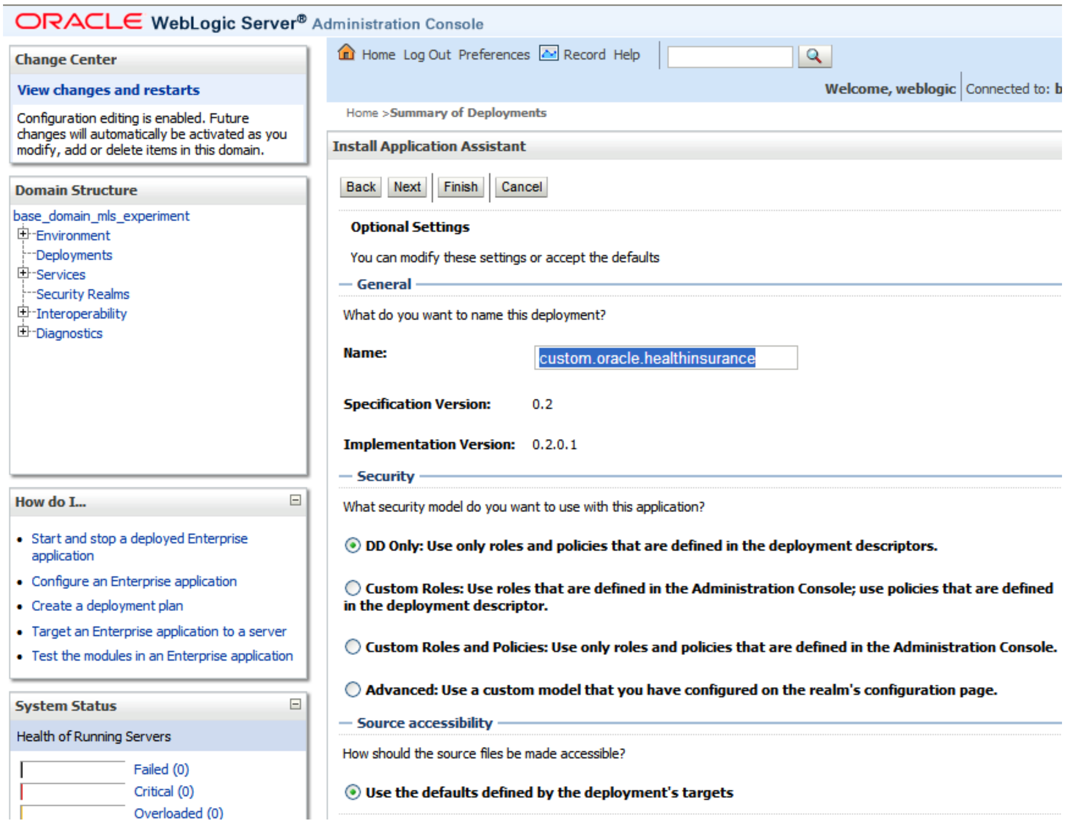
○ Install this deployment as an application

The application and its components will be targeted to the same locations. This is the most common usage.

● Install this deployment as a library

Application libraries are deployments that are available for other deployments to share. Libraries should be available on all of the targets running their referencing applications.

Step 5: Ensure that the General - Name is set to **custom.oracle.healthinsurance** as shown below. This is the name the OHI Application refers to when loading the library, so this is the name under which it must have been installed. The version numbers may differ from what is shown in the screen shot below. The OHI Application will automatically load the highest version of all installed libraries with this deployment name. Then click on the **"Next"** button.


ORACLE WebLogic Server® Administration Console
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Welcome, weblogic | Connected to: b
Home >Summary of Deployments
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Target an Enterprise application to a server
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System Status
Health of Running Servers
Failed (0)
Critical (0)
Overloaded (0)
Back
Next
Finish
Cancel

Configuration editing is enabled. Future changes will automatically be activated as you modify, add or delete items in this domain.

Install Application Assistant

Optional Settings

You can modify these settings or accept the defaults

General

What do you want to name this deployment?

Name: custom.oracle.healthinsurance

Specification Version: 0.2

Implementation Version: 0.2.0.1

Security

What security model do you want to use with this application?

● DD Only: Use only roles and policies that are defined in the deployment descriptors.

○ Custom Roles: Use roles that are defined in the Administration Console; use policies that are defined in the deployment descriptor.

○ Custom Roles and Policies: Use only roles and policies that are defined in the Administration Console.

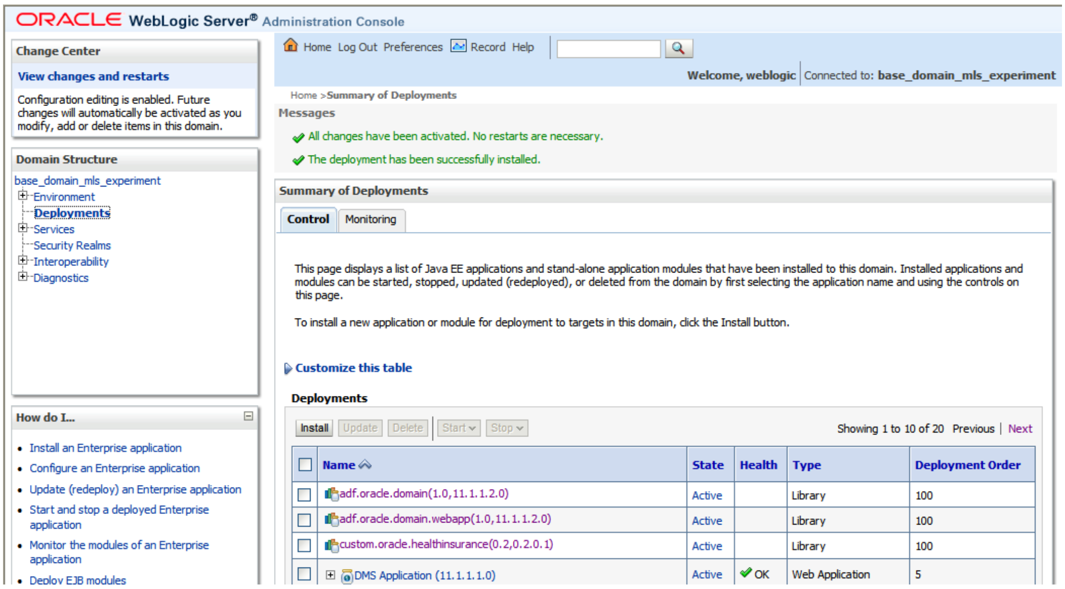
○ Advanced: Use a custom model that you have configured on the realm's configuration page.

Source accessibility

How should the source files be made accessible?

● Use the defaults defined by the deployment's targets

Step 6: Click on "**Finish**" button. You should see a success message as shown below. The library is now installed. Note: if you had to click Lock & Edit in step 1, you now have to click Activate Changes (just below the Lock & Edit).


ORACLE WebLogic Server® Administration Console
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Control
Monitoring
Customize this table
Install
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Delete
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Stop
Previous | Next

Configuration editing is enabled. Future changes will automatically be activated as you modify, add or delete items in this domain.

Messages

✓ All changes have been activated. No restarts are necessary.

✓ The deployment has been successfully installed.

Summary of Deployments

This page displays a list of Java EE applications and stand-alone application modules that have been installed to this domain. Installed applications and modules can be started, stopped, updated (redeployed), or deleted from the domain by first selecting the application name and using the controls on this page.

To install a new application or module for deployment to targets in this domain, click the Install button.

Deployments

Showing 1 to 10 of 20

□	Name	State	Health	Type	Deployment Order
□	adf.oracle.domain(1.0,11.1.1.2.0)	Active		Library	100
□	adf.oracle.domain.webapp(1.0,11.1.1.2.0)	Active		Library	100
□	custom.oracle.healthinsurance(0.2,0.2.0.1)	Active		Library	100
□	⊞ DMS Application (11.1.1.1.0)	Active	✓ OK	Web Application	5

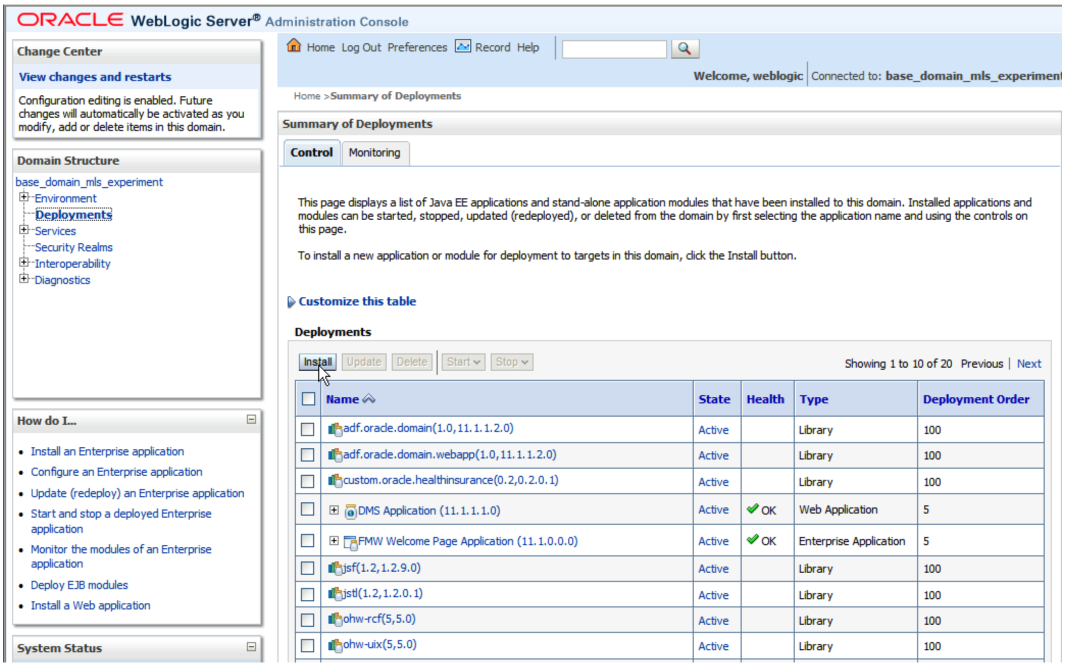
The following section describes the installation of the OHI application.

INSTALLING THE OHI APPLICATION THROUGH WLS ADMIN SERVER CONSOLE

The OHI applications are delivered in a so called Java Enterprise Archive (EAR) which will be installed through the WLS Admin Server Console. In order to do that, perform the following steps.

Step 1: Login to the Admin Server console (for example: http://machine.domain:port/console).

Step 2: Click the "**Deployment**" link and then click on the "**Install**" button as shown in the following screen shot:


ORACLE WebLogic Server® Administration Console
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Update
Delete
Start
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Showing 1 to 10 of 20 Previous | Next

Configuration editing is enabled. Future changes will automatically be activated as you modify, add or delete items in this domain.

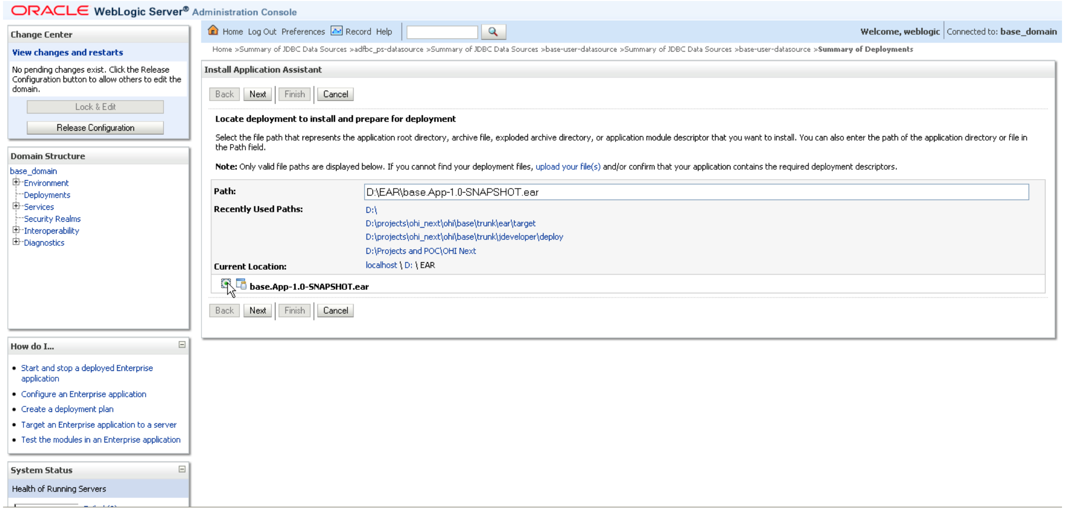
This page displays a list of Java EE applications and stand-alone application modules that have been installed to this domain. Installed applications and modules can be started, stopped, updated (redeployed), or deleted from the domain by first selecting the application name and using the controls on this page.

To install a new application or module for deployment to targets in this domain, click the Install button.

Deployments

□	Name	State	Health	Type	Deployment Order
□	adf.oracle.domain(1.0,11.1.1.2.0)	Active		Library	100
□	adf.oracle.domain.webapp(1.0,11.1.1.2.0)	Active		Library	100
□	custom.oracle.healthinsurance(0.2,0.2.0.1)	Active		Library	100
□	⊞ DMS Application (11.1.1.1.0)	Active	✓ OK	Web Application	5
□	⊞ FMW Welcome Page Application (11.1.0.0.0)	Active	✓ OK	Enterprise Application	5
□	jsf(1.2,1.2.9.0)	Active		Library	100
□	jstl(1.2,1.2.0.1)	Active		Library	100
□	ohw-rcf(5,5.0)	Active		Library	100
□	ohw-uix(5,5.0)	Active		Library	100

Step 3: Select the path where the EAR file is located and click the "**Next**" button as shown in the following screen shot:


ORACLE WebLogic Server® Administration Console
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Connected to: base_domain
Home >Summary of JDBC Data Sources >adfbc_ps-datasource >Summary of JDBC Data Sources >base-user-datasource >Summary of JDBC Data Sources >base-user-datasource >Summary of Deployments
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Health of Running Servers

No pending changes exist. Click the Release Configuration button to allow others to edit the domain.

Locate deployment to install and prepare for deployment

Select the file path that represents the application root directory, archive file, exploded archive directory, or application module descriptor that you want to install. You can also enter the path of the application directory or file in the Path field.

Note: Only valid file paths are displayed below. If you cannot find your deployment files, upload your file(s) and/or confirm that your application contains the required deployment descriptors.

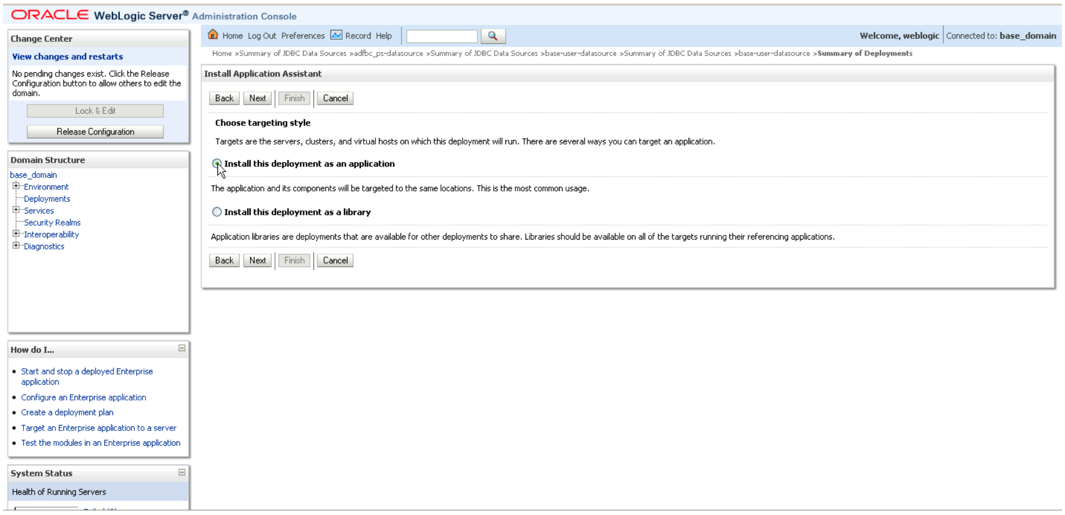
Path: D:\EAR\base.App-1.0-SNAPSHOT.ear

Recently Used Paths:
D:\
D:\projects\ohi_next\ohi\base\trunk\ear\target
D:\projects\ohi_next\ohi\base\trunk\jdeveloper\deploy
D:\Projects and POC\OHI Next

Current Location: localhost \ D: \ EAR

● base.App-1.0-SNAPSHOT.ear

Step 4: Select the option "**Install this deployment as an application**" and click on "**Next**" button as shown below:


ORACLE WebLogic Server® Administration Console
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No pending changes exist. Click the Release Configuration button to allow others to edit the domain.

Connected to: base_domain

Home >Summary of JDBC Data Sources >adfbc_ps-datasource >Summary of JDBC Data Sources >base-user-datasource >Summary of JDBC Data Sources >base-user-datasource >**Summary of Deployments**

Install Application Assistant

Choose targeting style

Targets are the servers, clusters, and virtual hosts on which this deployment will run. There are several ways you can target an application.

● **Install this deployment as an application**

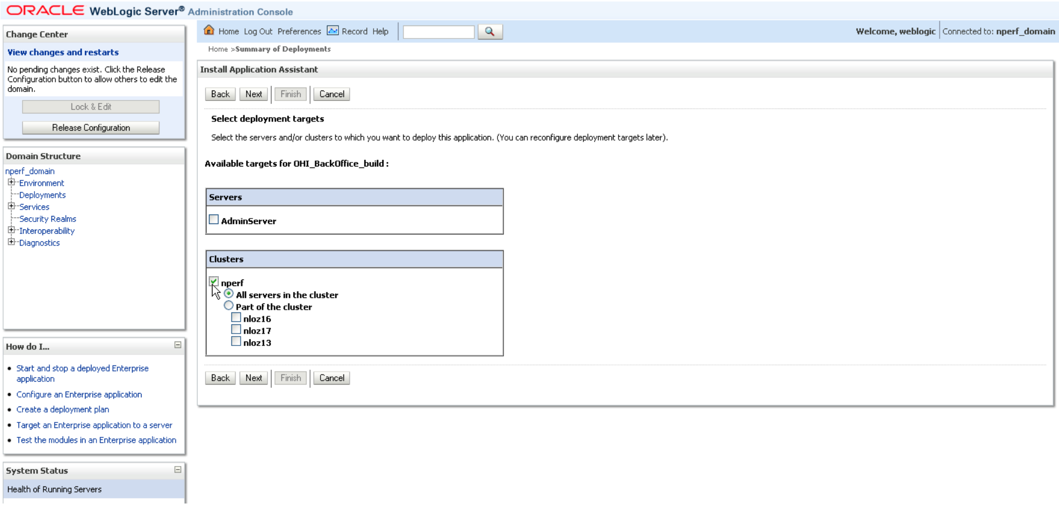
The application and its components will be targeted to the same locations. This is the most common usage.

○ **Install this deployment as a library**

Application libraries are deployments that are available for other deployments to share. Libraries should be available on all of the targets running their referencing applications.

Step 5: Click on "**Finish**" button. The OHI Application is now installed.

Step 6: If you are deploying the application to cluster, in "**Select deployment targets**" page, select the Clusters target as shown below: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Finish
Cancel

No pending changes exist. Click the Release Configuration button to allow others to edit the domain.

Connected to: nperf_domain

Home >**Summary of Deployments**

Install Application Assistant

Select deployment targets

Select the servers and/or clusters to which you want to deploy this application. (You can reconfigure deployment targets later).

Available targets for OHI_BackOffice_build :

Servers

□ **AdminServer**

Clusters

☑ **nperf**
● **All servers in the cluster**
○ **Part of the cluster**
□ **nloz16**
□ **nloz17**
□ **nloz13**

INSTALLING OHI CLAIMS APPLICATION TO USE CUSTOM WORK MANAGER (OR) TO CHANGE CONTEXT-ROOT

If you want to,

- Make use of the work managers **ui-work-manager** & **ws-work-manager** created in section "**Creating WebLogic Work Manager**"
- Change the default context-root of OHI Claims web application and web service

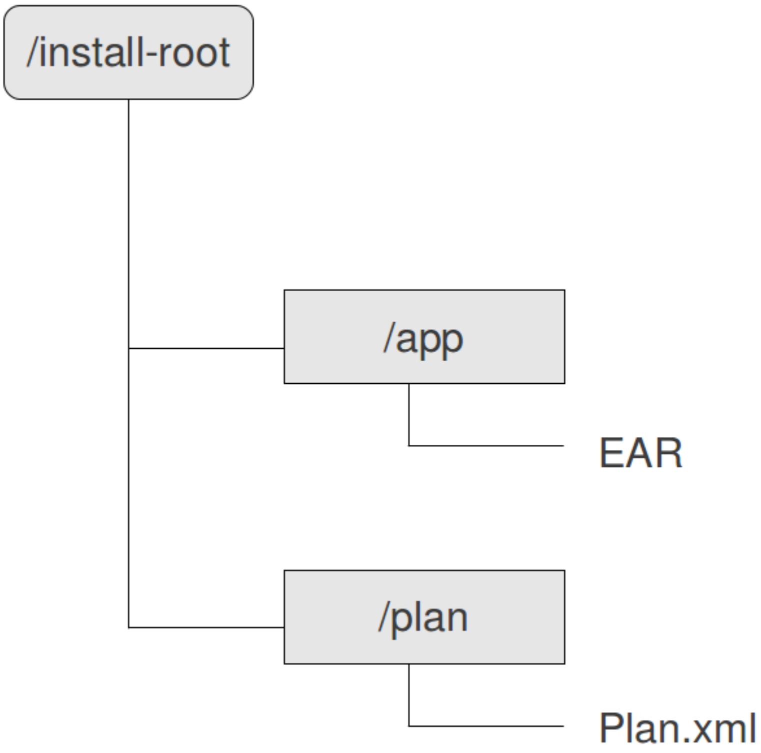
Then, DO NOT follow the steps mentioned in "**Installing The OHI Application Through WLS Admin Server Console**", but follow the steps mentioned below:

Step 1: The EAR by default contains the following context-root:

- UI.war - **base**
- OHI-WEB-SERVICES.war - **ohi-web-services**

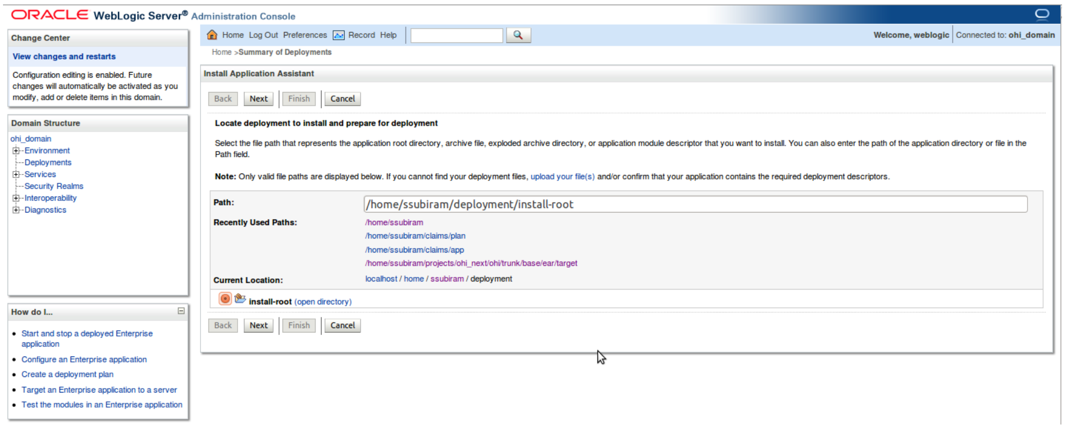
Step 2: Edit the values of the variables **UI_CONTEXT_ROOT** and **WS_CONTEXT_ROOT** in **<OHI_ROOT>/application/plan/Plan.xml** to suit your requirements.

Step 3: The EAR and Plan.xml (deployment plan) are packaged under a directory named "**application**" in the release bundle (See the directory structure below). It is recommended to copy the "**application**" directory to a location (this directory will be referred as ***<INSTALL-ROOT>*** hereafter) and optionally rename the directory (for example, rename to OHIClaims).



Step 4: To install the application using Administration Console, select the directory ***<INSTALL-ROOT>*** instead of selecting the EAR file. By default, the

Administration Console will use a deployment plan named Plan.xml, if one is available in the \plan subdirectory.


ORACLE WebLogic Server® Administration Console
Home Log Out Preferences Record Help
Welcome, weblogic | Connected to: ohi_domain
Home >Summary of Deployments
Back Next Finish Cancel

Change Center

View changes and restarts

Configuration editing is enabled. Future changes will automatically be activated as you modify, add or delete items in this domain.

Domain Structure

ohi_domain
- Environment
- Deployments
- Services
- Security Realms
- Interoperability
- Diagnostics

How do I...

- Start and stop a deployed Enterprise application
- Configure an Enterprise application
- Create a deployment plan
- Target an Enterprise application to a server
- Test the modules in an Enterprise application

Install Application Assistant

Locate deployment to install and prepare for deployment

Select the file path that represents the application root directory, archive file, exploded archive directory, or application module descriptor that you want to install. You can also enter the path of the application directory or file in the Path field.

Note: Only valid file paths are displayed below. If you cannot find your deployment files, upload your file(s) and/or confirm that your application contains the required deployment descriptors.

Path: /home/ssubiram/deployment/install-root

Recently Used Paths:
/home/ssubiram
/home/ssubiram/claims/plan
/home/ssubiram/claims/app
/home/ssubiram/projects/ohi_next/ohi/trunk/base/ear/target

Current Location: localhost / home / ssubiram / deployment

● **install-root** (open directory)

Changing OHI Claims Session Timeout

Warning This section is applicable only starting from release 1.5

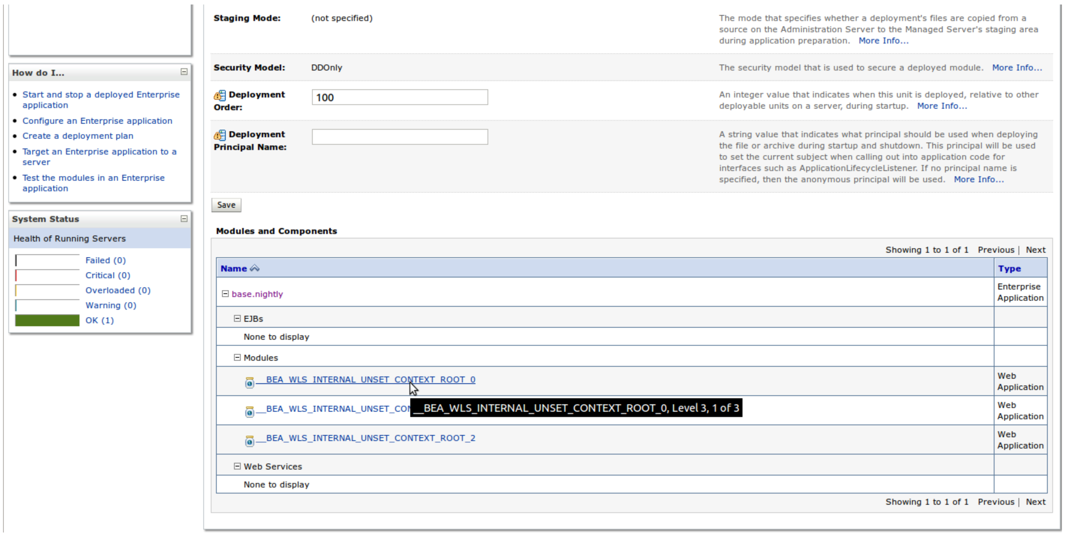
OHI Claims application does not ship with default session timeout. Instead, it leverages WebLogic Server's default session timeout - which is **3600 seconds** (1 Hour). It is possible to change this default session timeout value through WebLogic Server's Admin Console. Follow the steps below to change the default session timeout.

Note Follow the section **Installing OHI Claims Application To Use Custom Work Manager (OR) To Change Context-Root** to deploy OHI Claims application in order to change the session timeout through WebLogic Server Admin Console.

Step 1: Login to WebLogic Server Admin Console

Step 2: Click on OHI Claims application link

Step 3: Click on the first link (*__BEA_WLS_INTERNAL_UNSET_CONTEXT_ROOT_0*) in **Modules and Components** section


Save
Showing 1 to 1 of 1 Previous | Next
__BEA_WLS_INTERNAL_UNSET_CONTEXT_ROOT_0, Level 3, 1 of 3

How do I...

- Start and stop a deployed Enterprise application
- Configure an Enterprise application
- Create a deployment plan
- Target an Enterprise application to a server
- Test the modules in an Enterprise application

System Status

Health of Running Servers

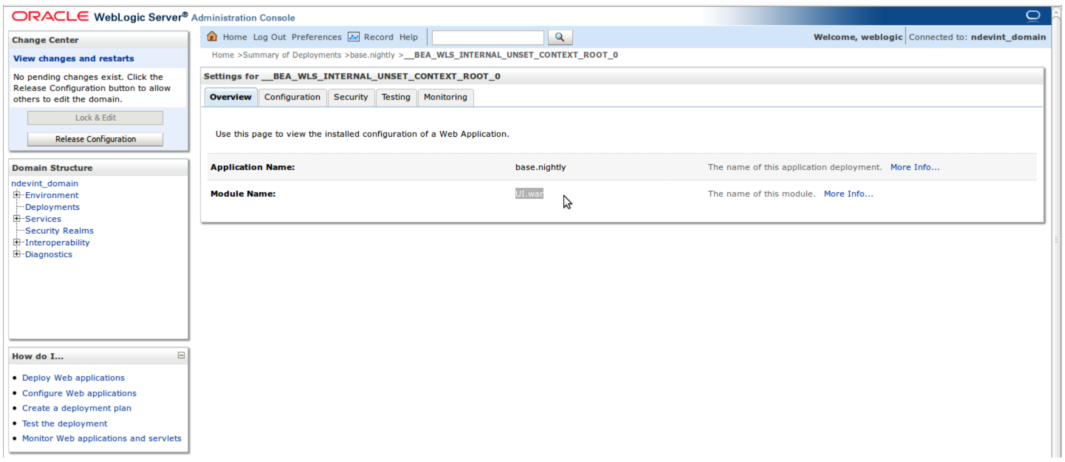
Failed (0)
Critical (0)
Overloaded (0)
Warning (0)
OK (1)

Staging Mode:	(not specified)	The mode that specifies whether a deployment's files are copied from a source on the Administration Server to the Managed Server's staging area during application preparation. More Info...
Security Model:	DDOnly	The security model that is used to secure a deployed module. More Info...
Deployment Order:	100	An integer value that indicates when this unit is deployed, relative to other deployable units on a server, during startup. More Info...
Deployment Principal Name:		A string value that indicates what principal should be used when deploying the file or archive during startup and shutdown. This principal will be used to set the current subject when calling out into application code for interfaces such as ApplicationLifecycleListener. If no principal name is specified, then the anonymous principal will be used. More Info...

Modules and Components

Name	Type
base.nightly	Enterprise Application
EJBs	
None to display	
Modules	
__BEA_WLS_INTERNAL_UNSET_CONTEXT_ROOT_0	Web Application
__BEA_WLS_INTERNAL_UNSET_CO	Web Application
__BEA_WLS_INTERNAL_UNSET_CONTEXT_ROOT_2	Web Application
Web Services	
None to display	

Step 4: Make sure that the name of the module is **UI.war**



Home >Summary of Deployments >base.nightly >__BEA_WLS_INTERNAL_UNSET_CONTEXT_ROOT_0

No pending changes exist. Click the Release Configuration button to allow others to edit the domain.

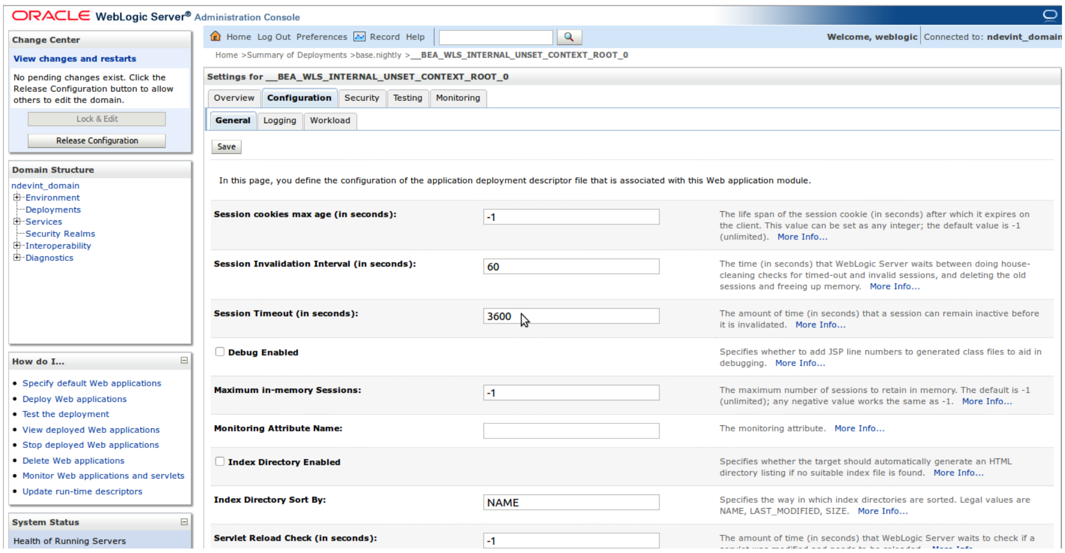
Settings for __BEA_WLS_INTERNAL_UNSET_CONTEXT_ROOT_0

Use this page to view the installed configuration of a Web Application.

Application Name:	base.nightly	The name of this application deployment. More Info...
Module Name:	UI.war	The name of this module. More Info...

Step 5: Click on **Configuration** tab and change the default **Session Timeout (in seconds)** from 3600 seconds (1 Hour) to suit your needs and click on **Save** button.

Note You may get into trouble if the load balancer session timeout is shorter than WebLogic session timeout. So, it is important to set load balancer session timeout in align with WebLogic session timeout



Home >Summary of Deployments >base.nightly >__BEA_WLS_INTERNAL_UNSET_CONTEXT_ROOT_0

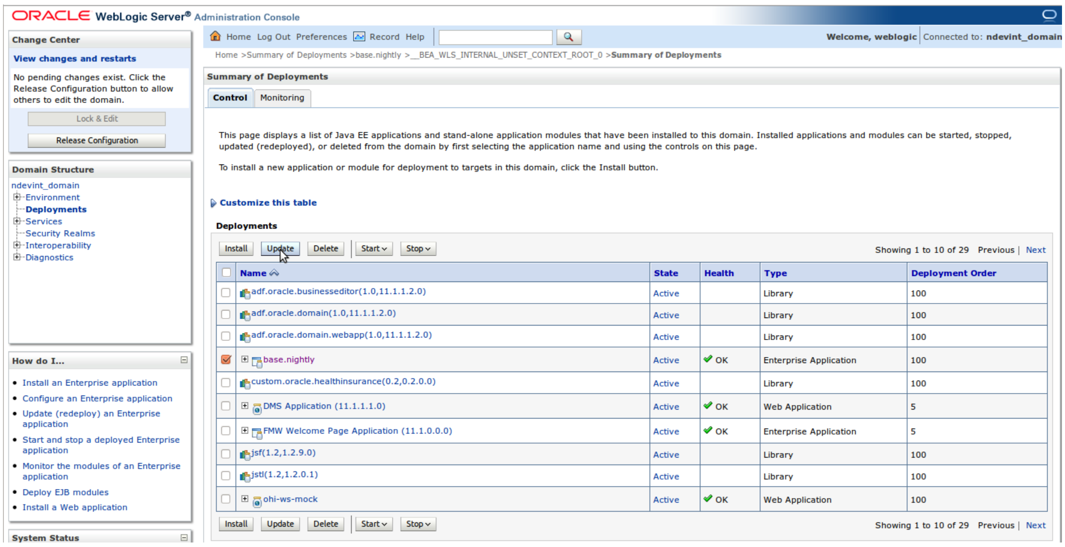
No pending changes exist. Click the Release Configuration button to allow others to edit the domain.

Settings for __BEA_WLS_INTERNAL_UNSET_CONTEXT_ROOT_0

In this page, you define the configuration of the application deployment descriptor file that is associated with this Web application module.

Session cookies max age (in seconds):	-1	The life span of the session cookie (in seconds) after which it expires on the client. This value can be set as any integer; the default value is -1 (unlimited). More Info...
Session Invalidation Interval (in seconds):	60	The time (in seconds) that WebLogic Server waits between doing house-cleaning checks for timed-out and invalid sessions, and deleting the old sessions and freeing up memory. More Info...
Session Timeout (in seconds):	3600	The amount of time (in seconds) that a session can remain inactive before it is invalidated. More Info...
□ Debug Enabled		Specifies whether to add JSP line numbers to generated class files to aid in debugging. More Info...
Maximum in-memory Sessions:	-1	The maximum number of sessions to retain in memory. The default is -1 (unlimited); any negative value works the same as -1. More Info...
Monitoring Attribute Name:		The monitoring attribute. More Info...
□ Index Directory Enabled		Specifies whether the target should automatically generate an HTML directory listing if no suitable index file is found. More Info...
Index Directory Sort By:	NAME	Specifies the way in which index directories are sorted. Legal values are NAME, LAST_MODIFIED, SIZE. More Info...
Servlet Reload Check (in seconds):	-1	The amount of time (in seconds) that WebLogic Server waits to check if a

Step 6: Click on **Deployments** link and select OHI Claims application. Click on **Update** button


ORACLE WebLogic Server® Administration Console
Home Log Out Preferences Record Help
Welcome, weblogic Connected to: ndevint_domain
Change Center
View changes and restarts
Lock & Edit
Release Configuration
Domain Structure
ndevint_domain
Environment
Deployments
Services
Security Realms
Interoperability
Diagnostics
How do I...
Install an Enterprise application
Configure an Enterprise application
Update (redeploy) an Enterprise application
Start and stop a deployed Enterprise application
Monitor the modules of an Enterprise application
Deploy EJB modules
Install a Web application
System Status
Control
Monitoring
Customize this table
Install
Update
Delete
Start
Stop
Previous
Next

Home >Summary of Deployments >base.nightly >__BEA_WLS_INTERNAL_UNSET_CONTEXT_ROOT_0 >Summary of Deployments

No pending changes exist. Click the Release Configuration button to allow others to edit the domain.

Summary of Deployments

This page displays a list of Java EE applications and stand-alone application modules that have been installed to this domain. Installed applications and modules can be started, stopped, updated (redeployed), or deleted from the domain by first selecting the application name and using the controls on this page.

To install a new application or module for deployment to targets in this domain, click the Install button.

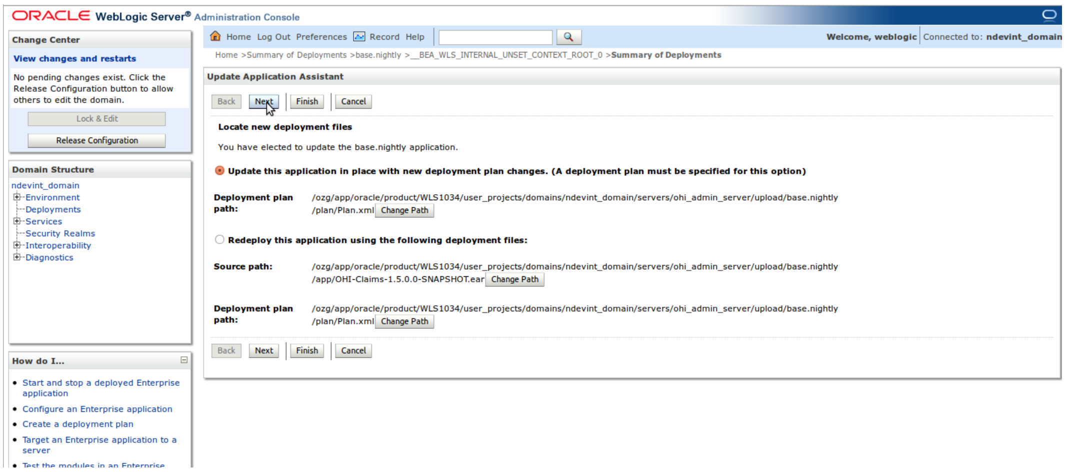
Deployments

Showing 1 to 10 of 29

	Name	State	Health	Type	Deployment Order
□	adf.oracle.businesseditor(1.0,11.1.1.2.0)	Active		Library	100
□	adf.oracle.domain(1.0,11.1.1.2.0)	Active		Library	100
□	adf.oracle.domain.webapp(1.0,11.1.1.2.0)	Active		Library	100
☑	base.nightly	Active	✓ OK	Enterprise Application	100
□	custom.oracle.healthinsurance(0.2,0.2.0.0)	Active		Library	100
□	DMS Application (11.1.1.1.0)	Active	✓ OK	Web Application	5
□	FMW Welcome Page Application (11.1.0.0.0)	Active	✓ OK	Enterprise Application	5
□	jsf(1.2,1.2.9.0)	Active		Library	100
□	jstl(1.2,1.2.0.1)	Active		Library	100
□	ohi-ws-mock	Active	✓ OK	Web Application	100

Showing 1 to 10 of 29

Step 7: Select the first option in **Update Application Assistant** and click on **Finish** button.


ORACLE WebLogic Server® Administration Console
Home Log Out Preferences Record Help
Welcome, weblogic Connected to: ndevint_domain
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How do I...
Start and stop a deployed Enterprise application
Configure an Enterprise application
Create a deployment plan
Target an Enterprise application to a server
Test the modules in an Enterprise
Back
Next
Finish
Cancel
Change Path

Home >Summary of Deployments >base.nightly >__BEA_WLS_INTERNAL_UNSET_CONTEXT_ROOT_0 >Summary of Deployments

No pending changes exist. Click the Release Configuration button to allow others to edit the domain.

Update Application Assistant

Locate new deployment files

You have elected to update the base.nightly application.

● **Update this application in place with new deployment plan changes. (A deployment plan must be specified for this option)**

Deployment plan path: /ozg/app/oracle/product/WLS1034/user_projects/domains/ndevint_domain/servers/ohi_admin_server/upload/base.nightly/plan/Plan.xml

○ **Redeploy this application using the following deployment files:**

Source path: /ozg/app/oracle/product/WLS1034/user_projects/domains/ndevint_domain/servers/ohi_admin_server/upload/base.nightly/app/OHI-Claims-1.5.0.0-SNAPSHOT.ear

Deployment plan path: /ozg/app/oracle/product/WLS1034/user_projects/domains/ndevint_domain/servers/ohi_admin_server/upload/base.nightly/plan/Plan.xml

Step 8: After activating changes, restart WebLogic Server.

VALIDATE INSTALLATION

Validate the installation by performing the following steps:

1. Point a web browser to the home page of the application and verify that a login screen is displayed. The URL for the home page is http://machine.domain:port/base. Note: if users have not been provisioned yet, the application cannot be accessed.
2. Using a web browser, verify that the Web Service WSDL's are available. The URL's for the accessing the Web Service WSDL's are listed elsewhere in this guide.

CONFIGURE OHI CLAIMS PROPERTIES FILE

A changed version of the ohi-claims.properties file may be delivered in a new OHI Claims release.

The following tables describe the properties that are maintained in this file.

Category	Parameter	Value	Explanation
File Import	ohi.ws.fileimport.filesrootdirectory		Directory paths used for File Import will be prepended with the given root directory. This is for security reasons, it ensures that files are stored in a specific area only.
Dynamic Logic	ohi.dynamiclogic.classes.directory		Path to directory in which the system generated Dynamic Logic classes.
Task Delay	ohi.processing.enrollmentcomplete.delay	Default 10 seconds	Value (in seconds) that the application will wait before it checks if all Enrollment response messages are received. Increase this value if the Enrollment service does not respond to requests within 10 seconds.
Task delay	ohi.processing.paymentstatuscomplete.delay	Default 10 seconds	Value (in seconds) that the application will wait before it checks if all Payment Status response messages are received. Increase this value if the Payment Status service does not respond to requests within 10 seconds.

Configuration for external Web Services endpoint URI's

OHI Claims frequently calls external Web Services. The endpoint URI's for these services are also configured in the ohi-claims.properties file. The following table describes the Web Services endpoint URI parameters.

Category	Parameter	Sample Value	Explanation
Web Services	ohi.enrollment.endpoint.request	http://machine.domain:port/application_name/EnrollmentRequestService	Reference to the Web Service endpoint which the OHI Claims system uses to request for Enrollment information.

Web Services	ohi.enrollment.endpoint.response	http://machine.domain:port/ohi-web-services/EnrollmentResponseService	The replyTo URI for the Enrollment Response service that is provided by the OHI Claims system. This URI is passed in the Enrollment Request message. Typically, this is a reference to a loadbalancer or a service endpoint on a service bus that forwards the request to a physical machine that executes the Web Service.
Web Services	ohi.workflowtaskstart.endpoint.request	http://machine.domain:port/ohi-web-services/WorkflowTaskStartService	Reference to the Web Service endpoint which the OHI Claims system uses to initiate a Workflow task.
Web Services	ohi.paymentstatus.endpoint.request	http://machine.domain:port/application_name/PaymentStatusRequestService	Reference to the Web Service endpoint which the OHI Claims system uses to request for Payment Status information.
Web Services	ohi.paymentstatus.endpoint.response	http://machine.domain:port/ohi-web-services/PaymentStatusResponseService	The replyTo URI for the Payment Status Response service that is provided by the OHI Claims system. This URI is passed in the Payment Status Request message. Typically, this is a reference to a loadbalancer or a service endpoint on a service bus that forwards the request to a physical machine that executes the Web Service.
Web Services	ohi.claimevent.endpoint.request	http://machine.domain:port/ohi-web-services/ClaimEventService	Reference to the Web Service endpoint that OHI Claims uses to deliver Claim events (if configured).
Web Services	ohi.ctrclaimevent.endpoint.request	http://machine.domain:port/ohi-web-services/CtrClaimEventService	Reference to the Web Service endpoint that OHI Claims uses to deliver Claim Transaction events (if configured).
Web Services	ohi.claimprefinalizedoutevent.endpoint.request	http://machine.domain:port/ohi-web-services/ClaimPreFinalizedOutEventService	Reference to the Web Service endpoint that OHI Claims uses to deliver events regarding prefinalized claims (if configured).

Web Services	ohi.financialmessage.endpoint.request	http://machine.domain:port/ohi-web-services/FinancialMessageResponseService	Reference to the Web Service endpoint that OHI Claims uses to deliver financial messages.

Web Service Connection settings

Category	Parameter	Value	Explanation
Web Services	ohi.ws.client.connectiontimeout	For example: 1000	The time in milliseconds before the attempt to connect to an outbound service times out. If no value is specified, the default value of 0 is used which means never timeout.
Web Services	ohi.ws.client.readtimeout	For example: 1000	The time in milliseconds that the client will wait for the server to respond to the request. If no value is specified, the default value of 0 is used which means never timeout.
Web Services	ohi.ws.client.retrytimeout	For example: 1000	The time in milliseconds that the system will wait before another attempt is made to access a failing service. A value of 0 means no timeout before retrying.
Web Services	ohi.ws.paymentstatusresponse.request.enabled	Default: true	The use of the Payment Status integration point is optional. In the event that the payment status information is provided through another integration point (or not at all) this integration point can be disabled by setting the value to false.

Web Services Validation and Logging

The ohi-claims.properties file also has properties that determine the behavior of Web Services validation and logging. The following table describes these:

Category	Parameter	Value	Explanation
Web Services	ohi.ws.<ip-name> .request.validate	true or false	If set to true, the request will be validated against an XSD when it is received. For production systems, with extensively tested integrations, the recommended value is false.

Web Services	ohi.ws.<ip-name> .response.validate	true or false	If set to true, the response will be validated against an XSD before sending. For production systems, with extensively tested integrations, the recommended value is false.

Applicability for all OHI Web Services is listed in the following table:

Web Service	ip-name	Relevant properties
Authorization	authorization	request.validate response.validate
Claims Import	claimsin	request.validate
Claims Pre Finalized Out	claimprefinalizedout	request.validate response.validate
Claims Reprocessing	claimsreprocessing	request.validate
Claims Transaction	ctr	request.validate response.validate
Claims Update	claimsupdate	request.validate response.validate
Counters	counters	request.validate response.validate
Data Access	dataaccessgroup	request.validate response.validate
Enrollment Response	enrollmentresponse	request.validate
File Import	fileimport	request.validate
Financial Message	financialmessage	request.validate
Payment Status Response	paymentstatusresponse	request.validate
Provider Import	provider	request.validate response.validate
Provisioning	provisioning	request.validate response.validate
Relation Import	relation	request.validate response.validate
ExternalClaimsDataImport	externalclaimsdata	request.validate response.validate

OHI Claims User Interface related properties

URL references (deeplinking)

In a Workflow message a reference to specific pages in the OHI Claims UI is passed. Construction of the URL for these pages is driven by the following parameters:

Category	Parameter	Value	Explanation

User Interface	ohi.claims.application.baseurl	For example: http://localhost:7001	The base URL for accessing the application, typically includes the machine or loadbalancer, the domain and a port number
User Interface	ohi.claims.manualadjudication.url	/base/faces/SearchClaims?jhsTaskFlowName=ViewClaims&uniqueIdentifier=madjudication&rowKeyValueClaims=	Reference to the UI page for manual adjudication
User Interface	ohi.claims.manualpricing.url	/base/faces/SearchClaims?jhsTaskFlowName=ViewClaims&uniqueIdentifier=mpricing&rowKeyValueClaims=	Reference to the UI page for manual pricing
User Interface	ohi.claims.manualbenefits.url	/base/faces/SearchClaims?jhsTaskFlowName=ViewClaims&uniqueIdentifier=mbenefits&rowKeyValueClaims=	Reference to the UI page for application of manual benefits
User Interface	ohi.claims.change.url	/base/faces/SearchClaims?jhsTaskFlowName=ViewClaims&uniqueIdentifier=edit&rowKeyValueClaims=	Reference to the UI page for change claims

Note: before sending URI's out, the system will encode these. The receiving system is expected to decode the URI.

Other User Interface related properties

The following table lists other user interface related properties:

Category	**Parameter**	**Value**	**Explanation**
User Interface	ohi.environment.identifier	Samples: "User Acceptance Test", "Development".	Text string that is displayed on the home page of the system that helps the user to identify the environment
User Interface	ohi.ui.maxrowstoretrieve	Suggested default is 200.	Maximum number of rows retrieved to show in a UI table. Note that memory usage and page load times are impacted by this value.

Chapter 4

Appendices

APPENDIX A - WEB SERVICE LOCATIONS

The URLs of the OHI Web Services depend on the name of the machine on which the application installed (or alternatively a load balancer).
The BASE is http://machine.domain:port/ohi-web-services

Web Service	WSDL	Endpoint
Authorizations	BASE/AuthorizationService/authorization.wsdl	BASE/AuthorizationService
Claims In	BASE/ClaimsInService/claimsIn.wsdl	BASE/ClaimsInService
Claims Pre Finalized Out	BASE/ClaimPreFinalizedOutService/claimPreFinalizedOut.wsdl	BASE/ClaimPreFinalizedOutService
Claims Reprocessing	BASE/ClaimsReprocessingService/claimsReprocessing.wsdl	BASE/ClaimsReprocessingService
Claims Transactions	BASE/ClaimTransactionService/ctrClaimsOut.wsdl	BASE/ClaimTransactionService
Claims Update	BASE/ClaimsUpdateService/claimsUpdate.wsdl	BASE/ClaimsUpdateService
Counters	BASE/CountersService/counters.wsdl	BASE/CountersService
Data Access Group Import	BASE/DataAccessGroupService/dataAccessGroup.wsdl	BASE/DataAccessGroupService
Enrollment Response	BASE/EnrollmentResponseService/enrollmentResponse.wsdl	BASE/EnrollmentResponseService
File Import	BASE/FileImportService/fileImport.wsdl	BASE/FileImportService
Financial Messages	BASE/FinancialMessageService/financialMessage.wsdl	BASE/FinancialMessageService
Payment Status Response	BASE/PaymentStatusResponseService/paymentStatusResponse.wsdl	BASE/PaymentStatusResponseService
Providers	BASE/ProviderImportService/providerImport.wsdl	BASE/ProviderImportService
Provisioning	BASE/ProvisioningService/provisioning.wsdl	BASE/ProvisioningService
Relations	BASE/RelationImportService/relationImport.wsdl	BASE/RelationImportService

ExternalClaimsData	BASE/ExternalClaimsDataService/externalClaimsData.wsdl	BASE/ExternalClaimsDataImportService

Note Please ensure that the exchange of messages with OHI Web Services is properly secured before these are used.

OHI calls out to external Web Services in a number of cases. Endpoints for the external or outbound Web Services are defined in the OHI Claims properties file (page0).

APPENDIX B - SEED DATA

TYPES OF SEED DATA

Generic Seed Data

Seed data is maintained by Oracle. It is delivered as part of a release and may be updated by software upgrades. In general, customers should not change this data (see the Restrictions on using Seed Data section below).

Localization Seed Data

This category covers specific data that is required by localizations. The data is maintained by Oracle. Examples:

- Flex code definitions for a specific page
- Specific messages for localizations.

Sample Data

Sample data is provided by Oracle to give you a headstart during configuration. You can opt to install this data. It is *not* modified during future upgrades. Tables containing Sample Data include:

Table Name	Remarks
To be determined	

RESTRICTIONS ON USING SEED DATA

Because Seed Data is maintained by Oracle, it may be modified or even deleted as part of an upgrade. Customers should therefore exercise caution when using seed data in their configuration by abiding these rules.

1. Do not remove (delete) Seed Data rows. A patch may re-insert the row.
2. Do not update columns, other than those indicated as updateble below.
3. Do not make references to rows that may be deleted by Oracle (see table below).

Violations of the rules above (especially rule 3) may lead to failures during the installation of upgrades.

The table below lists the Seed Data tables.

- **Data**: The table or logical entity
- **Updatable columns**: The customer may update the values in these columns. They will not be overwritten by upgrade scripts. Other columns should not be updated by the customer.
- **Physical Delete**: Upgrade scripts may delete this data. The customer should not create references to this data. Example: Do not use OHI messages for your own dynamic checks.

Data	Updatable columns	Physical Delete	Remarks
Access Restrictions		Yes	Also deletes Access Restriction Grants referring to this row
Access Restriction Grants		Yes	
Access Roles		No	Two roles are seeded
Boilerplate Texts		Yes	
Claim Forms		No	
Countries	all _b columns	No	
Country Regions		No	
Coverage Labels		No	
Dynamic Field Usages		No	
Dynamic Logic		No	
Fields (+ dynamic logic)		No	
Flex Codes		No	
Flex Code Sets (+ details)		No	
Flex Code Systems		No	
Languages	ind_default ind_installed	No	
Messages	ind_suppress_log_in_ui ind_suppress_log_in_ext ind_mark external_code	Yes	
Single Flex Code Definitions (+ usage)		No	
Task Types		Yes	Customer is not allowed to change anything in base table
Task Type Attributes	value_char value_number value_datetime value_clob	Yes	
Users		No	One User will be seeded (system user)