Oracle® Retail Sales Audit

Installation Guide

Release 15.0.1

E76323-01

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Oracle® Retail Sales Audit Installation Guide, Release 15.0.1

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Value-Added Reseller (VAR) Language

Oracle Retail VAR Applications

The following restrictions and provisions only apply to the programs referred to in this section and licensed to you. You acknowledge that the programs may contain third party software (VAR applications) licensed to Oracle. Depending upon your product and its version number, the VAR applications may include:

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(ii) the **Wavelink** component developed and licensed by Wavelink Corporation (Wavelink) of Kirkland, Washington, to Oracle and imbedded in Oracle Retail Mobile Store Inventory Management.

(iii) the software component known as **Access Via**™ licensed by Access Via of Seattle, Washington, and imbedded in Oracle Retail Signs and Oracle Retail Labels and Tags.

(iv) the software component known as **Adobe Flex**™ licensed by Adobe Systems Incorporated of San Jose, California, and imbedded in Oracle Retail Promotion Planning & Optimization application.

You acknowledge and confirm that Oracle grants you use of only the object code of the VAR Applications. Oracle will not deliver source code to the VAR Applications to you. Notwithstanding any other term or condition of the agreement and this ordering document, you shall not cause or permit alteration of any VAR Applications. For purposes of this section, "alteration" refers to all alterations, translations, upgrades, enhancements, customizations or modifications of all or any portion of the VAR Applications including all reconfigurations, reassembly or reverse assembly, re-engineering or reverse engineering and recompilations or reverse compilations of the VAR Applications or any derivatives of the VAR Applications. You acknowledge that it shall be a breach of the agreement to utilize the relationship, and/or confidential information of the VAR Applications for purposes of competitive discovery.

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Contents

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Oracle Retail Sales Audit Installation Guide, Release 15.0.1

Oracle welcomes customers' comments and suggestions on the quality and usefulness of this document.

Your feedback is important, and helps us to best meet your needs as a user of our products. For example:

- Are the implementation steps correct and complete?
- Did you understand the context of the procedures?
- Did you find any errors in the information?
- Does the structure of the information help you with your tasks?
- Do you need different information or graphics? If so, where, and in what format?
- Are the examples correct? Do you need more examples?

If you find any errors or have any other suggestions for improvement, then please tell us your name, the name of the company who has licensed our products, the title and part number of the documentation and the chapter, section, and page number (if available).

> **Note:** Before sending us your comments, you might like to check that you have the latest version of the document and if any concerns are already addressed. To do this, access the new Applications Release Online Documentation CD available on My Oracle Support and www.oracle.com. It contains the most current Documentation Library plus all documents revised or released recently.

Send your comments to us using the electronic mail address: retail-doc_us@oracle.com

Please give your name, address, electronic mail address, and telephone number (optional).

If you need assistance with Oracle software, then please contact your support representative or Oracle Support Services.

If you require training or instruction in using Oracle software, then please contact your Oracle local office and inquire about our Oracle University offerings. A list of Oracle offices is available on our Web site at www.oracle.com.

Preface

Oracle Retail Installation Guides contain the requirements and procedures that are necessary for the retailer to install Oracle Retail products.

Audience

This Installation Guide is written for the following audiences:

- Database administrators (DBA)
- System analysts and designers
- Integrators and implementation staff

Related Documents

For more information, see the following documents in the Oracle Retail Sales Audit Release 15.0.1 documentation set:

- *Oracle Retail Merchandising System Release Notes*
- *Oracle Retail Sales Audit User Guide*
- *Oracle Retail Merchandising Implementation Guide*
- *Oracle Retail Merchandising Security Guide*
- *Oracle Retail Merchandising Batch Schedule*
- Oracle Retail Merchandising System documentation
- Oracle Retail Trade Management documentation

Customer Support

To contact Oracle Customer Support, access My Oracle Support at the following URL:

https://support.oracle.com

When contacting Customer Support, please provide the following:

- Product version and program/module name
- Functional and technical description of the problem (include business impact)
- Detailed step-by-step instructions to re-create
- Exact error message received
- Screen shots of each step you take

Review Patch Documentation

When you install the application for the first time, you install either a base release (for example, 15.0) or a later patch release (for example, 15.0.1). If you are installing the base release or additional patch releases, read the documentation for all releases that have occurred since the base release before you begin installation. Documentation for patch releases can contain critical information related to the base release, as well as information about code changes since the base release.

Improved Process for Oracle Retail Documentation Corrections

To more quickly address critical corrections to Oracle Retail documentation content, Oracle Retail documentation may be republished whenever a critical correction is needed. For critical corrections, the republication of an Oracle Retail document may at times **not** be attached to a numbered software release; instead, the Oracle Retail document will simply be replaced on the Oracle Technology Network Web site, or, in the case of Data Models, to the applicable My Oracle Support Documentation container where they reside.

This process will prevent delays in making critical corrections available to customers. For the customer, it means that before you begin installation, you must verify that you have the most recent version of the Oracle Retail documentation set. Oracle Retail documentation is available on the Oracle Technology Network at the following URL:

`http://www.oracle.com/technetwork/documentation/oracle-retail-100266.html`

An updated version of the applicable Oracle Retail document is indicated by Oracle part number, as well as print date (month and year). An updated version uses the same part number, with a higher-numbered suffix. For example, part number E123456-**02** is an updated version of a document with part number E123456-**01**.

If a more recent version of a document is available, that version supersedes all previous versions.

Oracle Retail Documentation on the Oracle Technology Network

Documentation is packaged with each Oracle Retail product release. Oracle Retail product documentation is also available on the following Web site:

`http://www.oracle.com/technetwork/documentation/oracle-retail-100266.html`

(Data Model documents are not available through Oracle Technology Network. These documents are packaged with released code, or you can obtain them through My Oracle Support.)

Conventions

Navigate: This is a navigate statement. It tells you how to get to the start of the procedure and ends with a screen shot of the starting point and the statement “the Window Name window opens.”

```
This is a code sample
    It is used to display examples of code
```

1

Preinstallation Tasks

This chapter explains the tasks required prior to installation.

> **Note:** Oracle Retail assumes that the retailer has applied all required fixes for supported compatible technologies.

Check Supported Database Server Requirements

General requirements for a database server running Oracle Retail Sales Audit (ReSA) include the following:

Supported on	Versions Supported
Database Server OS	OS certified with Oracle Database 12cR1 Enterprise Edition. Options are: ▪ Oracle Linux 6 and 7 for x86-64 (Actual hardware or Oracle virtual machine) ▪ Red Hat Enterprise Linux 6 and 7 for x86-64 (Actual hardware or Oracle virtual machine) ▪ AIX 7.1 (Actual hardware or LPARs) ▪ Solaris 11 SPARC (Actual hardware or logical domains) ▪ HP-UX 11.31 Integrity (Actual hardware, HPVM, or vPars)
Database Server 12cR1	Oracle Database Enterprise Edition 12cR1 (12.1.0.2) with the following specifications: **Components:** ▪ Oracle Partitioning ▪ Examples CD **Oneoffs:** ▪ 20846438: ORA-600 [KKPAPXFORMFKK2KEY_1] WITH LIST PARTITION ▪ 19623450: MISSING JAVA CLASSES AFTER UPGRADE TO JDK 7 ▪ 20406840: PROC 12.1.0.2 THROWS ORA-600 [17998] WHEN PRECOMPILING BY 'OTHER' USER ▪ 20925154: ORA-39126: WORKER UNEXPECTED FATAL ERROR IN KUPW$WORKER GATHER_PARSE_ITEMS JAVA **RAC only:** ▪ 21260431: APPSST 12C : GETTING ORA-4031 AFTER 12C UPGRADE ▪ 21373473: INSTANCE TERMINATED AS LMD0 AND LMD2 HUNG FOR MORE THAN 70 SECS **Other components:** ▪ Perl interpreter 5.0 or later ▪ X-Windows interface ▪ JDK 1.7

Note: By default, JDK is at 1.6. After installing the 12.1.0.2 binary, apply patch 19623450. Follow the instructions on Oracle Database Java Developer's Guide 12c Release 1 to upgrade JDK to 1.7. The Guide is available at: http://docs.oracle.com/database/121/JJDEV/chone.htm#JJDEV01000.

Check Supported Application Server Requirements

General requirements for an application server capable of running the Oracle Retail Sales Audit (ReSA) application include the following.

Supported on:	Versions Supported:
Application Server OS	OS certified with Oracle Fusion Middleware 12c (12.1.3). Options are: ▪ Oracle Linux 6 and 7 for x86-64 (Actual hardware or Oracle virtual machine) ▪ Red Hat Enterprise Linux 6 and 7 for x86-64 (Actual hardware or Oracle virtual machine) ▪ AIX 7.1 (Actual hardware or LPARs) ▪ Solaris 11 SPARC (Actual hardware or logical domains) ▪ HP-UX 11.31 Integrity (Actual hardware, HPVM, or vPars)

Supported on:	Versions Supported:
Application Server	Oracle Fusion Middleware 12c (12.1.3) **Components:** ▪ Oracle Fusion Middleware Infrastructure 12c (12.1.3) ▪ Oracle WebLogic Server 12c (12.1.3) (Installed as part of FMW Infrastructure 12c) ▪ Oracle ADF 12c (12.1.3) (Installed as part of FMW Infrastructure 12c) ▪ ADF Patches: ▪ 17575028-EXISTS VIEW CRITERIA FAIL IN 12.1.2.0.0 WHEN VO SOURCE IS SQL QUERY ▪ 19771991-CLASSCASTEXCEPTION WHEN FILTERING AF:TABLE COLUMN OF TYPE DATE / ARRAYLIST DURIN ▪ 20608945-MERGE REQUEST ON TOP OF 12.1.3.0.0 FOR BUGS 20182987 18978726 ▪ Repository Creation Utility 12c (12.1.3) (Installed as part of FMW Infrastructure 12c) ▪ Oracle Identity Management 11g Release 1 (11.1.1.9) **Note:** Oracle Internet Directory (OID) is the supported LDAP directory for Oracle Retail products. For alternate LDAP directories, refer to Oracle WebLogic documentation set. **Note:** You also need ODSM to load the users into LDAP and manage them **Java:** ▪ JDK 1.7+ 64 bit **Optional (required for SSO**) ▪ Oracle WebTier 11g Release 1(11.1.1.9) Oracle Access Manager 11g Release 2PS3 (11.1.2.3) **Note:** A separate WebLogic 10.3.6 installation is required for Oracle Access Manager 11g. ▪ Oracle Access Manager Agent (WebGate) 11g Release 2 PS3 (11.1.2.3) **Optional (required for Operational Insights**) ▪ Oracle Business Intelligence Enterprise Edition (OBI EE) 11.1.1.9 **Note:** It is mandatory to configure SSO in production environment with the above mentioned tech stack if you are planning to use Operational Insights. SSO must be configured for both the ReSA Application and Oracle BI EE.

Verify Single Sign-On

If ReSA will not be deployed in a Single Sign-On environment, skip this section.

If Single Sign-On is to be used, verify that Oracle Access Management 11gR2PS3 version 11.1.2.3 has been installed along with the components listed in the above Application Server requirements section. Verify the HTTP Server is registered with the Oracle Access Manager (OAM) 11gR2PS3 as a partner application.

Check Supported Client PC and Web Browser Requirements

Requirement	Version
Operating system	Windows 7 or 8
Display resolution	1280x1024 or higher
Processor	2.6GHz or higher
Memory	1GByte or higher
Networking	intranet with at least 10Mbps data rate
Oracle (Sun) Java Runtime Environment	1.7+
Browser	Microsoft Internet Explorer 11 Mozilla Firefox Extended Support Release 38

Supported Oracle Retail Products

Requirement	Version
Oracle Retail Active Retail Intelligence (ARI)	15.0
Oracle Retail Merchandising System (RMS)	15.0.1
Oracle Retail Invoice Matching (ReIM)	15.0.1
Oracle Retail Store Inventory Management (SIM)	15.0.1
Oracle Retail Xstore Suite	15.0.1
Oracle Retail POS Suite	14.1.x

UNIX User Account Privileges to Install the Software

A UNIX user account is needed to install the software. The UNIX user that is used to install the software should have write access to the WebLogic server installation files.

For example, oretail

> **Note:** Installation steps will fail when trying to modify files under the WebLogic installation, unless the user has write access.

2

RAC and Clustering

Oracle Retail Sales Audit has been validated to run in two configurations on Linux:

- Standalone WLS and Database installations
- Real Application Cluster Database and WebLogic Server Clustering

The Oracle Retail products have been validated against a 12.1.0.1 RAC database. When using a RAC database, all JDBC connections should be configured to use THIN connections rather than OCI connections. It is suggested that if you do use OCI connections, the Oracle Retail products database be configured in the tnsnames.ora file used by the WebLogic Server installations.

Clustering for WebLogic Server 12.1.3 is managed as an Active-Active cluster accessed through a Load Balancer. Validation has been completed utilizing a RAC 12.1.0.1 Oracle Internet Directory database with the WebLogic 12.1.3 cluster. It is suggested that a Web Tier 11.1.1.9 installation be configured to reflect all application server installations if SSO will be utilized.

References for Configuration:

- Oracle Fusion Middleware High Availability Guide, 12c (12.1.3.0.0)Part Number E49894-02
- Oracle Real Application Clusters Administration and Deployment Guide
  12c Release 1 (12.1) E48838-10

3 Database Installation Tasks

ReSA Schema

The ReSA database tables are installed with the RMS database schema. RMS 15.0.1 database install is a prerequisite for ReSA 15.0.1 installation.

4 Application Installation Tasks

Before proceeding, you must install Oracle WebLogic 12.1.3 using Fusion Middleware Infrastructure with ADF.

These are the other prerequisites before installing the ReSA application:

- Install WebLogic domain with ADF and EM (Enterprise Manager). Managed server used to install Allocation must be set up with ADF libraries extended.
- Set up MDS schema Datasource in Enterprise Manager(EM).
- Configuration of OID Authenticator in WebLogic domain
- Load LDIF files in LDAP to create Users and Roles

It is assumed Oracle database has already been configured and loaded with the appropriate RMS and Oracle Retail Allocation schemas for your installation.

MDS schema, OPSS schema and other required schemas for ADF must be created using RCU utility. Steps to create the schemas are explained in this document.

Installing a separate domain as part of ADF configuration is recommended.

The Oracle Retail Allocation application is deployed to a managed server which is created inside the new domain (example: AppDomain). This managed server must contain all the ADF libraries.

Middleware Infrastructure and WebLogic Server12c (12.1.3) Installation

Create a directory to install the WebLogic (this will be the MW_HOME):

Example: mkdir -p /u00/webadmin/products/wls_retail

1. Set the MW_HOME, JAVA_HOME, and DOMAIN_HOME environment variables:
   - MW_HOME should point to your WebLogic installation.
   - JAVA_HOME should point to the Java JDK 1.7+. This is typically the same JDK which is being used by the WebLogic domain where application is getting installed.
   - DOMAIN_HOME should point to the full path of the domain into which application will be installed.

   Example:

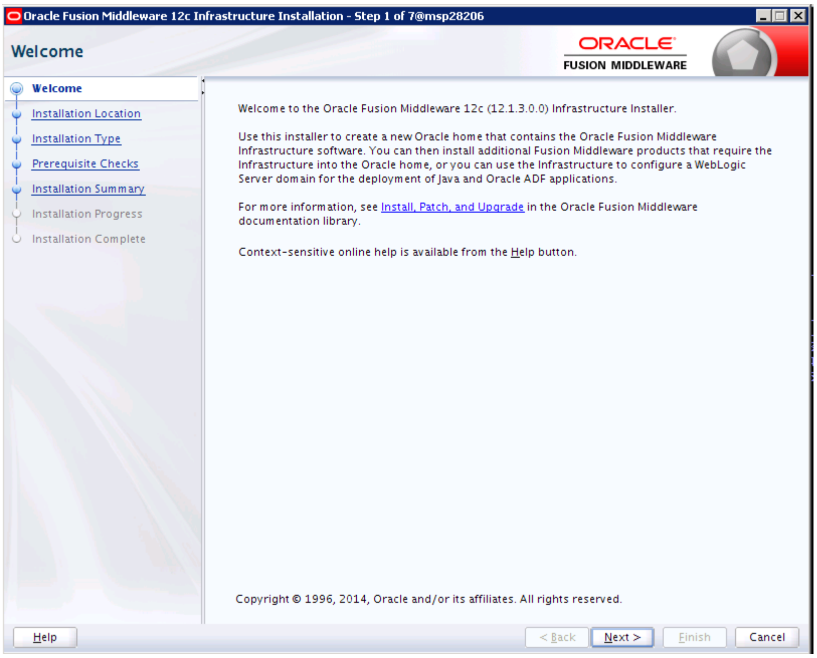
   ```
           $export MW_HOME=/u00/webadmin/products/wls_retail
                          $export
   DOMAIN_HOME=/u00/webadmin/config/domains/wls_retail/APPNAMEDomain
   $export JAVA_HOME=/u00/webadmin/products/jdk_java
   (This should point to the Java which is installed on your server)
   $export PATH=$JAVA_HOME/bin:$PATH
   ```

   Going forward we will use the above references for further installations.

2. Set the system environment variable MW_HOME to the new directory then cd to location where the jar is downloaded and run the installer using the following command:

   ```
   java -jar ./fmw_12.1.3.0.0_infrastructure.jar
   ```

3. The Welcome screen appears. Click **Next**.



Welcome to the Oracle Fusion Middleware 12c (12.1.3.0.0) Infrastructure Installer.

Use this installer to create a new Oracle home that contains the Oracle Fusion Middleware Infrastructure software. You can then install additional Fusion Middleware products that require the Infrastructure into the Oracle home, or you can use the Infrastructure to configure a WebLogic Server domain for the deployment of Java and Oracle ADF applications.

For more information, see Install, Patch, and Upgrade in the Oracle Fusion Middleware documentation library.

Context-sensitive online help is available from the Help button.

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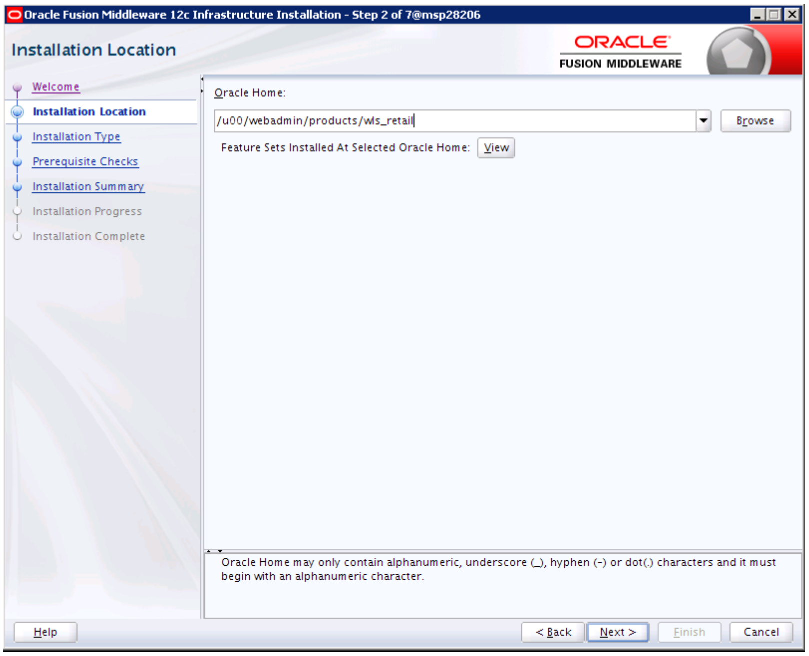
4. Enter the following and click **Next**.

   `Oracle home=<Path to the middleware home>`

   Example:

   `/u00/webadmin/products/wls_retail`

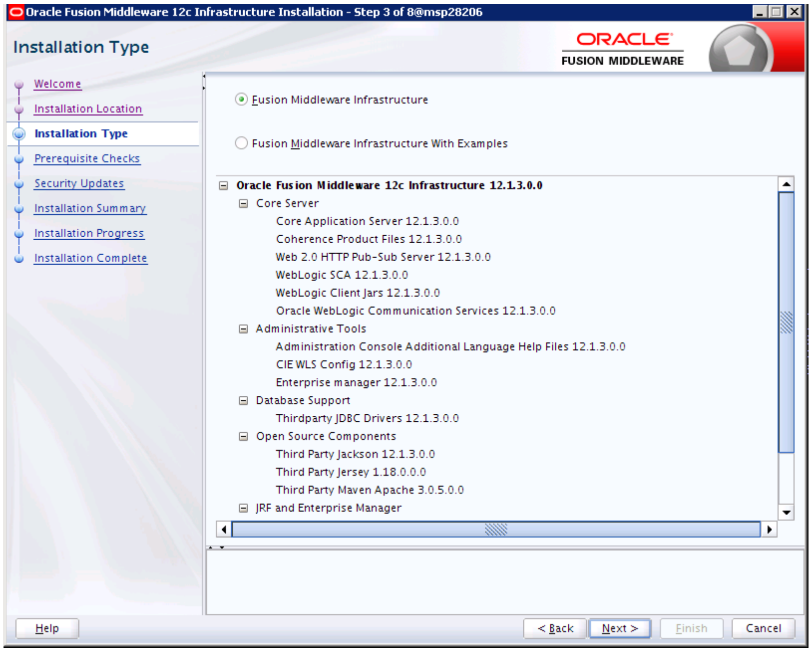


Oracle Home: /u00/webadmin/products/wls_retail

Feature Sets Installed At Selected Oracle Home:

Oracle Home may only contain alphanumeric, underscore (_), hyphen (-) or dot(.) characters and it must begin with an alphanumeric character.

5. Select install type 'Fusion Middleware Infrastructure'. Click **Next**.



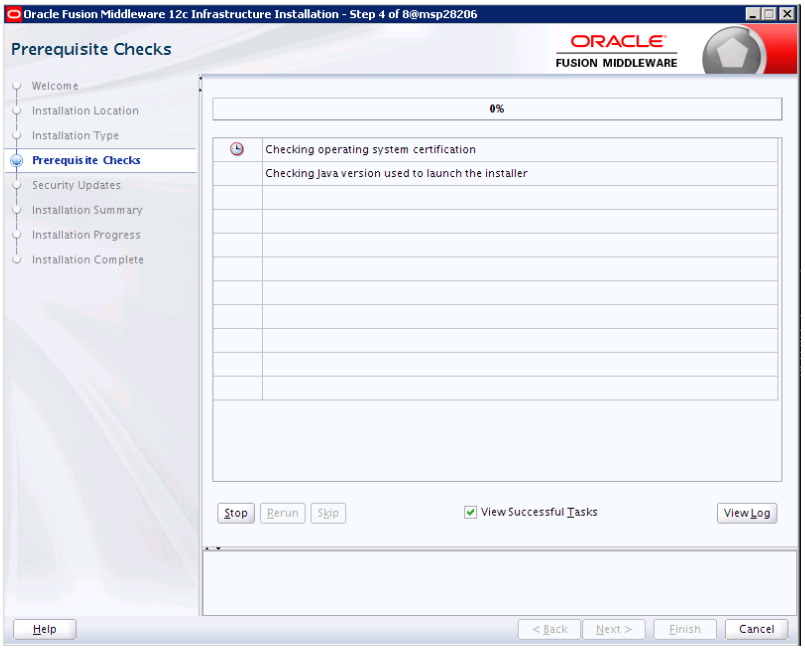
Installation Type

● Fusion Middleware Infrastructure

○ Fusion Middleware Infrastructure With Examples

```
⊟ Oracle Fusion Middleware 12c Infrastructure 12.1.3.0.0
   ⊟ Core Server
         Core Application Server 12.1.3.0.0
         Coherence Product Files 12.1.3.0.0
         Web 2.0 HTTP Pub-Sub Server 12.1.3.0.0
         WebLogic SCA 12.1.3.0.0
         WebLogic Client Jars 12.1.3.0.0
         Oracle WebLogic Communication Services 12.1.3.0.0
   ⊟ Administrative Tools
         Administration Console Additional Language Help Files 12.1.3.0.0
         CIE WLS Config 12.1.3.0.0
         Enterprise manager 12.1.3.0.0
   ⊟ Database Support
         Thirdparty JDBC Drivers 12.1.3.0.0
   ⊟ Open Source Components
         Third Party Jackson 12.1.3.0.0
         Third Party Jersey 1.18.0.0.0
         Third Party Maven Apache 3.0.5.0.0
   ⊟ JRF and Enterprise Manager
```

This screen will verify that the system meets the minimum necessary requirements.



Prerequisite Checks

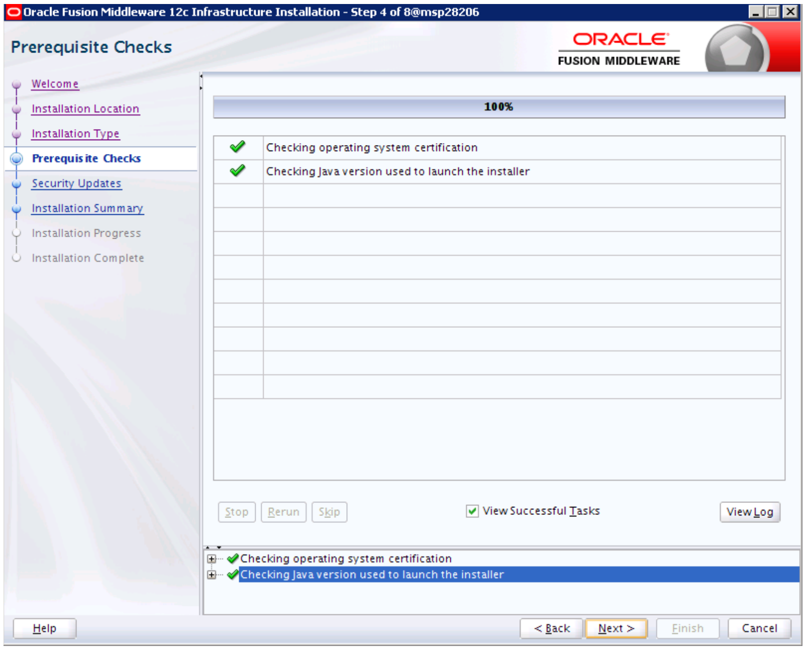
0%

Checking operating system certification

Checking Java version used to launch the installer

☑ View Successful Tasks

6. Click **Next**.



Prerequisite Checks

100%

✓ Checking operating system certification

✓ Checking Java version used to launch the installer

☑ View Successful Tasks

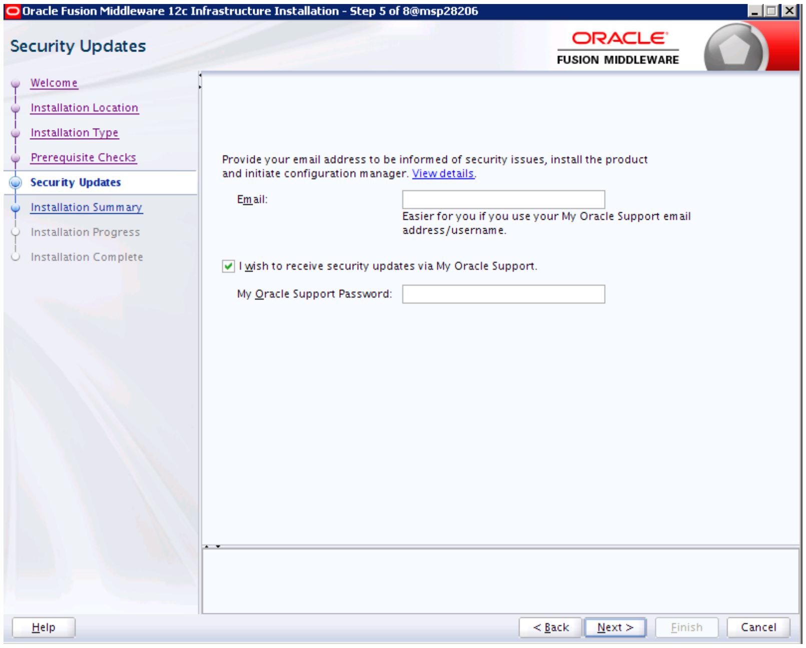
✓ Checking operating system certification

✓ Checking Java version used to launch the installer

7. If you already have an Oracle Support account, use this screen to indicate how you would like to receive security updates.

8. If you do not have one or if you want to skip this step, clear the check box and verify your selection in the follow-up dialog box.

9. Click **Next**.



Security Updates

Provide your email address to be informed of security issues, install the product and initiate configuration manager. View details.

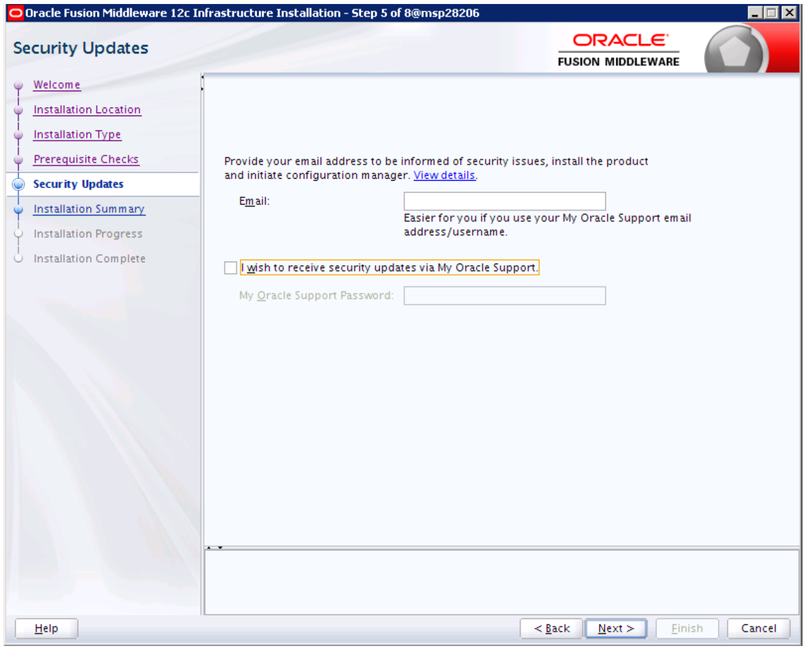
Email:

Easier for you if you use your My Oracle Support email address/username.

☑ I wish to receive security updates via My Oracle Support.

My Oracle Support Password:

10. Click **Next**.



Oracle Fusion Middleware 12c Infrastructure Installation - Step 5 of 8@msp28206

Security Updates

Provide your email address to be informed of security issues, install the product and initiate configuration manager. View details.

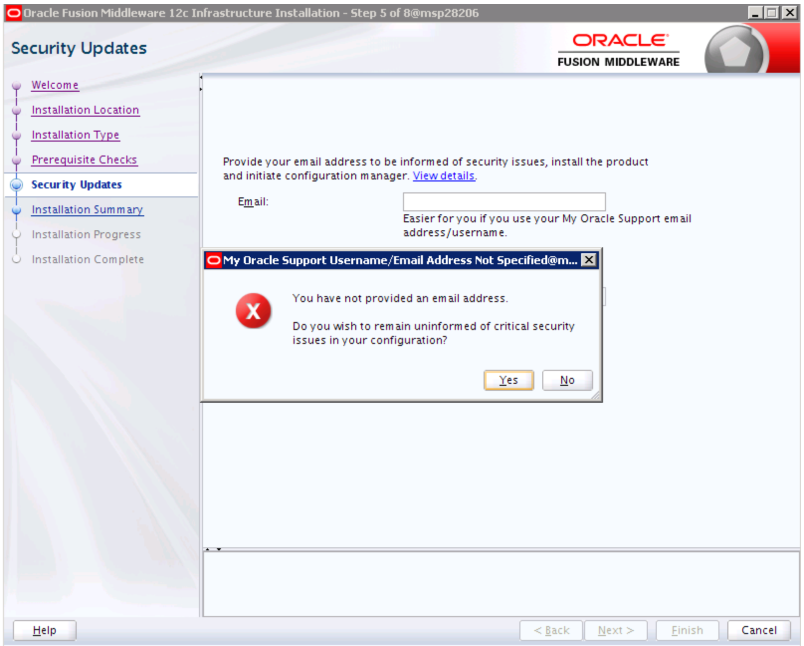
Email:

Easier for you if you use your My Oracle Support email address/username.

□ I wish to receive security updates via My Oracle Support.

My Oracle Support Password:

11. Click **Yes**, if you wish to remain uninformed of security issues in your configuration.



Oracle Fusion Middleware 12c Infrastructure Installation - Step 5 of 8@msp28206

Security Updates

Provide your email address to be informed of security issues, install the product and initiate configuration manager. View details.

Email:

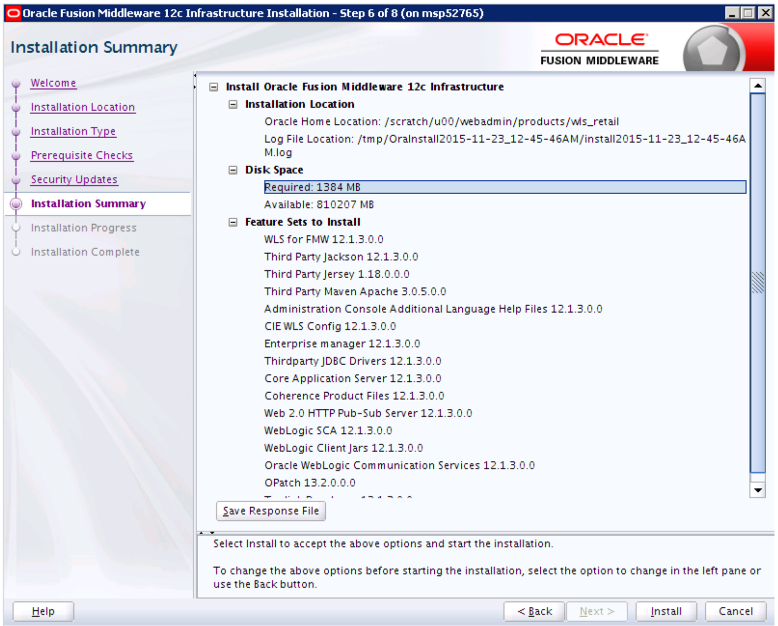
Easier for you if you use your My Oracle Support email address/username.

My Oracle Support Username/Email Address Not Specified@m...

You have not provided an email address.

Do you wish to remain uninformed of critical security issues in your configuration?

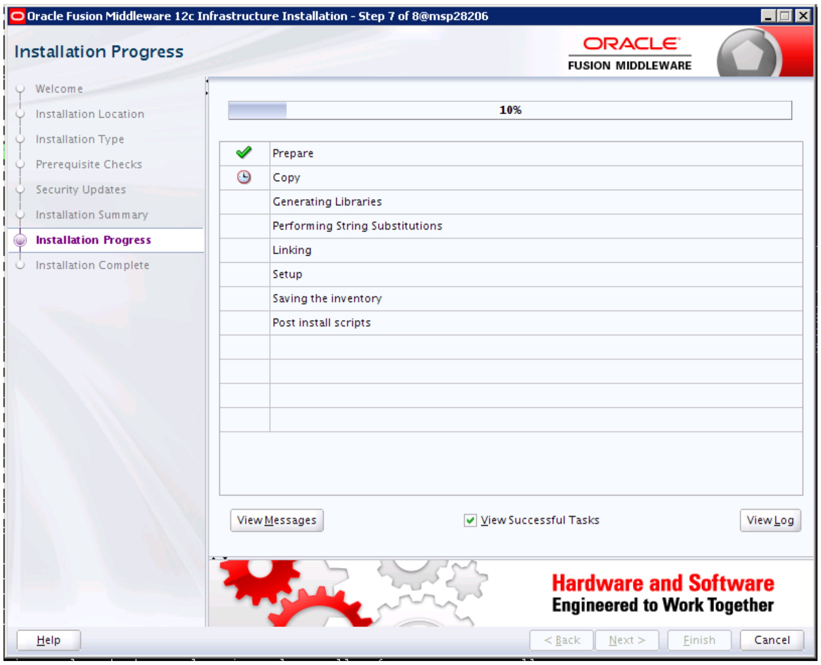
12. Click **Install**.



```
Install Oracle Fusion Middleware 12c Infrastructure
  Installation Location
    Oracle Home Location: /scratch/u00/webadmin/products/wls_retail
    Log File Location: /tmp/OraInstall2015-11-23_12-45-46AM/install2015-11-23_12-45-46A
    M.log
  Disk Space
    Required: 1384 MB
    Available: 810207 MB
  Feature Sets to Install
    WLS for FMW 12.1.3.0.0
    Third Party Jackson 12.1.3.0.0
    Third Party Jersey 1.18.0.0.0
    Third Party Maven Apache 3.0.5.0.0
    Administration Console Additional Language Help Files 12.1.3.0.0
    CIE WLS Config 12.1.3.0.0
    Enterprise manager 12.1.3.0.0
    Thirdparty JDBC Drivers 12.1.3.0.0
    Core Application Server 12.1.3.0.0
    Coherence Product Files 12.1.3.0.0
    Web 2.0 HTTP Pub-Sub Server 12.1.3.0.0
    WebLogic SCA 12.1.3.0.0
    WebLogic Client Jars 12.1.3.0.0
    Oracle WebLogic Communication Services 12.1.3.0.0
    OPatch 13.2.0.0.0
```

Select Install to accept the above options and start the installation.

To change the above options before starting the installation, select the option to change in the left pane or use the Back button.

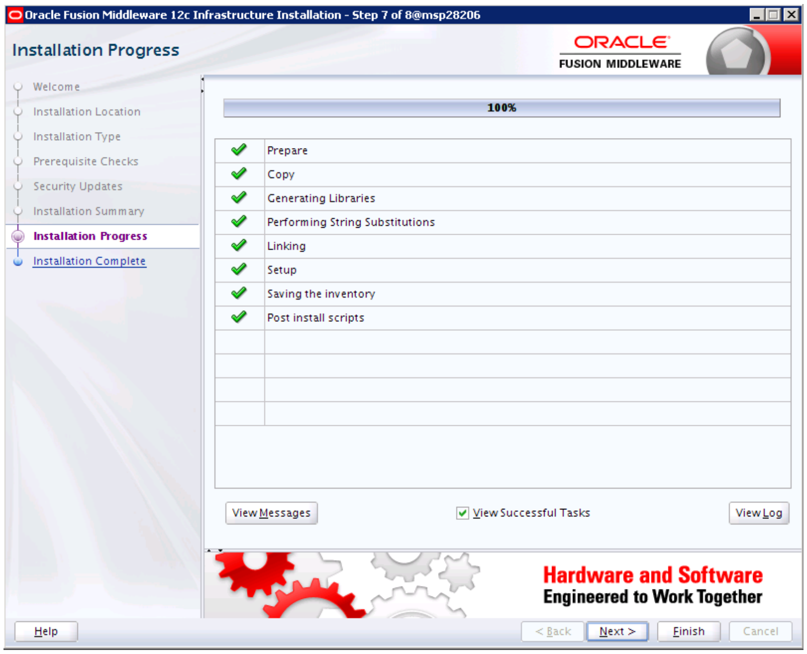


10%

✓	Prepare
◷	Copy
	Generating Libraries
	Performing String Substitutions
	Linking
	Setup
	Saving the inventory
	Post install scripts

☑ View Successful Tasks

13. Click **Next**.



Oracle Fusion Middleware 12c Infrastructure Installation - Step 7 of 8@msp28206

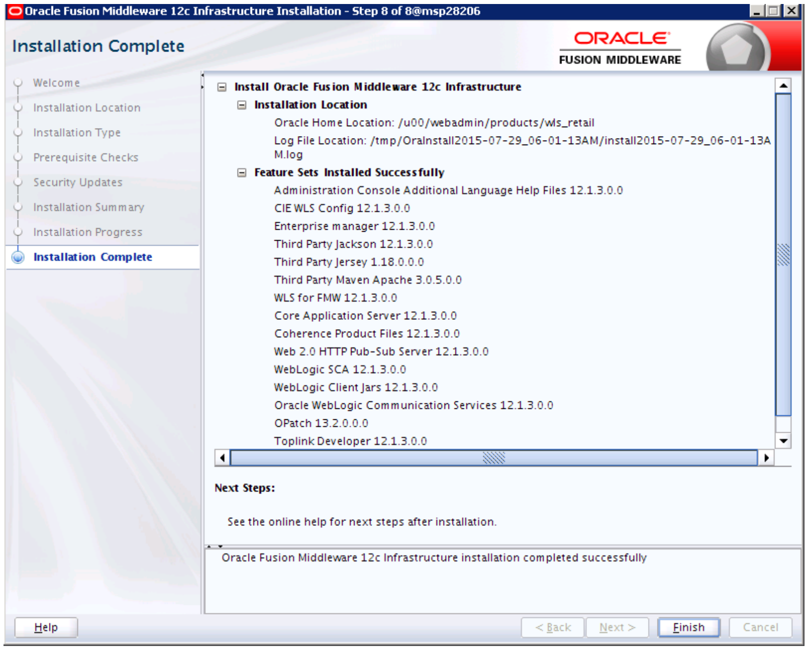
Installation Progress

100%

- ✓ Prepare
- ✓ Copy
- ✓ Generating Libraries
- ✓ Performing String Substitutions
- ✓ Linking
- ✓ Setup
- ✓ Saving the inventory
- ✓ Post install scripts

☑ View Successful Tasks

14. Click **Finish**.



Oracle Fusion Middleware 12c Infrastructure Installation - Step 8 of 8@msp28206

Installation Complete

- **Install Oracle Fusion Middleware 12c Infrastructure**
  - **Installation Location**
    - Oracle Home Location: /u00/webadmin/products/wls_retail
    - Log File Location: /tmp/OraInstall2015-07-29_06-01-13AM/install2015-07-29_06-01-13AM.log
  - **Feature Sets Installed Successfully**
    - Administration Console Additional Language Help Files 12.1.3.0.0
    - CIE WLS Config 12.1.3.0.0
    - Enterprise manager 12.1.3.0.0
    - Third Party Jackson 12.1.3.0.0
    - Third Party Jersey 1.18.0.0.0
    - Third Party Maven Apache 3.0.5.0.0
    - WLS for FMW 12.1.3.0.0
    - Core Application Server 12.1.3.0.0
    - Coherence Product Files 12.1.3.0.0
    - Web 2.0 HTTP Pub-Sub Server 12.1.3.0.0
    - WebLogic SCA 12.1.3.0.0
    - WebLogic Client Jars 12.1.3.0.0
    - Oracle WebLogic Communication Services 12.1.3.0.0
    - OPatch 13.2.0.0.0
    - Toplink Developer 12.1.3.0.0

Next Steps:

See the online help for next steps after installation.

Oracle Fusion Middleware 12c Infrastructure installation completed successfully

15. Continue with RCU installation.

Install RCU Database Schemas

The RCU database schemas are required to install retail application and configuration of a domain.

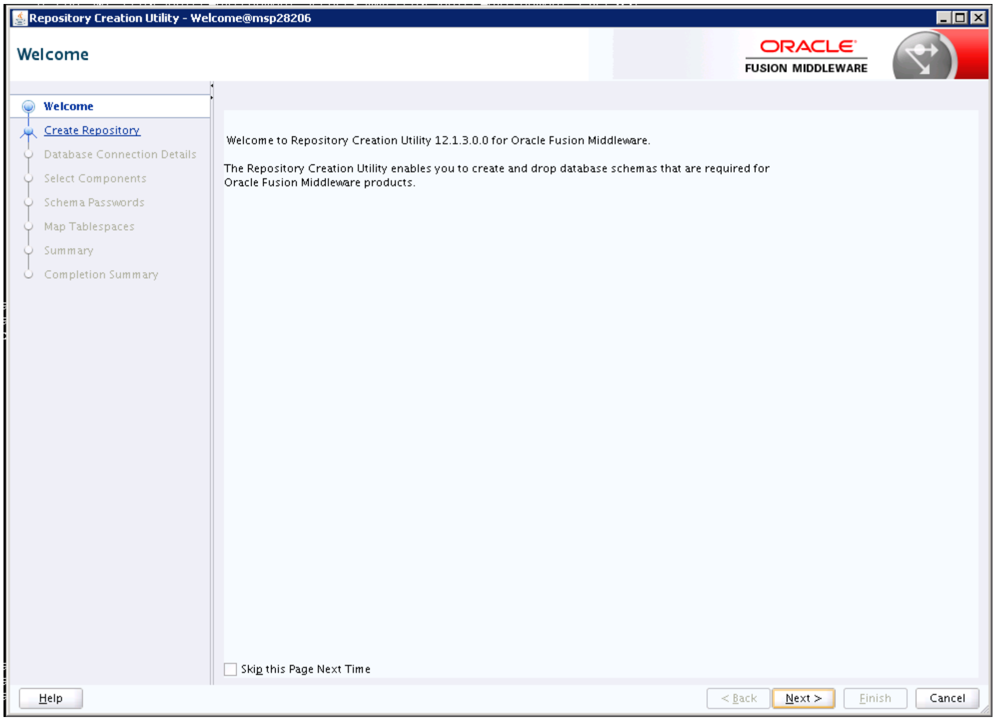
> **Note:** You need ‘SYS’ user privileges to install the RCU database schemas.

The following steps are provided for the creation of the database schemas:

1. Navigate to the directory into which RCU is installed. For example:

   ```
   <MW_HOME>/oracle_common/bin/
   Run "./rcu"
   ```

2. Click **Next**.



Repository Creation Utility - Welcome@msp28206

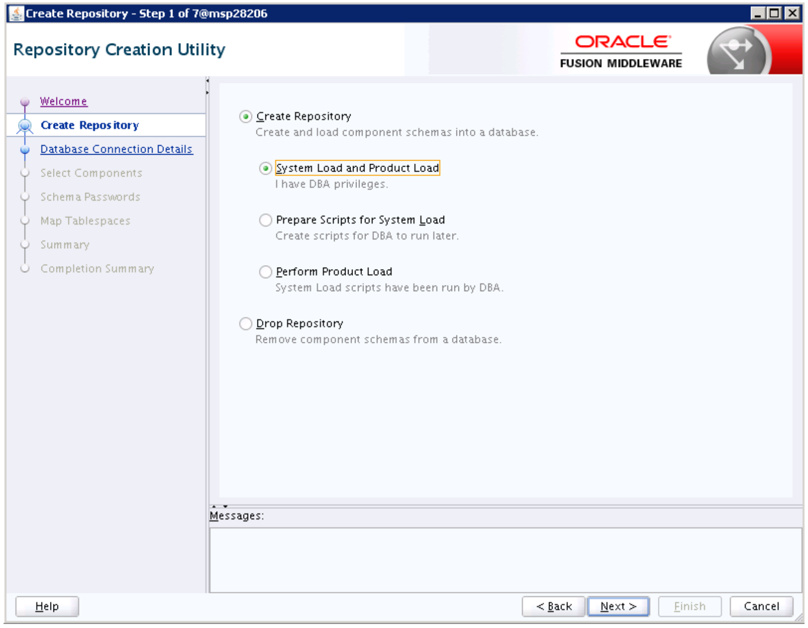
Welcome

Welcome to Repository Creation Utility 12.1.3.0.0 for Oracle Fusion Middleware.

The Repository Creation Utility enables you to create and drop database schemas that are required for Oracle Fusion Middleware products.

□ Skip this Page Next Time

3. Select Create Repository and System Load and Product Load. Click **Next**.



● Create Repository
Create and load component schemas into a database.

● System Load and Product Load
I have DBA privileges.

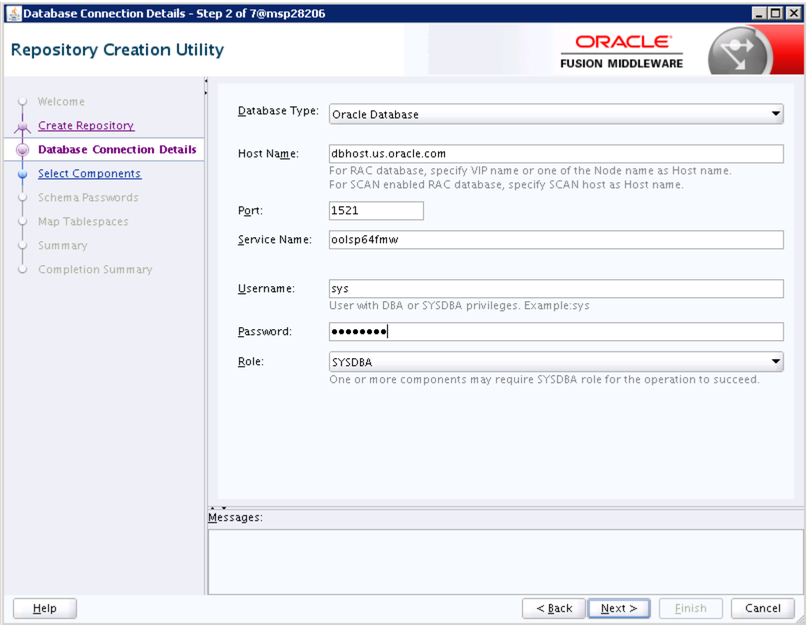
○ Prepare Scripts for System Load
Create scripts for DBA to run later.

○ Perform Product Load
System Load scripts have been run by DBA.

○ Drop Repository
Remove component schemas from a database.

Messages:

4. Enter database connection details:
   - Database Type: Oracle Database
   - Host Name: dbhostname.us.oracle.com
   - Port: 1521
   - Service Name: dbservicename
   - Username: sys
   - Password: <syspassword>
   - Role: SYSDBA



Database Type: Oracle Database

Host Name: dbhost.us.oracle.com
For RAC database, specify VIP name or one of the Node name as Host name.
For SCAN enabled RAC database, specify SCAN host as Host name.

Port: 1521

Service Name: oolsp64fmw

Username: sys
User with DBA or SYSDBA privileges. Example:sys

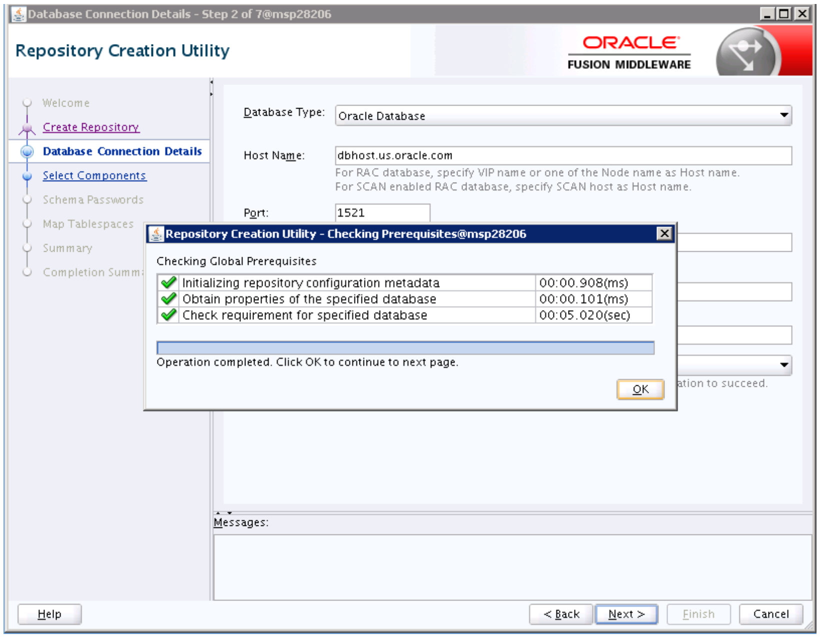
Password: ••••••••

Role: SYSDBA
One or more components may require SYSDBA role for the operation to succeed.

Messages:

5. Click **Next**. The Installer checks prerequisites.

6. When the prerequisite checks are complete, click **OK**. Click**Next**.



Database Connection Details - Step 2 of 7@msp28206

Repository Creation Utility

Database Type: Oracle Database

Host Name: dbhost.us.oracle.com

For RAC database, specify VIP name or one of the Node name as Host name.
For SCAN enabled RAC database, specify SCAN host as Host name.

Port: 1521

Repository Creation Utility - Checking Prerequisites@msp28206

Checking Global Prerequisites

✓ Initializing repository configuration metadata	00:00.908(ms)
✓ Obtain properties of the specified database	00:00.101(ms)
✓ Check requirement for specified database	00:05.020(sec)

Operation completed. Click OK to continue to next page.

ation to succeed.

Messages:

7. Click the '**Create a new prefix**' option, the prefix name for your schemas should be unique to your application environment.

   Example: ALLOC, ReSA, etc

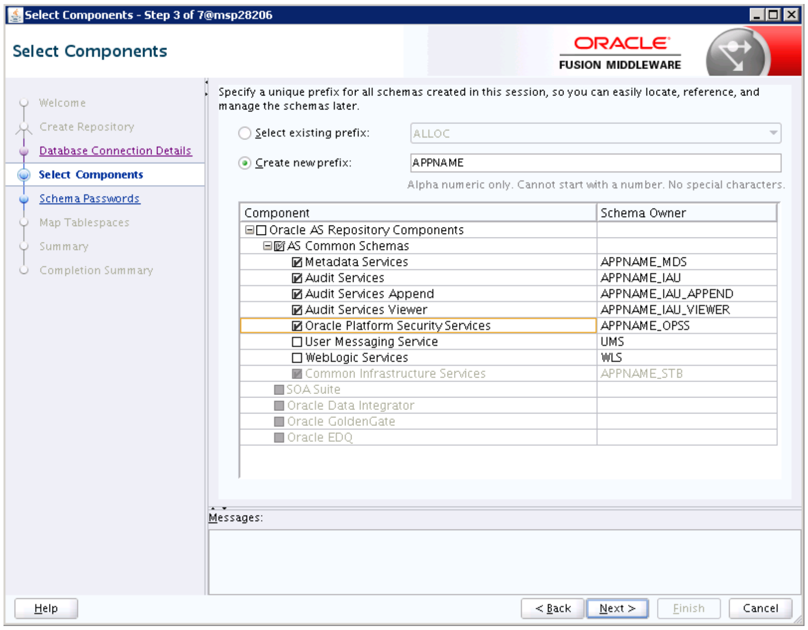
8. Select the components to create:

   - Meta Data ServicesOracle Platform Security Services

   Note: Once OPSS schema is selected, the following dependent schemas will get selected automatically.

   - Audit Services
   - Audit Services Append
   - Audit Services Viewer

   Note: STB schema will be already selected as part of the Common Infrastructure component.



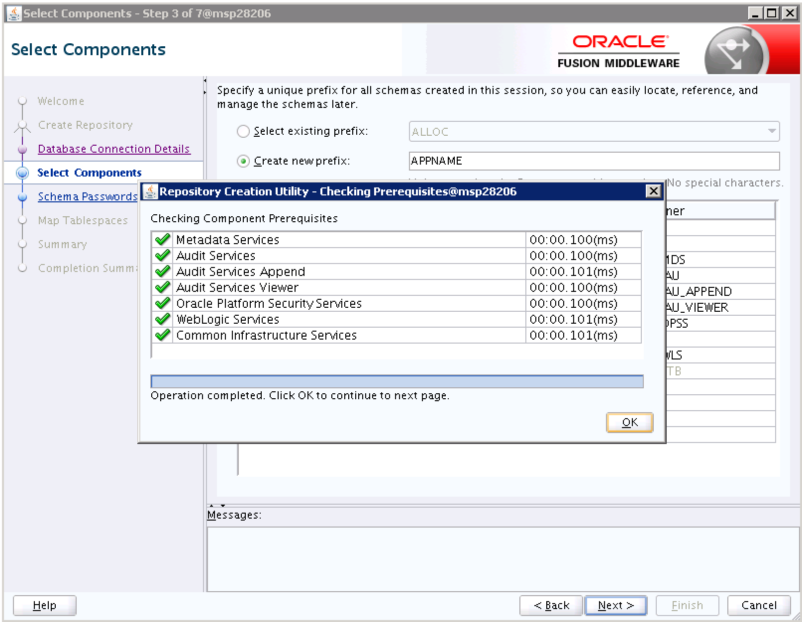
Specify a unique prefix for all schemas created in this session, so you can easily locate, reference, and manage the schemas later.

○ Select existing prefix: ALLOC

● Create new prefix: APPNAME

Alpha numeric only. Cannot start with a number. No special characters.

Component	Schema Owner
⊟☐ Oracle AS Repository Components	
⊟☑ AS Common Schemas	
☑ Metadata Services	APPNAME_MDS
☑ Audit Services	APPNAME_IAU
☑ Audit Services Append	APPNAME_IAU_APPEND
☑ Audit Services Viewer	APPNAME_IAU_VIEWER
☑ Oracle Platform Security Services	APPNAME_OPSS
☐ User Messaging Service	UMS
☐ WebLogic Services	WLS
▨ Common Infrastructure Services	APPNAME_STB
▨ SOA Suite	
▨ Oracle Data Integrator	
▨ Oracle GoldenGate	
▨ Oracle EDQ	



Specify a unique prefix for all schemas created in this session, so you can easily locate, reference, and manage the schemas later.

○ Select existing prefix: ALLOC

● Create new prefix: APPNAME

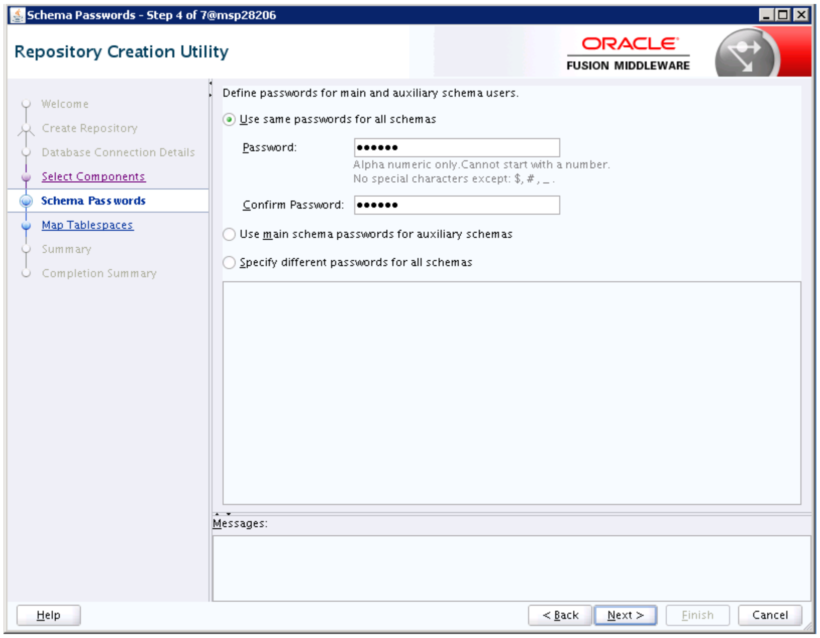
Checking Component Prerequisites

✓ Metadata Services	00:00.100(ms)
✓ Audit Services	00:00.100(ms)
✓ Audit Services Append	00:00.101(ms)
✓ Audit Services Viewer	00:00.100(ms)
✓ Oracle Platform Security Services	00:00.100(ms)
✓ WebLogic Services	00:00.101(ms)
✓ Common Infrastructure Services	00:00.101(ms)

Operation completed. Click OK to continue to next page.

9. Select 'Use same passwords for all schemas'.
10. Enter your password.

Note: This password is needed at the time of ADF domain creation.



Define passwords for main and auxiliary schema users.

● Use same passwords for all schemas

Password: ••••••

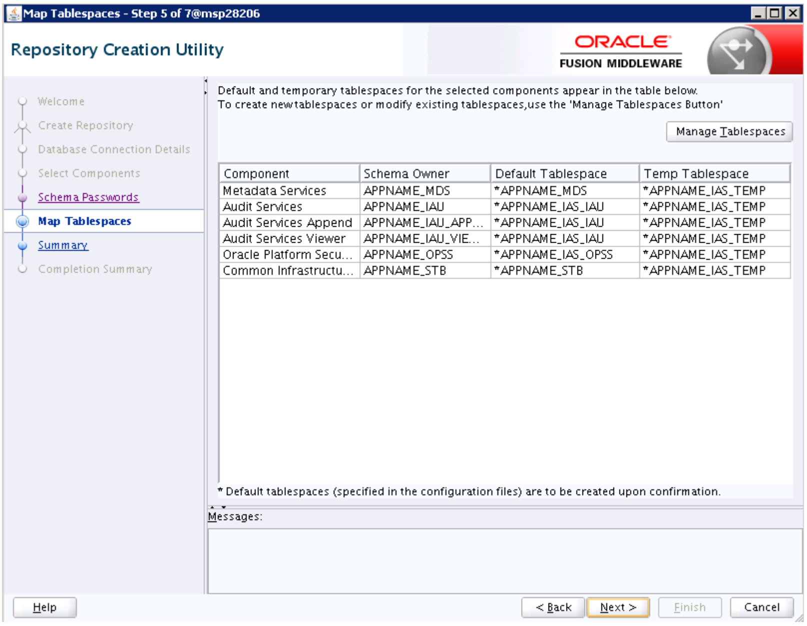
Alpha numeric only.Cannot start with a number.
No special characters except: $, #, _.

Confirm Password: ••••••

○ Use main schema passwords for auxiliary schemas

○ Specify different passwords for all schemas

Messages:



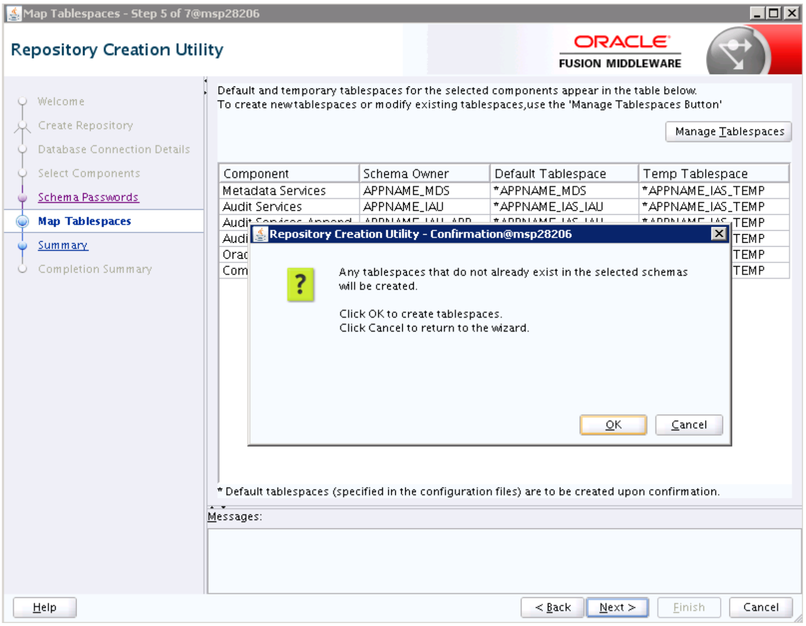
Default and temporary tablespaces for the selected components appear in the table below.
To create newtablespaces or modify existing tablespaces,use the 'Manage Tablespaces Button'

Component	Schema Owner	Default Tablespace	Temp Tablespace
Metadata Services	APPNAME_MDS	*APPNAME_MDS	*APPNAME_IAS_TEMP
Audit Services	APPNAME_IAU	*APPNAME_IAS_IAU	*APPNAME_IAS_TEMP
Audit Services Append	APPNAME_IAU_APP...	*APPNAME_IAS_IAU	*APPNAME_IAS_TEMP
Audit Services Viewer	APPNAME_IAU_VIE...	*APPNAME_IAS_IAU	*APPNAME_IAS_TEMP
Oracle Platform Secu...	APPNAME_OPSS	*APPNAME_IAS_OPSS	*APPNAME_IAS_TEMP
Common Infrastructu...	APPNAME_STB	*APPNAME_STB	*APPNAME_IAS_TEMP

* Default tablespaces (specified in the configuration files) are to be created upon confirmation.

Messages:

11. Click **Next**. A Repository Creation notification will appear. Click **OK**.



Default and temporary tablespaces for the selected components appear in the table below.
To create newtablespaces or modify existing tablespaces,use the 'Manage Tablespaces Button'

Component	Schema Owner	Default Tablespace	Temp Tablespace
Metadata Services	APPNAME_MDS	*APPNAME_MDS	*APPNAME_IAS_TEMP
Audit Services	APPNAME_IAU	*APPNAME_IAS_IAU	*APPNAME_IAS_TEMP
Audit Services Append	APPNAME_IAU_APP	*APPNAME_IAS_IAU	*APPNAME_IAS_TEMP
Audi			TEMP
Orac			TEMP
Com			TEMP

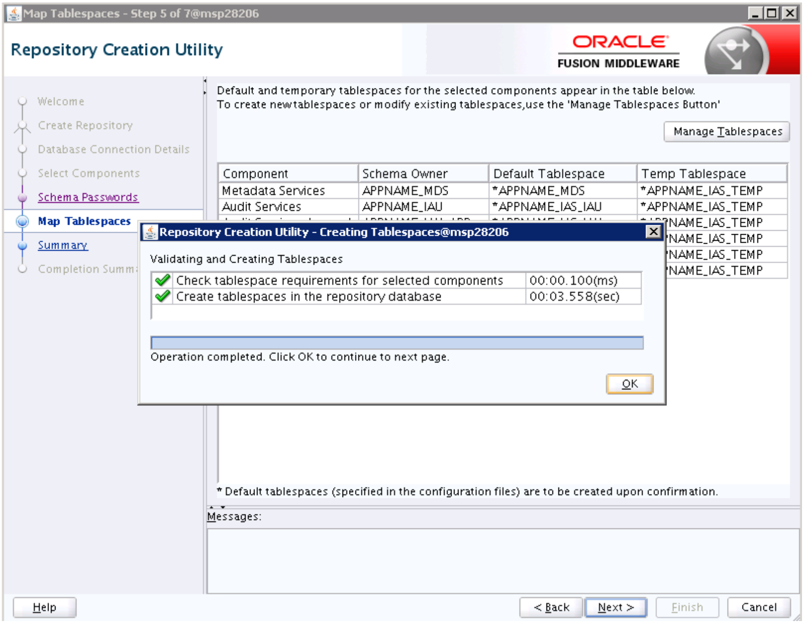
Repository Creation Utility - Confirmation@msp28206

Any tablespaces that do not already exist in the selected schemas will be created.

Click OK to create tablespaces.
Click Cancel to return to the wizard.

* Default tablespaces (specified in the configuration files) are to be created upon confirmation.

12. Tablespaces are created, and the progress will be displayed in a pop-up notification. When the operation is completed, click **OK**.



Default and temporary tablespaces for the selected components appear in the table below.
To create newtablespaces or modify existing tablespaces,use the 'Manage Tablespaces Button'

Component	Schema Owner	Default Tablespace	Temp Tablespace
Metadata Services	APPNAME_MDS	*APPNAME_MDS	*APPNAME_IAS_TEMP
Audit Services	APPNAME_IAU	*APPNAME_IAS_IAU	*APPNAME_IAS_TEMP
			NAME_IAS_TEMP
			NAME_IAS_TEMP
			NAME_IAS_TEMP
			NAME_IAS_TEMP

Repository Creation Utility - Creating Tablespaces@msp28206

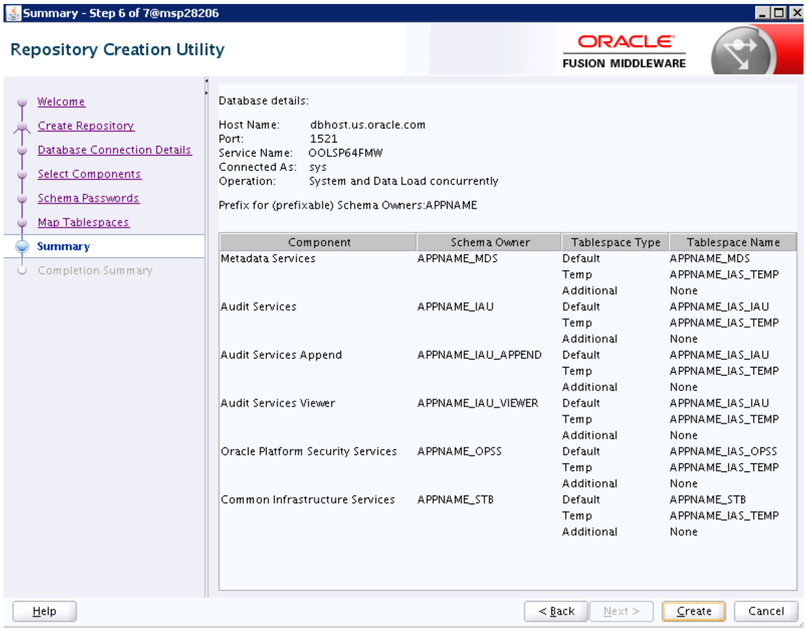
Validating and Creating Tablespaces

✓	Check tablespace requirements for selected components	00:00.100(ms)
✓	Create tablespaces in the repository database	00:03.558(sec)

Operation completed. Click OK to continue to next page.

* Default tablespaces (specified in the configuration files) are to be created upon confirmation.

13. Click **Create**. The schema is created.

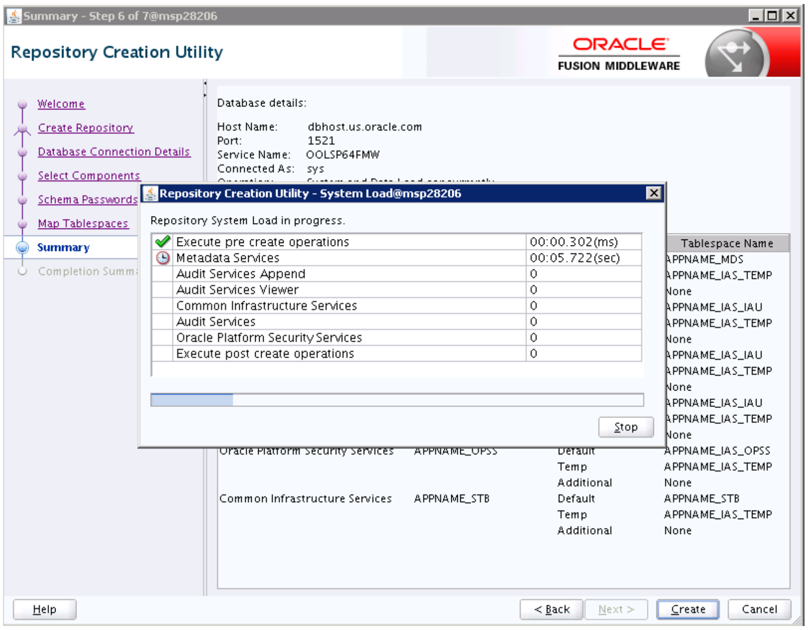


Database details:

Host Name: dbhost.us.oracle.com
Port: 1521
Service Name: OOLSP64FMW
Connected As: sys
Operation: System and Data Load concurrently

Prefix for (prefixable) Schema Owners:APPNAME

Component	Schema Owner	Tablespace Type	Tablespace Name
Metadata Services	APPNAME_MDS	Default	APPNAME_MDS
		Temp	APPNAME_IAS_TEMP
		Additional	None
Audit Services	APPNAME_IAU	Default	APPNAME_IAS_IAU
		Temp	APPNAME_IAS_TEMP
		Additional	None
Audit Services Append	APPNAME_IAU_APPEND	Default	APPNAME_IAS_IAU
		Temp	APPNAME_IAS_TEMP
		Additional	None
Audit Services Viewer	APPNAME_IAU_VIEWER	Default	APPNAME_IAS_IAU
		Temp	APPNAME_IAS_TEMP
		Additional	None
Oracle Platform Security Services	APPNAME_OPSS	Default	APPNAME_IAS_OPSS
		Temp	APPNAME_IAS_TEMP
		Additional	None
Common Infrastructure Services	APPNAME_STB	Default	APPNAME_STB
		Temp	APPNAME_IAS_TEMP
		Additional	None

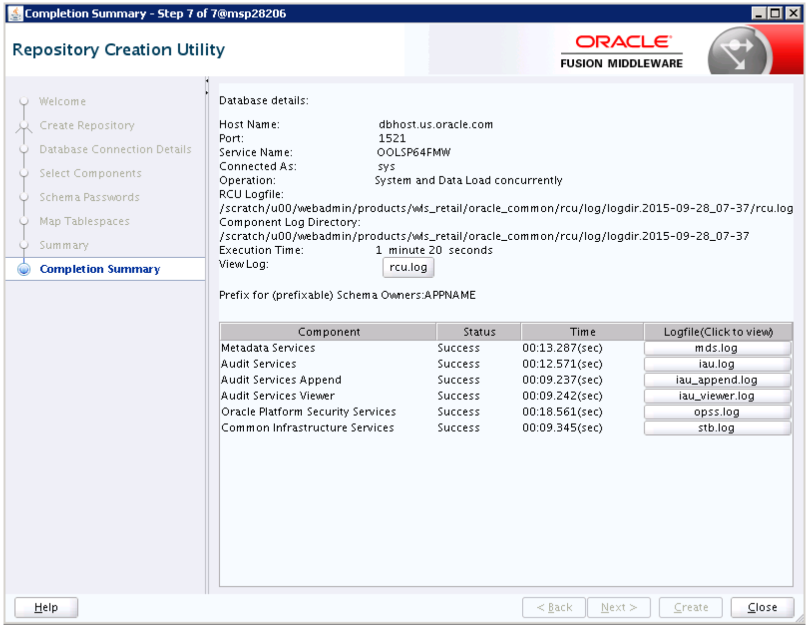

Summary - Step 6 of 7@msp28206
Repository Creation Utility
ORACLE
FUSION MIDDLEWARE
Repository Creation Utility - System Load@msp28206
Stop
Help
< Back
Next >
Create
Cancel

Repository System Load in progress.

✓	Execute pre create operations	00:00.302(ms)
◷	Metadata Services	00:05.722(sec)
	Audit Services Append	0
	Audit Services Viewer	0
	Common Infrastructure Services	0
	Audit Services	0
	Oracle Platform Security Services	0
	Execute post create operations	0

Upon successful creation of database schemas, screen will appear with all the schemas created .

14. Click **Close**.



Database details:

```
Host Name:              dbhost.us.oracle.com
Port:                   1521
Service Name:           OOLSP64FMW
Connected As:           sys
Operation:              System and Data Load concurrently
RCU Logfile:
/scratch/u00/webadmin/products/wls_retail/oracle_common/rcu/log/logdir.2015-09-28_07-37/rcu.log
Component Log Directory:
/scratch/u00/webadmin/products/wls_retail/oracle_common/rcu/log/logdir.2015-09-28_07-37
Execution Time:         1 minute 20 seconds
View Log:               rcu.log
```

Prefix for (prefixable) Schema Owners:APPNAME

Component	Status	Time	Logfile(Click to view)
Metadata Services	Success	00:13.287(sec)	mds.log
Audit Services	Success	00:12.571(sec)	iau.log
Audit Services Append	Success	00:09.237(sec)	iau_append.log
Audit Services Viewer	Success	00:09.242(sec)	iau_viewer.log
Oracle Platform Security Services	Success	00:18.561(sec)	opss.log
Common Infrastructure Services	Success	00:09.345(sec)	stb.log

Create a New ADF Domain (with managed server and EM)

To create a new domain and managed server with ADF libraries and EM, follow the below steps:

1. Set the environment variables:

   ```
   export JAVA_HOME=<JDK_HOME>
       (Example:/u00/webadmin/products/jdk_java) [JDK_HOME is the location where
   jdk has been installed)
   export PATH=$JAVA_HOME/bin:$PATH
   export ORACLE_HOME=<MW_HOME>/oracle_common
   (Example:/u00/webadmin/products/wls_retail/oracle_common)

   cd $MW_HOME/oracle_common/common/bin
       (MW_HOME is the location where Weblogic has been installed.)
   ```

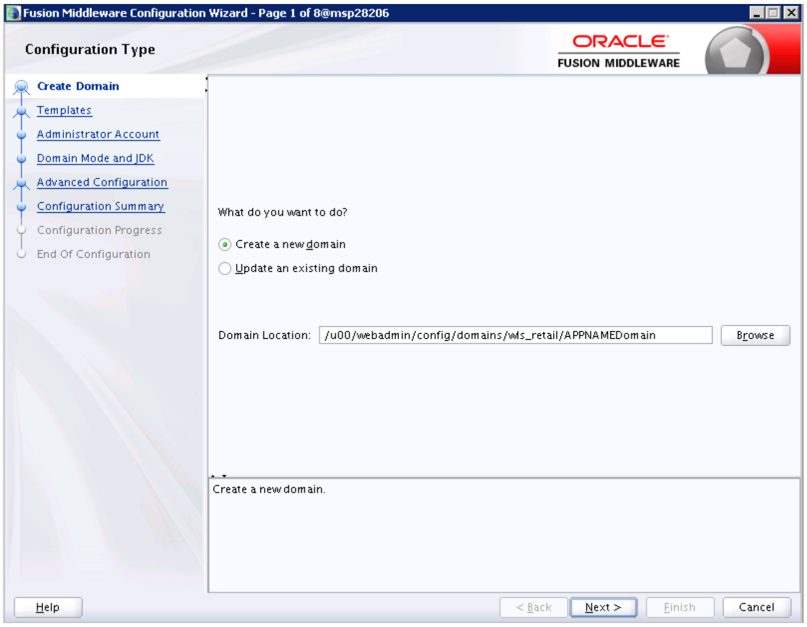
2. Run the following command:

   ```
   ./config.sh
   ```

3. Select ‘Create a new domain’.

   Domain location: Specify the path to the <DOMAIN_HOME>
   Example:/u00/webadmin/config/domains/wls_retail/APPNAMEDomain

4. Click **Next**.



What do you want to do?

● Create a new domain

○ Update an existing domain

Domain Location: /u00/webadmin/config/domains/wls_retail/APPNAMEDomain Browse

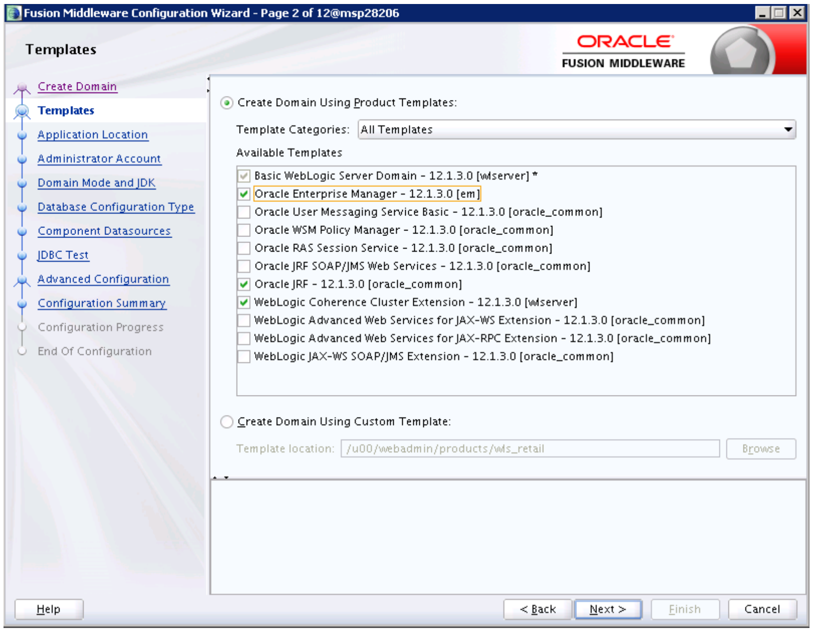
Create a new domain.

5. Select **Create Domain Using Product Templates**.
6. Check the following components:

   Oracle Enterprise Manager

> **Note:** When Oracle Enterprise Manager component is selected, the following dependent components are selected automatically:
>
> **Oracle JRF**
>
> **Weblogic Coherence Cluster Extension**

7. Click **Next**.



● Create Domain Using Product Templates:

Template Categories: All Templates

Available Templates

☑ Basic WebLogic Server Domain - 12.1.3.0 [wlserver] *

☑ Oracle Enterprise Manager - 12.1.3.0 [em]

☐ Oracle User Messaging Service Basic - 12.1.3.0 [oracle_common]

☐ Oracle WSM Policy Manager - 12.1.3.0 [oracle_common]

☐ Oracle RAS Session Service - 12.1.3.0 [oracle_common]

☐ Oracle JRF SOAP/JMS Web Services - 12.1.3.0 [oracle_common]

☑ Oracle JRF - 12.1.3.0 [oracle_common]

☑ WebLogic Coherence Cluster Extension - 12.1.3.0 [wlserver]

☐ WebLogic Advanced Web Services for JAX-WS Extension - 12.1.3.0 [oracle_common]

☐ WebLogic Advanced Web Services for JAX-RPC Extension - 12.1.3.0 [oracle_common]

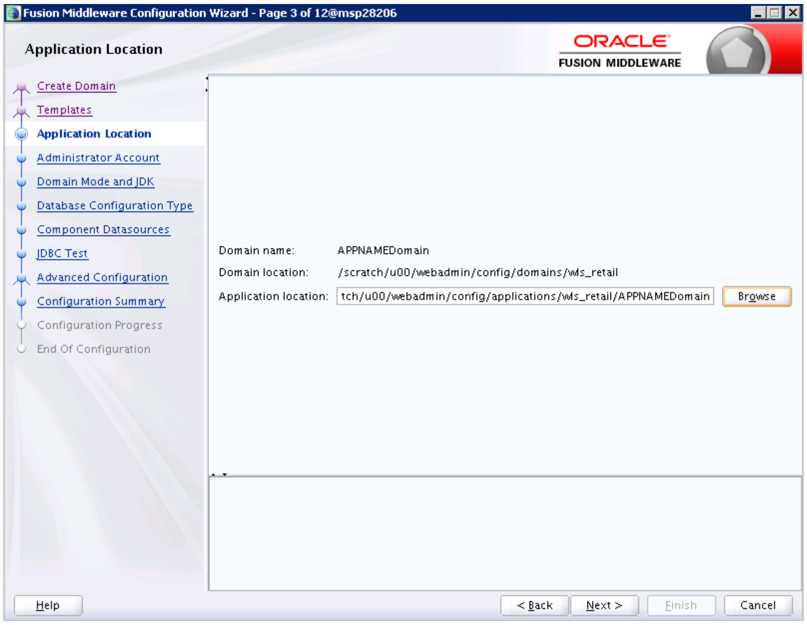
☐ WebLogic JAX-WS SOAP/JMS Extension - 12.1.3.0 [oracle_common]

○ Create Domain Using Custom Template:

Template location: /u00/webadmin/products/wls_retail Browse

Application location: Application directory location. Example: /u00/webadmin/config/applications/wls_retail/APPNAMEDomain

8. Click **Next**.



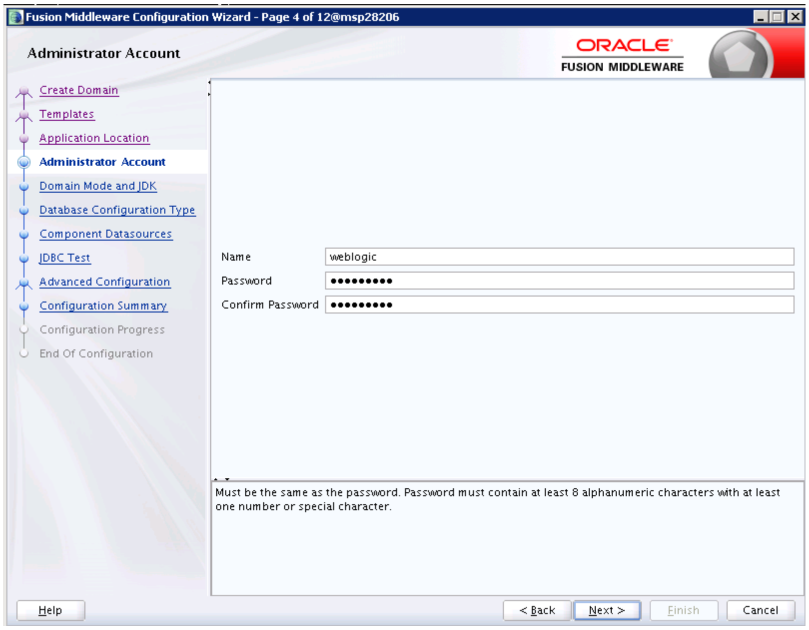
Domain name: APPNAMEDomain

Domain location: /scratch/u00/webadmin/config/domains/wls_retail

Application location: tch/u00/webadmin/config/applications/wls_retail/APPNAMEDomain

9. Provide the WebLogic administrator credentials and click **Next**:

- Username: weblogic
- Password: <Password>



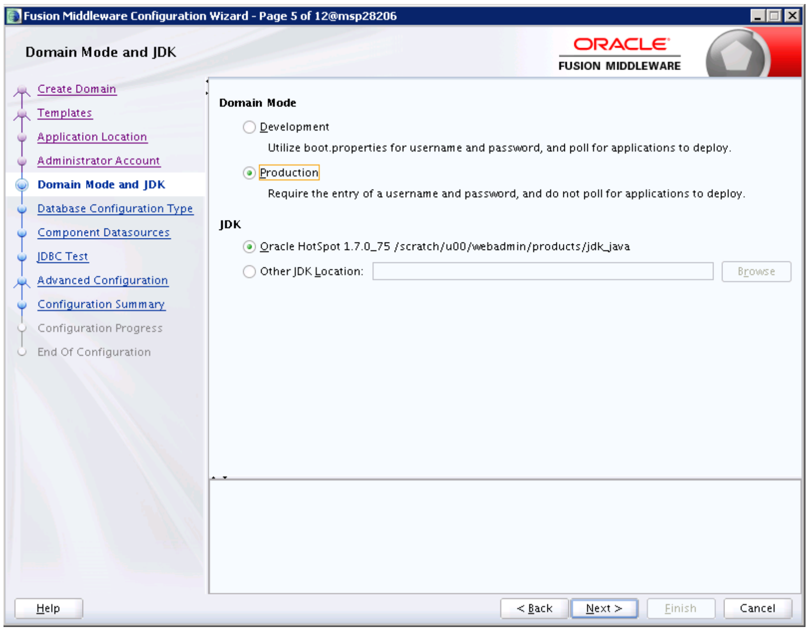
Name: weblogic

Password: •••••••••

Confirm Password: •••••••••

Must be the same as the password. Password must contain at least 8 alphanumeric characters with at least one number or special character.

10. Select Domain Mode as Production and the JDK to use (as applicable).



Domain Mode and JDK

Domain Mode

○ Development

Utilize boot.properties for username and password, and poll for applications to deploy.

● Production

Require the entry of a username and password, and do not poll for applications to deploy.

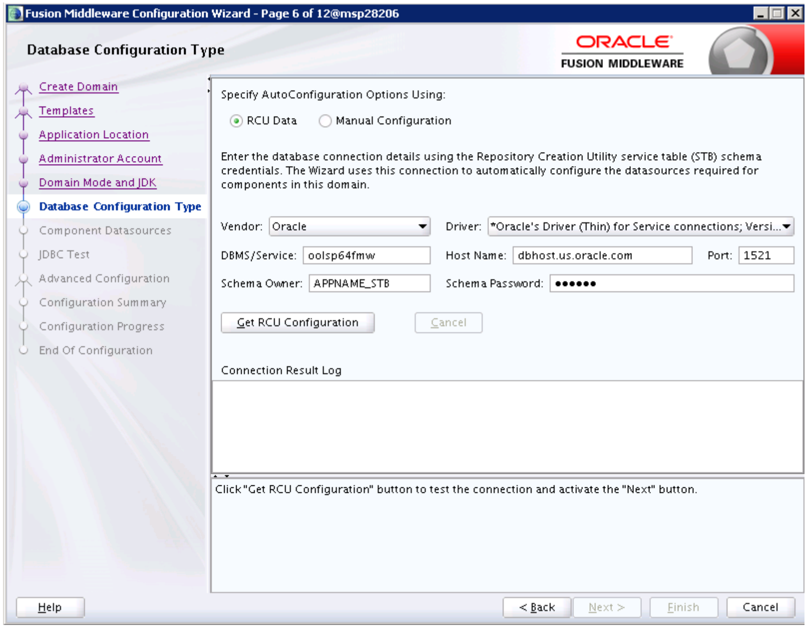
JDK

● Oracle HotSpot 1.7.0_75 /scratch/u00/webadmin/products/jdk_java

○ Other JDK Location:

11. Select RCU Data.

- Vendor: Oracle
- DBMS/Service: dbservicename
- Host Name: dbhostname.us.oracle.com
- Port: 1521
- Schema Owner: APPNAME_STB (Example: ALLOC_STB, ReSA_STB, etc)
- Password: <Password>. This password which was used for RCU schema creation.



Database Configuration Type

Specify AutoConfiguration Options Using:

● RCU Data ○ Manual Configuration

Enter the database connection details using the Repository Creation Utility service table (STB) schema credentials. The Wizard uses this connection to automatically configure the datasources required for components in this domain.

Vendor: Oracle

Driver: *Oracle's Driver (Thin) for Service connections; Versi...

DBMS/Service: oolsp64fmw

Host Name: dbhost.us.oracle.com

Port: 1521

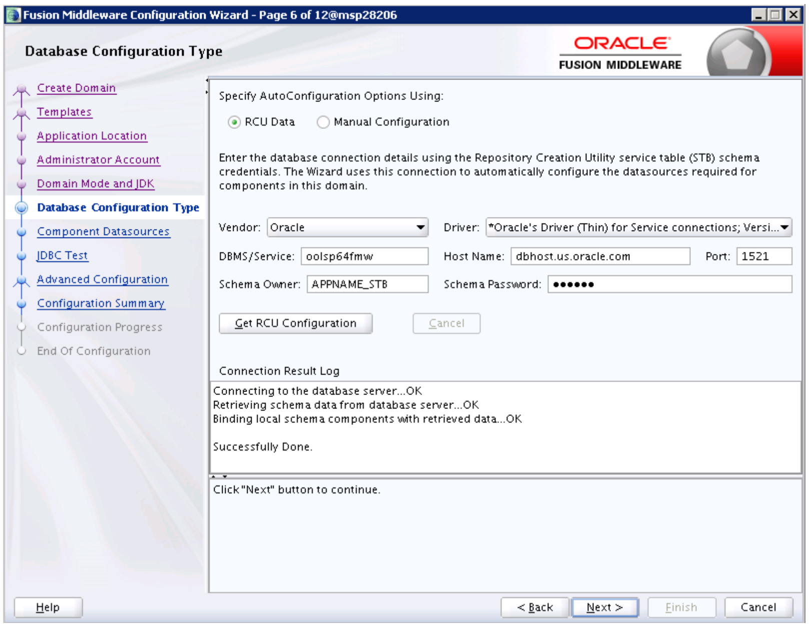
Schema Owner: APPNAME_STB

Schema Password: ●●●●●●

Connection Result Log

Click "Get RCU Configuration" button to test the connection and activate the "Next" button.

12. Click the **Get RCU Configuration** button.



Specify AutoConfiguration Options Using:

● RCU Data ○ Manual Configuration

Enter the database connection details using the Repository Creation Utility service table (STB) schema credentials. The Wizard uses this connection to automatically configure the datasources required for components in this domain.

Vendor: Oracle Driver: *Oracle's Driver (Thin) for Service connections; Versi...

DBMS/Service: oolsp64fmw Host Name: dbhost.us.oracle.com Port: 1521

Schema Owner: APPNAME_STB Schema Password: ●●●●●●

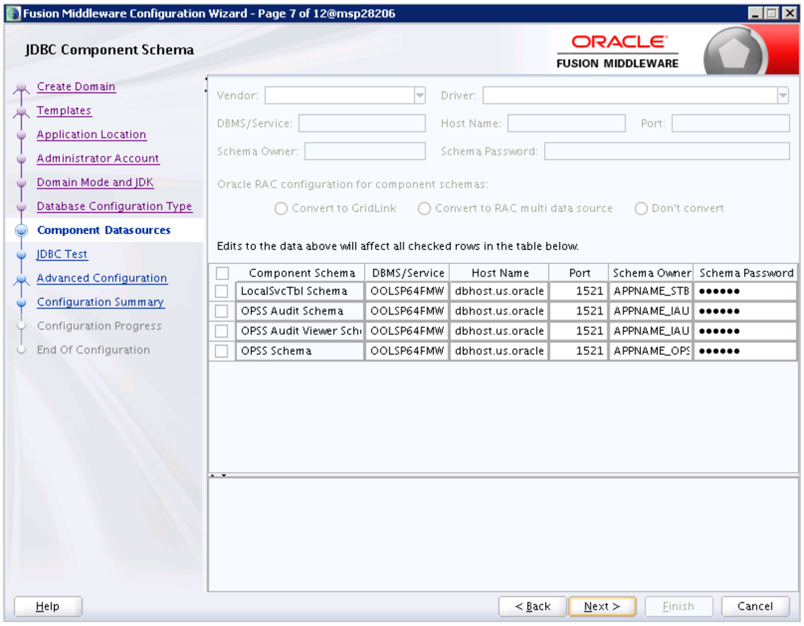
Connection Result Log

```
Connecting to the database server...OK
Retrieving schema data from database server...OK
Binding local schema components with retrieved data...OK

Successfully Done.
```

Click "Next" button to continue.

13. Click **Next**.



Vendor: Driver:

DBMS/Service: Host Name: Port:

Schema Owner: Schema Password:

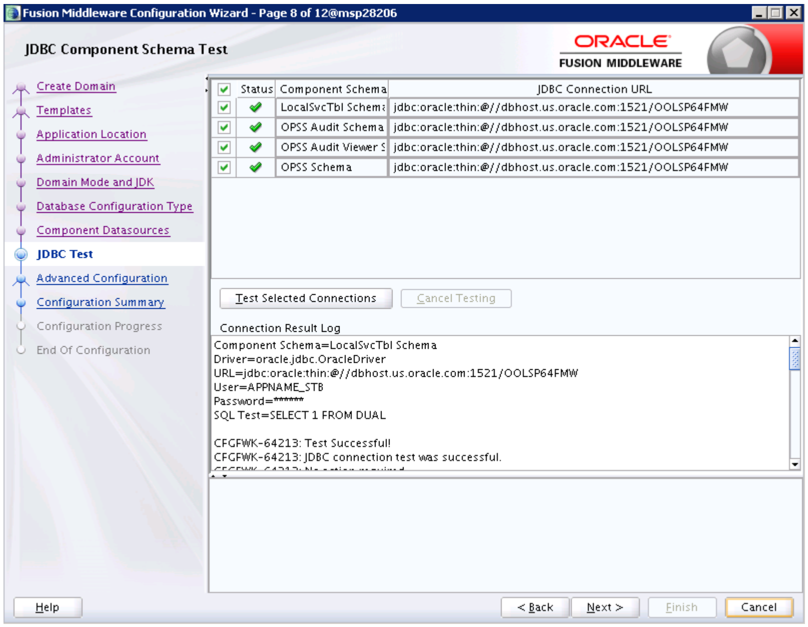
Oracle RAC configuration for component schemas:

○ Convert to GridLink ○ Convert to RAC multi data source ○ Don't convert

Edits to the data above will affect all checked rows in the table below.

□	Component Schema	DBMS/Service	Host Name	Port	Schema Owner	Schema Password
□	LocalSvcTbl Schema	OOLSP64FMW	dbhost.us.oracle	1521	APPNAME_STB	●●●●●●
□	OPSS Audit Schema	OOLSP64FMW	dbhost.us.oracle	1521	APPNAME_IAU	●●●●●●
□	OPSS Audit Viewer Sch	OOLSP64FMW	dbhost.us.oracle	1521	APPNAME_IAU	●●●●●●
□	OPSS Schema	OOLSP64FMW	dbhost.us.oracle	1521	APPNAME_OPS	●●●●●●

14. Click **Next** and it will test to make sure it can connect to your datasources.



JDBC Component Schema Test

☑	Status	Component Schema	JDBC Connection URL
☑	✓	LocalSvcTbl Schema	jdbc:oracle:thin:@//dbhost.us.oracle.com:1521/OOLSP64FMW
☑	✓	OPSS Audit Schema	jdbc:oracle:thin:@//dbhost.us.oracle.com:1521/OOLSP64FMW
☑	✓	OPSS Audit Viewer S	jdbc:oracle:thin:@//dbhost.us.oracle.com:1521/OOLSP64FMW
☑	✓	OPSS Schema	jdbc:oracle:thin:@//dbhost.us.oracle.com:1521/OOLSP64FMW

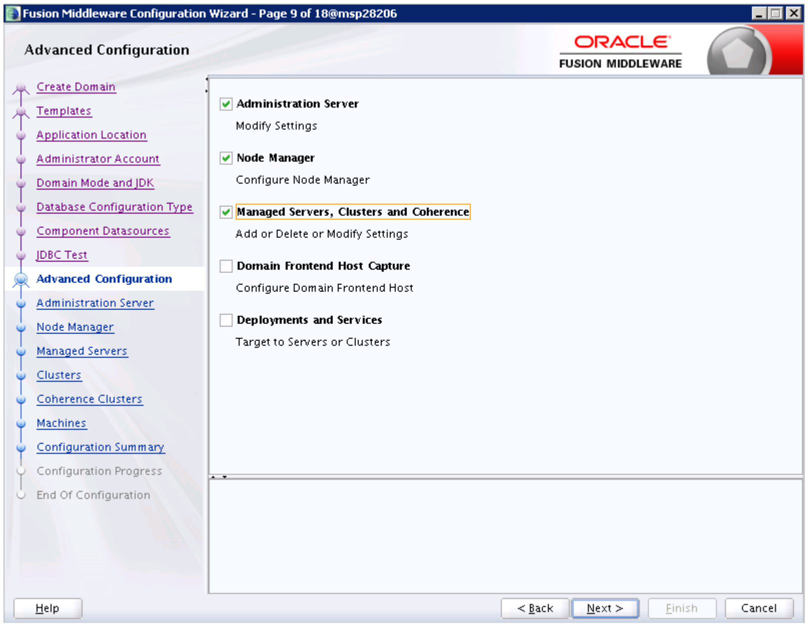
Test Selected Connections   Cancel Testing

Connection Result Log

```
Component Schema=LocalSvcTbl Schema
Driver=oracle.jdbc.OracleDriver
URL=jdbc:oracle:thin:@//dbhost.us.oracle.com:1521/OOLSP64FMW
User=APPNAME_STB
Password=******
SQL Test=SELECT 1 FROM DUAL

CFGFWK-64213: Test Successful!
CFGFWK-64213: JDBC connection test was successful.
```

15. Click Next to contine.
16. Select advanced configuration for:
    - Administration Server
    - Node manager
    - Managed Servers, Clusters and Coherence



Advanced Configuration

☑ Administration Server
Modify Settings

☑ Node Manager
Configure Node Manager

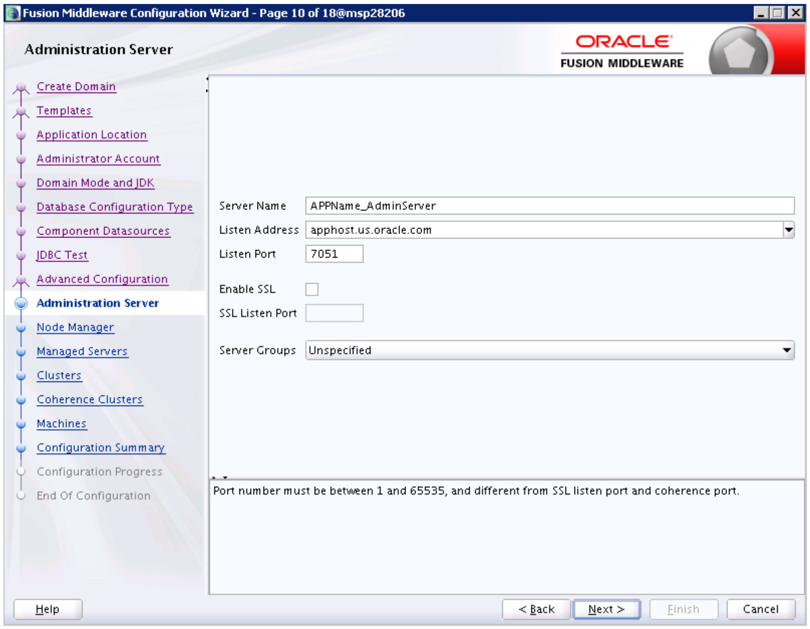
☑ Managed Servers, Clusters and Coherence
Add or Delete or Modify Settings

□ Domain Frontend Host Capture
Configure Domain Frontend Host

□ Deployments and Services
Target to Servers or Clusters

17. Configure Administration Server:
    - Server Name: <APP name>_AdminServer
    - For Eg: RESA_AdminServer
    - Listen address: Appserver Hostname or IPAddress of the Appserver Host.

- Listen port: <Port for Admin Server> Note: The port used here must be a free port.
- Server Groups: Unspecified



Server Name: APPName_AdminServer

Listen Address: apphost.us.oracle.com

Listen Port: 7051

Enable SSL: □

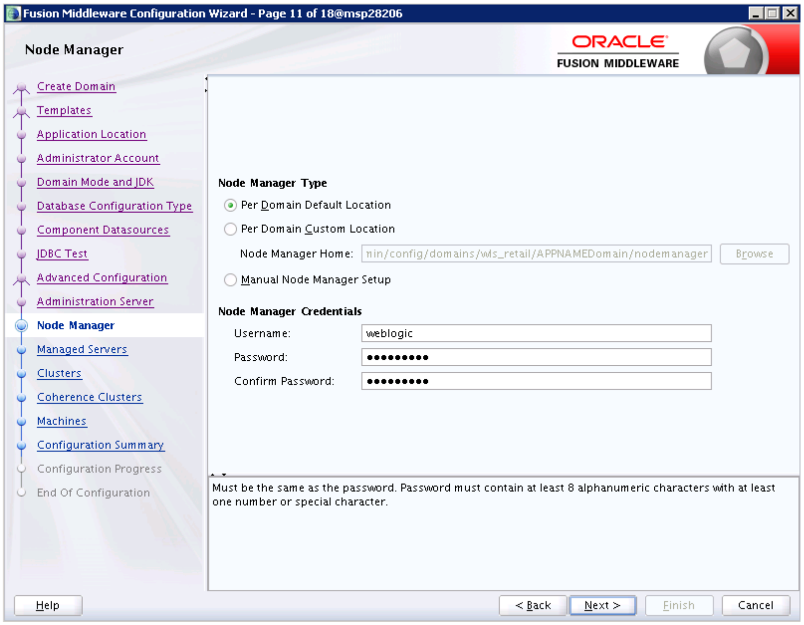
SSL Listen Port:

Server Groups: Unspecified

Port number must be between 1 and 65535, and different from SSL listen port and coherence port.

18. Configure Node Manager:

- Node manager type: Per domain default location
- Username: weblogic
- Password: <Password for weblogic>



Node Manager Type

● Per Domain Default Location

○ Per Domain Custom Location

Node Manager Home: nin/config/domains/wls_retail/APPNAMEDomain/nodemanager

○ Manual Node Manager Setup

Node Manager Credentials

Username: weblogic

Password: •••••••••

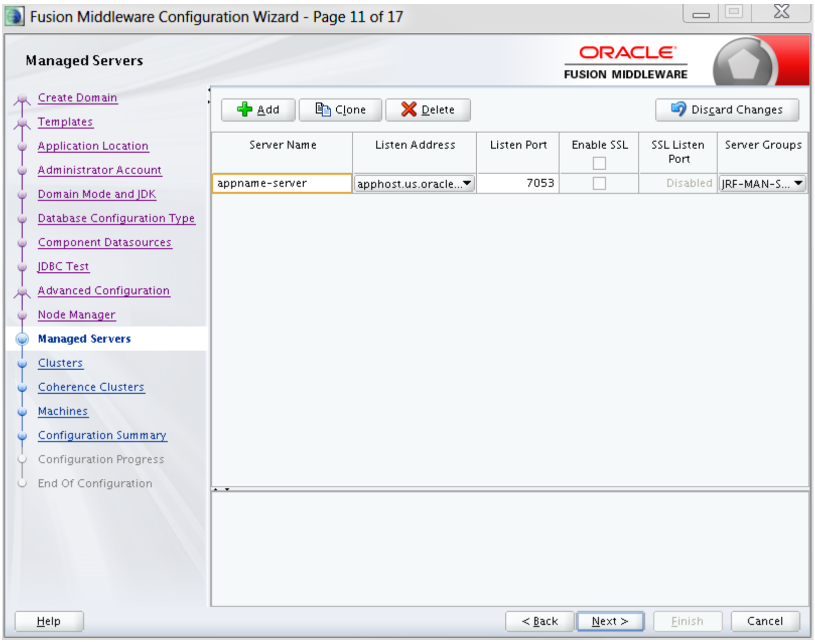
Confirm Password: •••••••••

Must be the same as the password. Password must contain at least 8 alphanumeric characters with at least one number or special character.

19. Configure Managed Servers with the ADF template.

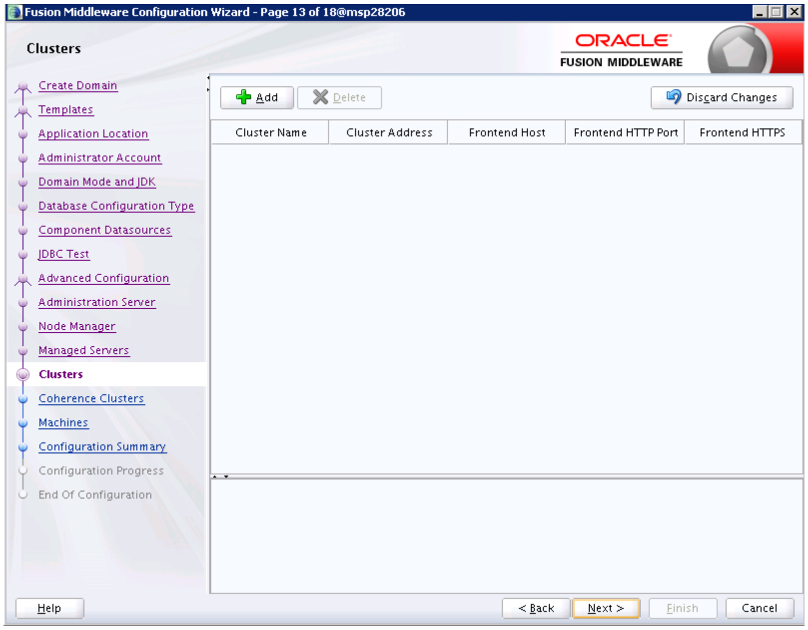
20. Click the **Add** button.

- Server Name: <appname-server>
  For example: resa-server
- Listen address: Appserver Hostname or IPAddress of the Appserver Host
- Listen port: <Port for Managed Server> Note: The port used here must be a free port.
- Server Groups: JRF-MAN-SVR



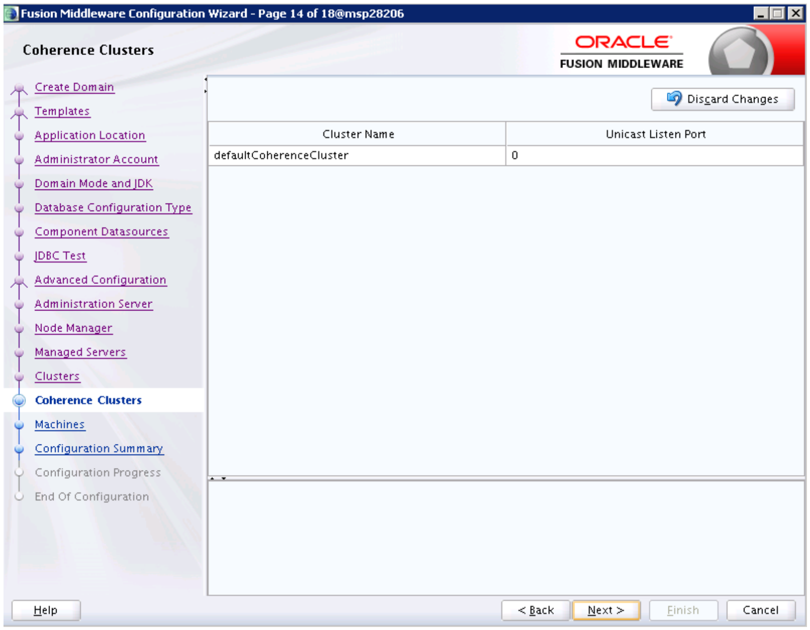
Server Name	Listen Address	Listen Port	Enable SSL	SSL Listen Port	Server Groups
appname-server	apphost.us.oracle...	7053	□	Disabled	JRF-MAN-S...

21. Skip Configure Clusters and click **Next**.



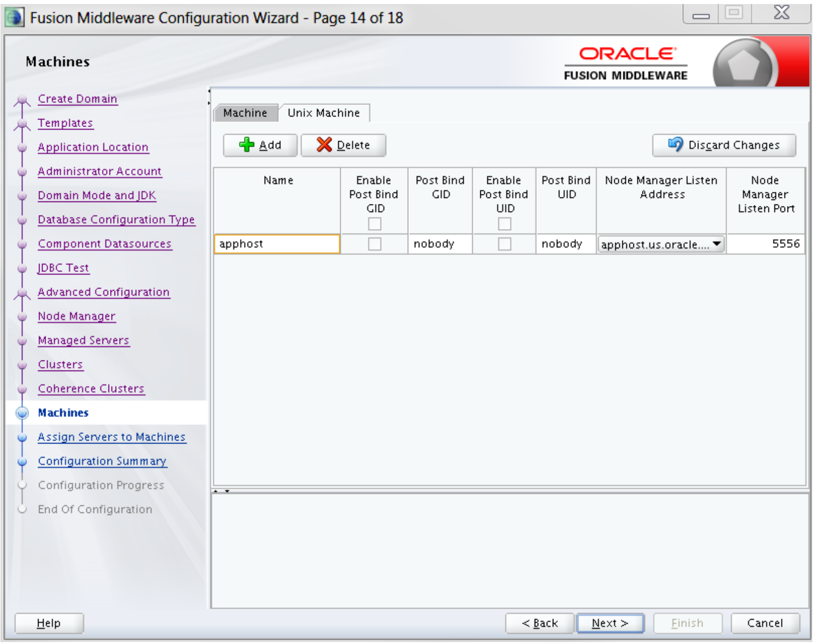
Cluster Name	Cluster Address	Frontend Host	Frontend HTTP Port	Frontend HTTPS

22. No change needed. Click **Next**.



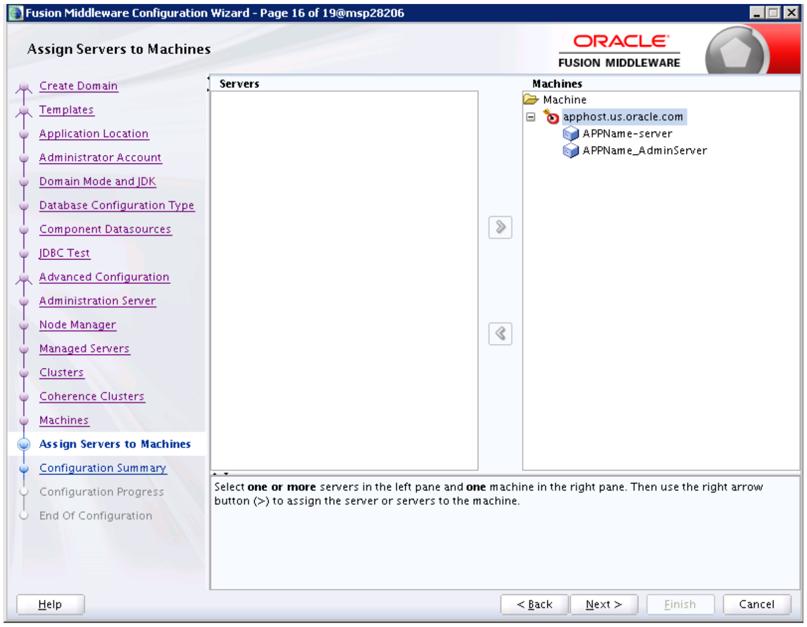
Cluster Name	Unicast Listen Port
defaultCoherenceCluster	0

23. Click the Unix Machine tab Click the Add button. configure the machine and click Next
    - Name: apphostname_MACHINE
    - Listen address: apphostname or IPAddress
    - Listen port: <Port for node manager> Note: The port used here must be a free port.



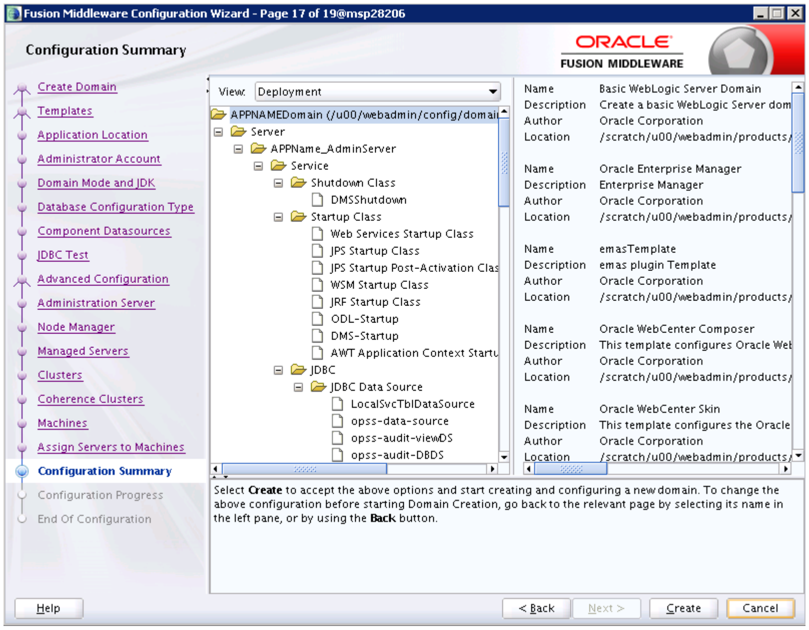
Name	Enable Post Bind GID □	Post Bind GID	Enable Post Bind UID □	Post Bind UID	Node Manager Listen Address	Node Manager Listen Port
apphost	□	nobody	□	nobody	apphost.us.oracle....	5556

24. Assign the configured Admin server and managed servers to the new machine.



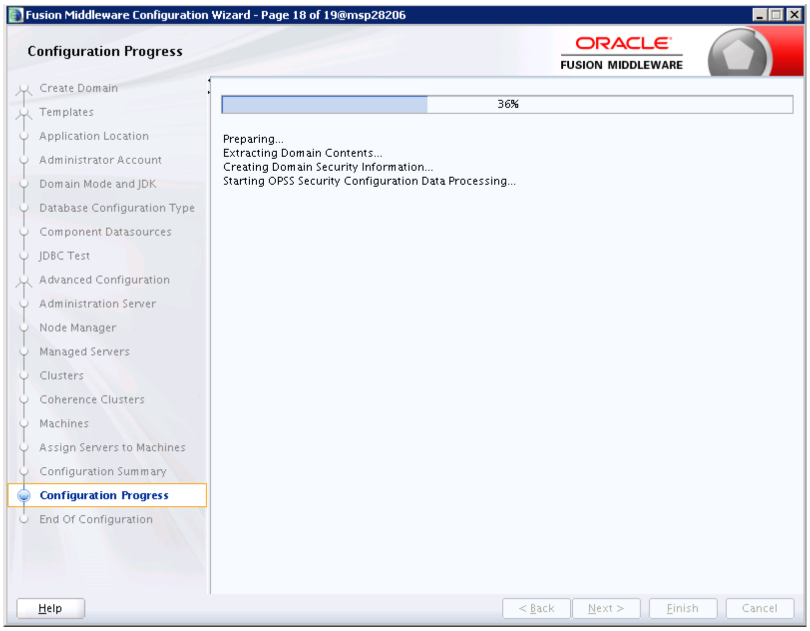
Select **one or more** servers in the left pane and **one** machine in the right pane. Then use the right arrow button (>) to assign the server or servers to the machine.

25. Click **Create**.



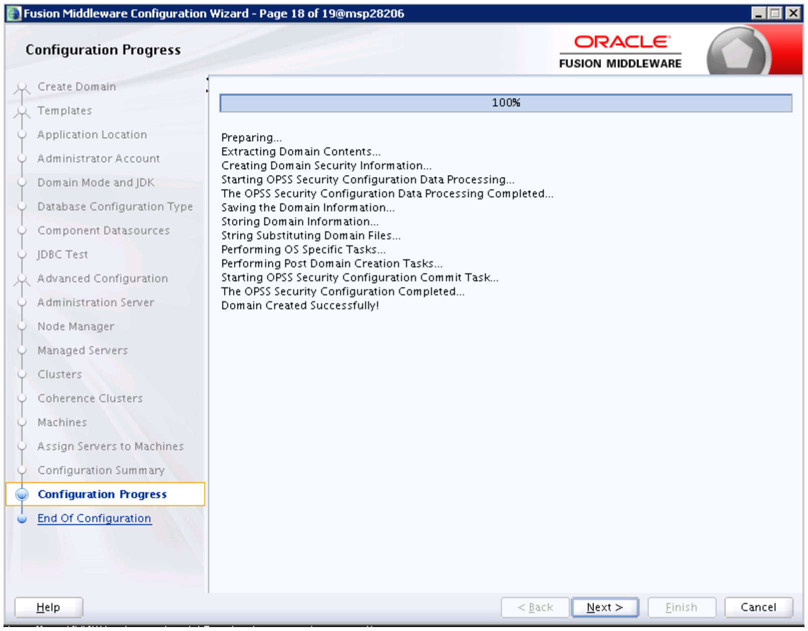
Name	Basic WebLogic Server Domain
Description	Create a basic WebLogic Server dom
Author	Oracle Corporation
Location	/scratch/u00/webadmin/products/
Name	Oracle Enterprise Manager
Description	Enterprise Manager
Author	Oracle Corporation
Location	/scratch/u00/webadmin/products/
Name	emasTemplate
Description	emas plugin Template
Author	Oracle Corporation
Location	/scratch/u00/webadmin/products/
Name	Oracle WebCenter Composer
Description	This template configures Oracle Wel
Author	Oracle Corporation
Location	/scratch/u00/webadmin/products/
Name	Oracle WebCenter Skin
Description	This template configures the Oracle
Author	Oracle Corporation
Location	/scratch/u00/webadmin/products/

Select **Create** to accept the above options and start creating and configuring a new domain. To change the above configuration before starting Domain Creation, go back to the relevant page by selecting its name in the left pane, or by using the **Back** button.



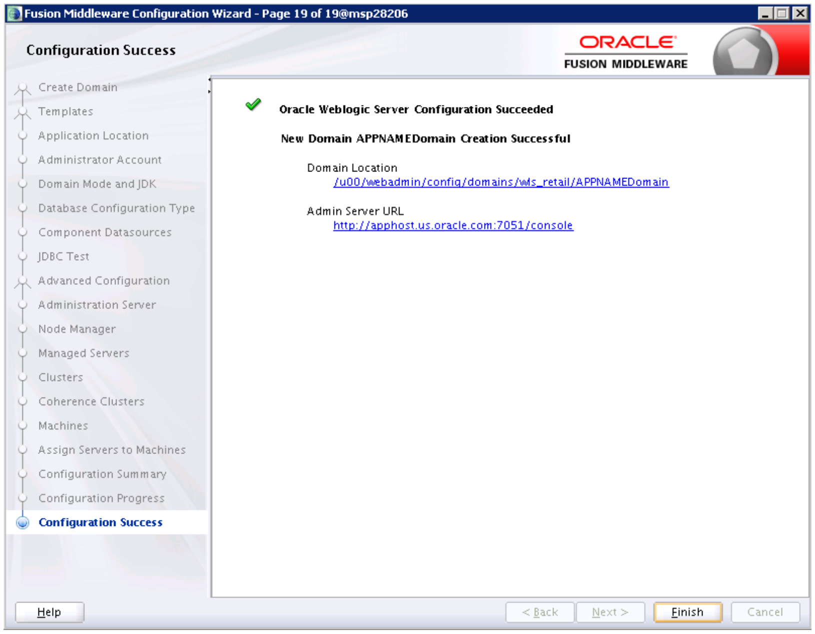
```
Preparing...
Extracting Domain Contents...
Creating Domain Security Information...
Starting OPSS Security Configuration Data Processing...
```

26. Click **Next**.



```
Preparing...
Extracting Domain Contents...
Creating Domain Security Information...
Starting OPSS Security Configuration Data Processing...
The OPSS Security Configuration Data Processing Completed...
Saving the Domain Information...
Storing Domain Information...
String Substituting Domain Files...
Performing OS Specific Tasks...
Performing Post Domain Creation Tasks...
Starting OPSS Security Configuration Commit Task...
The OPSS Security Configuration Completed...
Domain Created Successfully!
```

27. When the process completes, click **Finish**.



✓ Oracle Weblogic Server Configuration Succeeded

New Domain APPNAMEDomain Creation Successful

Domain Location
/u00/webadmin/config/domains/wls_retail/APPNAMEDomain

Admin Server URL
http://apphost.us.oracle.com:7051/console

28. Start the nodemanager from <DOMAIN_HOME>/bin using the following:

```
./startNodeManager.sh
```

29. Start the WebLogic Domain (Admin Server) from <DOMAIN_HOME>/bin using the following:

```
./startWebLogic.sh
```

30. Configure boot.properties for starting the WebLogic domain without prompting to username and password using the following command:

```
java -Dweblogic.management.username=weblogic
-Dweblogic.management.password=<password used when creating the domain>
-Dweblogic.system.StoreBootIdentity=true
-Dweblogic.Name=<APPNAME>_AdminServer weblogic.Server
```

Configuration of OID Provider in WebLogic Domain

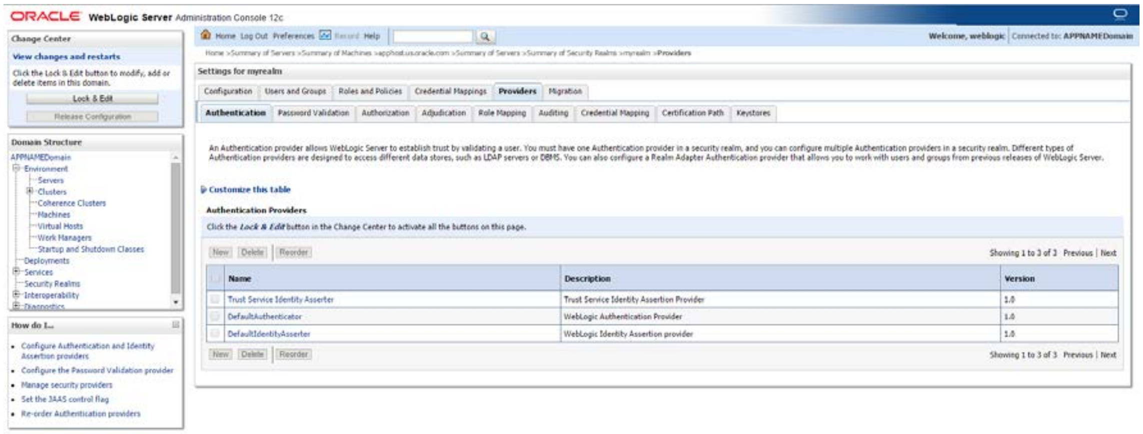
> **Note:** In this section, the base DN "dn=us,dn=oracle,dn=com" is used as an example. Modify this value as per the organisation's ldap settings.

Perform the following procedure to create providers in the domains created in the previous steps.

1. Log in to the Administration Console.

   http://<host>:<port>/console/

2. In the Domain Structure frame, click **Security Realms**.
3. In the Realms table, click myrealm. The Settings for myrealm page is displayed.
4. Click the **Providers** tab.



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

- Configure Authentication and Identity Assertion providers
- Configure the Password Validation provider
- Manage security providers
- Set the JAAS control flag
- Re-order Authentication providers

Settings for myrealm

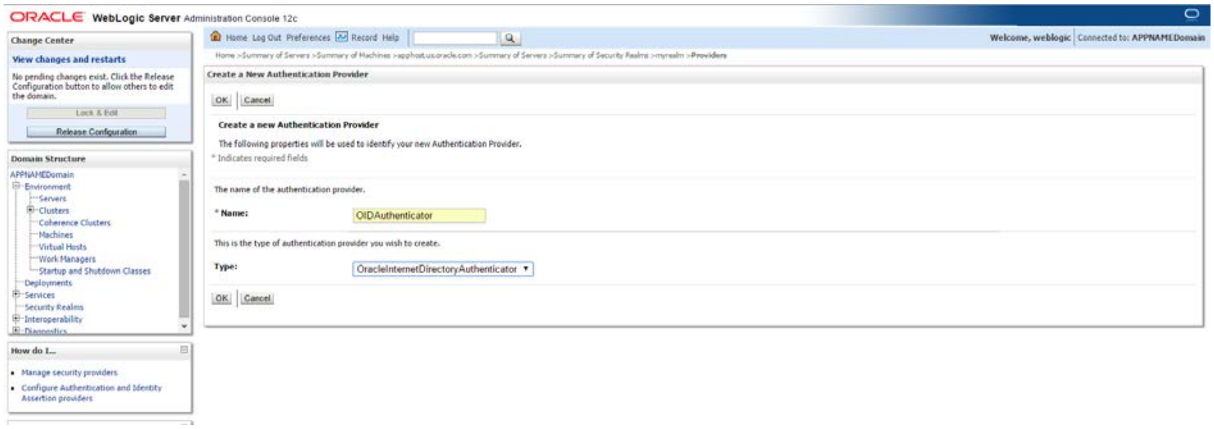
An Authentication provider allows WebLogic Server to establish trust by validating a user. You must have one Authentication provider in a security realm, and you can configure multiple Authentication providers in a security realm. Different types of Authentication providers are designed to access different 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

Click the *Lock & Edit* button in the Change Center to activate all the buttons on this page.

□	Name	Description	Version
□	Trust Service Identity Asserter	Trust Service Identity Assertion Provider	1.0
□	DefaultAuthenticator	WebLogic Authentication Provider	1.0
□	DefaultIdentityAsserter	WebLogic Identity Assertion provider	1.0

5. Click **Lock & Edit** and then click **New**. The 'Create a New Authentication Provider' page is displayed.


ORACLE WebLogic Server Administration Console 12c
Home Log Out Preferences Record Help
Welcome, weblogic | Connected to: APPNAMEDomain
Home >Summary of Servers >Summary of Machines >apphost.us.oracle.com >Summary of Servers >Summary of Security Realms >myrealm >Providers
Change Center
View changes and restarts
Lock & Edit
Release Configuration
Domain Structure
APPNAMEDomain
Environment
Servers
Clusters
Coherence Clusters
Machines
Virtual Hosts
Work Managers
Startup and Shutdown Classes
Deployments
Services
Security Realms
Interoperability
Diagnostics
How do I...
OK
Cancel

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

- Manage security providers
- Configure Authentication and Identity Assertion 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

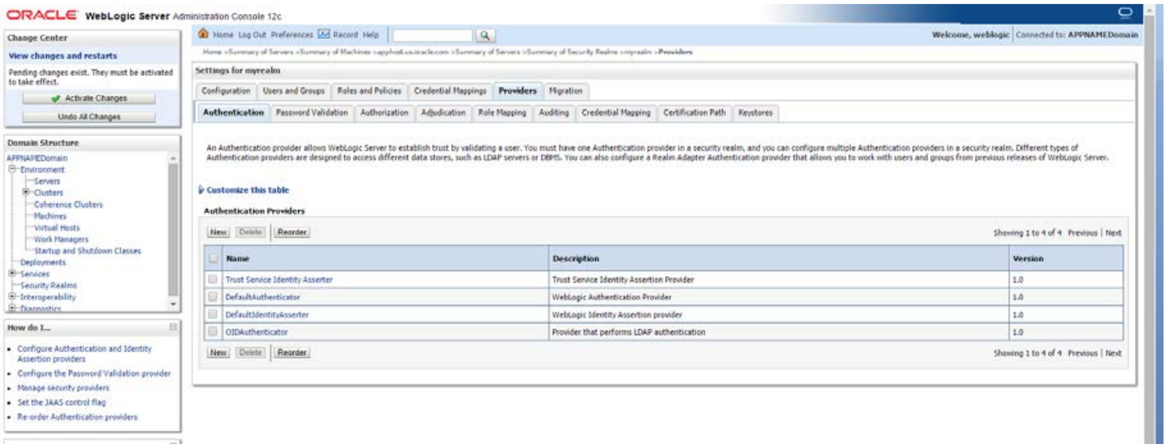
The name of the authentication provider.

* Name: OIDAuthenticator

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

Type: OracleInternetDirectoryAuthenticator ▼

6. Enter OIDAuthenticator in the Name field and select OracleInternetDirectoryAuthenticator as the type. Click **OK**.



Pending changes exist. They must be activated to take effect.

- Configure Authentication and Identity Assertion providers
- Configure the Password Validation provider
- Manage security providers
- Set the JAAS control flag
- Re-order Authentication providers

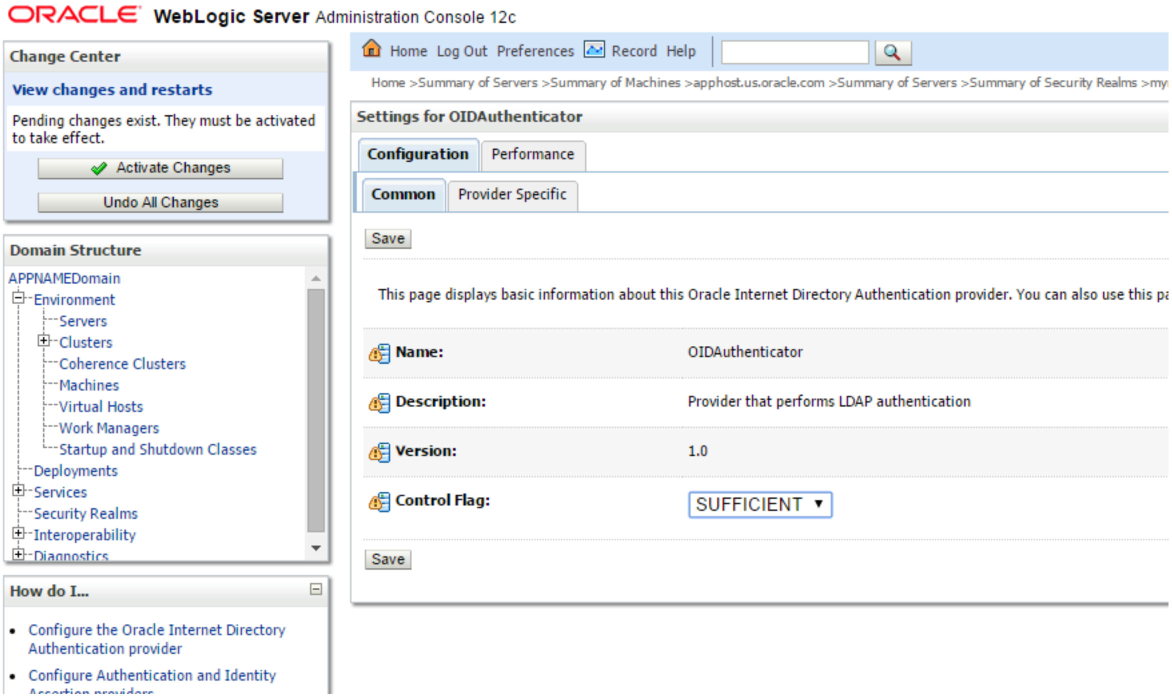
Settings for myrealm

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

□	Name	Description	Version
□	Trust Service Identity Asserter	Trust Service Identity Assertion Provider	1.0
□	DefaultAuthenticator	WebLogic Authentication Provider	1.0
□	DefaultIdentityAsserter	WebLogic Identity Assertion provider	1.0
□	OIDAuthenticator	Provider that performs LDAP authentication	1.0

7. All the providers are displayed. Click **OIDAuthenticator**.


ORACLE WebLogic Server Administration Console 12c
Home Log Out Preferences Record Help
Home >Summary of Servers >Summary of Machines >apphost.us.oracle.com >Summary of Servers >Summary of Security Realms >my
Change Center
View changes and restarts
Activate Changes
Undo All Changes
Domain Structure
APPNAMEDomain
Environment
Servers
Clusters
Coherence Clusters
Machines
Virtual Hosts
Work Managers
Startup and Shutdown Classes
Deployments
Services
Security Realms
Interoperability
Diagnostics
How do I...
Configure the Oracle Internet Directory Authentication provider
Configure Authentication and Identity Assertion providers
Configuration
Performance
Common
Provider Specific
Save

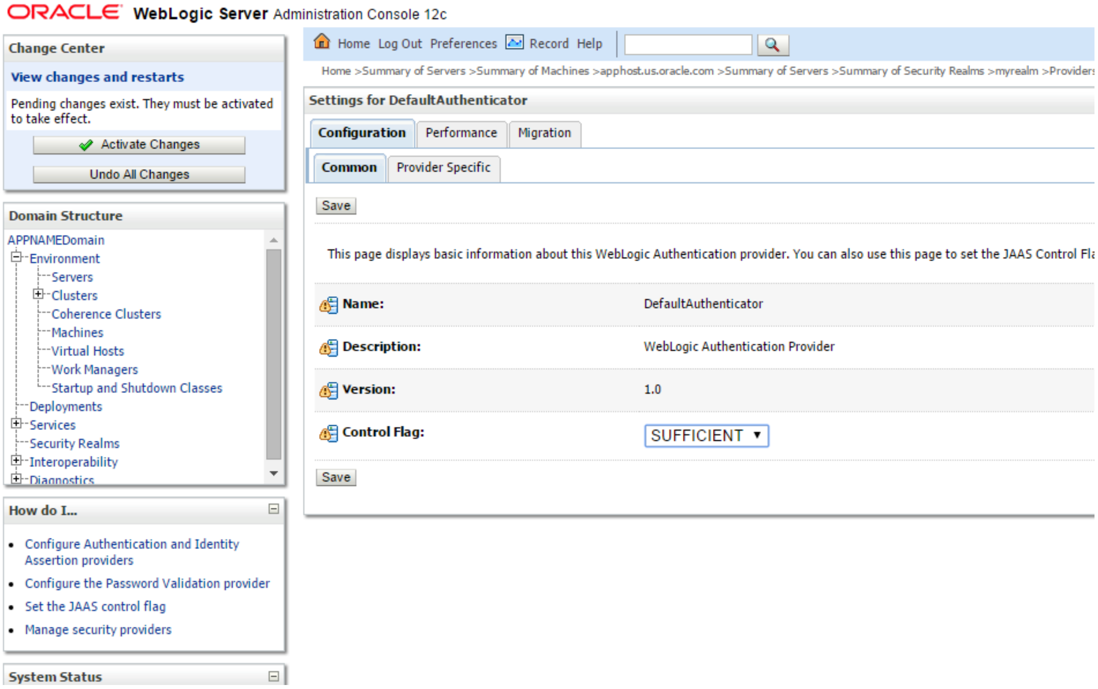
Pending changes exist. They must be activated to take effect.

Settings for OIDAuthenticator

This page displays basic information about this Oracle Internet Directory Authentication provider. You can also use this pa

Name:	OIDAuthenticator
Description:	Provider that performs LDAP authentication
Version:	1.0
Control Flag:	SUFFICIENT ▼

8. Set the Control Flag field to SUFFICIENT and click **Save**.
9. From the Providers tab, click on DefaultAuthenticator -> Configuration tab -> Common tab. Update the Control Flag to SUFFICIENT.
10. Click **Save**.


ORACLE WebLogic Server Administration Console 12c
Home Log Out Preferences Record Help
Home >Summary of Servers >Summary of Machines >apphost.us.oracle.com >Summary of Servers >Summary of Security Realms >myrealm >Providers
Change Center
View changes and restarts
Activate Changes
Undo All Changes
Domain Structure
APPNAMEDomain
Environment
Servers
Clusters
Coherence Clusters
Machines
Virtual Hosts
Work Managers
Startup and Shutdown Classes
Deployments
Services
Security Realms
Interoperability
Diagnostics
How do I...
Configure Authentication and Identity Assertion providers
Configure the Password Validation provider
Set the JAAS control flag
Manage security providers
System Status
Configuration
Performance
Migration
Common
Provider Specific
Save

Pending changes exist. They must be activated to take effect.

Settings for DefaultAuthenticator

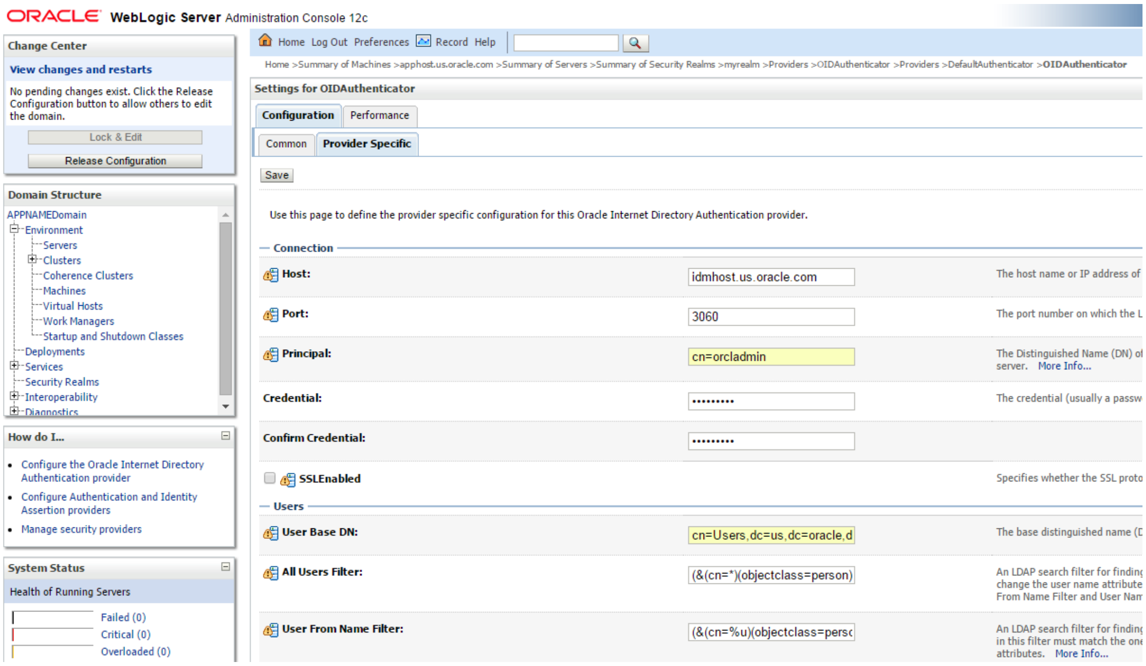
This page displays basic information about this WebLogic Authentication provider. You can also use this page to set the JAAS Control Fla

Name:	DefaultAuthenticator
Description:	WebLogic Authentication Provider
Version:	1.0
Control Flag:	SUFFICIENT ▼

11. From the Providers tab, click the "OIDAuthenticator" (you just created), in the configuration -> Provider Specific tab enter your LDAP connection details:

The values shown below are examples only. You should match the entries to your OID.

- Host: *<oidhost>*
- Port: *<oidport>*
- Principal: cn=orcladmin
- Credential: *<password>*
- Confirm Credential: *<password>*
- User Base DN: cn=users,dc=us,dc=oracle,dc=com
- Check 'Use Retrieved User Name as Principal '.


ORACLE WebLogic Server Administration Console 12c
Home Log Out Preferences Record Help
Change Center
View changes and restarts
No pending changes exist. Click the Release Configuration button to allow others to edit the domain.
Lock & Edit
Release Configuration
Domain Structure
APPNAMEDomain
Environment
Servers
Clusters
Coherence Clusters
Machines
Virtual Hosts
Work Managers
Startup and Shutdown Classes
Deployments
Services
Security Realms
Interoperability
Diagnostics
How do I...
Configure the Oracle Internet Directory Authentication provider
Configure Authentication and Identity Assertion providers
Manage security providers
System Status
Health of Running Servers
Failed (0)
Critical (0)
Overloaded (0)
Home >Summary of Machines >apphost.us.oracle.com >Summary of Servers >Summary of Security Realms >myrealm >Providers >OIDAuthenticator >Providers >DefaultAuthenticator >OIDAuthenticator
Configuration
Performance
Common
Provider Specific
Save

Settings for OIDAuthenticator

Use this page to define the provider specific configuration for this Oracle Internet Directory Authentication provider.

Connection

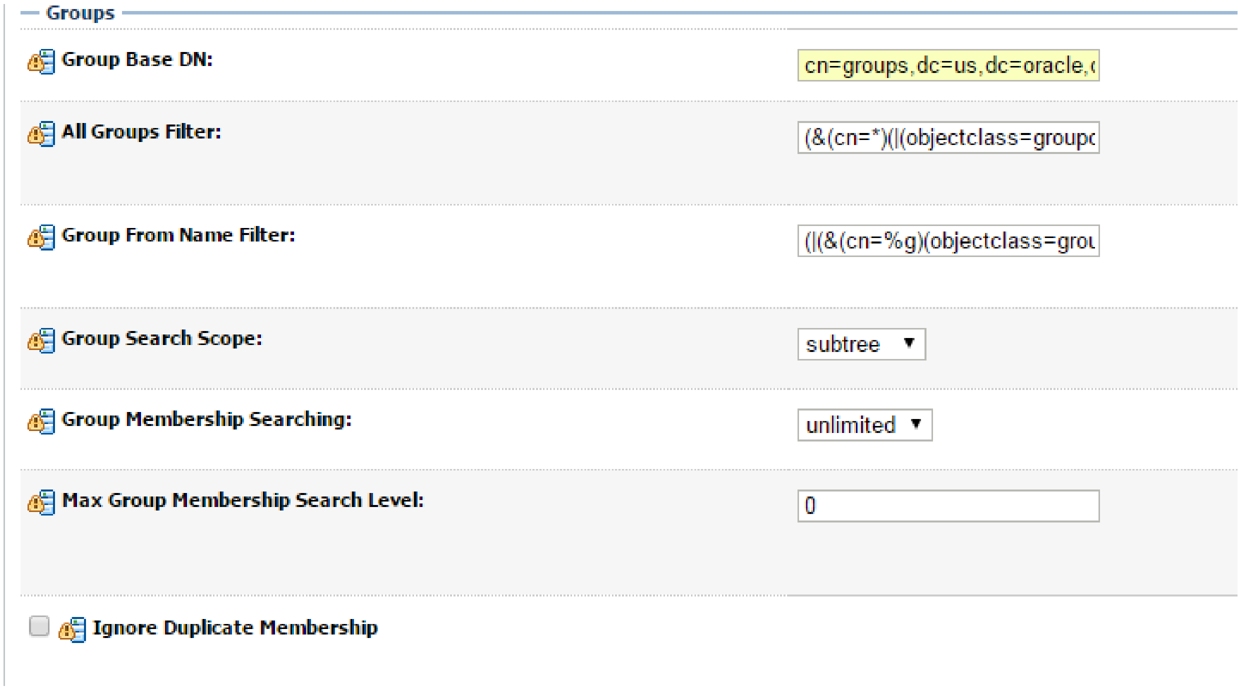
Host:	idmhost.us.oracle.com	The host name or IP address of
Port:	3060	The port number on which the L
Principal:	cn=orcladmin	The Distinguished Name (DN) of server. More Info...
Credential:	•••••••••	The credential (usually a passw
Confirm Credential:	•••••••••	
□ SSLEnabled		Specifies whether the SSL proto

Users

User Base DN:	cn=Users,dc=us,dc=oracle,d	The base distinguished name (D
All Users Filter:	(&(cn=*)(objectclass=person))	An LDAP search filter for finding change the user name attribute From Name Filter and User Nam
User From Name Filter:	(&(cn=%u)(objectclass=persc	An LDAP search filter for finding in this filter must match the one attributes. More Info...

12. Modify the following:

- Group Base DN: cn=Groups,dc=us,dc=oracle,dc=com

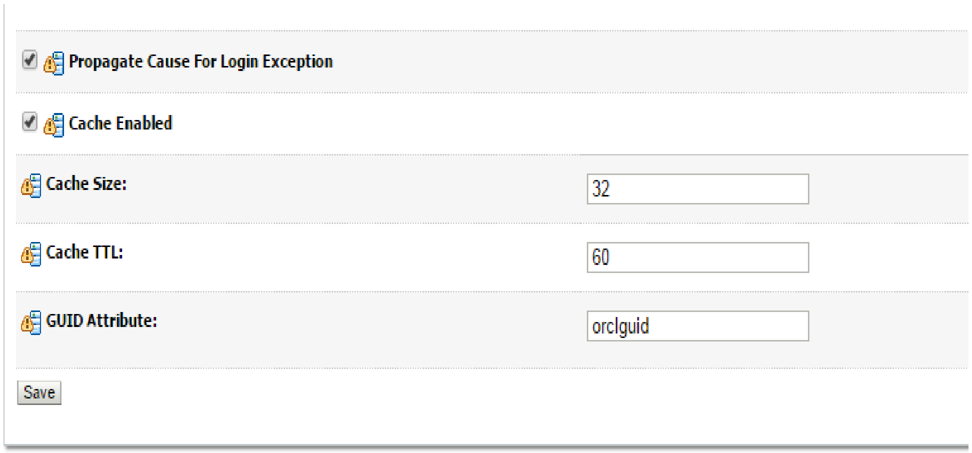


Groups

Group Base DN:	cn=groups,dc=us,dc=oracle,(
All Groups Filter:	(&(cn=*)(|(objectclass=groupc
Group From Name Filter:	(|(&(cn=%g)(objectclass=grou
Group Search Scope:	subtree ▼
Group Membership Searching:	unlimited ▼
Max Group Membership Search Level:	0

☐ Ignore Duplicate Membership

13. Check Propagate Cause For Login Exception



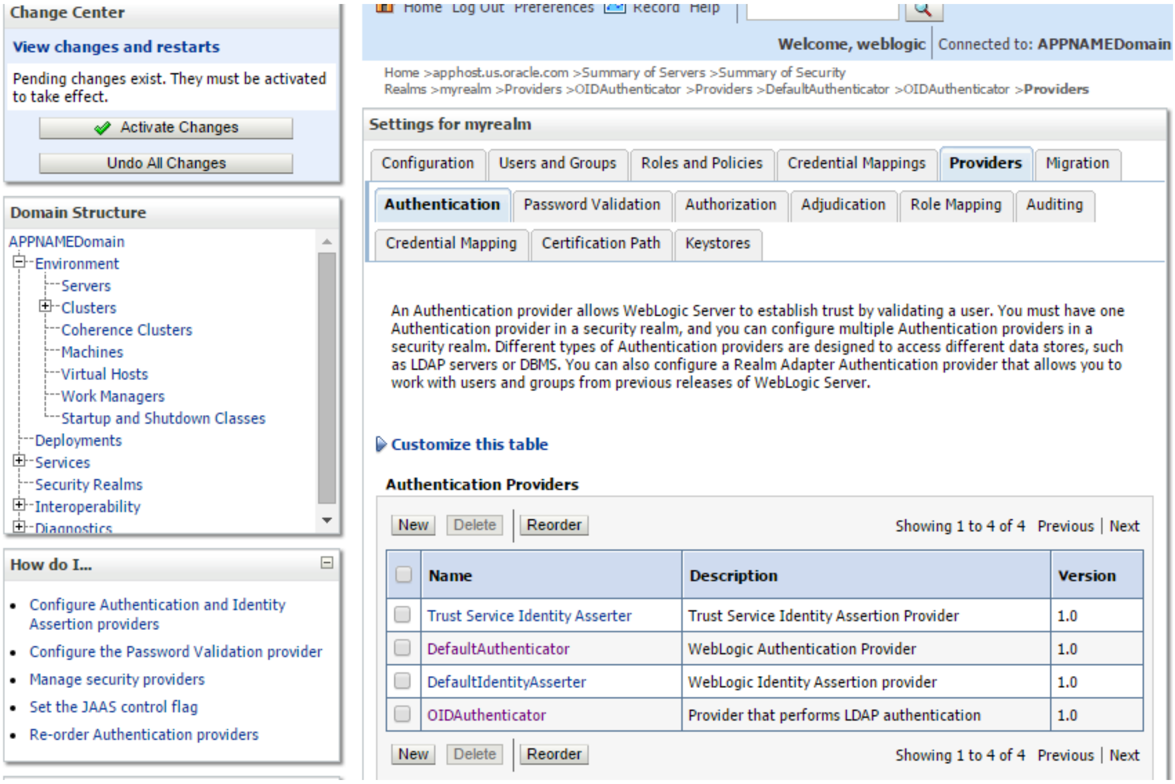
☑ Propagate Cause For Login Exception

☑ Cache Enabled

Cache Size:	32
Cache TTL:	60
GUID Attribute:	orclguid

14. Click **Save**.

15. Click the **Providers** tab in the 'myrealm' security realm.



Home Log Out Preferences Record Help

Welcome, weblogic | Connected to: APPNAMEDomain

Home >apphost.us.oracle.com >Summary of Servers >Summary of Security Realms >myrealm >Providers >OIDAuthenticator >Providers >DefaultAuthenticator >OIDAuthenticator >**Providers**

Change Center

View changes and restarts

Pending changes exist. They must be activated to take effect.

Activate Changes

Undo All Changes

Domain Structure

APPNAMEDomain
- Environment
  - Servers
  - Clusters
  - Coherence Clusters
  - Machines
  - Virtual Hosts
  - Work Managers
  - Startup and Shutdown Classes
- Deployments
- Services
- Security Realms
- Interoperability
- Diagnostics

How do I...

- Configure Authentication and Identity Assertion providers
- Configure the Password Validation provider
- Manage security providers
- Set the JAAS control flag
- Re-order Authentication providers

Settings for myrealm

Configuration | Users and Groups | Roles and Policies | Credential Mappings | **Providers** | Migration

Authentication | Password Validation | Authorization | Adjudication | Role Mapping | Auditing

Credential Mapping | Certification Path | Keystores

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.

Customize this table

Authentication Providers

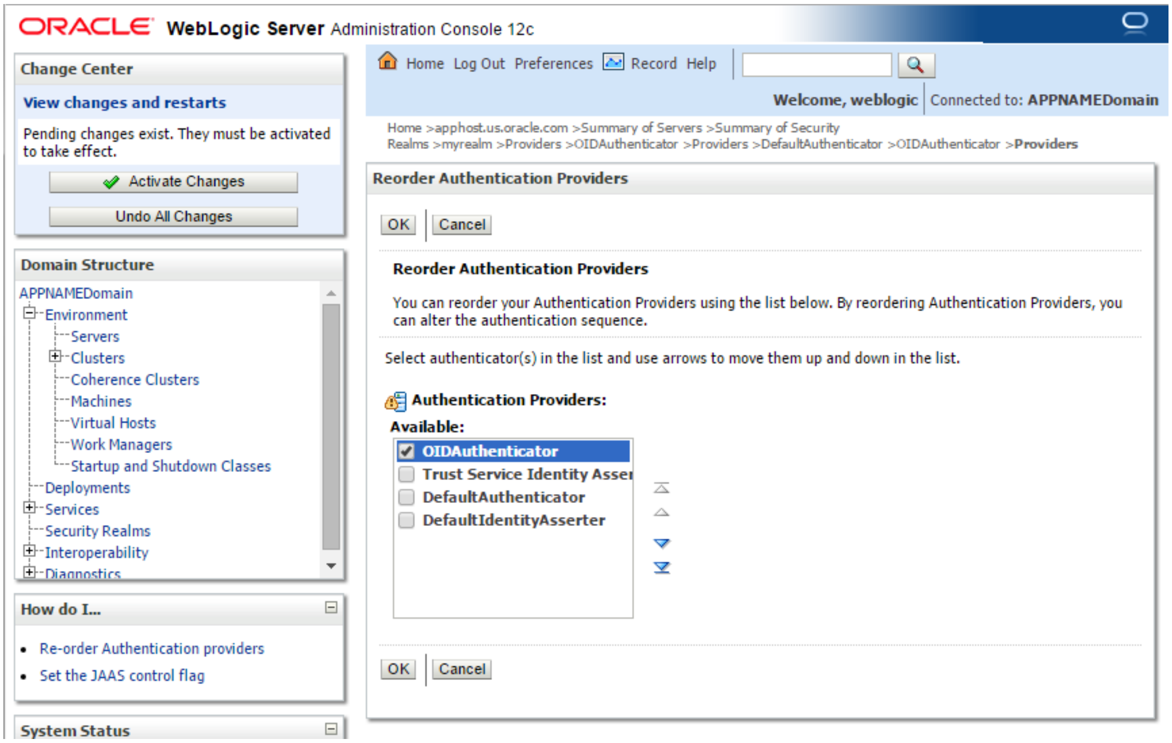
New | Delete | Reorder — Showing 1 to 4 of 4 Previous | Next

□	Name	Description	Version
□	Trust Service Identity Asserter	Trust Service Identity Assertion Provider	1.0
□	DefaultAuthenticator	WebLogic Authentication Provider	1.0
□	DefaultIdentityAsserter	WebLogic Identity Assertion provider	1.0
□	OIDAuthenticator	Provider that performs LDAP authentication	1.0

New | Delete | Reorder — Showing 1 to 4 of 4 Previous | Next

16. Click **Reorder.**

17. Move OIDAuthenticator to the top of the providers list.



Pending changes exist. They must be activated to take effect.

Home >apphost.us.oracle.com >Summary of Servers >Summary of Security Realms >myrealm >Providers >OIDAuthenticator >Providers >DefaultAuthenticator >OIDAuthenticator >**Providers**

Reorder Authentication Providers

Reorder Authentication Providers

You can reorder your Authentication Providers using the list below. By reordering Authentication Providers, you can alter the authentication sequence.

Select authenticator(s) in the list and use arrows to move them up and down in the list.

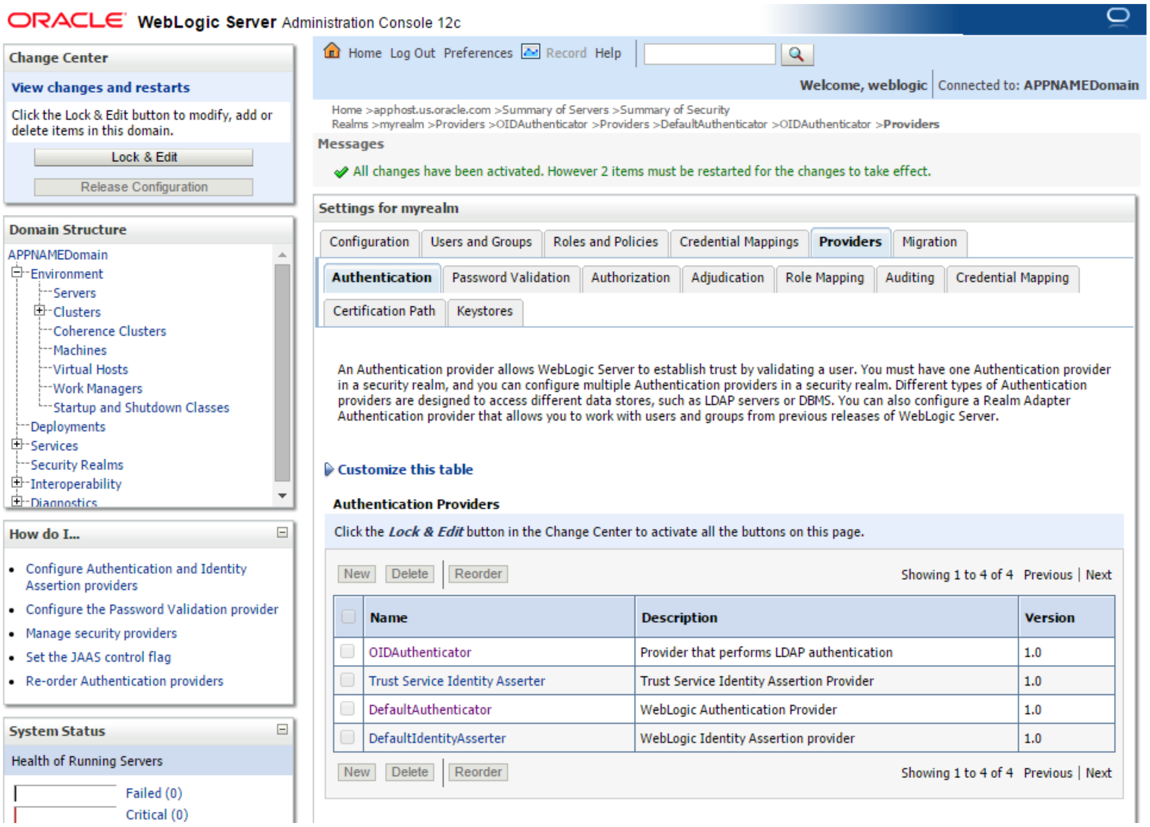
Authentication Providers:

Available:

☑ OIDAuthenticator
☐ Trust Service Identity Asser
☐ DefaultAuthenticator
☐ DefaultIdentityAsserter

18. Click **OK**.

19. Once your changes are saved, click **Activate Changes**.



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

Home >apphost.us.oracle.com >Summary of Servers >Summary of Security Realms >myrealm >Providers >OIDAuthenticator >Providers >DefaultAuthenticator >OIDAuthenticator >**Providers**

Messages

✓ All changes have been activated. However 2 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

Click the *Lock & Edit* button in the Change Center to activate all the buttons on this page.

☐	Name	Description	Version
☐	OIDAuthenticator	Provider that performs LDAP authentication	1.0
☐	Trust Service Identity Asserter	Trust Service Identity Assertion Provider	1.0
☐	DefaultAuthenticator	WebLogic Authentication Provider	1.0
☐	DefaultIdentityAsserter	WebLogic Identity Assertion provider	1.0

20. Shutdown all servers and restart the admin server using startWebLogic.sh script.

Configure Oracle Single Sign-On

> **Note:** This procedure is only needed if you plan on setting up the RESA application using Single Sign On (SSO) authentication. This can be skipped if SSO is not going to be configured for this environment. The Oracle Access Manager must be configured and the Oracle http server (Webtier and webgate) must be registered into the Oracle Access Manager.

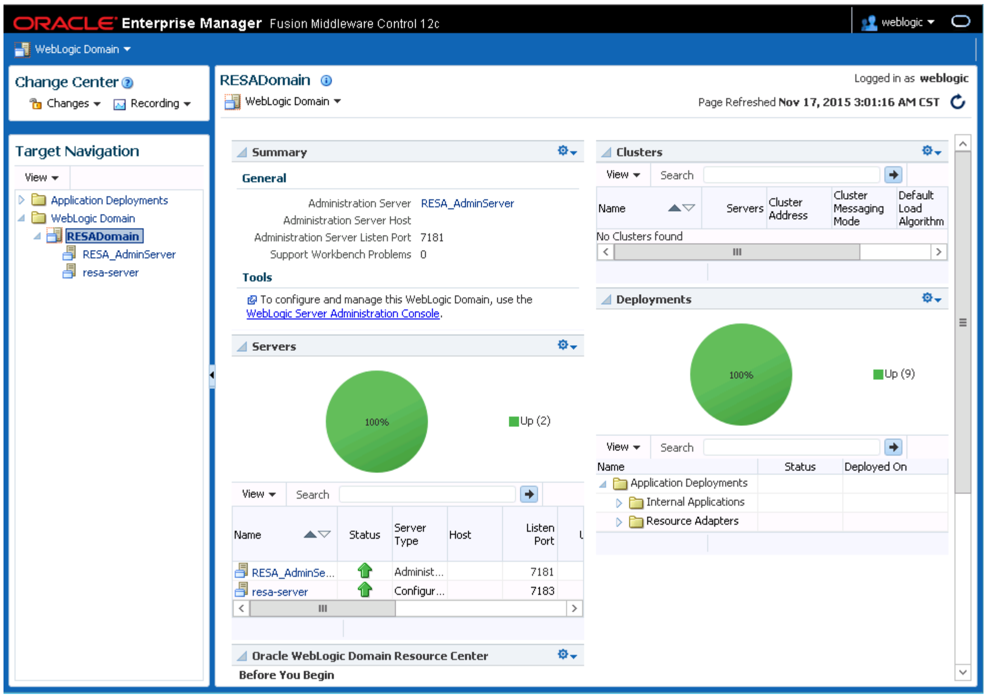
1. (Webtier and webgate) must be registered into the Oracle Access Manager.
2. Create the SSO provider in the RESADomain
3. Log into the WebLogic console
4. Navigate to: security realms -> myrealm (default realm) -> providers.
5. Start a Lock and Edit session.
6. Click New provider.
7. Set the provider name (Default: OAMIdentityAsserter).
8. Click **Ok**.
9. Open the new provider configuration.
10. Under Common, set the Control Flag to SUFFICIENT.
11. On the provider list, click **Reorder**.
12. Move the OAMIdentityAsserter to the top of the list, or above the DefaultAuthenticator.
    a. Click **Ok**.
    b. Click **Activate Changes**.
    c. Shutdown the domain.
    d. Start the admin and managed servers for the domain.

Create mds-CustomPortalDS Datasource using EM

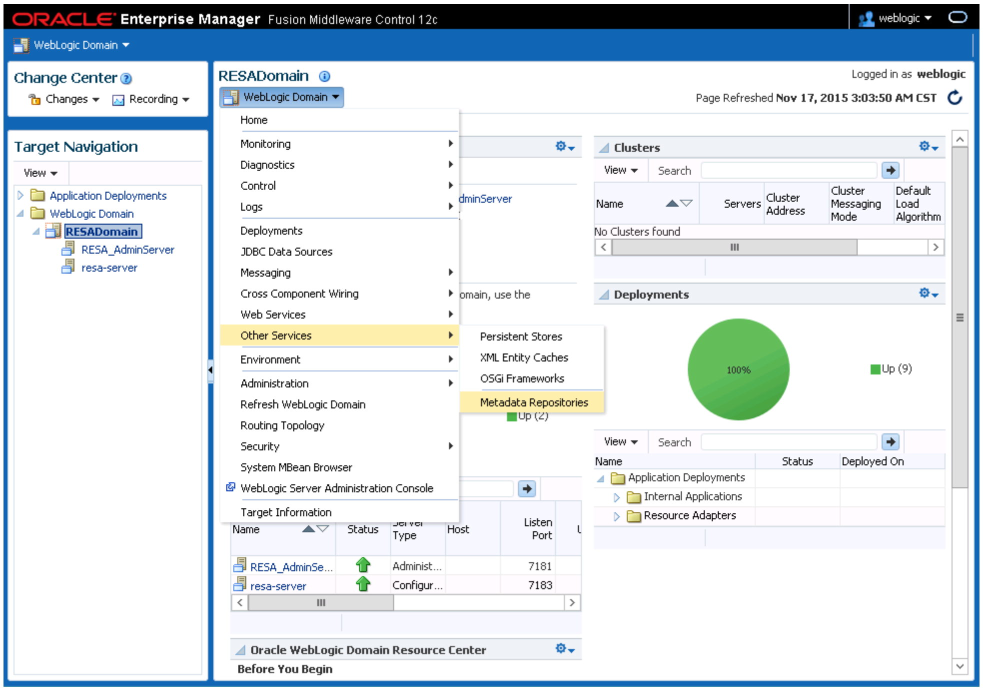
Follow the below steps to create mds-CustomPortal datasource.

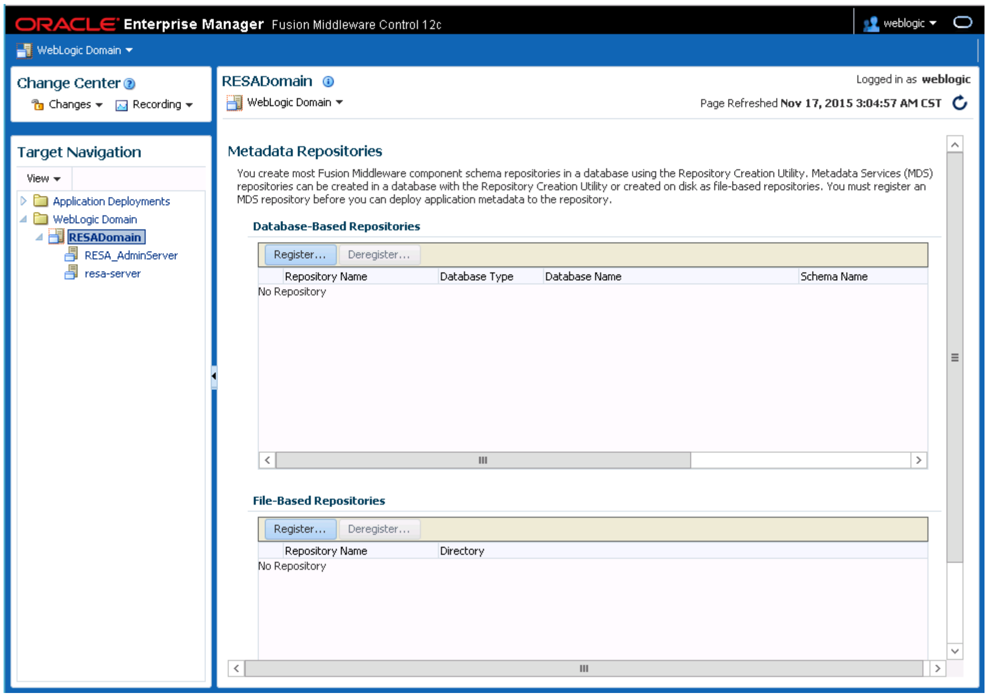
1. Login to EM console

   `http://<host>:<port>/em`



2. Go to WebLogic Domain, Other Services and then MetaData Repositories





RESADomain

WebLogic Domain

Logged in as weblogic

Page Refreshed Nov 17, 2015 3:04:57 AM CST

Metadata Repositories

You create most Fusion Middleware component schema repositories in a database using the Repository Creation Utility. Metadata Services (MDS) repositories can be created in a database with the Repository Creation Utility or created on disk as file-based repositories. You must register an MDS repository before you can deploy application metadata to the repository.

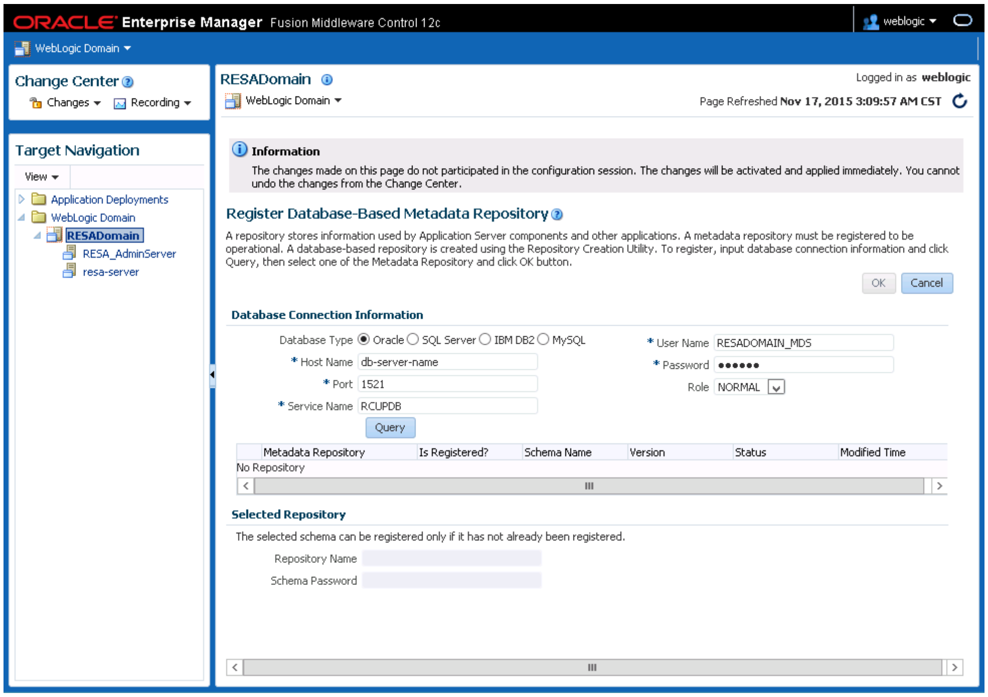
Database-Based Repositories

Repository Name	Database Type	Database Name	Schema Name
No Repository			

File-Based Repositories

Repository Name	Directory
No Repository	

3. Under Database-Based Repositories, Click Register button.



RESADomain

WebLogic Domain

Logged in as weblogic

Page Refreshed Nov 17, 2015 3:09:57 AM CST

Information

The changes made on this page do not participated in the configuration session. The changes will be activated and applied immediately. You cannot undo the changes from the Change Center.

Register Database-Based Metadata Repository

A repository stores information used by Application Server components and other applications. A metadata repository must be registered to be operational. A database-based repository is created using the Repository Creation Utility. To register, input database connection information and click Query, then select one of the Metadata Repository and click OK button.

Database Connection Information

Database Type ● Oracle ○ SQL Server ○ IBM DB2 ○ MySQL

* Host Name db-server-name

* Port 1521

* Service Name RCUPDB

* User Name RESADOMAIN_MDS

* Password ••••••

Role NORMAL

Metadata Repository	Is Registered?	Schema Name	Version	Status	Modified Time
No Repository					

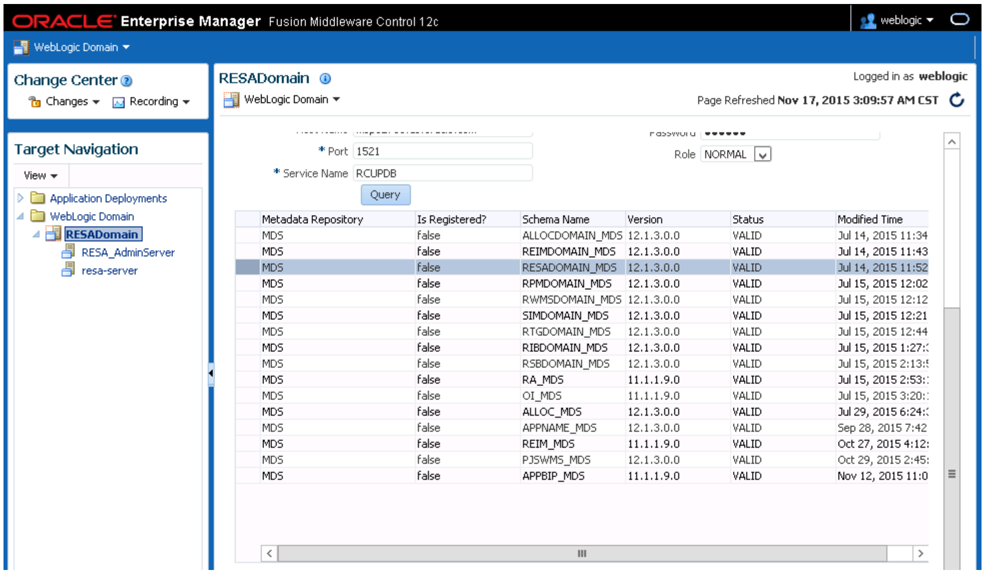
Selected Repository

The selected schema can be registered only if it has not already been registered.

Repository Name

Schema Password

4. Remove the WebLogic user if it appears and provide the MDS Schema <RESA_MDS> user created in RCU earlier (as part of RCU schemas creation).
5. Input the details of Database Hostname, Port number and Service name. Click Query and list of all the schemas will be displayed.



RESADomain

WebLogic Domain

Logged in as **weblogic**

Page Refreshed **Nov 17, 2015 3:09:57 AM CST**

Password ••••••

* Port 1521

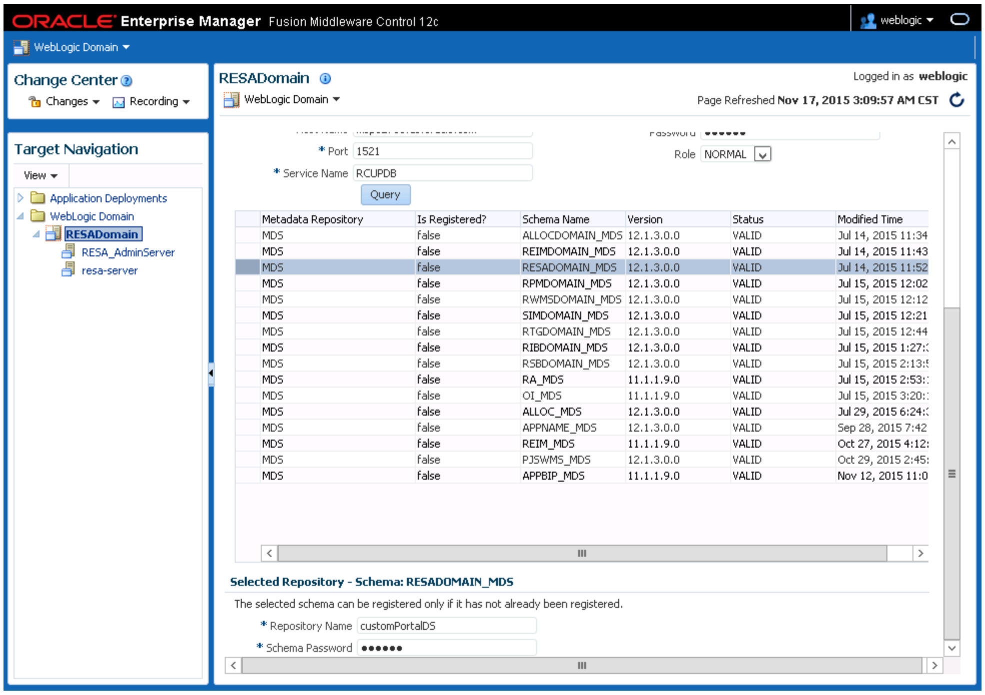
Role NORMAL

* Service Name RCUPDB

Query

Metadata Repository	Is Registered?	Schema Name	Version	Status	Modified Time
MDS	false	ALLOCDOMAIN_MDS	12.1.3.0.0	VALID	Jul 14, 2015 11:34
MDS	false	REIMDOMAIN_MDS	12.1.3.0.0	VALID	Jul 14, 2015 11:43
MDS	false	RESADOMAIN_MDS	12.1.3.0.0	VALID	Jul 14, 2015 11:52
MDS	false	RPMDOMAIN_MDS	12.1.3.0.0	VALID	Jul 15, 2015 12:02
MDS	false	RWMSDOMAIN_MDS	12.1.3.0.0	VALID	Jul 15, 2015 12:12
MDS	false	SIMDOMAIN_MDS	12.1.3.0.0	VALID	Jul 15, 2015 12:21
MDS	false	RTGDOMAIN_MDS	12.1.3.0.0	VALID	Jul 15, 2015 12:44
MDS	false	RIBDOMAIN_MDS	12.1.3.0.0	VALID	Jul 15, 2015 1:27:
MDS	false	RSBDOMAIN_MDS	12.1.3.0.0	VALID	Jul 15, 2015 2:13:
MDS	false	RA_MDS	11.1.1.9.0	VALID	Jul 15, 2015 2:53:
MDS	false	OI_MDS	11.1.1.9.0	VALID	Jul 15, 2015 3:20:
MDS	false	ALLOC_MDS	12.1.3.0.0	VALID	Jul 29, 2015 6:24:
MDS	false	APPNAME_MDS	12.1.3.0.0	VALID	Sep 28, 2015 7:42
MDS	false	REIM_MDS	11.1.1.9.0	VALID	Oct 27, 2015 4:12:
MDS	false	PJSWMS_MDS	12.1.3.0.0	VALID	Oct 29, 2015 2:45:
MDS	false	APPBIP_MDS	11.1.1.9.0	VALID	Nov 12, 2015 11:0

6. Select the <RESA_MDS> schema and enter the repository name 'CustomPortalDS' and password and click on Ok button.



RESADomain

WebLogic Domain

Logged in as **weblogic**

Page Refreshed **Nov 17, 2015 3:09:57 AM CST**

Password ••••••

* Port 1521

Role NORMAL

* Service Name RCUPDB

Query

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MDS	false	APPBIP_MDS	11.1.1.9.0	VALID	Nov 12, 2015 11:0

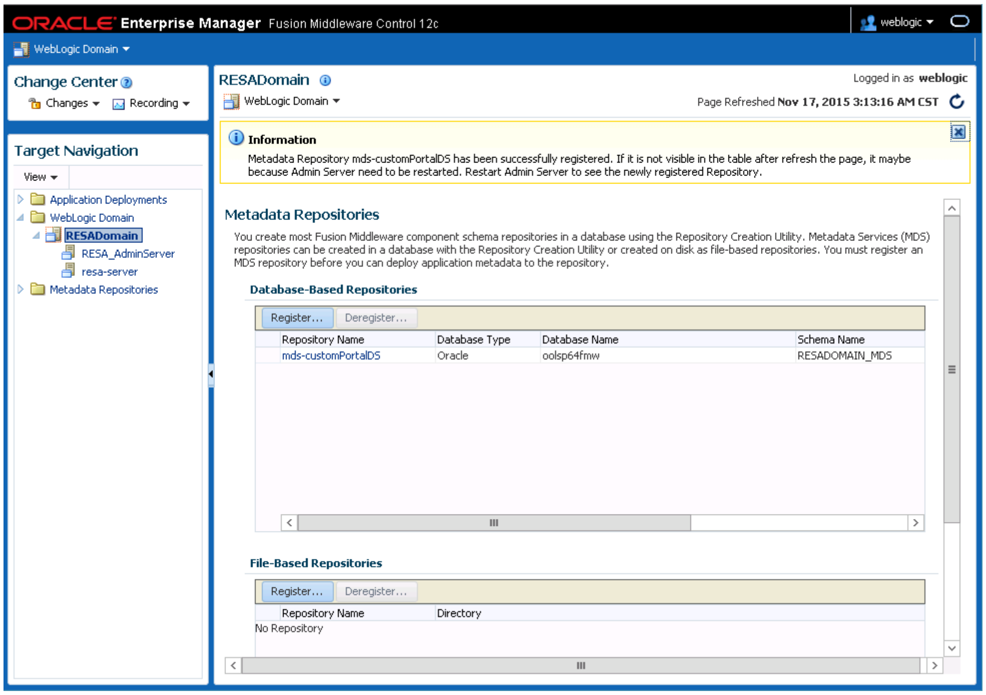
Selected Repository - Schema: RESADOMAIN_MDS

The selected schema can be registered only if it has not already been registered.

* Repository Name customPortalDS

* Schema Password ••••••

7. The MDS Repository will appear. Click on mds-CustomPortalDS.



Logged in as **weblogic**

Page Refreshed **Nov 17, 2015 3:13:16 AM CST**

Information

Metadata Repository mds-customPortalDS has been successfully registered. If it is not visible in the table after refresh the page, it maybe because Admin Server need to be restarted. Restart Admin Server to see the newly registered Repository.

Metadata Repositories

You create most Fusion Middleware component schema repositories in a database using the Repository Creation Utility. Metadata Services (MDS) repositories can be created in a database with the Repository Creation Utility or created on disk as file-based repositories. You must register an MDS repository before you can deploy application metadata to the repository.

Database-Based Repositories

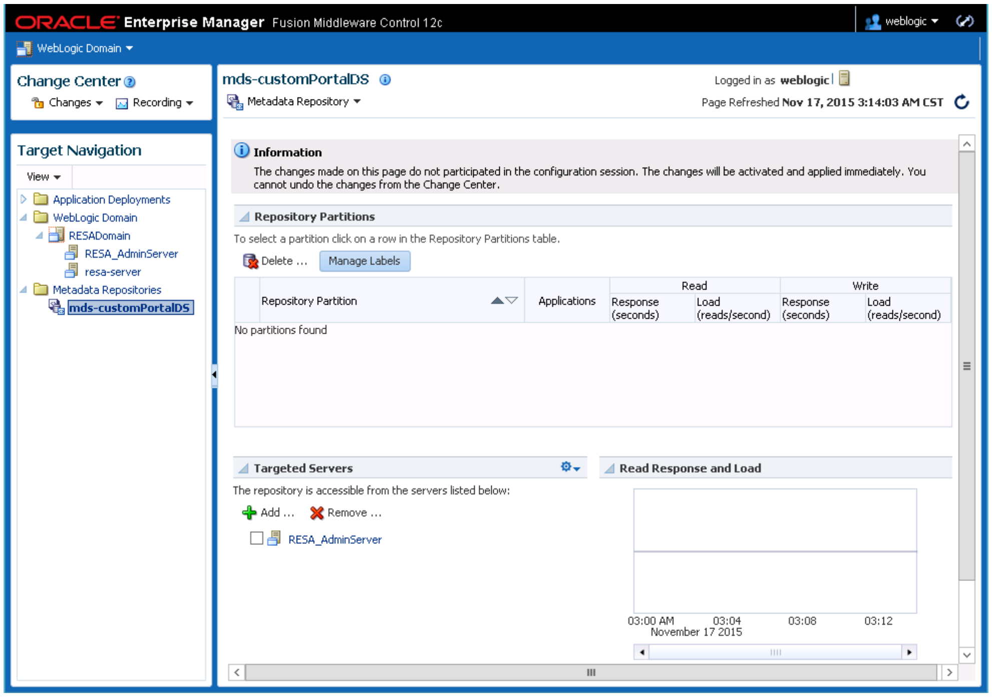
Repository Name	Database Type	Database Name	Schema Name
mds-customPortalDS	Oracle	oolsp64fmw	RESADOMAIN_MDS

File-Based Repositories

Repository Name	Directory

No Repository

8. Under Targeted Servers, Click add and add the managed server ‘resa-server’. Click ‘Target’.



Logged in as **weblogic**

Page Refreshed **Nov 17, 2015 3:14:03 AM CST**

Information

The changes made on this page do not participated in the configuration session. The changes will be activated and applied immediately. You cannot undo the changes from the Change Center.

Repository Partitions

To select a partition click on a row in the Repository Partitions table.

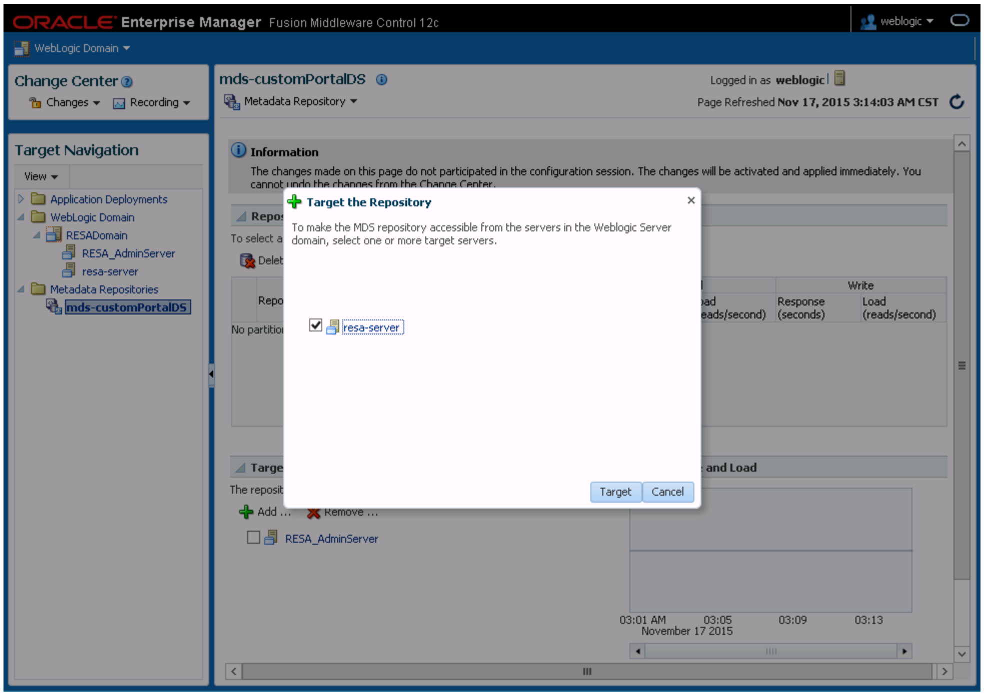
Repository Partition	Applications	Read		Write	
		Response (seconds)	Load (reads/second)	Response (seconds)	Load (reads/second)

No partitions found

Targeted Servers

The repository is accessible from the servers listed below:

□ RESA_AdminServer



Information

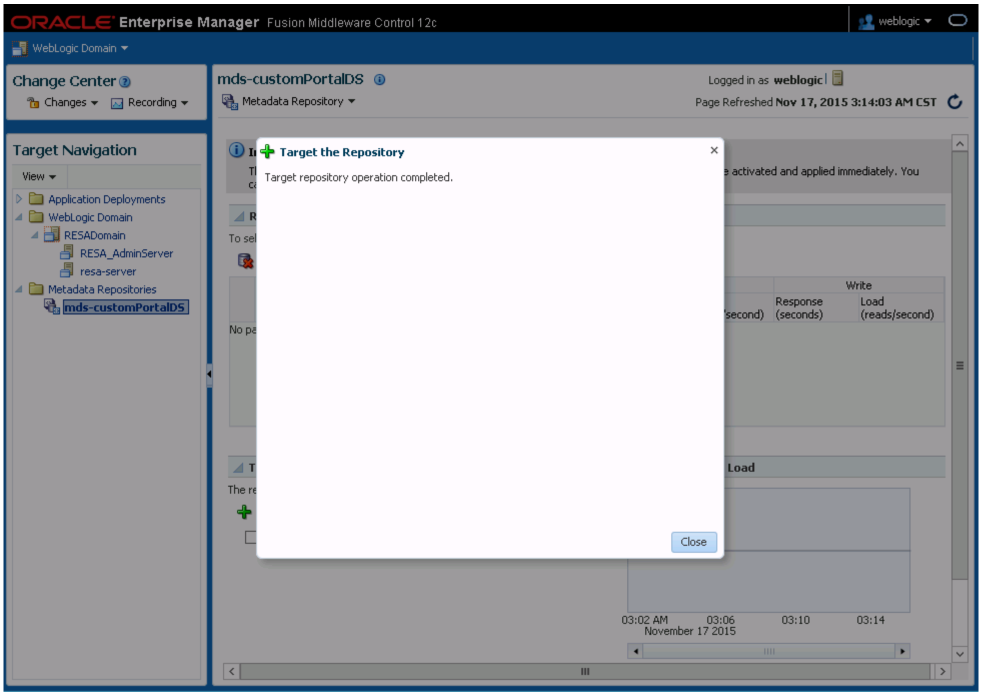
The changes made on this page do not participated in the configuration session. The changes will be activated and applied immediately. You cannot undo the changes from the Change Center.

Target the Repository

To make the MDS repository accessible from the servers in the Weblogic Server domain, select one or more target servers.

☑ resa-server

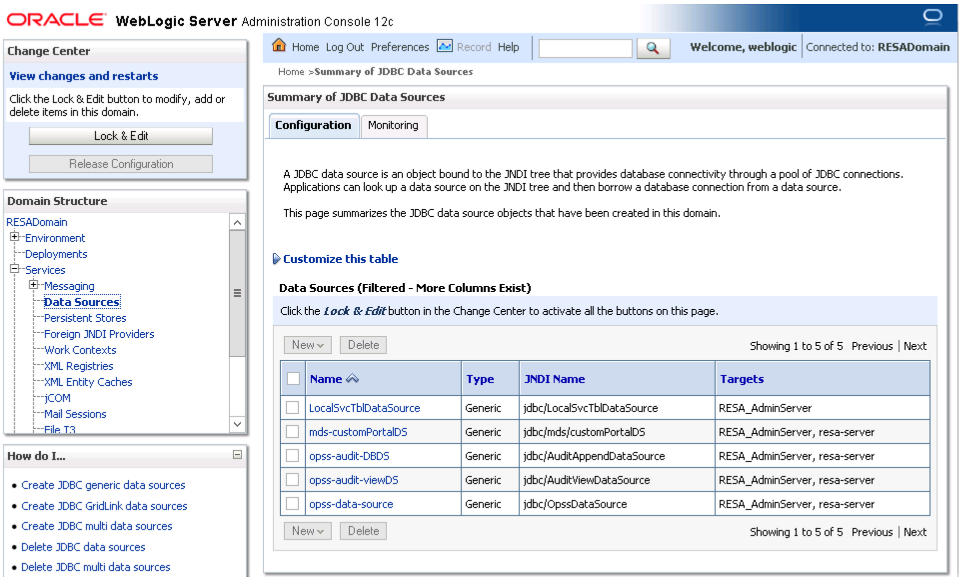
9. A message ‘Target repository operation completed’ is displayed. Click ‘Close’.



Target the Repository

Target repository operation completed.

10. Restart Admin server and Managed server. Login to Admin console URL and verify mds-CustomPortalDS datasource exists.


ORACLE WebLogic Server Administration Console 12c
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Welcome, weblogic | Connected to: RESADomain
Home >Summary of JDBC Data Sources
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XML Registries
XML Entity Caches
jCOM
Mail Sessions
File T3
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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
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Customize this table
New
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Showing 1 to 5 of 5 Previous | Next

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

Data Sources (Filtered - More Columns Exist)

Click the *Lock & Edit* button in the Change Center to activate all the buttons on this page.

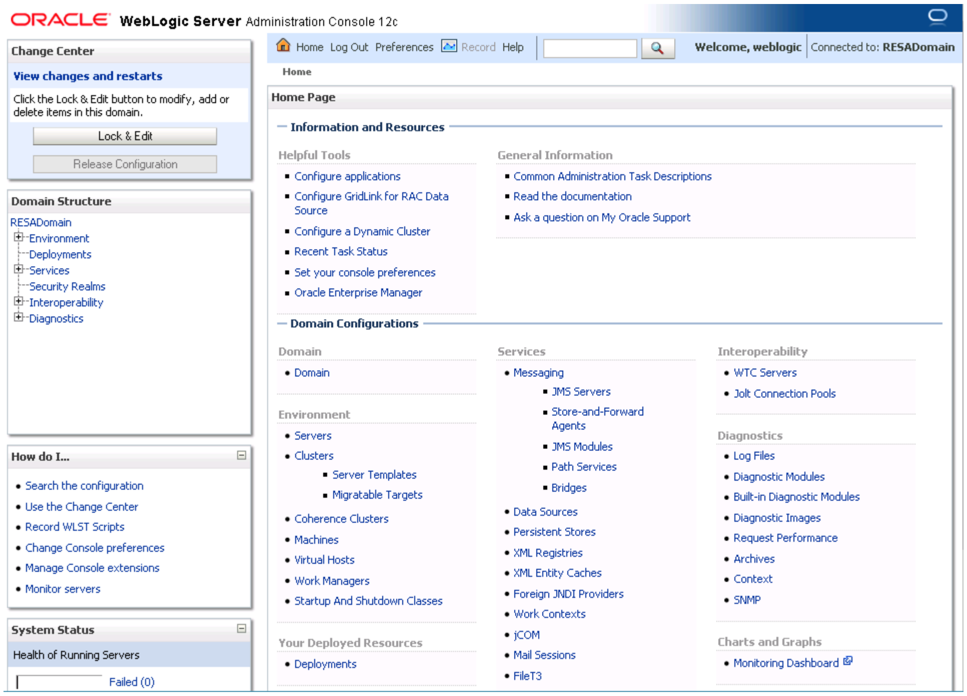
□	Name	Type	JNDI Name	Targets
□	LocalSvcTblDataSource	Generic	jdbc/LocalSvcTblDataSource	RESA_AdminServer
□	mds-customPortalDS	Generic	jdbc/mds/customPortalDS	RESA_AdminServer, resa-server
□	opss-audit-DBDS	Generic	jdbc/AuditAppendDataSource	RESA_AdminServer, resa-server
□	opss-audit-viewDS	Generic	jdbc/AuditViewDataSource	RESA_AdminServer, resa-server
□	opss-data-source	Generic	jdbc/OpssDataSource	RESA_AdminServer, resa-server

Deployment of jax-rs-2.0 library in Weblogic:

The library jax-rs-2.0.war needs to be deployed in Weblogic prior to ReSA Application install. This library is available at /u00/webadmin/products/wls_retail/wlserver/common/deployable-libraries/jax-rs-2.0.war.

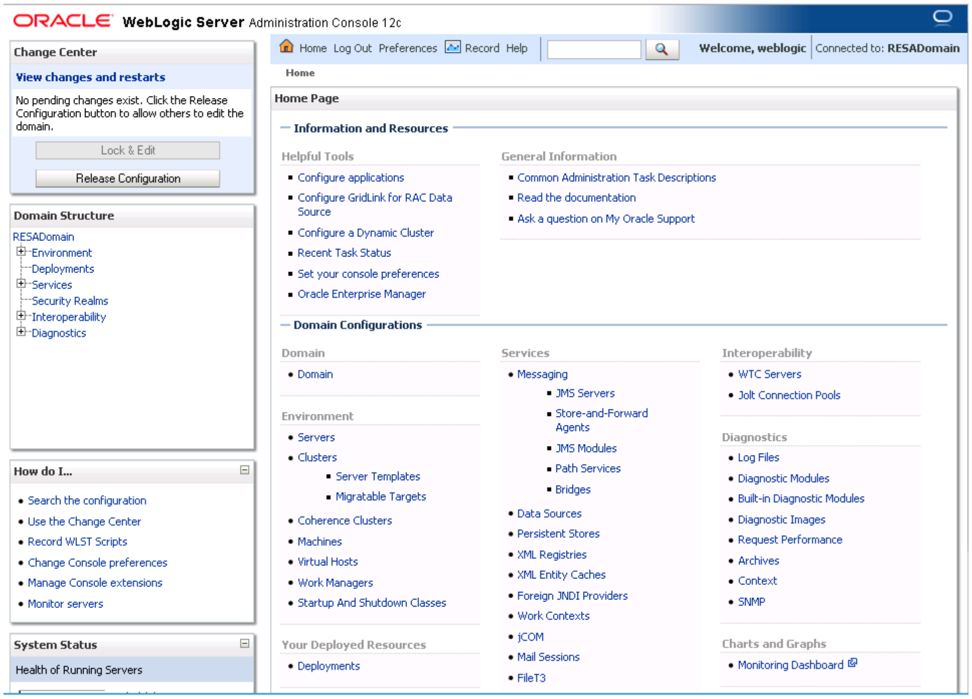
Perform the following procedure to deploy the jax-rs-2.0 library:

1. Login to WebLogic Admin Console.



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

2. Click on **Lock and Edit**.



ORACLE WebLogic Server Administration Console 12c

Home Log Out Preferences Record Help | Welcome, weblogic | Connected to: RESADomain

Home

Change Center

View changes and restarts

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

Lock & Edit

Release Configuration

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- Services
- Security Realms
- Interoperability
- Diagnostics

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- Ask a question on My Oracle Support

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- Domain

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- Clusters
  - Server Templates
  - Migratable Targets
- Coherence Clusters
- Machines
- Virtual Hosts
- Work Managers
- Startup And Shutdown Classes

Your Deployed Resources
- Deployments

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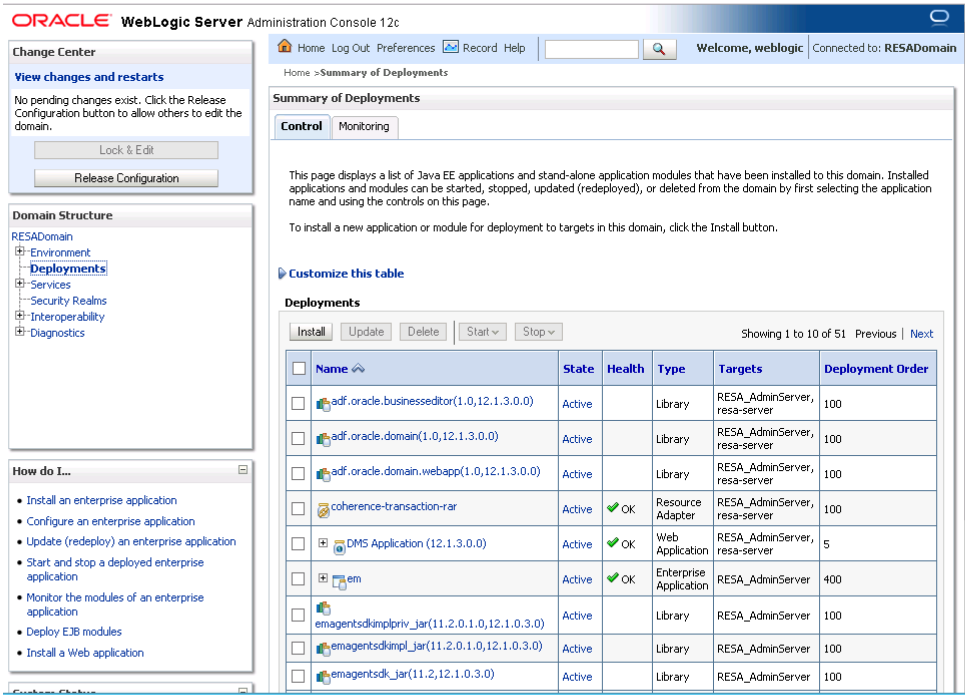
  - Store-and-Forward Agents
  - JMS Modules
  - Path Services
  - Bridges
- Data Sources
- Persistent Stores
- XML Registries
- XML Entity Caches
- Foreign JNDI Providers
- Work Contexts
- jCOM
- Mail Sessions
- FileT3

Interoperability
- WTC Servers
- Jolt Connection Pools

Diagnostics
- Log Files
- Diagnostic Modules
- Built-in Diagnostic Modules
- Diagnostic Images
- Request Performance
- Archives
- Context
- SNMP

Charts and Graphs
- Monitoring Dashboard

3. Click on **Deployments**.



ORACLE WebLogic Server Administration Console 12c

Home Log Out Preferences Record Help | Welcome, weblogic | Connected to: RESADomain

Home >**Summary of Deployments**

Change Center

View changes and restarts

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

Lock & Edit

Release Configuration

Domain Structure

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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

Summary of Deployments

Control | Monitoring

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.

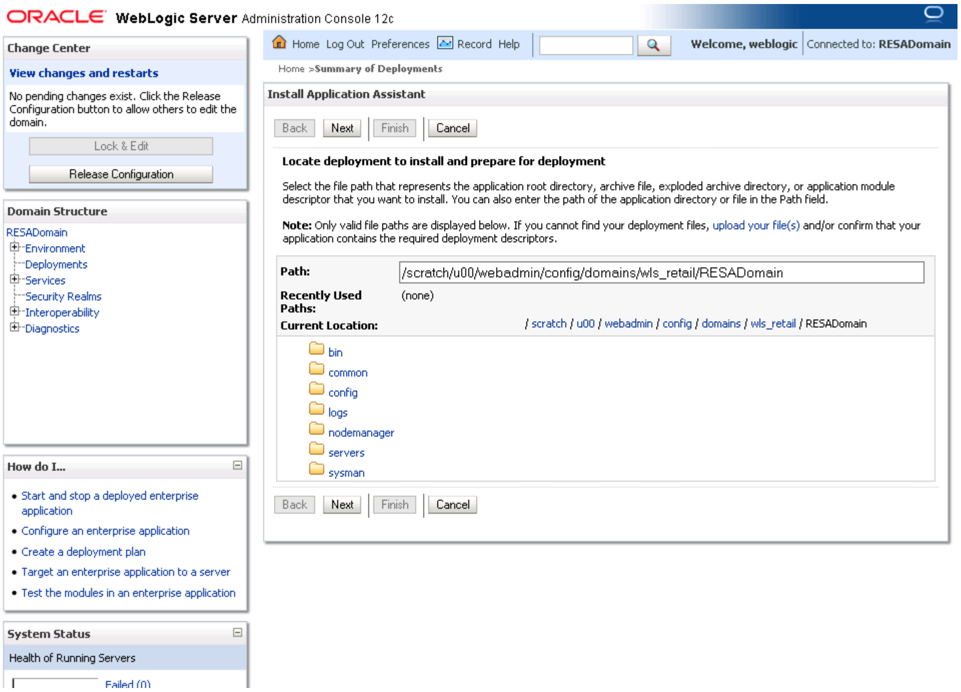
Customize this table

Deployments

Install | Update | Delete | Start | Stop — Showing 1 to 10 of 51 Previous | Next

□	Name	State	Health	Type	Targets	Deployment Order
□	adf.oracle.businesseditor(1.0,12.1.3.0.0)	Active		Library	RESA_AdminServer, resa-server	100
□	adf.oracle.domain(1.0,12.1.3.0.0)	Active		Library	RESA_AdminServer, resa-server	100
□	adf.oracle.domain.webapp(1.0,12.1.3.0.0)	Active		Library	RESA_AdminServer, resa-server	100
□	coherence-transaction-rar	Active	✓ OK	Resource Adapter	RESA_AdminServer, resa-server	100
□	⊞ DMS Application (12.1.3.0.0)	Active	✓ OK	Web Application	RESA_AdminServer, resa-server	5
□	⊞ em	Active	✓ OK	Enterprise Application	RESA_AdminServer	400
□	emagentsdkimplpriv_jar(11.2.0.1.0,12.1.0.3.0)	Active		Library	RESA_AdminServer	100
□	emagentsdkimpl_jar(11.2.0.1.0,12.1.0.3.0)	Active		Library	RESA_AdminServer	100
□	emagentsdk_jar(11.2,12.1.0.3.0)	Active		Library	RESA_AdminServer	100

4. Click **Install**.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config
logs
nodemanager
servers
sysman
Back Next Finish Cancel

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.

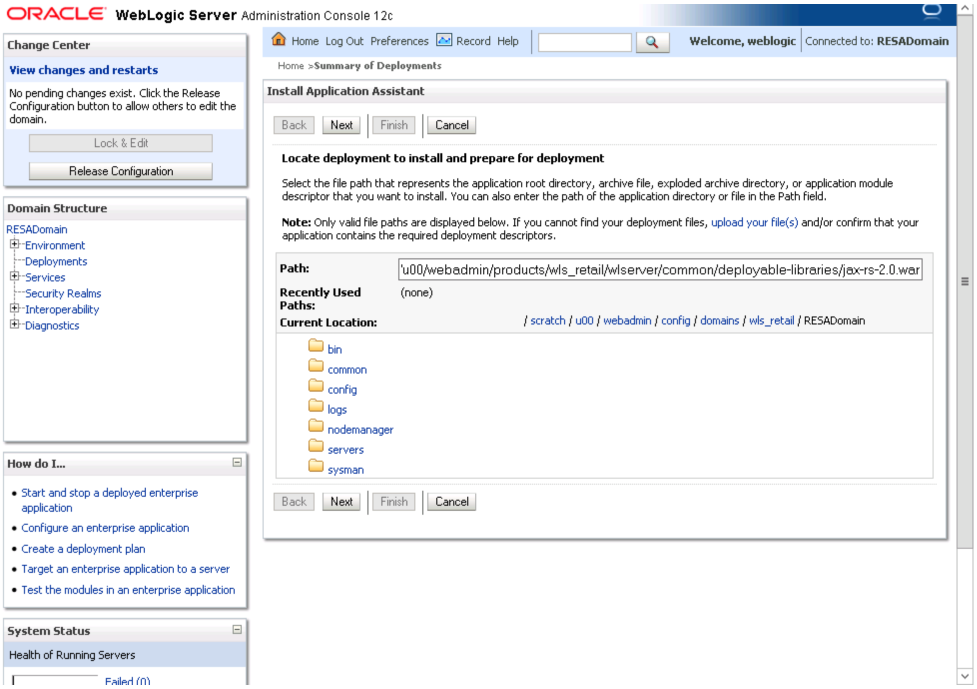
Note: Only valid file paths are displayed below. If you cannot find your deployment files, upload your file(s) and/or confirm that your application contains the required deployment descriptors.

Path: /scratch/u00/webadmin/config/domains/wls_retail/RESADomain

Recently Used Paths: (none)

Current Location: / scratch / u00 / webadmin / config / domains / wls_retail / RESADomain

5. Select the library from the path /u00/webadmin/products/wls_retail/wlserver/common/deployable-libraries/jax-rs-2.0.war on the server. Click **Next**.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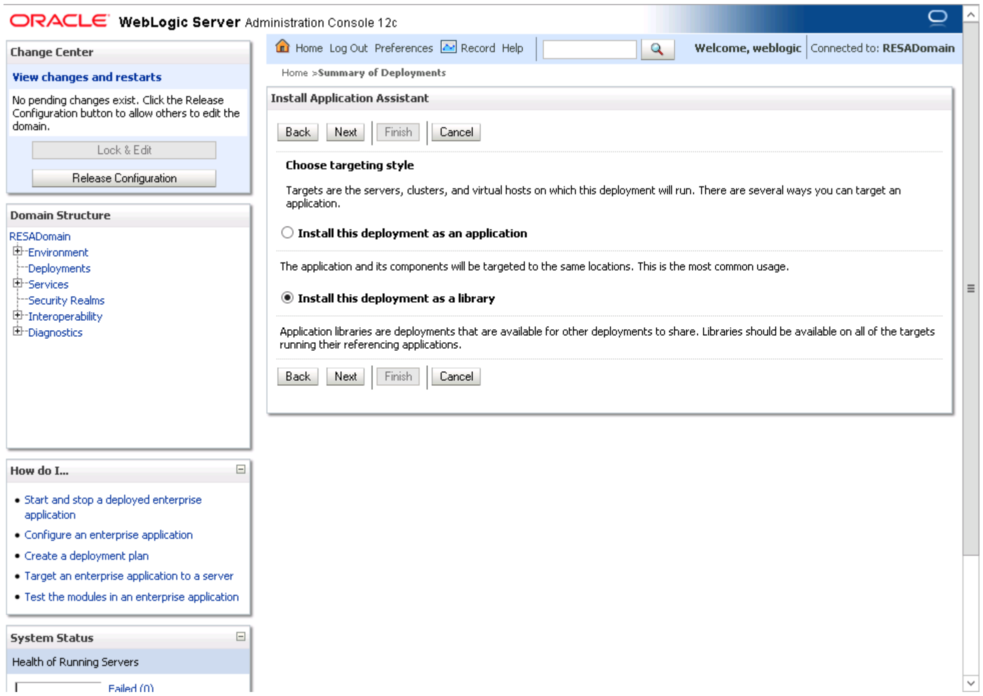
Path: 'u00/webadmin/products/wls_retail/wlserver/common/deployable-libraries/jax-rs-2.0.war

Recently Used Paths: (none)

Current Location: / scratch / u00 / webadmin / config / domains / wls_retail / RESADomain

6. Select ‘Install the deployment as a library’. Click **Next**.



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

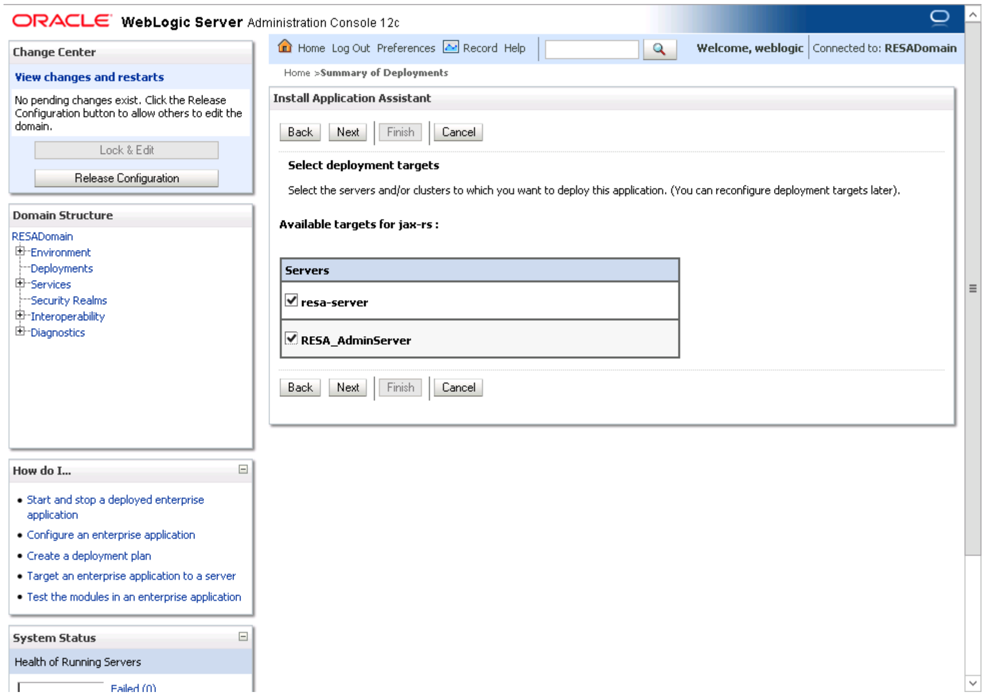
○ Install this deployment as an application

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.

7. Target to both Admin server (for example: RESA_AdminServer) and Managed server (for example: resa-server). Click **Next**.



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

Install Application Assistant

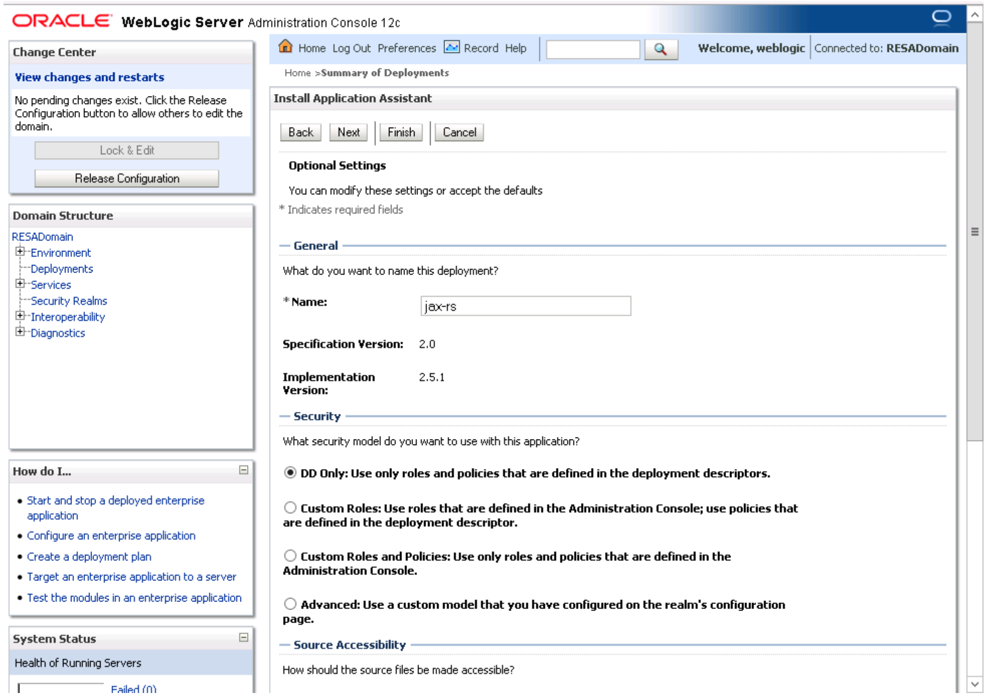
Select deployment targets

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

Available targets for jax-rs :

Servers
☑ resa-server
☑ RESA_AdminServer

8. Select defaults for the Name=jax-rs. Click **Next**.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Install Application Assistant

Optional Settings

You can modify these settings or accept the defaults

* Indicates required fields

General

What do you want to name this deployment?

* Name: jax-rs

Specification Version: 2.0

Implementation Version: 2.5.1

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.

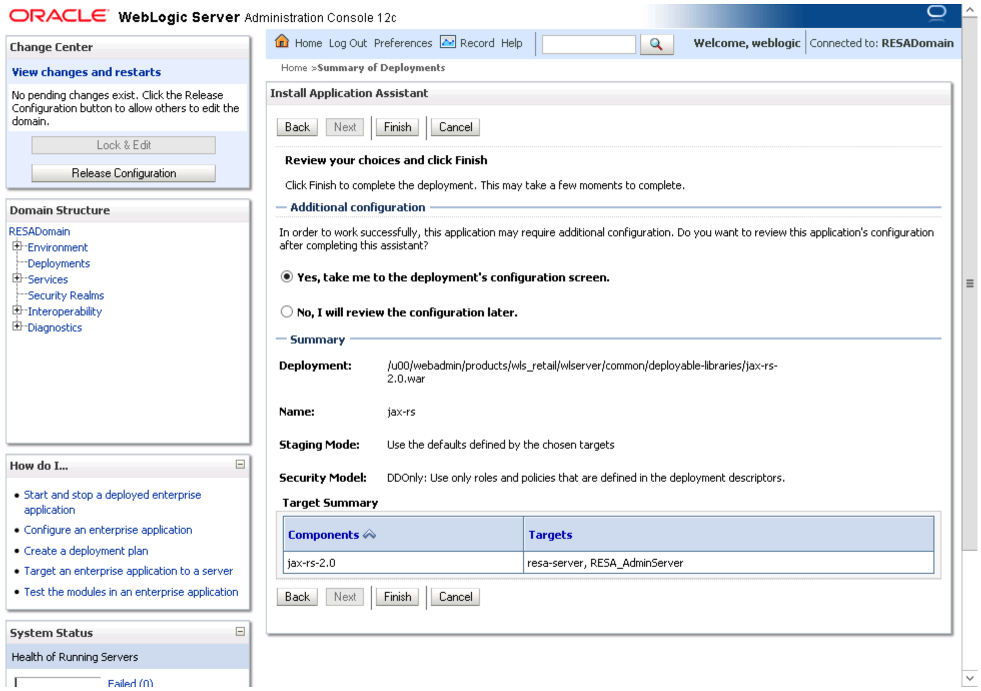
○ Custom Roles and Policies: Use only roles and policies that are defined in the Administration Console.

○ 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?

9. Select Defaults and click **Finish**.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Finish
Cancel

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

Install Application Assistant

Review your choices and click Finish

Click Finish to complete the deployment. This may take a few moments to complete.

Additional configuration

In order to work successfully, this application may require additional configuration. Do you want to review this application's configuration after completing this assistant?

● Yes, take me to the deployment's configuration screen.

○ No, I will review the configuration later.

Summary

Deployment: /u00/webadmin/products/wls_retail/wlserver/common/deployable-libraries/jax-rs-2.0.war

Name: jax-rs

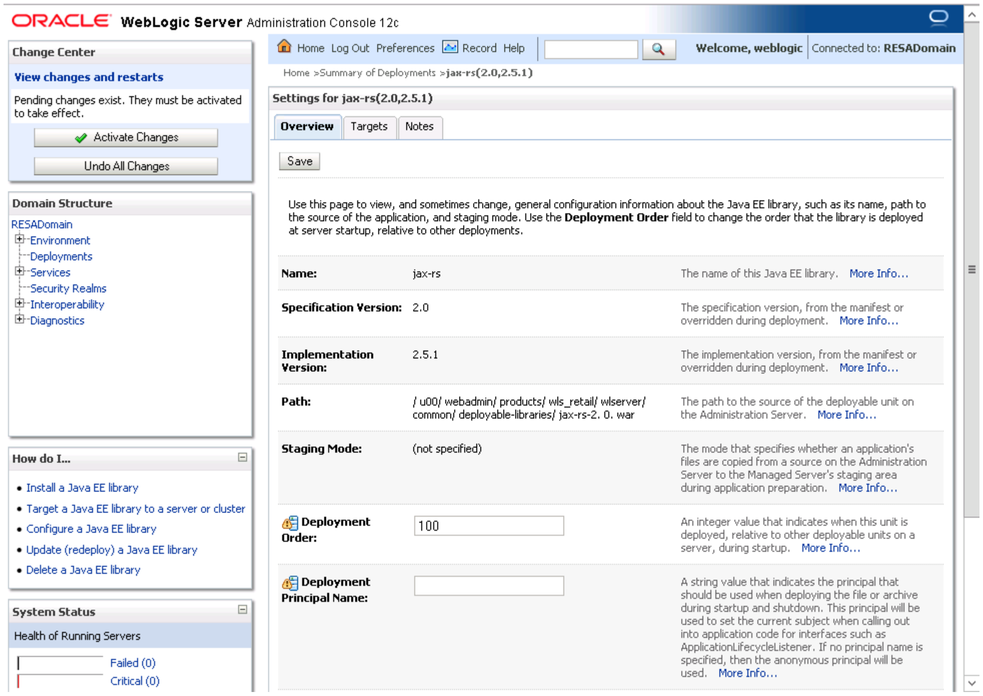
Staging Mode: Use the defaults defined by the chosen targets

Security Model: DDOnly: Use only roles and policies that are defined in the deployment descriptors.

Target Summary

Components	Targets
jax-rs-2.0	resa-server, RESA_AdminServer

10. Click **Activate Changes**.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Target a Java EE library to a server or cluster
Configure a Java EE library
Update (redeploy) a Java EE library
Delete a Java EE library
System Status
Health of Running Servers
Failed (0)
Critical (0)
Overview
Targets
Notes
Save

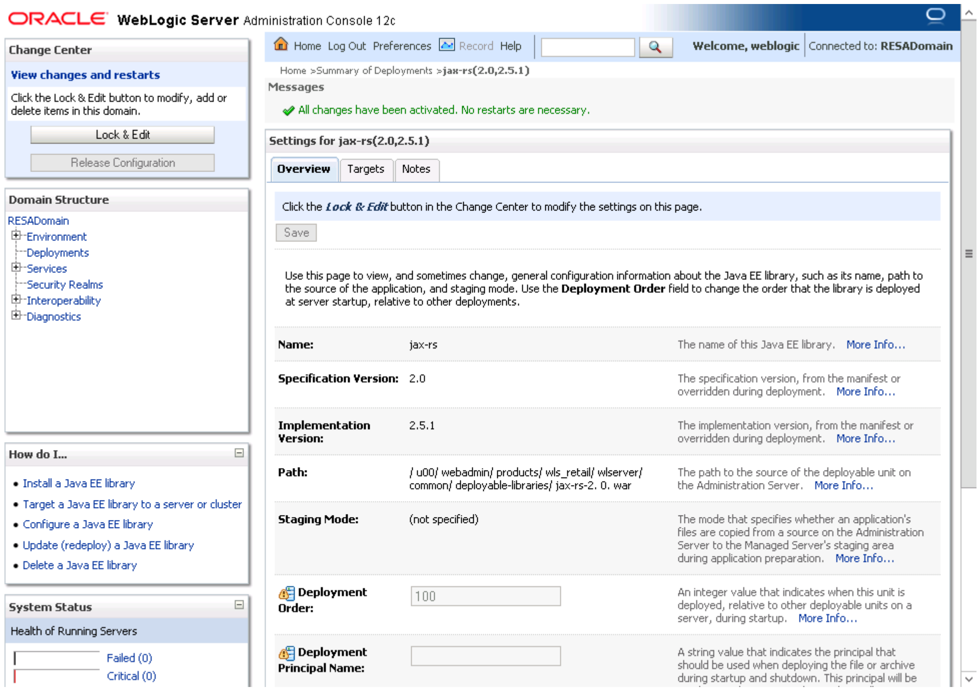
Pending changes exist. They must be activated to take effect.

Settings for jax-rs(2.0,2.5.1)

Use this page to view, and sometimes change, general configuration information about the Java EE library, such as its name, path to the source of the application, and staging mode. Use the **Deployment Order** field to change the order that the library is deployed at server startup, relative to other deployments.

Name:	jax-rs	The name of this Java EE library. More Info...
Specification Version:	2.0	The specification version, from the manifest or overridden during deployment. More Info...
Implementation Version:	2.5.1	The implementation version, from the manifest or overridden during deployment. More Info...
Path:	/ u00/ webadmin/ products/ wls_retail/ wlserver/ common/ deployable-libraries/ jax-rs-2. 0. war	The path to the source of the deployable unit on the Administration Server. More Info...
Staging Mode:	(not specified)	The mode that specifies whether an application's files are copied from a source on the Administration Server to the Managed Server's staging area during application preparation. 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 the principal that 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...

11. The following screen is displayed.


ORACLE WebLogic Server Administration Console 12c
Home Log Out Preferences Record Help
Welcome, weblogic Connected to: RESADomain
Home >Summary of Deployments >jax-rs(2.0,2.5.1)
Change Center
View changes and restarts
Lock & Edit
Release Configuration
Domain Structure
RESADomain
Environment
Deployments
Services
Security Realms
Interoperability
Diagnostics
How do I...
Install a Java EE library
Target a Java EE library to a server or cluster
Configure a Java EE library
Update (redeploy) a Java EE library
Delete a Java EE library
System Status
Health of Running Servers
Failed (0)
Critical (0)
Overview
Targets
Notes
Save

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

Messages

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

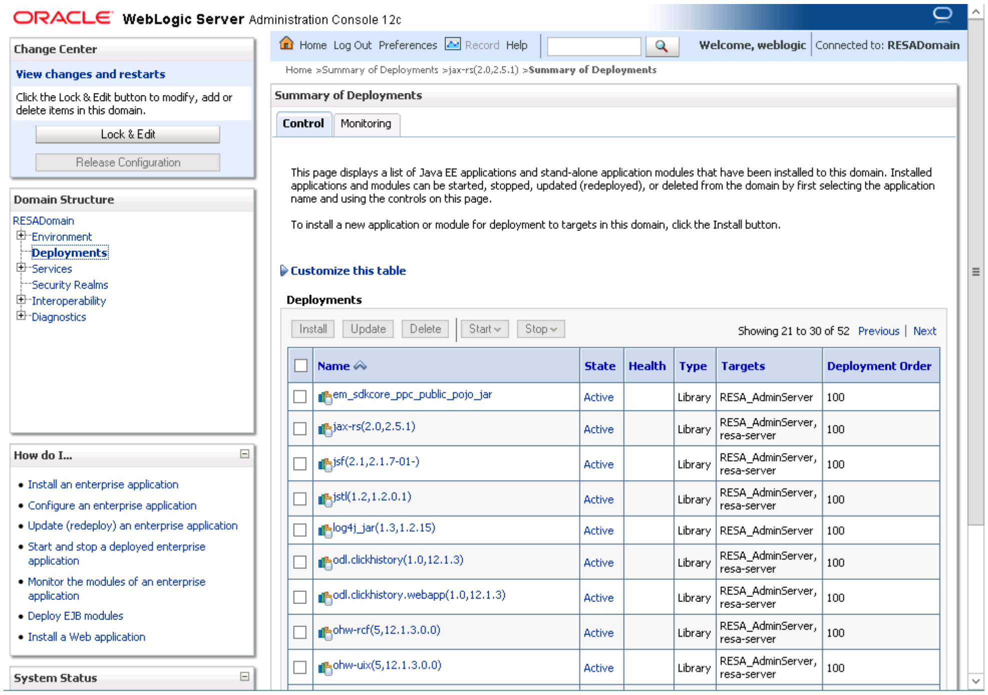
Settings for jax-rs(2.0,2.5.1)

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

Use this page to view, and sometimes change, general configuration information about the Java EE library, such as its name, path to the source of the application, and staging mode. Use the **Deployment Order** field to change the order that the library is deployed at server startup, relative to other deployments.

Name:	jax-rs	The name of this Java EE library. More Info...
Specification Version:	2.0	The specification version, from the manifest or overridden during deployment. More Info...
Implementation Version:	2.5.1	The implementation version, from the manifest or overridden during deployment. More Info...
Path:	/ u00/ webadmin/ products/ wls_retail/ wlserver/ common/ deployable-libraries/ jax-rs-2. 0. war	The path to the source of the deployable unit on the Administration Server. More Info...
Staging Mode:	(not specified)	The mode that specifies whether an application's files are copied from a source on the Administration Server to the Managed Server's staging area during application preparation. 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 the principal that should be used when deploying the file or archive during startup and shutdown. This principal will be

12. Verify the jax-rs library is shown in the Deployments.


ORACLE WebLogic Server Administration Console 12c
Home Log Out Preferences Record Help
Welcome, weblogic
Connected to: RESADomain
Home >Summary of Deployments >jax-rs(2.0,2.5.1) >Summary of Deployments
Change Center
View changes and restarts
Click the Lock & Edit button to modify, add or delete items in this domain.
Lock & Edit
Release Configuration
Domain Structure
RESADomain
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
Summary of Deployments
Control
Monitoring
Customize this table
Install
Update
Delete
Start
Stop
Previous | Next

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 21 to 30 of 52

□	Name	State	Health	Type	Targets	Deployment Order
□	em_sdkcore_ppc_public_pojo_jar	Active		Library	RESA_AdminServer	100
□	jax-rs(2.0,2.5.1)	Active		Library	RESA_AdminServer, resa-server	100
□	jsf(2.1,2.1.7-01-)	Active		Library	RESA_AdminServer, resa-server	100
□	jstl(1.2,1.2.0.1)	Active		Library	RESA_AdminServer, resa-server	100
□	log4j_jar(1.3,1.2.15)	Active		Library	RESA_AdminServer	100
□	odl.clickhistory(1.0,12.1.3)	Active		Library	RESA_AdminServer, resa-server	100
□	odl.clickhistory.webapp(1.0,12.1.3)	Active		Library	RESA_AdminServer, resa-server	100
□	ohw-rcf(5,12.1.3.0.0)	Active		Library	RESA_AdminServer, resa-server	100
□	ohw-uix(5,12.1.3.0.0)	Active		Library	RESA_AdminServer, resa-server	100

Load LDIF Files in LDAP

> **Note:** In this section, the base DN "dn=us,dn=oracle,dn=com" is used as an example. Modify this value as per the organisation's ldap settings.

The OID (Oracle Internet Directory 11.1.1.9) must be set up in order to perform the configuration of OID Authenticator in WebLogic Domain.

There are four LDIF files provided in the application zip under INSTALL_DIR/resa/application/resa/ldif:

- RGBU-oid-create-groups.ldif
- RGBU-oid-create-users.ldif
- RGBU-oid-delete-groups.ldif
- RGBU-oid-delete-users.ldif

> **Note:** You may use the existing users and existing groups if the enterprise users and groups are already available in the LDAP. The users provided in the LDIF files above may not be required to use the application. For more information, refer to the Retail Role Hierarchy section in the Implementing Functional Security of the *Oracle Retail Sales Audit 15.0 Operation Guide*.

The steps given below can be used to import the Groups and Users into the LDAP using the LDIF files 'RGBU-oid-create-groups.ldif' and 'RGBU-oid-create-users.ldif'.

> **Note:** If you are using the above LDIF files to set up the users and groups, you must update the 'RGBU-oid-create-user.ldif' LDIF file with your password for the 'userpassword' attribute for all the users mentioned in the RGBU-oid-create-user.ldif LDIF file. The changes must be done before importing the users LDIF file 'RGBU-oid-create-users.ldif' into the LDAP. Once the users are imported into the LDAP, remove the 'userpassword' attribute value from the LDIF file. Refer to the *Oracle Internet Directory Administration Guide* for OID password policies for setting up passwords.

User DN and Group DN values (example:dc=us,dc=oracle,dc=com) may need to be updated based on the DN values in your OID.

Once the LDIF files are updated for your configuration, the LDIF files can be loaded into LDAP using the ldapadd tool that is included in the OID installation. LDIF files can also be imported in other ways like ODSM.

For example to load RGBU-oid-create-users.ldif using ldapadd (this is done on the OID host)

export ORACLE_HOME=/u00/webadmin/products/wls_idm/ORACLE_IDM (this is the ORACLE_HOME of your OID install)

export PATH=$ORACLE_HOME/bin:$PATH

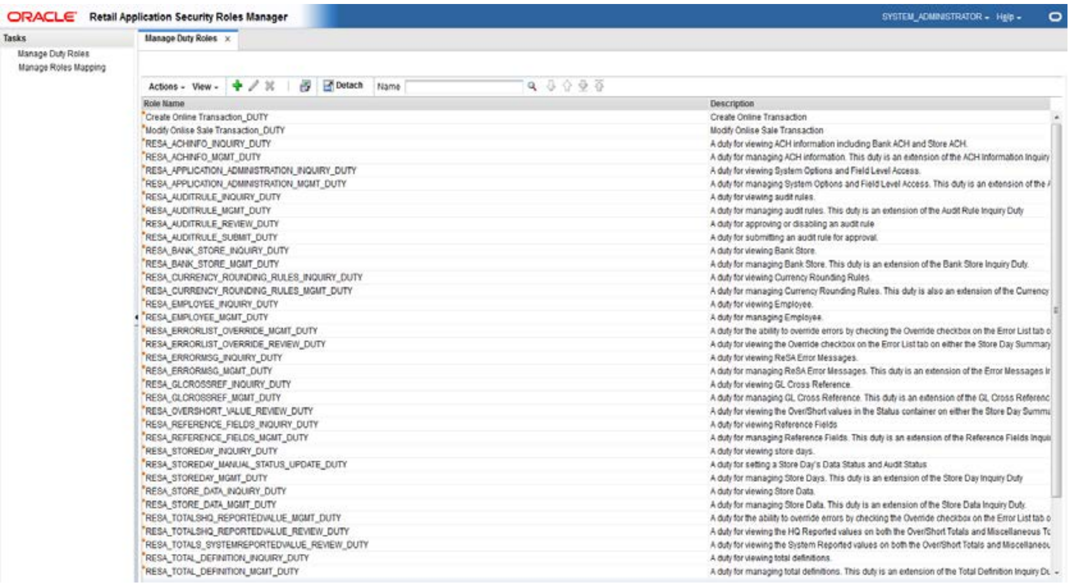
$ORACLE_HOME/bin/ldapadd –v –c –h <OID_HOST> -p 3060 –w <ORCLADMIN PASSWORD> -D "cn=orcladmin" –f RGBU-oid-create-users.ldif

The delete LDIF ‘RGBU-oid-delete-groups.ldif’ can be used as needed if you need to delete the groups created from the groups creation LDIF ‘RGBU-oid-create-groups.ldif’.

The delete LDIF ‘RGBU-oid-delete-users.ldif’ can be used if you need to delete the users created from the users LDIF file ‘RGBU-oid-create-users.ldif’.

Oracle Retail Application Administration Console

Oracle Retail Application Administration Console (RAAC) is a tool used by an administrator to manage application roles, manage the application navigator and manage notifications. It facilitates the customization of default RGBU role mappings to suit the retailer’s business role model. RAAC is deployed along with the ReSA application and accessed from the user menu of the ReSA application’s user interface.



Role Name	Description
Create Online Transaction_DUTY	Create Online Transaction
Modify Onlise Sale Transaction_DUTY	Modify Onlise Sale Transaction
RESA_ACHINFO_INQUIRY_DUTY	A duty for viewing ACH information including Bank ACH and Store ACH.
RESA_ACHINFO_MGMT_DUTY	A duty for managing ACH information. This duty is an extension of the ACH Information Inquiry
RESA_APPLICATION_ADMINISTRATION_INQUIRY_DUTY	A duty for viewing System Options and Field Level Access.
RESA_APPLICATION_ADMINISTRATION_MGMT_DUTY	A duty for managing System Options and Field Level Access. This duty is an extension of the A
RESA_AUDITRULE_INQUIRY_DUTY	A duty for viewing audit rules.
RESA_AUDITRULE_MGMT_DUTY	A duty for managing audit rules. This duty is an extension of the Audit Rule Inquiry Duty
RESA_AUDITRULE_REVIEW_DUTY	A duty for approving or disabling an audit rule
RESA_AUDITRULE_SUBMIT_DUTY	A duty for submitting an audit rule for approval.
RESA_BANK_STORE_INQUIRY_DUTY	A duty for viewing Bank Store.
RESA_BANK_STORE_MGMT_DUTY	A duty for managing Bank Store. This duty is an extension of the Bank Store Inquiry Duty.
RESA_CURRENCY_ROUNDING_RULES_INQUIRY_DUTY	A duty for viewing Currency Rounding Rules.
RESA_CURRENCY_ROUNDING_RULES_MGMT_DUTY	A duty for managing Currency Rounding Rules. This duty is also an extension of the Currency
RESA_EMPLOYEE_INQUIRY_DUTY	A duty for viewing Employee.
RESA_EMPLOYEE_MGMT_DUTY	A duty for managing Employee.
RESA_ERRORLIST_OVERRIDE_MGMT_DUTY	A duty for the ability to override errors by checking the Override checkbox on the Error List tab o
RESA_ERRORLIST_OVERRIDE_REVIEW_DUTY	A duty for viewing the Override checkbox on the Error List tab on either the Store Day Summary
RESA_ERRORMSG_INQUIRY_DUTY	A duty for viewing ReSA Error Messages.
RESA_ERRORMSG_MGMT_DUTY	A duty for managing ReSA Error Messages. This duty is an extension of the Error Messages Ir
RESA_GLCROSSREF_INQUIRY_DUTY	A duty for viewing GL Cross Reference.
RESA_GLCROSSREF_MGMT_DUTY	A duty for managing GL Cross Reference. This duty is an extension of the GL Cross Referenc
RESA_OVERSHORT_VALUE_REVIEW_DUTY	A duty for viewing the Over/Short values in the Status container on either the Store Day Summa
RESA_REFERENCE_FIELDS_INQUIRY_DUTY	A duty for viewing Reference Fields
RESA_REFERENCE_FIELDS_MGMT_DUTY	A duty for managing Reference Fields. This duty is an extension of the Reference Fields Inqui
RESA_STOREDAY_INQUIRY_DUTY	A duty for viewing store days.
RESA_STOREDAY_MANUAL_STATUS_UPDATE_DUTY	A duty for setting a Store Day's Data Status and Audit Status
RESA_STOREDAY_MGMT_DUTY	A duty for managing Store Days. This duty is an extension of the Store Day Inquiry Duty
RESA_STORE_DATA_INQUIRY_DUTY	A duty for viewing Store Data.
RESA_STORE_DATA_MGMT_DUTY	A duty for managing Store Data. This duty is an extension of the Store Data Inquiry Duty.
RESA_TOTALSHQ_REPORTEDVALUE_MGMT_DUTY	A duty for the ability to override errors by checking the Override checkbox on the Error List tab o
RESA_TOTALSHQ_REPORTEDVALUE_REVIEW_DUTY	A duty for viewing the HQ Reported values on both the Over/Short Totals and Miscellaneous To
RESA_TOTALS_SYSTEMREPORTEDVALUE_REVIEW_DUTY	A duty for viewing the System Reported values on both the Over/Short Totals and Miscellaneou
RESA_TOTAL_DEFINITION_INQUIRY_DUTY	A duty for viewing total definitions.
RESA_TOTAL_DEFINITION_MGMT_DUTY	A duty for managing total definitions. This duty is an extension of the Total Definition Inquiry Du

Only the user with ReSA Application Administrator privilege can access RAAC from the ReSA application.

As part of the Retail Sales Audit Application install, RAAC gets installed with one default role RESA_APPLICATION_ADMINISTRATOR_JOB role. The same job role will also exist in ReSA's jazn-data.xml file. The below options can be used for the set up.

Option 1:

Create the RESA_APPLICATION_ADMINISTRATOR_JOB role in your LDAP and assign that role to a user who intends to execute the role mapping process.

Option 2:

Create a Job role in your LDAP and map the intended job role in the LDAP to the RESA_APPLICATION_ADMINISTRATOR_JOB role using enterprise manager.

Since the user is part of the RESA_APPLICATION_ADMINISTRATOR_JOB role, the user first access the ReSA application app and then launch RASRM for role mapping from the user menu of the ReSA application.

Note: The RESA_APPLICATION_ADMINISTRATOR_JOB role must have been already created if using the sample LDIF files which are provided as part of the Retail Sales Audit Application zip file.

Clustered Installations – Preinstallation Steps

Skip this section if you are not clustering the application server.

1. Make sure that you are able to start and stop the managed servers that are part of the ReSA Cluster from the WebLogic Admin Console.

There are no additional steps before running the installer for Retail Sales Audit.

Expand the ReSA Application Distribution

To expand the ReSA application distribution, complete the following steps.

1. Log into the UNIX server as the user who owns the WebLogic installation. Create a new staging directory for the ReSA application distribution (resa15application.zip).

   Example: /u00/webadmin/media/resa

   This location is referred to as INSTALL_DIR for the remainder of this chapter.

2. Copy resa15application.zip to INSTALL_DIR and extract its contents.

   Example: unzip resa15application.zip

Run the ReSA Application Installer

Once you have a managed server that is configured and started, you can run the ReSA application installer. This installer configures and deploys the ReSA application.

Note: See Appendix: Oracle Retail Sales Audit Application Installer Screens for details about every screen and field in the application installer.

Note: It is recommended that the installer be run as the same UNIX account which owns the application server ORACLE_HOME files.

1. Change directories to INSTALL_DIR/resa/application.
2. Set the ORACLE_HOME, JAVA_HOME, and WEBLOGIC_DOMAIN_HOME environment variables. ORACLE_HOME should point to your WebLogic installation. JAVA_HOME should point to the Java JDK 1.7+. This is typically the same JDK which is being used by the WebLogic domain where Application is getting installed. WEBLOGIC_DOMAIN_HOME should point to the full path of the domain into which ReSA will be installed.
3. If a secured datasource is going to be configured you also need to set “ANT_OPTS” so the installer can access the key and trust store that is used for the datasource security:

   ```
   export ANT_OPTS="-Djavax.net.ssl.keyStore=<PATH TO KEY STORE> -
   Djavax.net.ssl.keyStoreType=jks -Djavax.net.ssl.keyStorePassword=<KEYSTORE
   PASSWORD> -Djavax.net.ssl.trustStore=<PATH TO TRUST STORE> -
   Djavax.net.ssl.trustStoreType=jks -
   Djavax.net.ssl.trustStorePassword=<TRUSTSTORE PASSWORD>"
   ```

   An example of this would be:

```
export ANT_OPTS="-
Djavax.net.ssl.keyStore/u00/webadmin/product/identity.keystore -
Djavax.net.ssl.keyStoreType=jks -Djavax.net.ssl.keyStorePassword=retail123 -
Djavax.net.ssl.trustStore/u00/webadmin/product/identity.truststore -
Djavax.net.ssl.trustStoreType=jks -
Djavax.net.ssl.trustStorePassword=retail123"
```

4. The installer has an 'analyze' mode that will evaluate all files in the patch against the environment and report on the files that will be updated based on the patch. See the section "Analyzing the Impact of a Patch" in the chapter "Patching Operations" for more details.

   To run the installer in analyze mode, set the variable ORPATCH_ANALYZE to 'true'.

   After clicking "install", the Analyze tool will generate a report of the files that will be patched if you apply this patch to the selected RETAIL_HOME. A high level report can be found in the log file:
   STAGING_DIR/resa/application/log/ReSAinstall.<timestamp>analyze. Log

   The detailed list of patch files can be found in RETAIL_HOME/ orpatch/logs/detail_logs/analyze/details/

   > **Note:** Refer See Appendix: Oracle Retail Sales Audit Application Installer Screens – Analyze Tool section for the installer screens in analyze mode

5. If you are using an X server such as Exceed, set the DISPLAY environment variable so that you can run the installer in GUI mode (recommended). If you are not using an X server, or the GUI is too slow over your network, unset DISPLAY for text mode.
6. Run the install.sh script. This launches the installer. After installation is completed, a detailed installation log file is created (ReSAinstall.<timestamp>.log). See Appendix: Oracle Retail Sales Audit Application Installer Screens for illustrations of installer screens and details about what information needs to be entered on each screen.

Resolving Errors Encountered During Application Installation

If the application installer encounters any errors, it halts execution immediately. You can run the installer in silent mode so that you do not have to re-enter the settings for your environment. See Appendix: Installer Silent Mode in this document for instructions on silent mode.

See Appendix: Common Installation Errors in this document for a list of common installation errors.

Because the application installation is a full reinstall every time, any previous partial installations are overwritten by the successful installation.

Resolving Errors Encountered During Application Installation

If the application installer encounters any errors, it halts execution immediately. You can run the installer in silent mode so that you do not have to re-enter the settings for your environment. See Appendix: Installer Silent Mode in this document for instructions on silent mode.

Test the ReSA Application

After the application installer completes you should have a working ReSA application installation. To launch the application, open a web browser and go to http://host:httpport/ResaPortal

Examples:

- http://apphost:app-server-port/ResaPortal/faces/HomeYou should use a user/password that you built in the previous section of this install guide "Load LDIF files in LDAP".

  The default, preloaded user supplied in the LDIF scripts for testing this installed application is RESA_SU; the password is <the password which you have given in the LDIF file RGBU-oid-create-users.ldif as part of loading LDIF files into the LDAP>.

Online Help

The application installer automatically installs Online Help to the proper location. It is accessible from the help links within the application.

REST Web Service Disable/Re-enable

If you want to disable or enable RST web services for Merchandising Mobile, perform the following procedures.

Disable REST Web Services war

1. Login to the WebLogic Administration console with username/password.
2. Click the Deployments in the domain structure panel which will list all the applications deployed under that domain.
3. In Summary of Deployments click resa15 application.
4. Click the Target tab and click **Lock & Edit**.
5. Check the ResaReSTServices under Target Assignments and click **Change Targets**.
6. Uncheck the server and click **Yes**.
7. Click **Activate Changes** for the changes to become effective.

Re-enable REST Web Services war

1. Login to the WebLogic Administration console with username/password.
2. Click the Deployments in the domain structure panel which will list all the applications deployed under that domain.
3. In Summary of Deployments click resa15 application.
4. Click the Target tab and click **Lock & Edit**.
5. Check the ResaReSTServices under Target Assignments and click Change Targets.
6. Check the server and click **Yes**.
7. Click **Activate Changes** for the changes to become effective.

Single Sign-On

Skip this section if ReSA is not used within an Oracle Single Sign-On environment.

> **Note:** This section assumes the Oracle WebLogic Server has already been registered with the Oracle Access Manager (OAM) via the oamreg tool. See the Oracle Single Sign-On (OAM using webgate) documentation for details.

If you are using ReSA in an Oracle Single Sign-On environment, then the ReSA root context must be protected. Modify the following files.

- mod_wl_ohs.conf located in <WEBLOGIC_HOME>/Oracle_WT1/instances/instance1/config/OHS/ohs1

LoadModule weblogic_module "${ORACLE_HOME}/ohs/modules/mod_wl_ohs.so"

<IfModule weblogic_module>

</IfModule>

```
<Location /console>
        WebLogicHost <weblogichostname>
        WebLogicPort <AdminServerPort>
        SetHandler weblogic-handler
</Location>

<Location / ResaPortal-Portal-context-root />
        WebLogicHost <weblogichostname>
        WebLogicPort <resaserverport>
         WLCookieName RESASESSIONID
        SetHandler weblogic-handler
</Location>

<Location /adfAuthentication>
        WebLogicHost <weblogichostname>
        WebLogicPort <resaserverport>
         WLCookieName RESASESSIONID
        SetHandler weblogic-handler
</Location>
```

> **Note:** In the above, modify ‘ResaPortal-Portal-context-root’ with the context root name used for installing the ReSA Application.

5

Configure the Oracle BI EE Environment for Operational Insights

This section provides the details on how to configure Operation Insights Installation. This is an optional section as you can chose not to use Operation Insights. Single Sign-On configuration for REIM, ALLOC, ReSA and Oracle BI EE is highly recommended for configuring Operational Insights.

Terms

The following terms apply to the Operational Insights installation and configuration:

OBIEE_PORT – The port where the Oracle BI EE administration server is running.

OBIEE_MS_PORT – The Oracle BI EE Managed server port.

OBIEE_WEBLOGIC_DOMAIN_HOME – The Oracle BI EE WebLogic domain path.

RMS_HOST – The host where RMS is installed in WebLogic.

Install Oracle BI

For step-by-step instructions on how to install and configure Oracle BI EE, see the "Installing Oracle Business Intelligence" chapter of the *Oracle BI EE Installation Guide*.

Configure OID Provider in Oracle BI EE WebLogic Domain

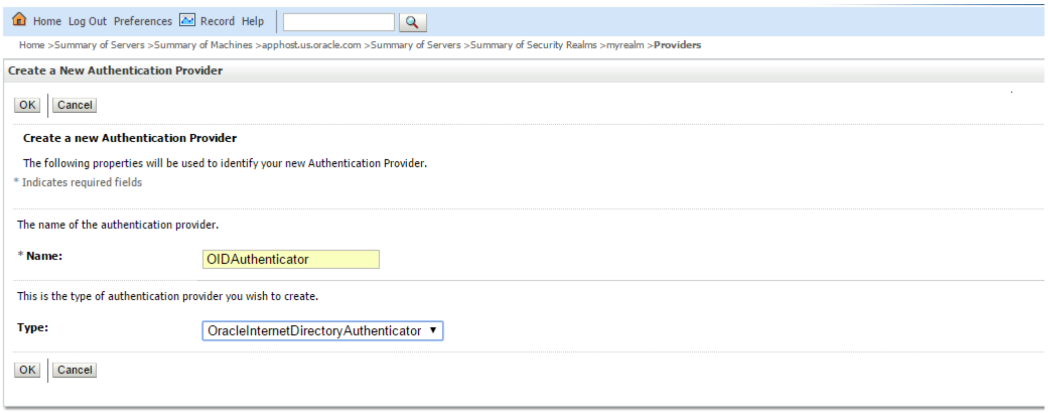
The OID Provider needs to be configured in Oracle BI EE WebLogic domain.

> **Note:** In this section, the base DN "dn=us,dn=oracle,dn=com" is used as an example. Modify this value as per the organisation's ldap settings.

Perform the following procedure to create providers in the domains created in the previous steps.

1. Log in to the Administration Console.

   http://<OBIEE_HOST>:<OBIEE_PORT>/console/
2. In the Domain Structure frame, click **Security Realms**.
3. In the Realms table, click **myrealm**. The Settings for myrealm page is displayed.
4. Click the Providers tab.
5. Click **Lock & Edit** and then click **New**. The 'Create a New Authentication Provider' page is displayed.



Home >Summary of Servers >Summary of Machines >apphost.us.oracle.com >Summary of Servers >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

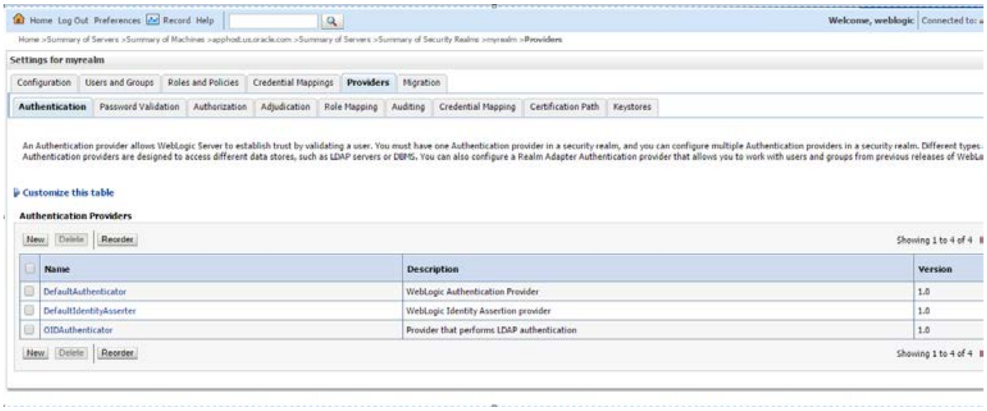
The name of the authentication provider.

*** Name:** OIDAuthenticator

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

Type: OracleInternetDirectoryAuthenticator ▼

6. Enter OIDAuthenticator in the Name field and select OracleInternetDirectoryAuthenticator as the type. Click **OK**.



Home >Summary of Servers >Summary of Machines >apphost.us.oracle.com >Summary of Servers >Summary of Security Realms >myrealm >**Providers**

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. 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 WebLo

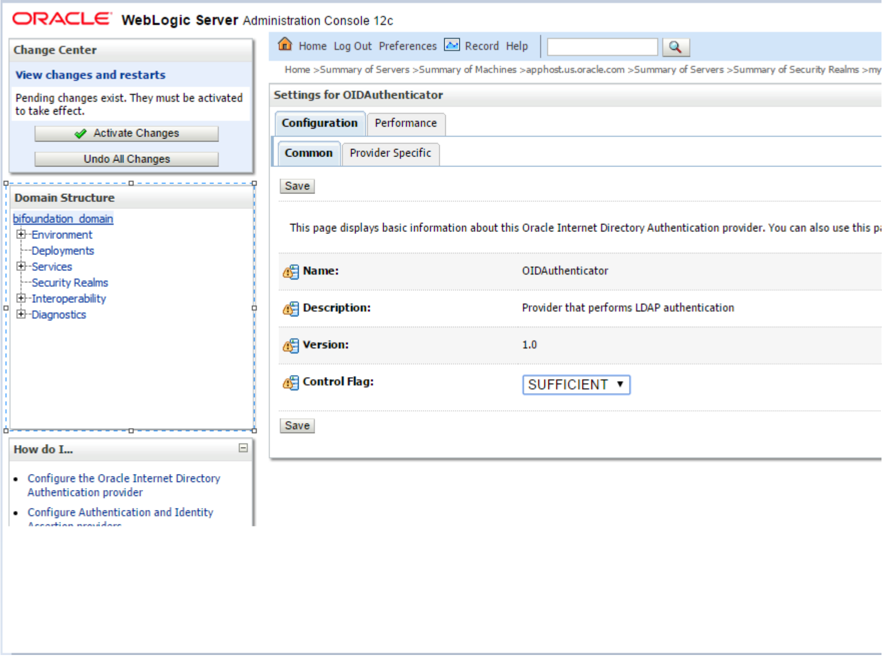
Authentication Providers

Showing 1 to 4 of 4

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

Showing 1 to 4 of 4

7. All the providers are displayed. Click **OIDAuthenticator**. Settings of OIDAuthenticator are displayed.



ORACLE WebLogic Server Administration Console 12c

Home Log Out Preferences Record Help

Home >Summary of Servers >Summary of Machines >apphost.us.oracle.com >Summary of Servers >Summary of Security Realms >my

Change Center

View changes and restarts

Pending changes exist. They must be activated to take effect.

Activate Changes

Undo All Changes

Domain Structure

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

How do I...

- Configure the Oracle Internet Directory Authentication provider
- Configure Authentication and Identity Assertion providers

Settings for OIDAuthenticator

Configuration | Performance

Common | Provider Specific

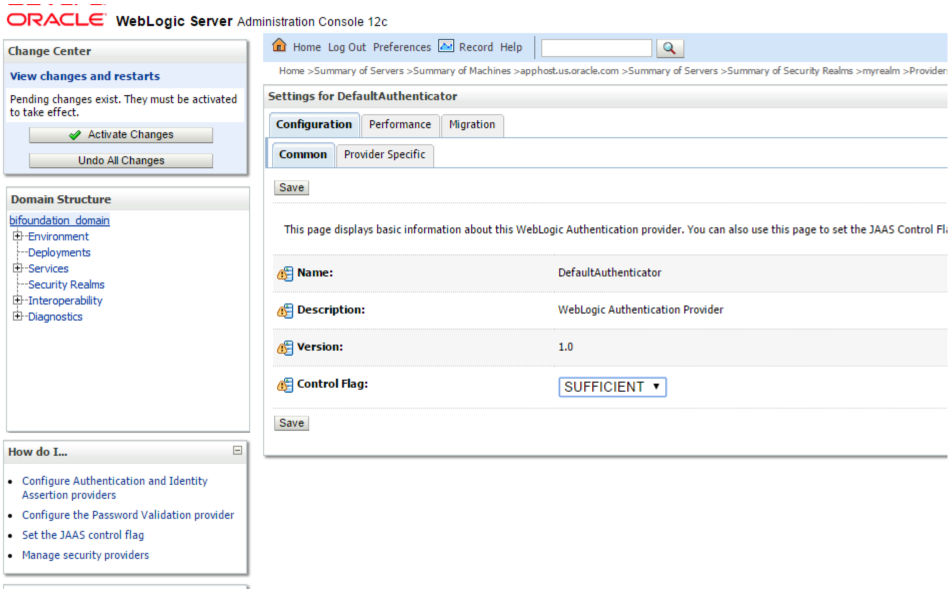
Save

This page displays basic information about this Oracle Internet Directory Authentication provider. You can also use this pa

Name:	OIDAuthenticator
Description:	Provider that performs LDAP authentication
Version:	1.0
Control Flag:	SUFFICIENT ▾

Save

8. Set the Control Flag field to SUFFICIENT and click **Save**.
9. From the Providers tab, click on DefaultAuthenticator -> Configuration tab -> Common tab. Update the Control Flag to SUFFICIENT.
10. Click **Save**.



ORACLE WebLogic Server Administration Console 12c

Home Log Out Preferences Record Help

Home >Summary of Servers >Summary of Machines >apphost.us.oracle.com >Summary of Servers >Summary of Security Realms >myrealm >Provider

Change Center

View changes and restarts

Pending changes exist. They must be activated to take effect.

Activate Changes

Undo All Changes

Domain Structure

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

How do I...

- Configure Authentication and Identity Assertion providers
- Configure the Password Validation provider
- Set the JAAS control flag
- Manage security providers

Settings for DefaultAuthenticator

Configuration | Performance | Migration

Common | Provider Specific

Save

This page displays basic information about this WebLogic Authentication provider. You can also use this page to set the JAAS Control Fl

Name:	DefaultAuthenticator
Description:	WebLogic Authentication Provider
Version:	1.0
Control Flag:	SUFFICIENT ▾

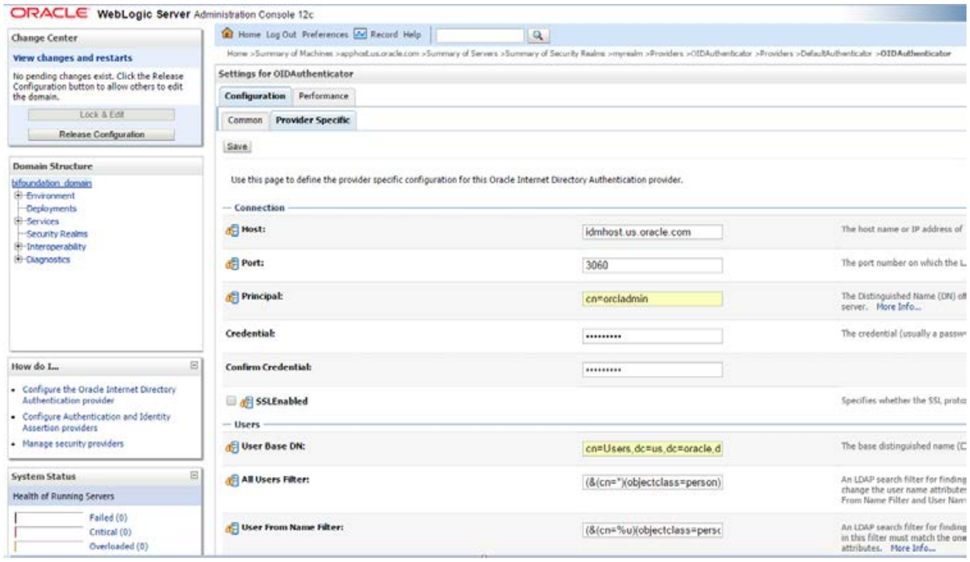
Save

11. From the Providers tab, click the “OIDAuthenticator” (you just created), in the configuration -> Provider Specific tab enter your LDAP connection details:

    The values shown below are examples only. You should match the entries to your OID.

    - Host: <*oidhost*>
    - Port: <*oidport*>

- Principal: cn=orcladmin
- Credential: <*password*>
- Confirm Credential: <*password*>
- User Base DN: cn=users,dc=us,dc=oracle,dc=com
- Check ‘Retrieve credentials as principal.’


ORACLE WebLogic Server Administration Console 12c
Home Log Out Preferences Record Help
Change Center
View changes and restarts
Lock & Edit
Release Configuration
Domain Structure
bifoundation_domain
Environment
Deployments
Services
Security Realms
Interoperability
Diagnostics
How do I...
Configure the Oracle Internet Directory Authentication provider
Configure Authentication and Identity Assertion providers
Manage security providers
System Status
Health of Running Servers
Failed (0)
Critical (0)
Overloaded (0)
Configuration
Performance
Common
Provider Specific
Save
More Info...

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

Home >Summary of Machines >apphost.us.oracle.com >Summary of Servers >Summary of Security Realms >myrealm >Providers >OIDAuthenticator >Providers >DefaultAuthenticator >**OIDAuthenticator**

Settings for OIDAuthenticator

Use this page to define the provider specific configuration for this Oracle Internet Directory Authentication provider.

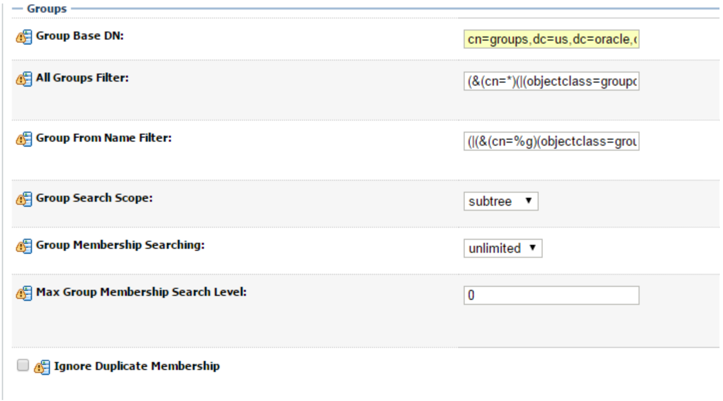
Connection

Host:	idmhost.us.oracle.com	The host name or IP address of
Port:	3060	The port number on which the L
Principal:	cn=orcladmin	The Distinguished Name (DN) of server. More Info...
Credential:	•••••••••	The credential (usually a passw
Confirm Credential:	•••••••••	
□ **SSLEnabled**		Specifies whether the SSL proto

Users

User Base DN:	cn=Users,dc=us,dc=oracle,d	The base distinguished name (D
All Users Filter:	(&(cn=*)(objectclass=person))	An LDAP search filter for finding change the user name attribute From Name Filter and User Nam
User From Name Filter:	(&(cn=%u)(objectclass=pers	An LDAP search filter for finding in this filter must match the one attributes. More Info...

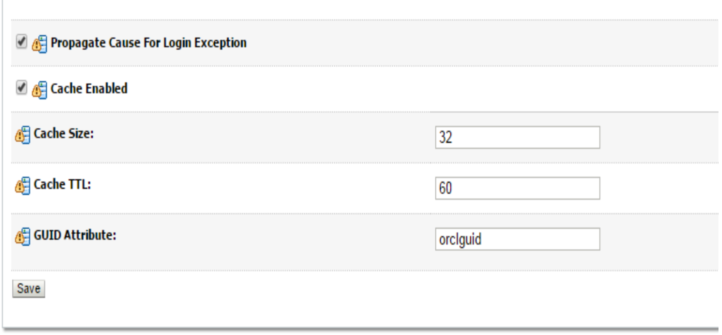
12. Modify the following:
Group Base DN: cn=Groups,dc=us,dc=oracle,dc=com



Groups

Group Base DN:	cn=groups,dc=us,dc=oracle,(
All Groups Filter:	(&(cn=*)(|(objectclass=groupc
Group From Name Filter:	(|(&(cn=%g)(objectclass=grou
Group Search Scope:	subtree ▼
Group Membership Searching:	unlimited ▼
Max Group Membership Search Level:	0
□ **Ignore Duplicate Membership**	

13. Check Propagate Cause For Login Exception



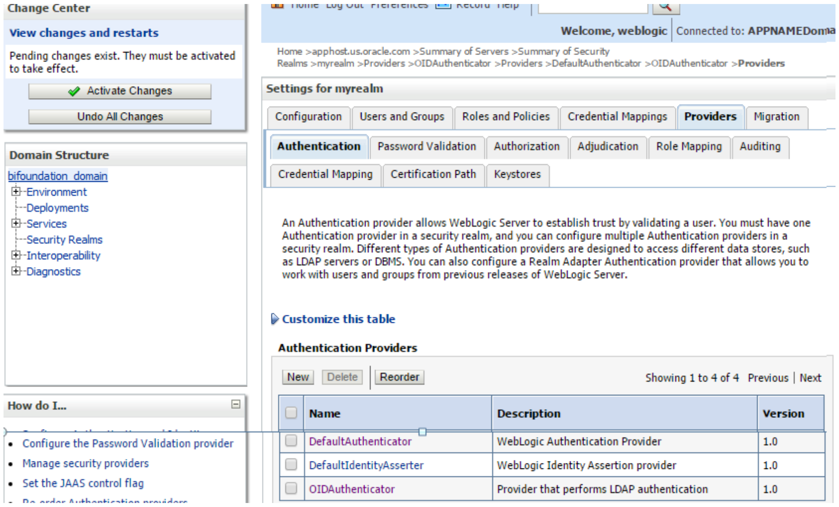
☑ Propagate Cause For Login Exception

☑ Cache Enabled

Cache Size:	32
Cache TTL:	60
GUID Attribute:	orclguid

14. Click **Save**.

15. Click the Providers tab.



Pending changes exist. They must be activated to take effect.

Welcome, weblogic | Connected to: APPNAMEDoma

Home >apphost.us.oracle.com >Summary of Servers >Summary of Security Realms >myrealm >Providers >OIDAuthenticator >Providers >DefaultAuthenticator >OIDAuthenticator >**Providers**

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.

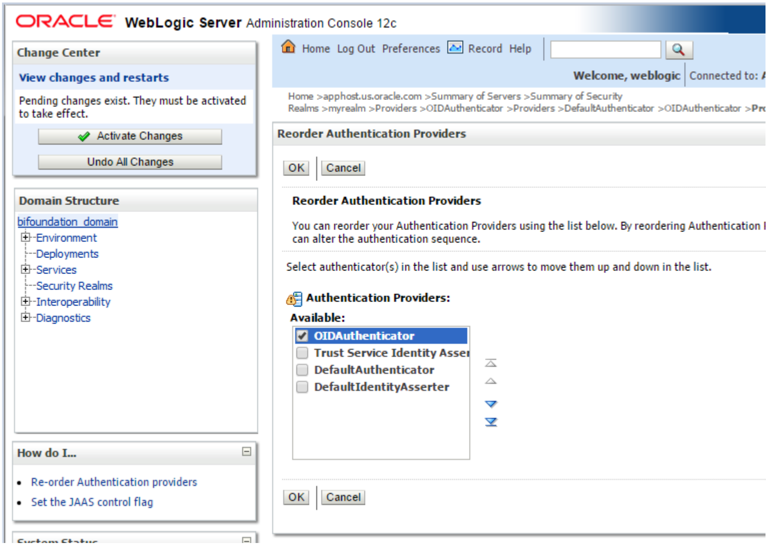
Authentication Providers

Showing 1 to 4 of 4

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

16. Click **Reorder**.

17. Move OIDAuthenticator to the top of the providers list



Pending changes exist. They must be activated to take effect.

Welcome, weblogic | Connected to: A

Home >apphost.us.oracle.com >Summary of Servers >Summary of Security Realms >myrealm >Providers >OIDAuthenticator >Providers >DefaultAuthenticator >OIDAuthenticator >Pro

Reorder Authentication Providers

Reorder Authentication Providers

You can reorder your Authentication Providers using the list below. By reordering Authentication I can alter the authentication sequence.

Select authenticator(s) in the list and use arrows to move them up and down in the list.

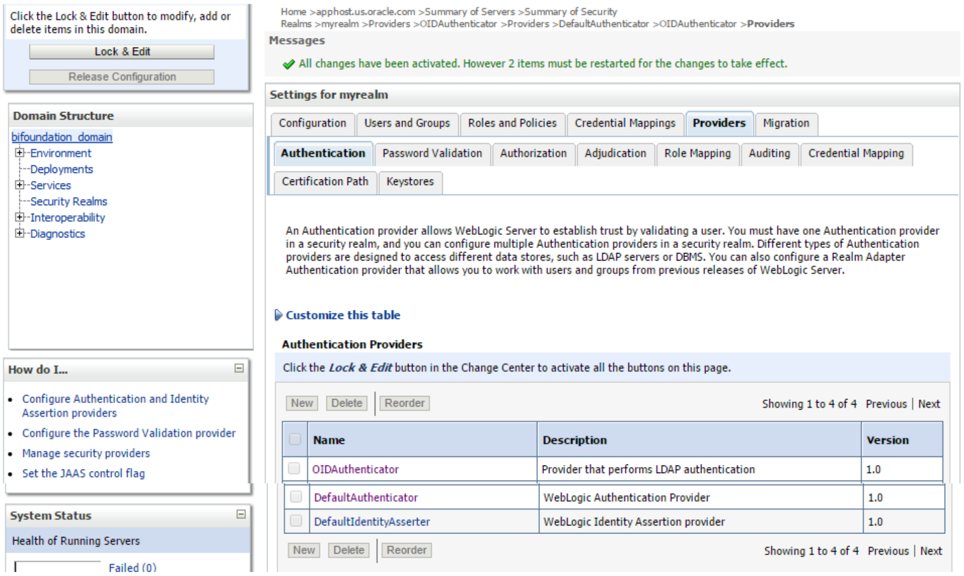
Authentication Providers:

Available:

- ☑ OIDAuthenticator
- □ Trust Service Identity Asser
- □ DefaultAuthenticator
- □ DefaultIdentityAsserter

18. Click **OK**.

19. Once your changes are saved, click **Activate Changes**.



✓ All changes have been activated. However 2 items must be restarted for the changes to take effect.

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

Click the ***Lock & Edit*** button in the Change Center to activate all the buttons on this page.

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

20. Shutdown all servers and restart the admin server using startWebLogic.sh script.

Load LDIF Files in LDAP

The OID (Oracle Internet Directory) must be set up in order to perform the configuration of OID Authenticator in Oracle BI EE WebLogic Domain.

There are two ldifs which need to be loaded in OID.

- BI_Group.ldif
- BI_User.ldif

Note: The ldif files are updated in the APPENDIX D

The steps given below can be used to import the Groups and Users into the LDAP using the LDIF files.

Note: If you are using the above LDIF files to set up the users and groups, you must update the 'BI_User.ldif' LDIF file with your password for the 'userpassword' attribute for all the users mentioned in the RESA-oid-create-user.ldif LDIF file. The changes must be done before importing the users LDIF file 'BI_User.ldif' into the LDAP. Once the users are imported into the LDAP, remove the 'userpassword' attribute value from the LDIF file. Refer to the *Oracle Internet Directory Administration Guide* for OID password policies for setting up passwords.

User DN and Group DN values (example:dc=us,dc=oracle,dc=com) may need to be updated based on the DN values in your OID.

Once the LDIF files are updated for your configuration, the LDIF files can be loaded into LDAP using the ldapadd tool that is included in the OID installation. LDIF files can also be imported in other ways like ODSM.

For example to load BI_Group.ldif using ldapadd (this is done on the OID host) export ORACLE_HOME=/u00/webadmin/products/wls_idm/ORACLE_IDM (this is the ORACLE_HOME of your OID install)

export PATH=$ORACLE_HOME/bin:$PATH

$ORACLE_HOME/bin/ldapadd –v –c –h <OID_HOST> -p 3060 –w <ORCLADMIN PASSWORD> -D “cn=orcladmin” –f BI_Group.ldif

The same can be done to BI_User.ldif

Configure Oracle Single Sign-On

Note: This procedure is only needed if you plan on setting up the OBIEE using Single Sign On (SSO) authentication. This can be skipped if SSO is not going to be configured for this environment. The Oracle Access Manager must be configured and the Oracle http server (Webtier and webgate) must be registered into the Oracle Access Manager.

Create the SSO provider in the Oracle BI EE Domain

1. Log into the WebLogic console.
2. Navigate to: security realms -> myrealm (default realm) -> providers.
3. Start a Lock and Edit session.
4. Click **New provider**.
5. Set the provider name (Default: OAMIdentityAsserter).
6. Click **Ok**.
7. Open the new provider configuration.
8. Under Common, set the Control Flag to SUFFICIENT.
9. On the provider list, click **Reorder**.
10. Move the OAMIdentityAsserter to the top of the list, or above the DefaultAuthenticator.
11. Click **Ok**.
12. Click **Activate Changes**.
13. Shutdown the domain.
14. Start the admin and managed servers for the domain.

Configure the Repository (rpd)

Complete the following steps.

1. Stop Oracle BI services by executing ‘opmnctl stopall’ from <BI_INSTALL_DIRECTORY>\instances\instance1\bin.
2. Update the configuration file located at <BI_INSTALL_DIRECTORY>\instances\instance1\config\OracleBIServerComponent\coreapplication_obis1/NQSConfig.INI. Add a new line under the [REPOSITORY] section. For example:
```
[REPOSITORY]
Star = Operational_Insights.rpd, DEFAULT;
```
3. Other default repositories should be commented out in the NQSConfig.INI. For example:
```
[REPOSITORY]
Star = Operational_Insights.rpd, DEFAULT;
```

```
#Star = SampleAppLite.rpd, DEFAULT;
```

4. Change the following setting from FMW_UPDATE_ROLE_AND_USER_REF_GUIDS = NO; to FMW_UPDATE_ROLE_AND_USER_REF_GUIDS= YES;
5. Save and close NQSConfig.INI.
6. Verify the existence of tnsnames.ora file under <BI_INSTALL_DIRECTORY>/Oracle_BI1/network/admin and the file has an entry of the database used by Operational Insights.
7. Proceed to set up the database connection.

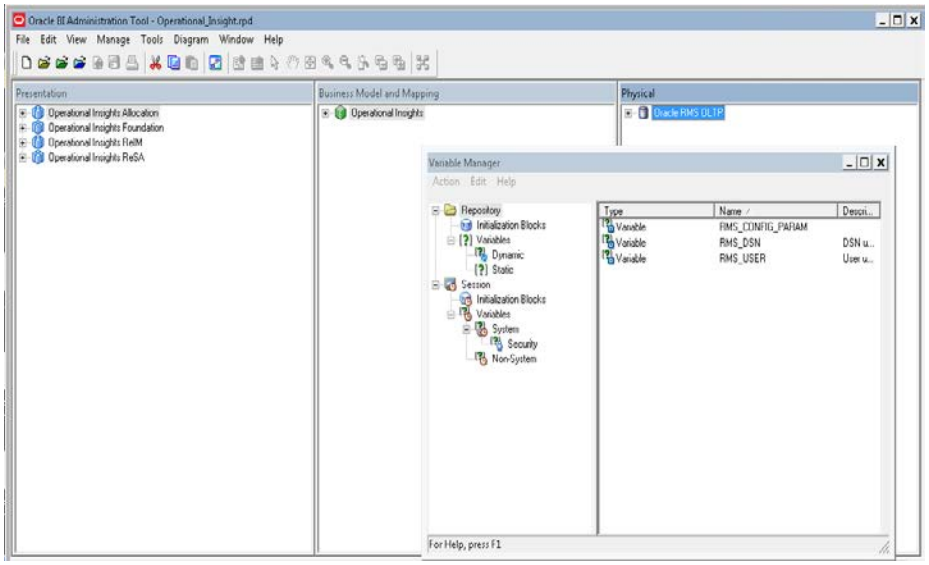
Note: When making any changes to the repository, does it in the offline mode and before saving the changes perform a global consistency check. The global consistency check should not show any errors. Out of the box Operational Insight repository will have some warnings when a Global Consistency Check is done. These warnings do not affect Operational Insight functionality in any way and these are been thoroughly verified.

Set up the Database Connection

Refer to the "Configuring Repositories" chapter of the *Oracle BI EE System Administrator's Guide* for additional details.

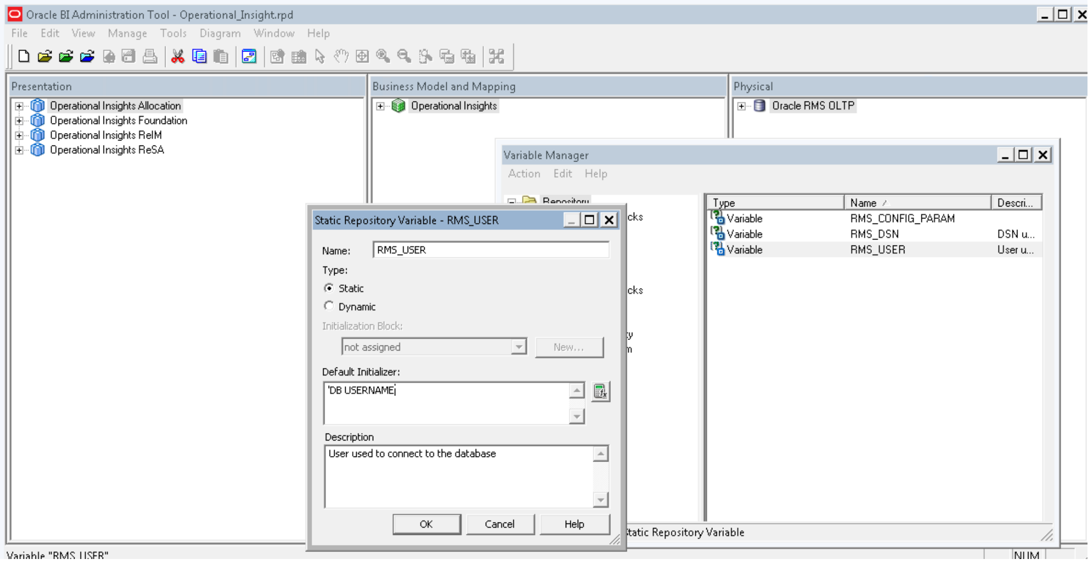
Note: The screen illustrations in the following steps are only examples. The screens that appear depend on the setup of your system.

1. The Rpd.zip is located under <INSTALL DIR>\OI\Rpd and unzip the Rpd.zip to obtain Operational_Insight.rpd file and proceed with DB Connection setup.
2. This change requires moving the rpd to a Microsoft Windows system which has Oracle BI EE installed. Rpd is located at <BI_INSTALL_DIRECTORY>\instances\instance1\bifoundation\OracleBIServerComponent\coreapplication_obis1\repository.
3. Once the Operational_Insights.rpd is moved to a Microsoft Windows system, open it using the Oracle BI Server Administration tool.
4. When prompted for the password, refer to the RPD_post_install.txt located at <BI_INSTALL_DIRECTORY>\instances\instance1\bifoundation\OracleBIServerComponent\coreapplication_obis1\repository.
5. At this time the password of the rpd can be changed if desired. For more details on changing the password refer to the chapter, "Managing Oracle BI Repository Files" of the Oracle BI EE Metadata Repository Builder's Guide.
6. When the rpd is opened, from the menu, go to Manage > Variables.


Oracle BI Administration Tool - Operational_Insight.rpd
File Edit View Manage Tools Diagram Window Help
Presentation
Operational Insights Allocation
Operational Insights Foundation
Operational Insights ReIM
Operational Insights ReSA
Business Model and Mapping
Operational Insights
Physical
Oracle RMS OLTP
Variable Manager
Action Edit Help
Repository
Initialization Blocks
Variables
Dynamic
Static
Session
Initialization Blocks
Variables
System
Security
Non-System
For Help, press F1

Type	Name	Descri...
Variable	RMS_CONFIG_PARAM	
Variable	RMS_DSN	DSN u...
Variable	RMS_USER	User u...

7. Under Repository Static variables, Double-click on RMS_USER to edit with main RMS schema username (for example, RMS01) and RMS_DSN with Data Source Name of the RMS Database.


Oracle BI Administration Tool - Operational_Insight.rpd
File Edit View Manage Tools Diagram Window Help
Presentation
Operational Insights Allocation
Operational Insights Foundation
Operational Insights ReIM
Operational Insights ReSA
Business Model and Mapping
Operational Insights
Physical
Oracle RMS OLTP
Variable Manager
Action Edit Help
Repository
Static Repository Variable
Variable "RMS_USER"
NUM
Static Repository Variable - RMS_USER
Initialization Block:
New...
OK
Cancel
Help

Name: RMS_USER

Type:

● Static

○ Dynamic

not assigned

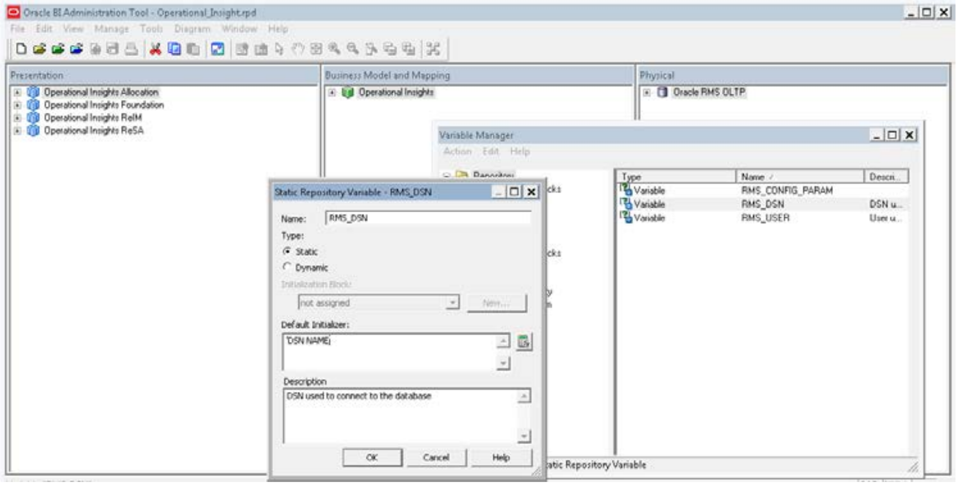
Default Initializer:

'DB USERNAME'

Description

User used to connect to the database

Type	Name	Descri...
Variable	RMS_CONFIG_PARAM	
Variable	RMS_DSN	DSN u...
Variable	RMS_USER	User u...



Oracle BI Administration Tool - Operational_Insight.rpd
File Edit View Manage Tools Diagram Window Help
Presentation
Operational Insights Allocation
Operational Insights Foundation
Operational Insights ReIM
Operational Insights ReSA
Business Model and Mapping
Operational Insights
Physical
Oracle RMS OLTP
Variable Manager
Action Edit Help
Repository
OK
Cancel
Help
New...

Static Repository Variable - RMS_DSN

Name: RMS_DSN

Type:

● Static

○ Dynamic

Initialization Block: not assigned

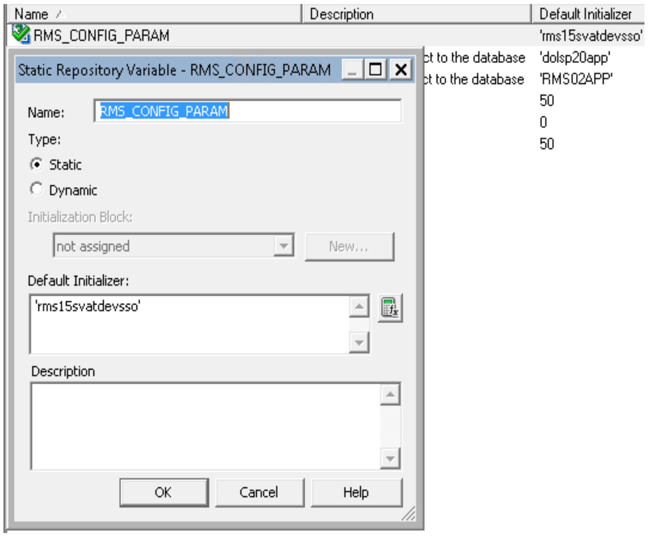
Default Initializer: 'DSN NAME'

Description: DSN used to connect to the database

Type	Name	Descri...
Variable	RMS_CONFIG_PARAM	
Variable	RMS_DSN	DSN u...
Variable	RMS_USER	User u...

...atic Repository Variable

8. Configure Rpd variable for RMS forms In-context launch
   - Change the value of Repository variable: **RMS_CONFIG_PARAM**



Name	Description	Default Initializer
RMS_CONFIG_PARAM		'rms15svatdevsso'
	...ct to the database	'dolsp20app'
	...ct to the database	'RMS02APP'
		50
		0
		50

Static Repository Variable - RMS_CONFIG_PARAM

Name: RMS_CONFIG_PARAM

Type:

● Static

○ Dynamic

Initialization Block: not assigned

Default Initializer: 'rms15svatdevsso'

Description:

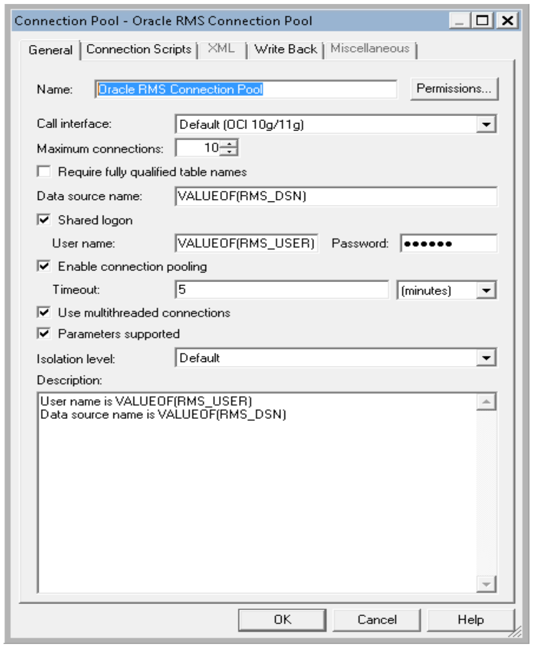
Note: If RMS URL is as below:

http://<RMS_HOST>:<PORT>/forms/frmservlet?config=<RMS15SSO>

Then the value of "RMS_CONFIG_PARAM" variable will be "RMS15SSO"

---

9. In the Physical Layer, open the Connection Pool (Oracle RMS Connection Pool) under "Oracle RMS OLTP" and update the password for the RMS User. The following is a sample of the Oracle RMS Connection Pool screen.



Name: Oracle RMS Connection Pool

Call interface: Default (OCI 10g/11g)

Maximum connections: 10

□ Require fully qualified table names

Data source name: VALUEOF(RMS_DSN)

☑ Shared logon

User name: VALUEOF(RMS_USER) Password: ●●●●●●

☑ Enable connection pooling

Timeout: 5 (minutes)

☑ Use multithreaded connections

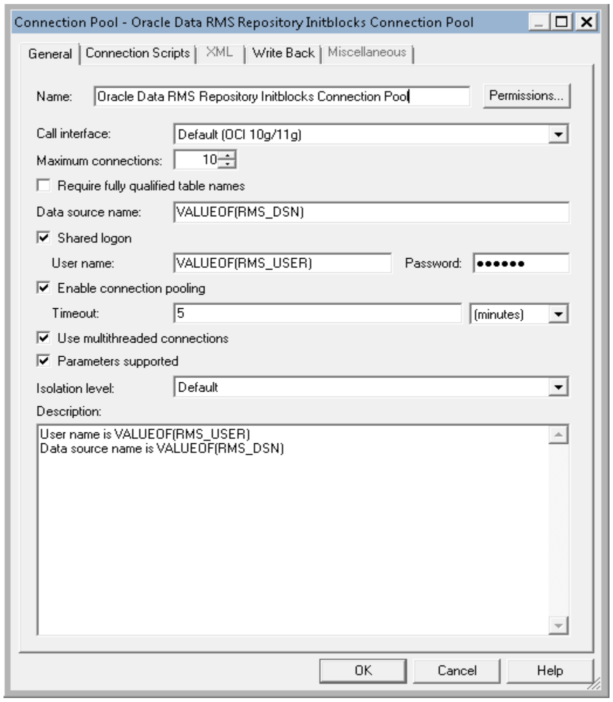
☑ Parameters supported

Isolation level: Default

Description:

User name is VALUEOF(RMS_USER)
Data source name is VALUEOF(RMS_DSN)

10. Follow the same steps for Oracle Data RMS Repository Initblocks Connection Pool.



Name: Oracle Data RMS Repository Initblocks Connection Pool

Call interface: Default (OCI 10g/11g)

Maximum connections: 10

□ Require fully qualified table names

Data source name: VALUEOF(RMS_DSN)

☑ Shared logon

User name: VALUEOF(RMS_USER) Password: ●●●●●●

☑ Enable connection pooling

Timeout: 5 (minutes)

☑ Use multithreaded connections

☑ Parameters supported

Isolation level: Default

Description:

User name is VALUEOF(RMS_USER)
Data source name is VALUEOF(RMS_DSN)

11. Save the Operational_Insights.rpd file.

12. Test the database connection by right-clicking on any of the tables in the Physical Layer, and select Update Row Count. The number of rows will be shown when that table is highlighted if the database connection is successful.

13. FTP the rpd back to <BI_INSTALL_DIRECTORY>/instances/instance1/bifoundation/OracleBIServerComponent/coreapplication_obis1/repository. Make sure it is copied in binary mode.

Notes:

When making any changes to the repository, does it in the offline mode and before saving the changes perform a global consistency check. The global consistency check should not show any errors. Out of the box Operational Insight repository will have some warnings when a Global Consistency Check is done. These warnings do not affect Operational Insight functionality in any way and these are been thoroughly verified.

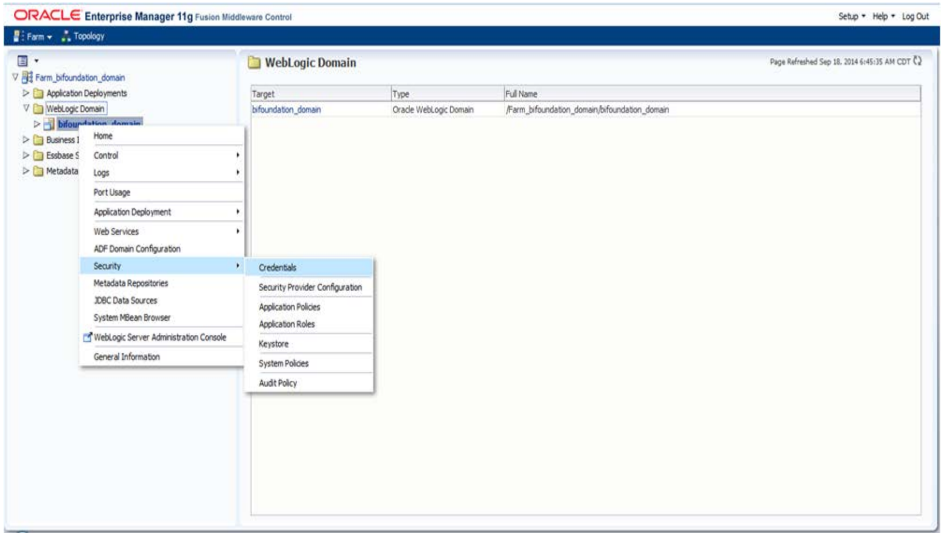
14. Proceed to the next section to configure the catalog.

Configure Catalog

To configure the catalog, complete the following steps.

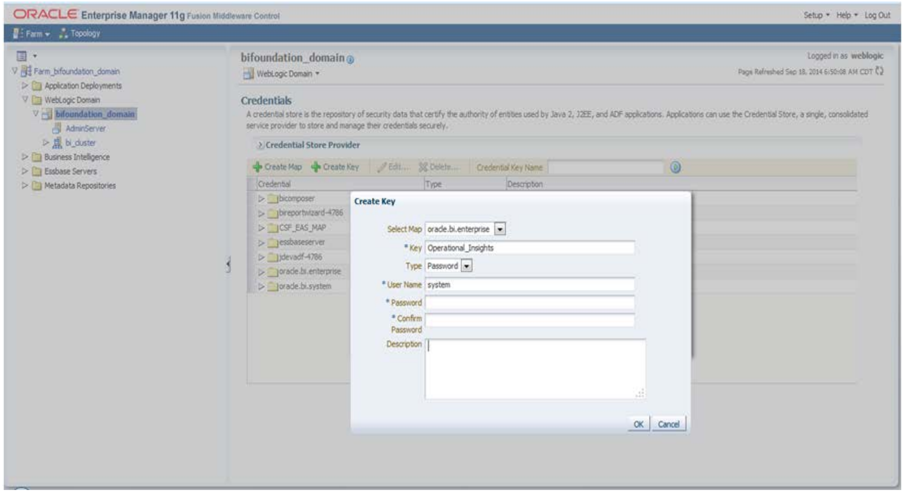
1. The Catalog.zip is located under <INSTALL DIR>/OI/Catalog and unzip the Catalog.zip to obtain the catalog folder.
2. Copy the catalog folder to the below directory<BI_INSTALL_DIRECTORY>/instances/instance1/config/OracleBIPresentationServicesComponent/coreapplication_obips1/catalog/
3. Update the instanceconfig.xml file to point to Operational_Insights catalog. Instanceconfig.xml is found at <BI_INSTALL_DIRECTORY>/instances/instance1/config/OracleBIPresentationServicesComponent\coreapplication_obips1. Change the catalog path within the file to point to Operational_Insights. For example:

   <CatalogPath><BI_INSTALL_DIRECTORY>/instances/instance1/bifoundation/OracleBIPresentationServicesComponent/coreapplication_obips1/catalog/</CatalogPath>
4. Save and close instanceconfig.xml.
5. Log in to WebLogic Enterprise Manager (EM) via web browser with the URL as http://<OBIEE_HOST>:<OBIEE_ADMIN_PORT>/em. Log in with the username and password created during Oracle BI EE installation.
6. Go to WebLogic Domain > right click bifoundation_domain > Security > Credentials as shown in the following screen.



Target	Type	Full Name
bifoundation_domain	Oracle WebLogic Domain	/Farm_bifoundation_domain/bifoundation_domain

7. Click Create Key.



A credential store is the repository of security data that certify the authority of entities used by Java 2, J2EE, and ADF applications. Applications can use the Credential Store, a single, consolidated service provider to store and manage their credentials securely.

Select Map: oracle.bi.enterprise
* Key: Operational_Insights
Type: Password
* User Name: system
* Password:
* Confirm Password:
Description:

8. For Key, enter repository. Operational Insights. For User Name, enter system. Enter the password of the rpd.

9. Click OK and log out.

10. Start Oracle BI services by executing opmnctl startall from <BI_INSTALL_DIRECTORY>\instances\instance1\bin.

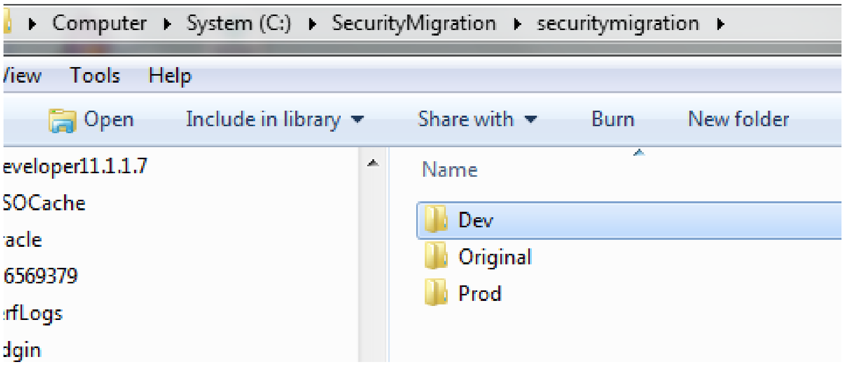
11. Test Operational Insights Installation by opening the browser with the URL as http://<OBIEE_HOST>:<OBIEE_MS_PORT>/analytics with the username and password created during Oracle BI EE installation.

Another alternative for configuring the rpd and catalog through WebLogic, refer to the "Configuring Repositories" chapter in the System Administrator's Guide for Oracle Business Intelligence Enterprise Edition"

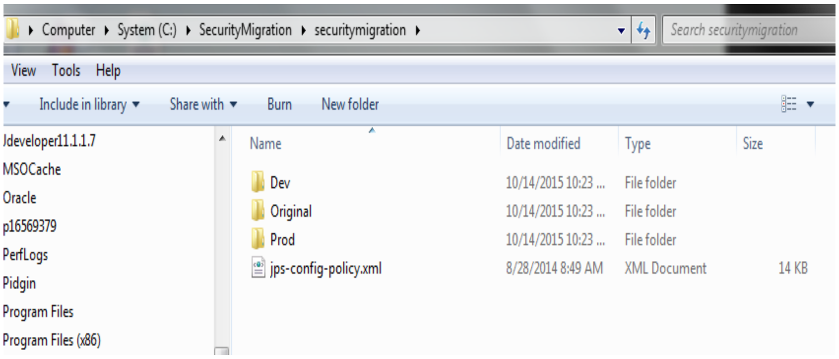
Configure Oracle Retail Operational Insights Roles and Application Roles

Migrating Application Roles using WLST (Recommended approach)

1. To migrate security there is a WLST method called as Migrate Security Store which can move the roles from one system-jazn-data.xml to the other. To do that, first copy the system-jazn-data.xml from Dev instance (<INSTALL DIR>/application/XXXX/OperationalInsights/XML) to the Prod instance (to a temporary directory). In the same way copy the system-jazn-data.xml from the Prod instance to the temporary directory as shown below.



2. Take a backup of all these files before doing the migration. Now, copy the jps-config.xml from any one of the instances (Dev or Prod) to the temporary Directory as shown below. And rename the file to jps-config-policy.xml.



Name	Date modified	Type	Size
Dev	10/14/2015 10:23 ...	File folder	
Original	10/14/2015 10:23 ...	File folder	
Prod	10/14/2015 10:23 ...	File folder	
jps-config-policy.xml	8/28/2014 8:49 AM	XML Document	14 KB

3. Open up the jps-config-policy.xml. You will notice that this file contains all the details about all the stores in the environment. Now, for policy migration, we need to basically use this file to point to the locations of the Dev and Prod (source & target) system-jazn-data.xml files. Also, since we are doing only policy migration, we do not need the other store related tags within this file. Remember that we are modifying only a copy of the jps-config.xml. This copy file will be used only for migration. The modified file is given below

```
<?xml version="1.0" encoding="UTF-8" standalone="yes"?>

<jpsConfig xmlns="http://xmlns.oracle.com/oracleas/schema/11/jps-
    config-11_1.xsd" xmlns:xsi="http://www.w3.org/2001/XMLSchema-
    instance" schema-major-version="11" schema-minor-version="1"
    xsi:schemaLocation="http://xmlns.oracle.com/oracleas/schema/11/jps-
    config-11_1.xsd jps-config-11_1.xsd">
    <property name="oracle.security.jps.jaas.mode" value="off"/>
        <property name="oracle.security.jps.enterprise.user.class"
    value="weblogic.security.principal.WLSUserImpl"/>
        <property name="oracle.security.jps.enterprise.role.class"
    value="weblogic.security.principal.WLSGroupImpl"/>
                    <propertySets>
                    <propertySet name="saml.trusted.issuers.1">
                        <property name="name" value="www.oracle.com"/>
                    </propertySet>
                    <propertySet name="trust.provider.embedded">
    <property name="trust.provider.className"
    value="oracle.security.jps.internal.trust.provider.embedded
    .EmbeddedProviderImpl"/>
                        <property name="trust.clockSkew" value="60"/>
                        <property name="trust.token.validityPeriod" value="1800"/>
                        <property name="trust.token.includeCertificate"
                    value="false"/>
                    </propertySet>
                    </propertySets>
        <serviceProviders>
                <serviceProvider type="CREDENTIAL_STORE" name="credstoressp"

    class="oracle.security.jps.internal.credstore.ssp.SspCredentialStorePro
        vider">
                        <description>SecretStore-based CSF Provider</description>
                </serviceProvider>
                <serviceProvider type="IDENTITY_STORE" name="idstore.ldap.provider"

    class="oracle.security.jps.internal.idstore.ldap.LdapIdentityStoreProvi
        der">
                        <description>LDAP-based IdentityStore
Provider</description>
                </serviceProvider>
                <serviceProvider type="IDENTITY_STORE" name="idstore.xml.provider"
            class="oracle.security.jps.internal.idstore.xml.XmlIdentityStoreProvide
        r">
                        <description>XML-based IdentityStore Provider</description>
                </serviceProvider>
                <serviceProvider type="POLICY_STORE"
name="policystore.xml.provider"
    class="oracle.security.jps.internal.policystore.xml.XmlPolicyStoreProvi
    der">
                    <description>XML-based PolicyStore Provider</description>
                </serviceProvider>
                <serviceProvider type="PDP" name="pdp.service.provider"
            class="oracle.security.jps.az.internal.runtime.provider.PDPServiceProvi
        der">
                    <description>Runtime PDP Service Provider</description>
                </serviceProvider>
            <serviceProvider type="LOGIN" name="jaas.login.provider"
    class="oracle.security.jps.internal.login.jaas.JaasLoginServiceProvider">
                <description>This is Jaas Login Service Provider and is used to
    configure login module service instances</description>
            </serviceProvider>
            <serviceProvider type="KEY_STORE" name="keystore.provider"
    class="oracle.security.jps.internal.keystore.KeyStoreProvider">
                <description>PKI Based Keystore Provider</description>
                <property name="provider.property.name" value="owsm"/>
            </serviceProvider>
                <serviceProvider type="AUDIT" name="audit.provider"
            class="oracle.security.jps.internal.audit.AuditProvider">
                    <description>Audit Service</description>
```

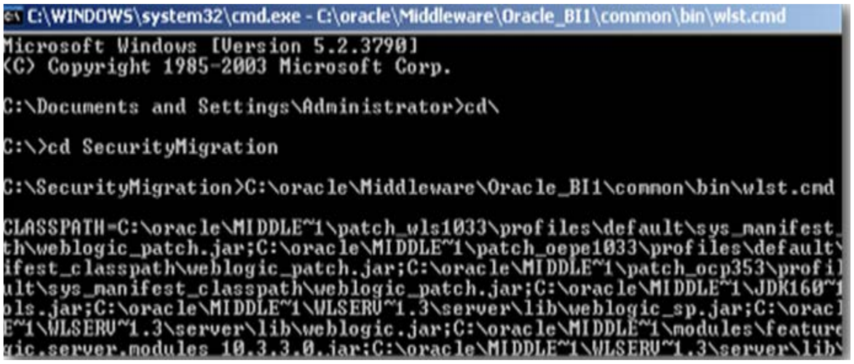
```
               </serviceProvider>
               <serviceProvider type="TRUST" name="trust.provider"
               class="oracle.security.jps.internal.trust.TrustServiceProvider">
                      <description>Trust Service</description>
               </serviceProvider>
           <serviceProvider type="ATTRIBUTE" name="attribute.provider"
    class="oracle.security.jps.internal.attribute.impl.AttributeServiceProvide
    rImpl">
                      <description>Attribute Service Provider</description>
               </serviceProvider>
               </serviceProviders>
               <serviceInstances>
               <serviceInstance name="credstore" provider="credstoressp"
location="./">
                      <description>File Based Credential Store Service
                   Instance</description>
               </serviceInstance>
               <serviceInstance name="bootstrap.credstore" provider="credstoressp"
               location="./bootstrap">
                      <description>Bootstrap Credential Store Service
                   Instance</description>
                      <property name="location" value="./bootstrap"/>
               </serviceInstance>
               <serviceInstance name="bootstrap.credstore.local"
provider="credstoressp"                      location="${domain.home}/opss/local">
                      <description>Local Bootstrap Credential Store Service
                   Instance</description>
                      <property name="location"
value="${domain.home}/opss/local"/>
               </serviceInstance>
               <serviceInstance name="idstore.ldap"
provider="idstore.ldap.provider">
                      <description>LDAP Identity Store Service
Instance</description>
               <property name="idstore.config.provider"
           value="oracle.security.jps.wls.internal.idstore.WlsLdapIdStoreConfi
    gProvider"/>
                      <property name="CONNECTION_POOL_CLASS"
                   value="oracle.security.idm.providers.stdldap.JNDIPool"/>
               </serviceInstance>
               <serviceInstance name="idstore.xml" provider="idstore.xml.provider"
               location="./system-jazn-data.xml">
                      <description>File Based Identity Store Service
                   Instance</description>
                      <property name="subscriber.name" value="jazn.com"/>
               </serviceInstance>
    <serviceInstance name="srcpolicystore.xml"
    provider="policystore.xml.provider"location="C:/SecurityMigration/Dev/syst
    em-jazn-data.xml">
                      <description>File Based Policy Store Service
Instance</description>
               </serviceInstance>
               <serviceInstance
name="policystore.xml"provider="policystore.xml.provider"
    location="C:/SecurityMigration/Prod/system-jazn-data.xml">
                      <description>File Based Policy Store Service
Instance</description>
               </serviceInstance>
               <serviceInstance name="pdp.service"
provider="pdp.service.provider">
                      <description>Runtime PDP service instance</description>
               </serviceInstance>
```

```
                <serviceInstance name="keystore" provider="keystore.provider"
                location="./default-keystore.jks">
                        <description>Default JPS Keystore Service</description>
                        <property name="keystore.provider.type" value="file"/>
                        <property name="keystore.file.path" value="./"/>
                        <property name="keystore.type" value="JKS"/>
                        <property name="keystore.csf.map"
value="oracle.wsm.security"/>
                        <property name="keystore.pass.csf.key" value="keystore-csf-
key"/>
                        <property name="keystore.sig.csf.key" value="sign-csf-
key"/>
                        <property name="keystore.enc.csf.key" value="enc-csf-key"/>
                </serviceInstance>
                <serviceInstance name="audit" provider="audit.provider"
location="./audit-            store.xml">
                        <description>Audit Service</description>
                        <property name="audit.filterPreset" value="None"/>
                        <property name="audit.maxDirSize" value="0"/>
                        <property name="audit.maxFileSize" value="104857600"/>
                        <property name="audit.timezone" value="utc"/>
                        <property name="audit.loader.jndi" value="jdbc/AuditDB"/>
                        <property name="audit.loader.interval" value="15"/>
                        <property name="audit.loader.repositoryType" value="File"/>
                        <property name="auditstore.type" value="file"/>
                </serviceInstance>
                <serviceInstance name="trust" provider="trust.provider">
                        <description>Trust Service</description>
                        <extendedProperty>
                        <name>trust.providers</name>
                        <values>
                            <value>trust.provider.embedded</value>
                        </values>
                        </extendedProperty>
                </serviceInstance>
                <serviceInstance name="saml.loginmodule"
provider="jaas.login.provider">
                        <description>SAML Login Module</description>
                <property name="loginModuleClassName"
    value="oracle.security.jps.internal.jaas.module.saml.JpsSAMLLoginMo
    dule"/>
                        <property name="jaas.login.controlFlag" value="REQUIRED"/>
                        <propertySetRef ref="saml.trusted.issuers.1"/>
                </serviceInstance>

            <serviceInstance name="saml2.loginmodule"
provider="jaas.login.provider">
                        <description>SAML2 Login Module</description>
                <property name="loginModuleClassName"
    value="oracle.security.jps.internal.jaas.module.saml.JpsSAML2LoginM
    odule"/>
                        <property name="jaas.login.controlFlag" value="REQUIRED"/>
                        <propertySetRef ref="saml.trusted.issuers.1"/>
                </serviceInstance>
                <serviceInstance name="krb5.loginmodule"
provider="jaas.login.provider">
                        <description>Kerberos Login Module</description>
                    <property name="loginModuleClassName"
        value="com.sun.security.auth.module.Krb5LoginModule"/>
                        <property name="jaas.login.controlFlag" value="REQUIRED"/>
                        <property name="storeKey" value="true"/>
                        <property name="useKeyTab" value="true"/>
                        <property name="doNotPrompt" value="true"/>
```

```
                      <property name="keyTab" value="./krb5.keytab"/>
                      <property name="principal"
value="HOST/localhost@EXAMPLE.COM"/>
               </serviceInstance>
               <serviceInstance name="digest.authenticator.loginmodule"
               provider="jaas.login.provider">
                      <description>Digest Authenticator Login
Module</description>
               <property name="loginModuleClassName"
    value="oracle.security.jps.internal.jaas.module.digest.DigestLoginM
    odule"/>
                      <property name="jaas.login.controlFlag" value="REQUIRED"/>
               </serviceInstance>
               <serviceInstance name="certificate.authenticator.loginmodule"
               provider="jaas.login.provider">
                      <description>X509 Certificate Login Module</description>
               <property name="loginModuleClassName"
    value="oracle.security.jps.internal.jaas.module.x509.X509LoginModul
    e"/>
                      <property name="jaas.login.controlFlag" value="REQUIRED"/>
               </serviceInstance>
           <serviceInstance name="wss.digest.loginmodule"
    provider="jaas.login.provider">
                      <description>WSS Digest Login Module</description>
               <property name="loginModuleClassName"
    value="oracle.security.jps.internal.jaas.module.digest.WSSDigestLog
    inModule"/>
                      <property name="jaas.login.controlFlag" value="REQUIRED"/>
               </serviceInstance>
               <serviceInstance name="user.authentication.loginmodule"
               provider="jaas.login.provider">
                      <description>User Authentication Login Module</description>
               <property name="loginModuleClassName"
    value="oracle.security.jps.internal.jaas.module.authentication.JpsU
    serAuthenticationLoginModule"/>
                      <property name="jaas.login.controlFlag" value="REQUIRED"/>
               </serviceInstance>
               <serviceInstance name="user.assertion.loginmodule"
               provider="jaas.login.provider">
                      <description>User Assertion Login Module</description>
               <property name="loginModuleClassName"
    value="oracle.security.jps.internal.jaas.module.assertion.JpsUserAs
    sertion LoginModule"/>
                      <property name="jaas.login.controlFlag" value="REQUIRED"/>
               </serviceInstance>
               <serviceInstance name="attribute" provider="attribute.provider">
                      <description>Attribute Service Instance</description>
                      <property name="attribute.expire.time.seconds"
value="86400"/>
               </serviceInstance>
           <serviceInstance name="idstore.loginmodule"
    provider="jaas.login.provider">
                      <description>Identity Store Login Module</description>
               <property name="loginModuleClassName"
    value="oracle.security.jps.internal.jaas.module.idstore.IdStoreLogi
    nModule"/>
                      <property name="jaas.login.controlFlag" value="REQUIRED"/>
               </serviceInstance>
               </serviceInstances>
               <jpsContexts default="default">
                  <jpsContext name="default">
                      <serviceInstanceRef ref="credstore"/>
                      <serviceInstanceRef ref="keystore"/>
```

```
                        <serviceInstanceRef ref="policystore.xml"/>
                    <serviceInstanceRef ref="audit"/>
                        <serviceInstanceRef ref="trust"/>
                        <serviceInstanceRef ref="pdp.service"/>
                        <serviceInstanceRef ref="attribute"/>
                        <serviceInstanceRef ref="idstore.ldap"/>
                <jpsContext>
                <jpsContext name="bootstrap_credstore_context">
                        <serviceInstanceRef ref="bootstrap.credstore"/>
                </jpsContext>
            <jpsContext
    name="oracle.security.jps.fmw.authenticator.DigestAuthenticator">
                    <serviceInstanceRef ref="digest.authenticator.loginmodule"/>
                </jpsContext>
            <jpsContext
name="oracle.security.jps.fmw.authenticator.BasicAuthenticator">
                    <serviceInstanceRef ref="idstore.loginmodule"/>
                </jpsContext>
                <jpsContext name="X509CertificateAuthentication">
                    <serviceInstanceRef
ref="certificate.authenticator.loginmodule"/>
                </jpsContext>
                <jpsContext name="SAML">
                    <serviceInstanceRef ref="saml.loginmodule"/>
                </jpsContext>
                <jpsContext name="bootstrap_credstore_context_local">
                    <serviceInstanceRef ref="bootstrap.credstore.local"/>
                </jpsContext>
            <jpsContext name="sourceFileStore">
                <serviceInstanceRef ref="srcpolicystore.xml"/>
            </jpsContext> <jpsContext name="targetFileStore">
            <serviceInstanceRef ref="policystore.xml"/>
            </jpsContext>
                </jpsContexts>
            </jpsConfig>
```

4. Navigate to the temporary directory from the command prompt and initialize the WLST using the following command:

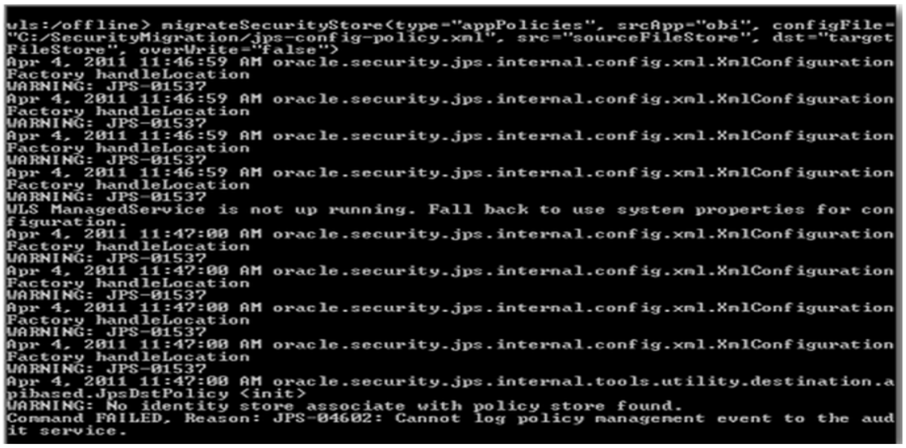


C:\WINDOWS\system32\cmd.exe - C:\oracle\Middleware\Oracle_BI1\common\bin\wlst.cmd

```
Microsoft Windows [Version 5.2.3790]
(C) Copyright 1985-2003 Microsoft Corp.

C:\Documents and Settings\Administrator>cd\

C:\>cd SecurityMigration

C:\SecurityMigration>C:\oracle\Middleware\Oracle_BI1\common\bin\wlst.cmd

CLASSPATH=C:\oracle\MIDDLE~1\patch_wls1033\profiles\default\sys_manifest_
th\weblogic_patch.jar;C:\oracle\MIDDLE~1\patch_oepe1033\profiles\default\
ifest_classpath\weblogic_patch.jar;C:\oracle\MIDDLE~1\patch_ocp353\profil
ult\sys_manifest_classpath\weblogic_patch.jar;C:\oracle\MIDDLE~1\JDK160~1
ols.jar;C:\oracle\MIDDLE~1\WLSERV~1.3\server\lib\weblogic_sp.jar;C:\oracl
E~1\WLSERV~1.3\server\lib\weblogic.jar;C:\oracle\MIDDLE~1\modules\featur
gic.server.modules_10.3.3.0.jar;C:\oracle\MIDDLE~1\WLSERV~1.3\server\lib\
```

5. In WLST, application role migration can be done even in offline mode. So, effectively there is no need to connect to the WebLogic admin server. In offline interactive mode, fire the following command.

```
        migrateSecurityStore(type="appPolicies", srcApp="obi",
    configFile="C:/SecurityMigration/jps-config-policy.xml",
    src="sourceFileStore", dst="targetFileStore", overWrite="false")
```



```
wls:/offline> migrateSecurityStore(type="appPolicies", srcApp="obi", configFile=
"C:/SecurityMigration/jps-config-policy.xml", src="sourceFileStore", dst="target
FileStore", overWrite="false")
Apr 4, 2011 11:46:59 AM oracle.security.jps.internal.config.xml.XmlConfiguration
Factory handleLocation
WARNING: JPS-01537
Apr 4, 2011 11:46:59 AM oracle.security.jps.internal.config.xml.XmlConfiguration
Factory handleLocation
WARNING: JPS-01537
Apr 4, 2011 11:46:59 AM oracle.security.jps.internal.config.xml.XmlConfiguration
Factory handleLocation
WARNING: JPS-01537
Apr 4, 2011 11:46:59 AM oracle.security.jps.internal.config.xml.XmlConfiguration
Factory handleLocation
WARNING: JPS-01537
WLS ManagedService is not up running. Fall back to use system properties for con
figuration.
Apr 4, 2011 11:47:00 AM oracle.security.jps.internal.config.xml.XmlConfiguration
Factory handleLocation
WARNING: JPS-01537
Apr 4, 2011 11:47:00 AM oracle.security.jps.internal.config.xml.XmlConfiguration
Factory handleLocation
WARNING: JPS-01537
Apr 4, 2011 11:47:00 AM oracle.security.jps.internal.config.xml.XmlConfiguration
Factory handleLocation
WARNING: JPS-01537
Apr 4, 2011 11:47:00 AM oracle.security.jps.internal.config.xml.XmlConfiguration
Factory handleLocation
WARNING: JPS-01537
Apr 4, 2011 11:47:00 AM oracle.security.jps.internal.tools.utility.destination.a
pibased.JpsDstPolicy <init>
WARNING: No identity store associate with policy store found.
Command FAILED, Reason: JPS-04602: Cannot log policy management event to the aud
it service.
```

6. A number of warnings are displayed. These can be safely ignored as we are only moving the policy store. If you open up the Prod system-jazn-data.xml (under the temporary directory), you will see that the application role which existed only in Dev (FinanceManager) would now exist in this file as well.
7. Stop all BI services
8. Place the Prod system-jazn-data.xml (under the temporary directory), in the below location:

   `<OBIEE_WEBLOGIC_DOMAIN_HOME>/config/fmwconfig`

9. Start all services

Configure Oracle Retail Operational Insights Roles and Application Roles (Option 2)

Skip this section if you have successfully migrated the roles using the wlst method mentioned above.

Perform the following procedure to configure pre-packaged security roles in Oracle Retail Operational Insights:

1. Stop all services.
2. Make a backup of system-jazn-data.xml from below location

   `<OBIEE_WEBLOGIC_DOMAIN_HOME>/config/fmwconfig/system-jazn-data.xml`

3. Copy the pre-packaged Oracle Retail Operational Insights system-jazn-data.xml file from

   `<INSTALL DIR>/application/XXXX/OperationalInsights/XML`

   Into

   `<OBIEE_WEBLOGIC_DOMAIN_HOME>/config/fmwconfig`

4. Start all services.

   For more information regarding Oracle Retail Operational Insights application roles and associated user groups of Oracle Retail MOM Products please refer to the below Oracle Retail Security Guides

   - Oracle Retail Merchandising Security Guide
     - Part III Oracle Retail Sales Audit (ReSA)
     - Part IV Oracle Retail Invoice Matching (ReIM)
     - Part VI Oracle Retail Allocation
   - Oracle Retail Operational Insights Security Guide

If you already have custom roles defined and wanted to update the existing jazn settings with the Oracle Retail Operational Insights specific roles, then you copy the Oracle Retail Operational Insights application roles manually into the jazn file.

For example:

Existing Jazn File:

```
<app-role>
        <name>UserDefinedRole</name>
        <display-name>Custom User Defined Role</display-
name>
        <class>oracle.security.jps.service.policystore.Appli
        cationRole</class>
        <members>
                <member>
                        <class>weblogic.security.principal.WL
                        SGroupImpl</class>
                        <name>UserGroups</name>
                </member>
        </members>
        </app-role>
</app-roles>
```

Now from the packaged system-jazn-data.xml file, copy the Oracle Retail Operational Insights application into your existing jazn file. The text in italics below is one of the application roles packaged with Oracle Retail Oracle Operational Insights for example.

```
<app-role>
        <name>UserDefinedRole</name>
        <display-name>Custom User Defined Role</display-
name>
        <class>oracle.security.jps.service.policystore.Appli
        cationRole</class>
        <members>
                <member>
                <class>weblogic.security.principal.WLSGroupI
mpl</class>
                <name>UserGroups</name>
                </member>
        </members>
</app-role>

<app-role>
        <name>Auditor Manager</name>
        <display-name>BI Auditor Manager</display-name>
        <guid>57B470702E7211E48F37AF2A78D27375</guid>
        <class>oracle.security.jps.service.policystore.ApplicationRole</class>
        <members>
                <member>
                <class>weblogic.security.principal.WLSGroupImpl</class>
                 <name>AUDITOR_MANAGER_JOB</name>
                </member>
        <member>
        <class>oracle.security.jps.service.policystore.ApplicationRole</class>
        <name>BIConsumer</name>
        <guid>C3CC60E3FB7A11E3BFA201D53921A1EC</guid>
        </member>
        </members>
</app-role>
```

For information regarding creating users, user groups, security roles, permissions and privileges refer to the *Oracle BI EE Security Guide*.

If you are using WLST to migrate Security, refer to the section below.

Language Selection with SSO

See the "Enabling SSO Authentication" chapter in the Oracle BI EE Security Guide for more information about configuration changes.

Operational Insights dashboards and reports display the same language as ReSA/REIM/Alloc by accepting the Lang parameter from the Respective system.

Operational Insights Configuration

- Operating System

  RPD_post_install.txt which contain password to protect Operational Insights OBIEE code should be owned by Operational Insight unix user and installed with 600 permission. Password in Oracle BI EE should be changed after installation is done.

- Oracle BI EE Server

  Operational Insights Oracle BI EE metadata files (rpd, catalog, and translation) should be owned by Operational Insights system administrator and installed with 750 permissions.

Infrastructure/Middleware

- Jdbc connection

  Oracle database access through Oracle BI EE can be secured by using a Jdbc connection. The Jdbc connection setup is provided in rpd file. User needs to provide database login credential in the rpd file. The database login credential is stored securely through Oracle BI EE.

Operational Insights Security Role

Operational Insights provides role based security in the current release. The access permission of Operational Insights logical tables for each security role has been defined in Operational Insights rpd file. Within these roles, the user has the privilege to access every subject area of Operational Insights. It is designed for client’s testing, developing, or similar non-business activities. Due to the extent of access associated with this role, it should be used cautiously. See the Oracle Retail Merchandising Security Guide for additional information on the Operational Insights security role.

Application Server

- Ensure Restrictive Access Control

  Operational Insights provides security roles to ensure restrictive access at object level. WebLogic application server is used to create and maintain these application roles. The definition of roles and the mapping of roles and user groups are stored in system-jazn-data.xml file.

6

Post Installation Tasks and Configuration

The Oracle BI EE environment has to be configured for enabling Operational Insights. Please follow the steps to configure the Oracle BI EE environment for Operational Insights.

Enable the Oracle BI EE Content to be Displayed in IFrame

The Oracle BI EE content is not allowed to be displayed in IFrame by default. Please enable the Oracle BI EE content to be displayed in IFrame using the following step.

Edit the instanceconfig.xml file at the following location

<OBIEE_ORACLE_HOME>/instances/<INSTANCE_NAME>/config/OracleBIPresentationServicesComponent/coreapplication_obips1

Add the following under the <Security></Security> section in the instanceconfig.xml file.

```
<InIFrameRenderingMode>allow</InIFrameRenderingMode>
```

Restart opmnctl.

Please note that the <InIFrameRenderingMode> tag has to be inside the Security section. Otherwise, you could encounter an issue with the Presentation Server failing to start.

Configure Charts /Charts/to use HTML5

In order to enable charts to use HTML5 instead of Flash, please modify instanceconfig.xml file at the following location

<OBIEE_ORACLE_HOME>/instances/<INSTANCE_NAME>/config/OracleBIPresentationServicesComponent/coreapplication_obips1

Add below tags under <views> </views>

```
<Charts>
 <DefaultWebImageType>html5</DefaultWebImageType>
 <MaxVisibleColumns>2000</MaxVisibleColumns>
 <MaxVisiblePages>1000</MaxVisiblePages>
 <MaxVisibleRows>2000</MaxVisibleRows>
 <MaxVisibleSections>25</MaxVisibleSections>
</Charts>
```

Restart opmnctl.

Enable EVALUATE Function in Oracle BI EE

In order to enable the Evaluate function in OBIEE, follow the step below.

Edit the NQSConfig.INI file, located at

<OBIEE_ORACLE_HOME>/instances/<INSTANCE_NAME>/config/OracleBIServerComponent/coreapplication_obis1

This is what you will see by default in the config file

```
# EVALUATE_SUPPORT_LEVEL:
# 1: evaluate is supported for users with manageRepositories permssion
# 2: evaluate is supported for any user.
# other: evaluate is not supported if the value is anything else.
EVALUATE_SUPPORT_LEVEL = 2;
```

Change the parameter EVALUATE_SUPPORT_LEVEL to 2 as follows.

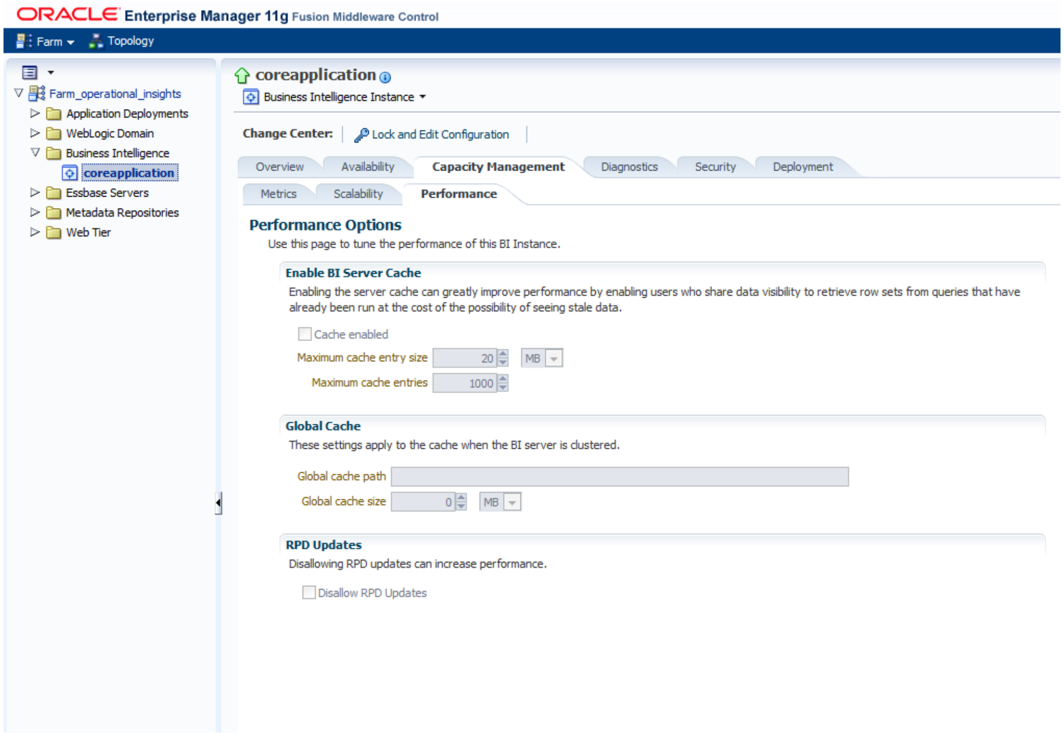
```
# EVALUATE_SUPPORT_LEVEL:
# 1: evaluate is supported for users with manageRepositories permssion
# 2: evaluate is supported for any user.
# other: evaluate is not supported if the value is anything else.
```

Save and restart the BI Server.

Disable Cache in Oracle BI EE

The Oracle BI EE cache needs to be disabled to ensure that any saved changes on the Oracle Retail Application are reflected immediately in the Operational Insights reports which are embedded in the Oracle Retail Application screens. To disable cache in Oracle BI EE follow the steps below.

1. Log in to the WebLogic Enterprise Manager (EM) via web browser with the URL as http://<OBIEE_HOST>:<OBIEE_ADMIN_PORT>/em. Log in with the username and password created during Oracle BI EE installation.
2. Go to Business Intelligence > coreapplication > Capacity Management > Performance as shown in the following screen.



Performance Options

Use this page to tune the performance of this BI Instance.

Enable BI Server Cache

Enabling the server cache can greatly improve performance by enabling users who share data visibility to retrieve row sets from queries that have already been run at the cost of the possibility of seeing stale data.

□ Cache enabled

Maximum cache entry size 20 MB

Maximum cache entries 1000

Global Cache

These settings apply to the cache when the BI server is clustered.

Global cache path

Global cache size 0 MB

RPD Updates

Disallowing RPD updates can increase performance.

□ Disallow RPD Updates

3. Click on 'Lock and Edit Configuration'.
4. Uncheck the 'Cache enabled' checkbox as shown above. Click on Apply button on the top right of the page and then click on Activate Changes. Once the changed configuration activated, restart the Oracle BI Server.

5. Navigate to the path <OBIEE_ORACLE_HOME>/instances/<INSTANCE_NAME>/config/OracleBIPresentationServicesComponent/coreapplication_obips1
6. Take a backup of the 'instanceconfig.xml' file and add the below mention code in between the <ServerInstance> </ServerInstance> tag of the instanceconfig.xml file.

```
<Cache>
<Query>
<MaxEntries>100</MaxEntries>
<MaxExpireMinutes>1</MaxExpireMinutes>
<MinExpireMinutes>1</MinExpireMinutes>
<MinUserExpireMinutes>1</MinUserExpireMinutes>
</Query>
</Cache>
```

7. Once the above code is added in the instanceconfig.xml file, restart all the OPMN Instances.

Deploy Operational Insights Skin and Styles

1. Create a web application called 'analyticsRes' in the Oracle BI EE environment.

   Please open the document (Doc ID 1277311.1) on the Oracle Support website http://support.oracle.com and download the white paper 'Customizing Oracle Business Intelligence Enterprise Edition 11g'. Refer to the section 'Exposing a Static Directory in WebLogic Server' to enable the analyticsRes application on the Oracle BI EE WebLogic Server.

   Note: The directory ORACLE_INSTANCE/bifoundation/OracleBIPresentationServicesComponent/coreapplication_obips1/analyticsRes mentioned in the document refers to <OBIEE_ORACLE_HOME>/instances/<INSTANCE_NAME>/bifoundation/OracleBIPresentationServicesComponent/coreapplication_obips1/analyticsRes

2. Copy the OI_Custom_Style.zip from <INSTALL_DIRECTORY>/OI/CSS location and unzip. OI_Custom_Style.zip contains Operational Insights Custom Styles and Skins.

   The unzipped directory will have an OI_Custom_Style folder. The OI_Custom_Style folder includes the following four directories.

   - s_skyros_custom
   - sk_skyros_custom
   - customMessages
   - oicustomjs

3. Copy the above Four directories to the location mentioned below. If the below location already has these directories then remove those directories first before the copying the above directories.

   <OBIEE_ORACLE_HOME>/instances/<INSTANCE_NAME>/bifoundation/OracleBIPresentationServicesComponent/coreapplication_obips1/analyticsRes

   Once the directories have been copied to the above location, please stop and start the 'anayticsRes' application from the WebLogic console to ensure that the new resources are available.

4. Modify the instanceconfig.xml under the location <BI_INSTALL_DIRECTORY>/instances/<INSTANCE_NAME>/config/OracleBIPresentationServicesComponent/coreapplication_obips1

   to enable the Operational Insights skins and styles. The code below should be added between the <ServerInstance> </ServerInstance> tag of the instanceconfig.xml file.

```
<UI>
  <DefaultStyle>skyros_custom</DefaultStyle>
  <DefaultSkin>skyros_custom</DefaultSkin>
</UI>
<URL>
    <CustomerResourcePhysicalPath><BI_INSTALL_DIRECTORY>/instances/<INSTANC
E_NAME>/bifoundation/OracleBIPresentationServicesComponent/coreapplication
_obips1/analyticsRes</CustomerResourcePhysicalPath>
  <CustomerResourceVirtualPath>/analyticsRes</CustomerResourceVirtualPath>
</URL>

Example:

<Table>
<!--This Configuration setting is managed by Oracle Enterprise Manager
Fusion Middleware Control-->
<DefaultRowsDisplayedInDelivery>75</DefaultRowsDisplayedInDelivery>
<!--This Configuration setting is managed by Oracle Enterprise Manager
Fusion Middleware Control-->
<DefaultRowsDisplayedInDownload>2500</DefaultRowsDisplayedInDownload>
<MaxCells>4000000</MaxCells>
<MaxVisibleRows>140000</MaxVisibleRows>
</Table>

<UI>
<DefaultStyle>skyros_custom</DefaultStyle>
<DefaultSkin>skyros_custom</DefaultSkin>
</UI>


<URL>

<!-- CustomerResourcePhysicalPath is a tag that specifies the actual
directory name-->

<CustomerResourcePhysicalPath>/u00/webadmin/products/wls_obiee_oi/instance
s/instance1/bifoundation/OracleBIPresentationServicesComponent/coreapplica
tion_obips1/analyticsRes</CustomerResourcePhysicalPath>
<!-- CustomerResourceVirtualPath provides the URLPrefix that will be added
for sourcing all the files-->

<CustomerResourceVirtualPath>/analyticsRes</CustomerResourceVirtualPath>

</URL>

   <Catalog>
         <UpgradeAndExit>false</UpgradeAndExit>
         <Validate>OnStartup</Validate>
         <ValidateItems>None</ValidateItems>
         <ValidateLinks>None</ValidateLinks>
         <ValidateAccounts>Clean</ValidateAccounts>
         <ValidateHomes>None</ValidateHomes>
<!--<UpdateAccountGUIDs>UpdateAndExit</UpdateAccountGUIDs>-->
<!--This Configuration setting is managed by Oracle Enterprise Manager
Fusion Middleware Control--><EnableMultiTenancy>false</EnableMultiTenancy>
</Catalog>
```

Note: The attribute CustomerResourcePhysicalPath should point to the absolute path of the anlayticsRes directory on that machine.

Create Symbolic Link to analyticsRes Directory

This step is required for the custom resources to be available to the Oracle BI EE Presentations Services connection when using the StaticResourceMode as Auto. Please create a symbolic link as follows.

1. Change the directory to <OBIEE_ORACLE_HOME>/user_projects/domains/<DOMAIN_NAME>/servers/bi_server1/tmp/_WL_user/analytics_11.1.1/7dezjl/war

   ```
   $cd
   <OBIEE_WEBLOGIC_DOMAIN_HOME>/servers/bi_server1/tmp/_WL_user/analytics_11.1.1/
   7dezjl/war
   ```

2. Verify that you are in the correct directory

   ```
   $ pwd

   <OBIEE_WEBLOGIC_DOMAIN_HOME>/servers/bi_server1/tmp/_WL_user/analytics_11.1.1/
   7dezjl/war
   ```

3. Create a symbolic link to the analyticRes directory

   ```
   $ ln -s
   <OBIEE_ORACLE_HOME>/instances/<INSTANCE_NAME>/bifoundation/OracleBIPresentatio
   nServicesComponent/coreapplication_obips1/analyticsRes
   ```

4. Verify that symbolic link is available.

   ```
   $ ls -ltr
   total 28
   drwxr-----  5 oraweb dba 4096 Jan 11 18:35 workspace
   drwxr-----  3 oraweb dba 4096 Jan 11 18:35 WEB-INF
   -rw-r-----  1 oraweb dba   69 Jan 11 18:35 default.jsp
   drwxr-----  9 oraweb dba 4096 Jan 11 18:35 res
   drwxr----- 31 oraweb dba 4096 Jan 11 18:35 olh
   drwxr-----  2 oraweb dba 4096 Jan 11 18:35 META-INF
   lrwxrwxrwx  1 oraweb dba  136 May 14 22:45 analyticsRes ->
   <OBIEE_ORACLE_HOME>/instances/<INSTANCE_NAME>/bifoundation/OracleBIPresentatio
   nServicesComponent/coreapplication_obips1/analyticsRes
   ```

Note: In windows environments, instead of creating a symbolic link, we should manually copy the analyticsRes directory to the following location <OBIEE_WEBLOGIC_DOMAIN_HOME>/servers/bi_server1/tmp/_WL_user/analytics_11.1.1/7dezjl/war

If the Oracle BI EE installation uses just the AdminServer then the analyticsRes directory should be copied to the following location

<OBIEE_ORACLE_HOME>/user_projects/domains/bifoundation_domain/servers/AdminServer/tmp/_WL_user/analytics_11.1.1/silp1v/war

Prepare the Operational Insights Environment for Oracle BI EE Presentation Services Connection

The Operational Insights environment has to be prepared for the Oracle BI EE Presentation Services connection. The Oracle BI EE Presentation Services connection requires a BIImpersonateUser to be created on the Oracle BI EE with the permission to impersonate the logged in user. Please refer to the section '*Credentials for Connecting to the Oracle BI Presentation Catalog*' of the *Fusion Middleware Developer's Guide for Oracle Business Intelligence Enterprise Edition*.

The link to the *Fusion Middleware Developer's Guide for Oracle Business Intelligence Enterprise Edition* for version 11.1.1.9 is

http://docs.oracle.com/cd/E28280_01/bi.1111/e10545/embedding_adf.htm#BIEDV1028

Enable the ADF Contextual Event Action in Oracle BI EE

The ADF Contextual event action is not enabled by default in the Oracle BI EE installation. It has to be manually enabled. Edit the following file in your Oracle BI EE installation
<OBIEE_ORACLE_HOME>/instances/<INSTANCE_NAME>/config/OracleBIPresentationServicesComponent/coreapplication_obips1/instanceconfig.xml

In file instanceconfig.xml add a new ActionLinks attribute between the `<ServerInstance>` `</ServerInstance>` tag of the instanceconfig.xml file as follows:

```
<ActionLinks><EnableADFContextualEvent>true</EnableADFContextualEvent></ActionLinks>
```

Restart opmnctl.

Single Sign-On Configuration for Oracle BI EE

When the Oracle BI EE is configured to use Single Sign-On using the Oracle Access Manager and the Oracle Web Tier then the following steps should be followed to enable the Operation Insights custom skins and styles.

Make the Oracle BI EE Static Resources Available to the Oracle Web Tier

We first need to make the Oracle BI EE static resources available to the Oracle Web Tier. If the Oracle Web Tier is installed on the same machine where the Oracle BI EE is installed then the following steps should be followed to make the Oracle BI EE static resources and the Operational Insights skins and styles available to the Oracle Web Tier. If the Oracle Web Tier is installed on a different machine then skip these steps and move to the next list of steps.

1. Go to the Oracle Web Tier installation which has been configured with the current Operational Insights environment for Single Sign-On.
2. Change the directory to the following:

   <WEB_TIER_ORACLE_HOME>/Oracle_WT1/instances/<INSTANCE_NAME>/config/OHS/ohs1/htdocs

```
$cd
<WEB_TIER_ORACLE_HOME>/Oracle_WT1/instances/<INSTANCE_NAME>/config/OHS/ohs1/ht
docs
```

3. Verify that you are in the correct directory.

```
$ pwd
<WEB_TIER_ORACLE_HOME>/Oracle_WT1/instances/<INSTANCE_NAME>/config/OHS/ohs1/ht
docs
```

4. Create symbolic links to the following two directories
   - <OBIEE_ORACLE_HOME>/instances/<OBIEE_INSTANCE_NAME>/bifoundation/OracleBIPresentationServicesComponent/coreapplication_obips1/analyticsRes
   - <OBIEE_WEBLOGIC_DOMAIN_HOME>/servers/bi_server1/tmp/_WL_user/analytics_11.1.1/7dezjl/war/res

```
$ ln -s
<OBIEE_ORACLE_HOME>/instances/<OBIEE_INSTANCE_NAME>/bifoundation/OracleBIP
resentationServicesComponent/coreapplication_obips1/analyticsRes

$ ln -s
<OBIEE_WEBLOGIC_DOMAIN_HOME>/servers/bi_server1/tmp/_WL_user/analytics_11.
1.1/7dezjl/war/res
```

Note: If the Oracle BI EE installation uses just the AdminServer then the location of the res directory will be

<OBIEE_WEBLOGIC_DOMAIN_HOME>/servers/AdminServer/tmp/_WL_user/analytics_11.1.1/silp1v/war/res

5. Verify that the symbolic links are available.

```
$ ls –ltr
...
lrwxrwxrwx 1 oraweb dba   144 Jun  5 15:51 analyticsRes ->
<OBIEE_ORACLE_HOME>/instances/<OBIEE_INSTANCE_NAME>/bifoundation/OracleBIPrese
ntationServicesComponent/coreapplication_obips1/analyticsRes
lrwxrwxrwx 1 oraweb dba    65 Jun  5 15:55 res ->
<OBIEE_ORACLE_HOME>/user_projects/domains/<DOMAIN_NAME>/servers/bi_server1/tmp
/_WL_user/analytics_11.1.1/7dezjl/war/res
```

6. Verify that you can list these new directories.

```
$ ls res
$ ls analyticsRes
```

7. Restart the Oracle Web Tier.

If the Oracle Web Tier and the Oracle BI EE are installed on different machines then follow the following steps to make the Oracle BI EE static resources and Operations Insights custom skins and styles available to the Oracle Web Tier installation.

1. Go to the Oracle Web Tier installation location which has been configured with the current Operational Insights environment for Single Sign-On.
2. Change the directory to the following

   <WEB_TIER_ORACLE_HOME>/Oracle_WT1/instances/<INSTANCE_NAME>/config/OHS/ohs1/htdocs

```
$cd
<WEB_TIER_ORACLE_HOME>/Oracle_WT1/instances/<INSTANCE_NAME>/config/OHS/ohs1/ht
docs
```

3. Make two new directories analyticsRes and res.

   ```
   $ mkdir analyticsRes
   $ mkdir res
   ```

4. Sudo as root.

   ```
   $ sudo ksh
   ```

5. Go to the Oracle BI EE installation location in a different terminal window. We want to mount the following two directories from the Oracle BI EE machine to the Oracle Web Tier machine.
   - <OBIEE_ORACLE_HOME>/instances/<OBIEE_INSTANCE_NAME>/bifoundation/OracleBIPresentationServicesComponent/coreapplication_obips1/analyticsRes
   - <OBIEE_WEBLOGIC_DOMAIN_HOME>/servers/bi_server1/tmp/_WL_user/analytics_11.1.1/7dezjl/war/res
6. Change to the directory:

   <BI_INSTALL_DIRECTORY>/instances/<OBIEE_INSTANCE_NAME>/bifoundation/OracleBIPresentationServicesComponent/coreapplication_obips1.

   Run the command:

   chmod -R 777 analyticsRes

   ```
   $cd
   <BI_INSTALL_DIRECTORY>/instances/<OBIEE_INSTANCE_NAME>/bifoundation/OracleBIPr
   esentationServicesComponent/coreapplication_obips1
   $ chmod -R 777 analyticsRes
   ```

   This will ensure that the analyticsRes directory has permissions to be available from the Oracle Web Tier.
7. Change to the directory

   <BI_DOMAIN_HOME>/servers/bi_server1/tmp/_WL_user/analytics_11.1.1/7dezjl/war/res.

   Run the command:

   chmod -R 777 res

   ```
   $ cd
   <BI_DOMAIN_HOME>/servers/bi_server1/tmp/_WL_user/analytics_11.1.1/7dezjl/war/r
   es
   $ chmod -R 777 res
   ```

   This will ensure that the res directory has permissions to be available from the Oracle Web Tier.
8. Run the command df –h on the Oracle BI EE terminal window to verify if the Oracle BI EE is installed on an existing nfs mount or not. If the Oracle BI EE is installed on an existing nfs mount then we need to get the actual mounted filesystem location.

For Example, let's say we have the Oracle BI EE installed on the machine mspdv171 at the location /u02/product/OBIEE_11.1.1.9. The df –h command displays as follows:

```
$df –h
mspnas401:/export/mspdv171/u02
                      500G  320G  181G  64% /u02
```

Since, /u02 is already an existing mount from the file system mspnas401:/export/<Host_Name>/u02, our actual OBIEE_ORACLE_HOME location for the mount command will be

mspnas401:/export/<Host_Name>/u02/product/OBIEE_11.1.1.9

9. Go back to the Oracle Web Tier terminal window where you were sudo'ed as root. Run the following command to create a mount to the analyticsRes directory.

```
$mount -t nfs
<OBIEE_ORACLE_HOME>/instances/<INSTANCE_NAME>/bifoundation/OracleBIPresentatio
nServicesComponent/coreapplication_obips1/analyticsRes
<WEB_TIER_ORACLE_HOME>/Oracle_WT1/instances/<INSTANCE_NAME>/config/OHS/ohs1/ht
docs/analyticsRes
```

For example:

```
$mount -t nfs
mspnas401:/export/mspdv171/u02/product/OBIEE_11.1.1.9/instances/instance_oi/bi
foundation/OracleBIPresentationServicesComponent/coreapplication_obips1/analyt
icsRes
/u00/product/OBIEE_11.1.1.9/Oracle_WT1/instances/instance1/config/OHS/ohs1/htd
ocs/analyticsRes
```

10. Similarly, create another mount for the res directory as follows:

```
$mount -t nfs
<OBIEE_WEBLOGIC_DOMAIN_HOME>/servers/bi_server1/tmp/_WL_user/analytics_11.1.1/
7dezjl/war/res
<WEB_TIER_ORACLE_HOME>/Oracle_WT1/instances/<INSTANCE_NAME>/config/OHS/ohs1/ht
docs/res
```

For example

```
$mount -t nfs
mspnas401:/export/mspdv171/u02/product/OBIEE_11.1.1.9/user_projects/domains/<D
OMAIN_NAME>/servers/bi_server1/tmp/_WL_user/analytics_11.1.1/7dezjl/war/res
/u00/product/OBIEE_11.1.1.9/Oracle_WT1/instances/instance1/config/OHS/ohs1/htd
ocs/res
```

11. Verify that your mount points are available by using mount –l command.

```
$mount –l
...
mspnas401:/export/mspdv171/u02/product/OBIEE_11.1.1.9/instances/instance_oi/bi
foundation/OracleBIPresentationServicesComponent/coreapplication_obips1/analyt
icsRes on
/scratch/u00/product/OBIEE_11.1.1.9/Oracle_WT1/instances/instance1/config/OHS/
ohs1/htdocs/analyticsRes type nfs (rw,addr=10.141.28.81)
mspnas401:/export/mspdv171/u02/product/OBIEE_11.1.1.9/
user_projects/domains/<DOMAIN_NAME>/servers/bi_server1/tmp/_WL_user/analytics_
11.1.1/7dezjl/war/res on
/scratch/u00/product/OBIEE_11.1.1.9/Oracle_WT1/instances/instance1/config/OHS/
ohs1/htdocs/res type nfs (rw,addr=10.141.28.81)
```

12. Try listing the analyticsRes and res directories under the htdocs directory on the Oracle Web Tier.

    ```
    $ls
    <WEB_TIER_ORACLE_HOME>/Oracle_WT1/instances/<INSTANCE_NAME>/config/OHS/ohs1/ht
    docs/analyticsRes
    $ls
    <WEB_TIER_ORACLE_HOME>/Oracle_WT1/instances/<INSTANCE_NAME>/config/OHS/ohs1/ht
    docs/res
    ```

13. Verify that you can go to each directory and list contents using the ls command.

Configure Alias for the Static Resources in the Oracle Web Tier

For the resources in the 'res' directory to be available from Oracle Web Tier we need to configure alias in the Oracle Web Tier. Please follow the following steps to configure the alias.

1. Navigate to the directory <WEBTIER_ORACLE_HOME>/Oracle_WT1/instances/<INSTANCE_NAME>/config/OHS/ohs1.

   ```
   $ cd
   <WEB_TIER_ORACLE_HOME>/Oracle_WT1/instances/<INSTANCE_NAME>/config/OHS/ohs1
   ```

2. Create a new file called alias.conf in the above directory.

   ```
   $ vi alias.conf
   ```

3. Add the following entries in the file alias.conf and save the file.

   ```
   Alias /res/v-UBtil9ur9Q4/
   "${ORACLE_INSTANCE}/config/${COMPONENT_TYPE}/${COMPONENT_NAME}/htdocs/res/"
   Alias /res/v-ISAcoW1LJVY/
   "${ORACLE_INSTANCE}/config/${COMPONENT_TYPE}/${COMPONENT_NAME}/htdocs/res/"

   <Directory
   "${ORACLE_INSTANCE}/config/${COMPONENT_TYPE}/${COMPONENT_NAME}/htdocs/res">
       AllowOverride None
       Order allow,deny
       Allow from all
   </Directory>
   ```

4. Edit the file httpd.conf and go to the end of the file.
5. Include the recently created file alias.conf using the following entry.

   ```
   include
   "${ORACLE_INSTANCE}/config/${COMPONENT_TYPE}/${COMPONENT_NAME}/alias.conf"
   ```

Undo the Redirect of analyticsRes to the WebLogic Server

If the analyticRes directory has been configured on the Oracle Web Tier to be redirected to the WebLogic server then please remove the redirection as follows.

1. Change to the directory <WEBTIER_ORACLE_HOME>/Oracle_WT1/instances/instance1/config/OHS/ohs1.
2. This directory has a file called mod_wl_ohs.conf. Edit this file.
3. Verify that in the file mod_wl_ohs.conf, only the /analytics context root is configured to be redirected to the WebLogic Server. If the /analyticsRes context root is also configured to be redirected to the WebLogic Server then please comment it out or

remove it. We do not want to be redirected to the WebLogic Server to serve the resources under the /anlayticsRes context root.

```
<Location /analytics>
      SetHandler weblogic-handler
      WebLogicHost obiee_host
      WeblogicPort obiee_port
  </Location>

# <Location /analyticsRes>
#      SetHandler weblogic-handler
#      WebLogicHost obiee_host
#      WeblogicPort obiee_port
# </Location>
```

Make the Static Resources Publicly Available

The static resources are images, css and javascripts. These resources can be made publicly available. Follow the steps below to make them publicly available.

1. Change to the directory <WEBTIER_ORACLE_HOME>/Oracle_WT1/instances/instance1/config/OHS/ohs1.
2. Edit the file webgate.conf.
3. Inside the file webgate.conf, you will see the following lines:

```
<LocationMatch "/*">
AuthType Oblix
require valid-user
</LocationMatch>
```

The above lines instruct the Oracle Web Tier to route any request to the Oracle Access Manager for authentication. Add the following lines after the above lines.

```
<LocationMatch "/analyticsRes/*">
Satisfy any
</LocationMatch>

<LocationMatch "/res/*">
Satisfy any
</LocationMatch>
```

This means for any request under the /analyticsRes or /res context roots, we do not want to route to Oracle Access Manager for authentication. The resources under these context roots can be served to users without any authentication.

Enable Caching and Compression of the Oracle BI EE Static Resources

The Oracle BI EE static resources like css and javascripts can be compressed by the Oracle Web Tier to optimize the Oracle BI EE performance. We will use the mod_expire and mod_deflate modules of the Oracle Web Tier to enable the browser caching and compression of the Oracle BI EE static resources.

The mod_expire module controls the setting of the `Expires` HTTP header and the `max-age` directive of the `Cache-Control` HTTP header in server responses. These HTTP headers are an instruction to the browser about the document's validity and persistence. If cached, the document may be fetched from the cache rather than from the source until this time has passed. After that, the cache copy is considered expired and invalid, and a new copy must be obtained from the source. The `mod_deflate` module provides the DEFLATE output filter that allows output from the Oracle Web Tier to be compressed before being sent to the client over the network.

Please follow the following steps to enable the browser caching of the Oracle BI EE static resources.

1. Edit the httpd.conf file located in the location <WEB_TIER_HOME>/Oracle_WT1/instances/instance1/config/OHS/ohs1.
2. Verify that the following line has been uncommented.

   ```
   LoadModule expires_module "${ORACLE_HOME}/ohs/modules/mod_expires.so"
   ```
3. Go to the end of the file httpd.conf and add the following line:

   ```
   include
   "${ORACLE_INSTANCE}/config/${COMPONENT_TYPE}/${COMPONENT_NAME}/expire.conf"
   ```
4. Under the location <WEB_TIER_HOME>/Oracle_WT1/instances/instance1/config/OHS/ohs1 create a new file called expire.conf.
5. Add the following lines to the file expire.conf

   ```
   <IfModule mod_expires.c>
    ExpiresActive On
    ExpiresByType image/jpg "access plus 60 days"
    ExpiresByType image/png "access plus 60 days"
    ExpiresByType image/gif "access plus 60 days"
    ExpiresByType image/jpeg "access plus 60 days"
    ExpiresByType text/css "access plus 1 days"
    ExpiresByType image/x-icon "access plus 1 month"
    ExpiresByType application/pdf "access plus 1 month"
    ExpiresByType audio/x-wav "access plus 1 month"
    ExpiresByType audio/mpeg "access plus 1 month"
    ExpiresByType video/mpeg "access plus 1 month"
    ExpiresByType video/mp4 "access plus 1 month"
    ExpiresByType video/quicktime "access plus 1 month"
    ExpiresByType video/x-ms-wmv "access plus 1 month"
    ExpiresByType application/x-shockwave-flash "access 1 month"
    ExpiresByType text/javascript "access plus 1 week"
    ExpiresByType application/x-javascript "access plus 1 week"
    ExpiresByType application/javascript "access plus 1 week"
   </IfModule>
   ```

Please follow the following steps to enable compression of the Oracle BI EE static resources in the Oracle Web Tier.

1. Edit the httpd.conf file located in the location <WEB_TIER_HOME>/Oracle_WT1/instances/instance1/config/OHS/ohs1.
2. Verify that the following line has been uncommented. If the line does not exist then please add it.

   ```
   LoadModule deflate_module "${ORACLE_HOME}/ohs/modules/mod_deflate.so"
   ```
3. Go to the end of the file httpd.conf and add the following line:

   ```
   include
   "${ORACLE_INSTANCE}/config/${COMPONENT_TYPE}/${COMPONENT_NAME}/deflate.conf"
   ```
4. Under the location <WEB_TIER_HOME>/Oracle_WT1/instances/instance1/config/OHS/ohs1 create a new file called deflate.conf.
5. Add the following lines to the file deflate.conf

   ```
   <IfModule mod_deflate.c>
   ```

```
 AddOutputFilterByType DEFLATE text/plain
 AddOutputFilterByType DEFLATE text/html
 AddOutputFilterByType DEFLATE text/xml
 AddOutputFilterByType DEFLATE text/css
 AddOutputFilterByType DEFLATE text/javascript
 AddOutputFilterByType DEFLATE image/svg+xml
 AddOutputFilterByType DEFLATE image/x-icon
 AddOutputFilterByType DEFLATE application/xml
 AddOutputFilterByType DEFLATE application/xhtml+xml
 AddOutputFilterByType DEFLATE application/rss+xml
 AddOutputFilterByType DEFLATE application/javascript
 AddOutputFilterByType DEFLATE application/x-javascript

 DeflateCompressionLevel 9

# Browser specific settings
 BrowserMatch ^Mozilla/4 gzip-only-text/html
 BrowserMatch ^Mozilla/4\.0[678] no-gzip
 BrowserMatch \bMSIE !no-gzip !gzip-only-text/html
 BrowserMatch \bOpera !no-gzip

# Setup custom deflate log
 DeflateFilterNote Input instream
 DeflateFilterNote Output outstream
 DeflateFilterNote Ratio ratio

 LogFormat '"%r" %{outstream}n/%{instream}n (%{ratio}n%%)' deflate
# Example of log file
 CustomLog logs/deflate_log DEFLATE
</IfModule>
```

Note: The image files like jpg and png are never compressed as they are already in a compressed format and do not provide any benefit by the Oracle Web Tier compression.

6. Once the above steps are completed, restart the Oracle Web Tier.

Verify the Static Resources using the Oracle Web Tier

Clear your browser cache. Verify that you can access the following URLs using the Oracle Web Tier host and port. If the Oracle Web Tier port has not been changed during installation then the default port is 7777.

http://<WEBTIER_HOST>:<WEB_TIER_PORT>/res/siebelbug.gif

http://<WEBTIER_HOST>:<WEB_TIER_PORT>/analyticsRes/s_skyros_custom/answers/database.png

http://<WEBTIER_HOST>:<WEB_TIER_PORT>/res/s_blafp/uicomponents/blafplus.css

Go to the directory <WEB_TIER_HOME>/Oracle_WT1/instances/instance1/diagnostics/logs/OHS/ohs1. This directory will have a log file called deflate_log. Edit this file. You will notice that the css file blafplus.css was served using compression.

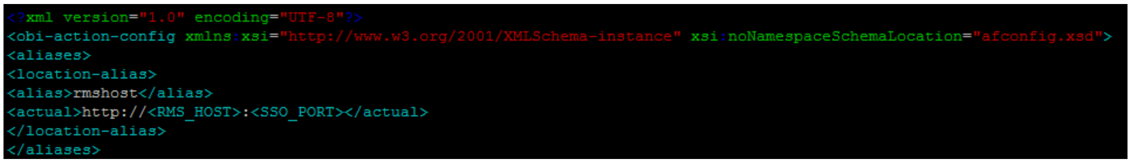
```
"GET /res/s_blafp/uicomponents/blafplus.css HTTP/1.1" 493/1402 (35%)
```

Configure for In-Context launches of RMS forms

Step 1:

Add the below configuration in ActionFrameworkConfig.xml file located at <BI_DOMAIN_HOME>
\domains\bifoundation_domain\config\fmwconfig\biinstances\coreapplication.

```
<aliases>
    <location-alias>
    <alias>rmshost</alias>
    <actual>http://<RMS_HOST>:<Port></actual>
    </location-alias>
</aliases>
```

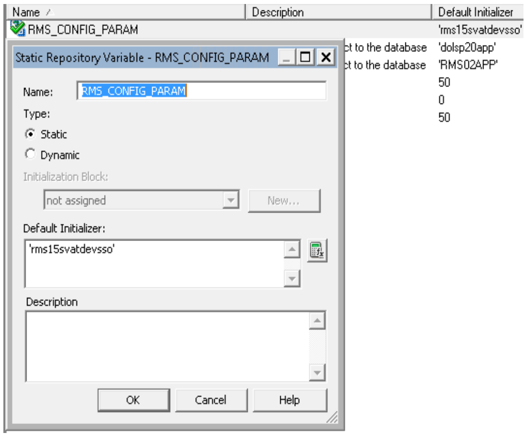


```
<?xml version="1.0" encoding="UTF-8"?>
<obi-action-config xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xsi:noNamespaceSchemaLocation="afconfig.xsd">
<aliases>
<location-alias>
<alias>rmshost</alias>
<actual>http://<RMS_HOST>:<SSO_PORT></actual>
</location-alias>
</aliases>
```

Note: There would already be a <aliases \> and that should be replaced with the above 6 lines of code.

Step 2:

1. Change the value of Rpd Variable.
2. Open Rpd go to Manage -> Variable -> Repository -> Statics
3. And change the value of Repository variable: RMS_CONFIG_PARAM



Name	Description	Default Initializer
RMS_CONFIG_PARAM		'rms15svatdevsso'
	ct to the database	'dolsp20app'
	ct to the database	'RMS02APP'
		50
		0
		50

Static Repository Variable - RMS_CONFIG_PARAM

Name: RMS_CONFIG_PARAM

Type:

● Static

○ Dynamic

Initialization Block: not assigned

Default Initializer: 'rms15svatdevsso'

Description

Note: If RMS URL is as below:

http://<RMS_HOST>:<PORT>/forms/frmservlet?config=< RMS15SSO>

Then the value of "RMS_CONFIG_PARAM" variable will be "RMS15SSO"

Restart Oracle BI EE

After the above steps are completed, restart the Oracle BI EE completely. Please ensure that both the WebLogic servers and opmnctl are stopped and started again.

Validation

Oracle BI EE Analytics should be able to login with RESA/REIM/ALLOC application user and able to view dashboard as well.

Troubleshooting

If any login issue after rpd and catalog migration or Oracle BI EE presentation services is going to init state then please refresh the GUID using the steps below.

Refresh User GUIDs

This task requires that you manually edit the configuration files to instruct the Oracle BI Server and Presentation Services to refresh the GUIDs on restart. Once completed, you edit these files to remove the modification. For information about where to locate Oracle Business Intelligence configuration files, see "Where Configuration Files are Located" in the *Oracle Fusion Middleware System Administrator's Guide for Oracle Business Intelligence Enterprise Edition*.

To refresh user GUIDs, perform the following steps on APPHOST1 and APPHOST2. Note that GUID refresh must occur with only one node operating at a time.

1. Stop Oracle BI Server and Presentation Services on all nodes except where you are refreshing the user GUIDs. For example:

   ```
   cd ORACLE_HOME/admin/instancen/bin

   ./opmnctl stopproc ias-component=coreapplication_obips1
   ./opmnctl stopproc ias-component=coreapplication_obis1
   ```

2. Update the FMW_UPDATE_ROLE_AND_USER_REF_GUIDS parameter in NQSConfig.INI:
   a. Open NQSConfig.INI for editing at:
   b. *ORACLE_INSTANCE*/config/OracleBIServerComponent/coreapplication_obis*n*
   c. Locate the FMW_UPDATE_ROLE_AND_USER_REF_GUIDS parameter and set it to YES, as follows:
   d. FMW_UPDATE_ROLE_AND_USER_REF_GUIDS = YES;
   e. Save and close the file.

3. Update the Catalog element in instanceconfig.xml:
   a. Open instanceconfig.xml for editing at:
   b. *ORACLE_INSTANCE*/config/OracleBIPresentationServicesComponent/coreapplication_obips*n*
   c. Locate the Catalog element and update it as follows:

   ```
   <Catalog>
   <UpgradeAndExit>false</UpgradeAndExit>
   <UpdateAccountGUIDs>UpdateAndExit</UpdateAccountGUIDs>
   </Catalog>
   ```

   d. Save and close the file.

4. Restart the Oracle BI Server and Presentation Services using opmnctl:

   ```
   cd ORACLE_HOME/admin/instancen/bin
   ```

```
./opmnctl stopproc ias-component=coreapplication_obips1
./opmnctl stopproc ias-component=coreapplication_obis1
./opmnctl startproc ias-component=coreapplication_obis1
```

5. After you confirm that the Oracle BI Server is running, then start Presentation Services:

   ```
   ./opmnctl startproc ias-component=coreapplication_obips1
   ```

   > **Note:** The service will come up and go down which is normal.

6. Set the FMW_UPDATE_ROLE_AND_USER_REF_GUIDS parameter in NQSConfig.INI back to NO.

   > **Important:** You must perform this step to ensure that your system is secure.

7. Update the Catalog element in instanceconfig.xml to remove the UpdateAccount GUIDs entry.
8. Restart the Oracle Business Intelligence system components again using opmnctl:

   ```
   cd ORACLE_HOME/admin/instancen/bin
   ./opmnctl stopall
   ./opmnctl startall
   ```

9. If BISytemUser fails to authenticate is the error in presentation service then follow below procedure. Once the OID provider is set and analytics is not logging in then follow below procedure.

   a. Shut down all OPMN components (<MW_HOME>/instances/instancen/bin/opmnctl stopall)

   b. Go to WLS Console (<http://<servername>:7001/console), Security Realms, myrealm, Users and Groups, Users. Locate the user BISystemUser, and change the password for this user

   c. Log on to Enterprise Manager (http://<servername>:7001/em), expand Weblogic Domain, right- click bifoundation_domain, select Security, Credentials.

   d. Under the "oracle.bi.system" folder, you will find the system.user credential. Edit this key, and type in the new password you set for the BISystemUser in step 2.

   e. Stop the bi_server1 managed server and the WLS AdminServer

   f. Restart whole domain and BI instances.

7

Patching Procedures

Oracle Retail Patching Process

The patching process for many Oracle Retail products has been substantially revised from prior releases. Automated tools are available to reduce the amount of manual steps when applying patches. To support and complement this automation, more information about the environment is now tracked and retained between patches. This information is used to allow subsequent patches to identify and skip changes which have already been made to the environment. For example, the patching process uses a database manifest table to skip database change scripts which have already been executed.

The enhanced product patching process incorporates the following:

- Utilities to automate the application of Oracle Retail patches to environments.
- Unified patches so that a single patch can be applied against Database, Forms, Java applications, Batch, etc. installations.
- Database and Environment manifests track versions of files at a module level.
- Centralized configuration distinguishes installation types (Database, Forms, Java, Batch, etc.).
- Patch inventory tracks the patches applied to an environment.

These enhancements make installing and updating Oracle Retail product installations easier and reduce opportunities for mistakes. Some of these changes add additional considerations to patching and maintaining Oracle Retail product environments. Additional details on these considerations are found in later sections.

Supported Products and Technologies

With version 15.0, several products and technologies are supported by the enhanced patching process. The utilities, processes and procedures described here are supported with the following products and listed technologies:

Product	Supported Technology
Oracle Retail Merchandising System (RMS)	▪ Database scripts ▪ Batch scripts ▪ RETL scripts ▪ Data Conversion Scripts ▪ Forms ▪ BI Publisher Reports
Oracle Retail Warehouse Management System (RWMS)	▪ Database scripts ▪ Batch scripts ▪ Forms ▪ BI Publisher Reports

Product	Supported Technology
Oracle Retail Price Management (RPM)	▪ Database scripts (included with RMS) ▪ Java Application ▪ Batch scripts
Oracle Retail Invoice Matching (ReIM)	▪ Database scripts (included with RMS) ▪ Java Application ▪ Batch scripts
Oracle Retail Allocation	▪ Database scripts (included with RMS) ▪ Java Application ▪ Batch scripts
Oracle Retail Sales Audit (ReSA)	▪ Database scripts (included with RMS) ▪ Java Application
Oracle Retail Insights (RI) Previously called Oracle Retail Analytics (RA)	▪ Database scripts
Oracle Retail Advanced Science Engine (ORASE)	▪ Database scripts ▪ Batch scripts
Oracle Retail Data Extractor (RDE)	▪ Database scripts
Oracle Retail Application Admin Console (ORAAC). Previously called Oracle Retail Application Security Role Manager (RASRM)	▪ Java Application

Patch Concepts

During the lifecycle of an Oracle Retail environment, patches are applied to maintain your system. This maintenance may be necessary to resolve a specific issue, add new functionality, update to the latest patch level, add support for new technologies, or other reasons.

A patch refers to a collection of files to apply to an environment. Patches could be cumulative, such as the 15.0.1 release, or incremental, such as a hot fix for just a few modules. Patches may contain updates for some or all components of a product installation including database, application code, forms, and batch. In a distributed architecture the same patch may need to be applied to multiple systems in order to patch all of the components. For example, if a patch contains both database and application changes, the patch would need to be applied to both the database server and the application server.

The top-level directory for the installation of an Oracle Retail product is referred to as the RETAIL_HOME. Underneath RETAIL_HOME are all of the files related to that product installation, as well as configuration and metadata necessary for the Oracle Retail Patch Assistant to maintain those files. In some cases the runtime application files also exist under RETAIL_HOME. For example, the compiled RMS forms, compiled RMS batch files, or Java Application batch scripts.

Patching Utility Overview

Patches are applied and tracked using utilities that are specifically designed for this purpose. The primary utility is described briefly below and additional information is available in later sections.

Oracle Retail Patch Assistant (ORPatch)

ORPatch is the utility used to apply patches to an Oracle Retail product installation. It is used in the background by the installer when creating a new installation or applying a cumulative patch. It is used directly to apply an incremental patch to an environment.

Oracle Retail Merge Patch (ORMerge)

ORMerge is a utility to allow multiple patches to be combined into a single patch. Applying patches individually may require some steps to be repeated. Merging multiple patches together allows these steps to be run only once. For example, applying several incremental patches to database packages will recompile invalid objects with each patch. Merging the patches into a single patch before applying them will allow invalid objects to be recompiled only once.

Oracle Retail Compile Patch (ORCompile)

ORCompile is a utility to compile components of Oracle Retail products outside of a patch. It allows RMS Forms, RMS Batch, and RWMS Forms to be fully recompiled even if no patch has been applied. It also contains functionality to recompile invalid database objects in product schemas.

Oracle Retail Deploy Patch (ORDeploy)

ORDeploy is a utility to deploy components of Oracle Retail Java products outside of a patch. It allows RPM, ReIM, Allocation and ReSA java applications to be redeployed to WebLogic even if a patch has not been applied. It contains functionality to optionally include or not include Java customizations when redeploying.

Changes with 15.0

Some products and technologies are supported by the enhanced patching process for the first time in 15.0. In those cases all of the content in this chapter is new with 15.0.

Renamed Products

For the 15.0 release several products using Orpatch have been renamed. Oracle Retail Analytics (RA) is renamed to Oracle Retail Insights (RI) and Oracle Retail Application Security Role Manager (RASRM) is renamed to Oracle Retail Application Admin Console (ORAAC). The old product names are still used in the underlying Orpatch code, the Orpatch Action names, the Orpatch env_info.cfg, and the Orpatch wallet paths. Documentation for these products will refer to the new names.

Patching Considerations

Patch Types

Oracle Retail produces two types of patches for their products: cumulative and incremental.

Cumulative Patches

A cumulative patch includes all of the files necessary to patch an environment to a specific level or build a new environment at that level. Examples of cumulative patches would be 15.0.1, 15.0.2, and so on. Cumulative patches come with a standard Oracle Retail installer and so can be applied to an environment with the installer rather than with ORPatch or other utilities.

Incremental Patches

An incremental patch includes only selected files necessary to address a specific issue or add a feature. Examples of incremental patches would be a hot fix for a specific defect. Incremental patches do not include an installer and must be applied with ORPatch.

Incremental Patch Structure

An Oracle Retail incremental patch generally contains several files and one or more subdirectories. The subdirectories contain the contents of the patch, while the individual files contain information about the patch and metadata necessary for patching utilities to correctly apply the patch. The most important files in the top-level directory are the README.txt, the manifest files.

README File

The README.txt file contains information about the incremental patch and how to apply it. This may include manual steps that are necessary before, after or while applying the patch. It will also contain instructions on applying the patch with ORPatch.

Manifest Files

Each patch contains manifest files which contain metadata about the contents of a patch and are used by ORPatch to determine the actions necessary to apply a patch. Patches should generally be run against all installations a product in an environment, and ORPatch will only apply the changes from the patch that are relevant to that installation.

Note: Cumulative patches use a different patch structure because they include a full installer which will run ORPatch automatically.

Version Tracking

The patching infrastructure for 15.0 tracks version information for all files involved with a product installation. The RETAIL_HOME contains files which track the revision of all files within the RETAIL_HOME including batch, forms, database, Java archives and other files. In addition, records of database scripts that have been applied to the product database objects are kept within each database schema.

Apply all Patches with Installer or ORPatch

In order to ensure that environment metadata is accurate all patches must be applied to the Oracle Retail product installation using patching utilities. For cumulative patches this is done automatically by the installer. For incremental patches ORPatch must be used directly. This is especially important if database changes are being applied, in order to ensure that the database-related metadata is kept up-to-date.

Environment Configuration

A configuration file in $RETAIL_HOME/orpatch/config/env_info.cfg is used to define the details of a specific Oracle Retail environment. This file defines:

- The location of critical infrastructure components such as the ORACLE_HOME on a database or middleware server.
- The location of Oracle Wallets to support connecting to the database users.
- The type of file processing which is relevant to a particular host. For example, if this is a host where database work should be done, or a host where batch compilation should be done, a host where Java applications should be deployed, etc. This allows a single database, forms and batch patch to be run against all types of hosts, applying only the relevant pieces on each server.
- Other configuration necessary to determine proper behavior in an environment.

Retained Installation Files

The RETAIL_HOME location of an Oracle Retail product installation contains all of the files associated with that installation. This can include database scripts, Java files, Forms, Batch, RETL and Data Conversion files as with previous versions and also includes all database scripts. This allows objects to be reloaded during patching, including any necessary dependencies.

Reloading Content

In order to ensure that database contents and generated files exactly match patched versions, when applying cumulative patches some content is regenerated even if it does not appear to have changed.

On a cumulative patch this includes:

- All re-runnable database content will be reloaded
  - Packages and Procedures
  - Database Types (excluding RIB objects)
  - Control scripts
  - Triggers
  - WebService jars and packages
  - Form Elements
- All RMS and RWMS forms files will be recompiled
- All RMS batch files will be recompiled

When applying incremental patches, only changed files will be reloaded. However this does not apply to RMS batch, which is fully recompiled with any change.

Java Hotfixes and Cumulative Patches

When applying cumulative patches to Java applications components with ORPatch, all hotfixes related to base product ear files included with the patch will be rolled back. This increases the likelihood of a successful deployment because hotfixes may not be compatible with updated product ear files, or may already be included with the ear. Before applying a cumulative patch to Java applications, check the patch documentation to determine which hotfixes are not included in the ear. Then work with Oracle Support to obtain compatible versions of the fixes for the updated ear version. In some cases this may be the same hotfix, in which case it can be re-applied to the environment. In other cases a new hotfix may be required.

Backups

Before applying a patch to an environment, it is extremely important to take a full backup of both the RETAIL_HOME file system and the Oracle Retail database. Although ORPatch makes backups of files modified during patching, any database changes cannot be reversed. If a patch fails which contains database changes, and cannot be completed, the environment must be restored from backup.

Disk Space

When patches are applied to an environment, the old version of files which are updated or deleted are backed up to $RETAIL_HOME/backups/backup-<timestamp>. When applying large patches, ensure there is sufficient disk space on the system where you unzip the patch or the patching process may fail. Up to twice as much disk space as the unzipped patch may be required during patching.

In addition to backups of source files, the existing compiled RMS or RWMS Forms and RMS Batch files are saved before recompilation. These backups may be created during patches:

- Batch ‘lib’ directory in $RETAIL_HOME/oracle/lib/bin-<timestamp>
- Batch ‘proc’ directory in $RETAIL_HOME/oracle/proc/bin-<timestamp>
- Forms ‘toolset’ directory in $RETAIL_HOME/base/toolset/bin-<timestamp>
- Forms ‘forms’ directory in $RETAIL_HOME/base/forms/bin-<timestamp>

Periodically both types of backup files can be removed to preserve disk space.

Patching Operations

Running ORPatch

ORPatch is used to apply patches to an Oracle Retail product installation. When applying a patch which includes an installer, ORPatch does not need to be executed manually as the installer will run it automatically as part of the installation process. When applying a patch that does not include an installer, ORPatch is run directly.

ORPatch performs the tasks necessary to apply the patch:

- Inspects the patch metadata to determine the patch contents and patch type.
- Reads the environment configuration file to determine which product components exist in this installation.
- Assembles a list of patch actions which will be run on this host to process the patch.
- Executes pre-checks to validate that all patch actions have the necessary configuration to proceed.
- Compares version numbers of files from the patch against the files in the environment.
- Backs up files which will be updated.
- Copies updated files into the installation.
- Loads updated files into database schemas, if applicable.
- Recompiles RMS batch, if applicable.
- Recompiles RMS forms, if applicable.
- Recompiles RWMS forms, if applicable.
- Constructs updated Java archives and deploys them to WebLogic, if applicable
- Updates Java batch files and libraries, if applicable
- Records the patch in the patch inventory.

If a patch does not contain updated files for the database or system, no action may be taken. If a previously failed ORPatch session is discovered, it will be restarted.

Preparing for Patching

Before applying a patch to your system, it is important to properly prepare the environment.

Single Patching Session

It is extremely important that only a single ORPatch session is active against a product installation at a time. If multiple patches need to be applied, you can optionally merge them into a single patch and apply one patch to the environment. Never apply multiple patches at the same time.

Shutdown Applications

If a patch updates database objects, it is important that all applications are shutdown to ensure no database objects are locked or in use. This is especially important when applying changes to Oracle Retail Integration Bus (RIB) objects as types in use will not be correctly replaced, leading to “ORA-21700: object does not exist or marked for delete” errors when restarting the RIB.

Backup Environment

Before applying a patch to an environment, it is important to take a full backup of both the RETAIL_HOME file system and the retail database. Although ORPatch makes backups of files modified during patching, any database changes cannot be reversed. If a patch which contains database changes fails and cannot be completed, the environment must be restored from backup.

Log Files

When applying a patch, ORPatch will create a number of log files which contain important information about the actions taken during a patch and may contain more information in the event of problems. Log files are created in the $RETAIL_HOME/orpatch/logs directory. Logs should always be reviewed after a patch is applied.

After a patch session the log directory will contain at a minimum an ORPatch log file and may also contain other logs depending on the actions taken. The following table describes logs that may exist.

Log File	Used For
orpatch-<date>-<time>.log	Primary ORPatch log file
detail_logs/dbsql_<component>/invalids/*	Details on the errors causing a database object to be invalid
detail_logs/analyze/details	Detail logs of files that will be created/updated/removed when a patch is applied
detail_logs/compare/details	Detail logs of the differences between two sets of environment metadata
orpatch_forms_<pid>_child_<num>.log	Temporary logs from a child process spawned to compile forms in parallel. After the child process completes, the contents are append to the primary orpatch log file
detail_logs/forms/rms_frm_toolset/*	Detail logs of the compilation of each RMS Toolset file
detail_logs/forms/rms_frm_forms/*	Detail logs of the compilation of each RMS Forms file
detail_logs/rmsbatch/lib/*	Detail logs of the compilation of RMS Batch libraries
detail_logs/rmsbatch/proc/*	Detail logs of the compilation of RMS Batch programs
detail_logs/dbsql_rms/rms_db_ws_consumer_jars/*	Detail logs of the loadjava command to install RMS WebService Consumer objects
detail_logs/dbsql_rms/rms_db_ws_consumer_libs/*	Detail logs of the loadjava command to install RMS WebService Consumer libraries

Log File	Used For
detail_logs/forms/rwms_frm_forms/*	Detail logs of the compilation of each RWMS Forms file
detail_logs/dbsql_rwms/rwms_db_sp _jars/*	Detail logs of the loadjava command to install RWMS SP jars
detail_logs/javaapp_<product>/deploy/*	Detail logs of the deploy of a Java product

Unzip Patch Files

Before executing ORPatch, the patch files must be unzipped into a directory. This directory will be passed to ORPatch as the "-s <source directory>" argument on the command-line when applying or analyzing a patch.

Location of ORPatch

The ORPatch script will be located in $RETAIL_HOME/orpatch/bin.

Command Line Arguments

ORPatch behavior is controlled by several command-line arguments. These arguments may be actions or options. Command and option names can be specified in upper or lower case, and will be converted to upper-case automatically. Arguments to options, for example the source directory patch, will not be modified.

ORPatch command-line actions:

Action	Description
apply	Tells ORPatch to apply a patch, requires the –s option Example: orpatch apply -s $RETAIL_HOME/stage/patch123456
analyze	Tells ORPatch to analyze a patch, requires the –s option Example: orpatch analyze -s $RETAIL_HOME/stage/patch123456
lsinventory	Tells ORPatch to list the inventory of patches that have been applied to this installation
exportmetadata	Tells ORPatch to extract all metadata information from the environment and create a $RETAIL_HOME/support directory to contain it. Requires the –expname option.
diffmetadata	Tells ORPatch to compare all metadata from the current environment with metadata exported from some other environment. Requires the –expname and –srcname options.
revert	Tells ORPatch to revert the files related to a patch, requires the –s option Example: orpatch revert –s $RETAIL_HOME/backups/backup-09302013-153010

Note: An action is required and only one action can be specified at a time.

ORPatch command-line arguments:

Argument	Valid For Actions	Description
-s <source dir>	apply analyze	Specifies where to find the top-level directory of the patch to apply or analyze. The source directory should contain the manifest.csv and patch_info.cfg files.
-new	apply	Forces ORPatch to not attempt to restart a failed ORPatch session
-expname	exportmetadata diffmetadata lsinventory	Defines the top-level name to be used for the export or comparison of environment metadata. When used with lsinventory, it allows an exported inventory to be printed.
-srcname	diffmetadata	Defines the 'name' to use when referring to the current environment during metadata comparisons.
-dbmodules	diffmetadata	When comparing metadata at a module-level, compare the dbmanifest information rather than the environment manifest. This method of comparing metadata is less accurate as it does not include non-database files.
-jarmodules	analyze diffmetadata	When used with analyze, requests a full comparison of the metadata of Java archives included in the patch versus the metadata of the Java archives in the environment. This behavior is automatically enabled when Java customizations are detected in the environment. Analyzing the contents of Java archives allows for detailed investigation of the potential impacts of installing a new Java ear to an environment with customizations. When used with diffmetadata, causes metadata to be compared using jarmanifest information rather than the environment manifest. This provides more detailed information on the exact differences of the content of Java archives, but does not include non-Java files.
-selfonly	apply analyze	Only apply or analyze changes in a patch that relate to orpatch itself. This is useful for applying updates to orpatch without applying the entire patch to an environment.
-s <backup dir>	revert	Specifies the backup from a patch that should be reverted to the environment. This restores only the files modified during the patch, the database must be restored separately or the environment will be out-of-sync and likely unusable.

Analyzing the Impact of a Patch

In some cases, it may be desirable to see a list of the files that will be updated by a patch, particularly if files in the environment have been customized. ORPatch has an 'analyze' mode that will evaluate all files in the patch against the environment and report on the files that will be updated based on the patch.

To run ORPatch in analyze mode, include 'analyze' on the command line. It performs the following actions:

- Identifies files in the environment which the patch would remove.
- Compares version numbers of files in the patch to version numbers of files in the environment.
- Prints a summary of the number of files which would be created, updated or removed.
- Prints an additional list of any files that would be updated which are registered as being customized.
- Prints an additional list of any files which are in the environment and newer than the files included in the patch. These files are considered possible conflicts as the modules in the patch may not be compatible with the newer versions already installed. If you choose to apply the patch the newer versions of modules in the environment will NOT be overwritten.
- If a Java custom file tree is detected, prints a detailed analysis of the modules within Java ear files that differ from the current ear file on the system.
- Saves details of the files that will be impacted in $RETAIL_HOME/orpatch/logs/detail_logs/analyze/details.

This list of files can then be used to assess the impact of a patch on your environment.

To analyze a patch, perform the following steps:

1. Log in as the UNIX user that owns the product installation.
2. Set the RETAIL_HOME environment variable to the top-level directory of your product installation.
   ```
   export RETAIL_HOME=/u00/oretail/15.0/tst
   ```
3. Set the PATH environment variable to include the orpatch/bin directory
   ```
   export PATH=$RETAIL_HOME/orpatch/bin:$PATH
   ```
4. Set the JAVA_HOME environment variable if the patch contains Java application files.
   ```
   export JAVA_HOME=/u00/oretail/java_jdk
   ```
   > **Note:** If the JAVA_HOME environment variable is not specified, the value from RETAIL_HOME/orpatch/config/env_info.cfg will be used.
5. Create a staging directory to contain the patch, if it does not already exist.
   ```
   mkdir –p $RETAIL_HOME/stage
   ```
6. Download the patch to the staging directory and unzip it.
7. Execute orpatch to analyze the patch.
   ```
   orpatch analyze -s $RETAIL_HOME/stage/patch123456
   ```
8. Repeat the patch analysis on all servers with installations for this product environment.
9. Evaluate the list(s) of impacted files.

For more information on registering and analyzing customizations, please see the Customization section later in this document.

Applying a Patch

Once the system is prepared for patching, ORPatch can be executed to apply the patch to the environment. The patch may need to be applied to multiple systems if it updates components that are installed on distributed servers.

To apply a patch, perform the following steps:

1. Log in as the UNIX user that owns the product installation.
2. Set the RETAIL_HOME environment variable to the top-level directory of your product installation.

   ```
   export RETAIL_HOME=/u00/oretail/15.0/tst
   ```

3. Set the PATH environment variable to include the orpatch/bin directory

   ```
   export PATH=$RETAIL_HOME/orpatch/bin:$PATH
   ```

4. Set the DISPLAY environment variable if the patch contains Forms.

   ```
   export DISPLAY=localhost:10.0
   ```

   > **Note:** If the DISPLAY environment variable is not specified, the value from RETAIL_HOME/orpatch/config/env_info.cfg will be used.

5. Set the JAVA_HOME environment variable if the patch contains Java application files.

   ```
   export JAVA_HOME=/u00/oretail/java_jdk
   ```

   > **Note:** If the JAVA_HOME environment variable is not specified, the value from RETAIL_HOME/orpatch/config/env_info.cfg will be used.

6. Create a staging directory to contain the patch, if it does not already exist.

   ```
   mkdir –p $RETAIL_HOME/stage
   ```

7. Download the patch to the staging directory and unzip it.
8. Review the README.txt included with the patch. If manual steps are specified in the patch, execute those steps at the appropriate time.
9. Shutdown applications.
10. Execute ORPatch to apply the patch.

    ```
    orpatch apply -s $RETAIL_HOME/stage/patch123456
    ```

11. After ORPatch completes, review the log files in $RETAIL_HOME/orpatch/logs.
12. Repeat the patch application on all servers with installations for this product environment.
13. Restart applications.

Restarting ORPatch

If ORPatch is interrupted while applying a patch, or exits with an error, it saves a record of completed work in a restart state file in $RETAIL_HOME/orpatch/logs. Investigate and resolve the problem that caused the failure, then restart ORPatch.

By default when ORPatch is started again, it will restart the patch process close to where it left off. If the patch process should **not** be restarted, add '-new' to the command-line of ORPatch.

Please note that starting a new patch session without completing the prior patch may have serious impacts that result in a patch not being applied correctly. For example, if a patch contains database updates and batch file changes and ORPatch is aborted during the load of database objects, abandoning the patch session will leave batch without the latest changes compiled in the installation.

Listing the Patch Inventory

After a patch is successfully applied by ORPatch the patch inventory in $RETAIL_HOME/orpatch/inventory is updated with a record that the patch was applied. This inventory contains a record of the patches applied, the dates they were applied, the patch type and products impacted.

To list the patch inventory, perform the following steps:

1. Log in as the UNIX user that owns the product installation.
2. Set the RETAIL_HOME environment variable to the top-level directory of your product installation.

   ```
   export RETAIL_HOME=/u00/oretail/15.0/tst
   ```
3. Set the PATH environment variable to include the orpatch/bin directory

   ```
   export PATH=$RETAIL_HOME/orpatch/bin:$PATH
   ```
4. Execute orpatch to list the inventory.

   ```
   orpatch lsinventory
   ```

Exporting Environment Metadata

ORPatch functionality is driven based on additional metadata that is stored in the environment to define what version of files are applied to the environment, and which database scripts have been applied to database schemas. This environment metadata is used to analyze the impact of patches to environments and controls what actions are taken during a patch. The metadata is stored in several locations depending on the type of information it tracks and in some cases it may be desirable to extract the metadata for analysis outside of ORPatch. For example, Oracle Support could ask for the metadata to be uploaded to assist them in triaging an application problem.

ORPatch provides a capability to export all of the metadata in an environment into a single directory and to automatically create a zip file of that content for upload or transfer to another system. The exact metadata collected from the environment depends on the products installed in the RETAIL_HOME.

ORPatch metadata exported:

Installed Product Component	Exported Metadata	Description
Any	orpatch/config/env_info.cfg orpatch/config/custom_hooks.cfg ORPatch inventory files	ORPatch configuration and settings
Any	All env_manifest.csv and deleted_env_manifest.csv files	Environment manifest files detailing product files installed, versions, customized flags and which patch provided the file
Database Schemas	DBMANIFEST table contents	Database manifest information detailing which database scripts were run, what version and when they were executed
Java Applications	All files from javaapp_<product>/config except jar files	Environment-specific product configuration files generated during installation

Installed Product Component	Exported Metadata	Description
Java Applications	Combined export of all META-INF/env_manifest.csv files from all product ear files	Jar manifest information detailing files, versions, customized flags and which patch provided the file
Java Applications	orpatch/config/javaapp_<product>/ant.deploy.properties	Environment properties file created during product installation and used during application deployment
Java Applications	<weblogic_home>/server/lib/weblogic.policy	WebLogic server java security manager policy file
RMS Batch	orpatch/config/rmsbatch_profile	Batch compilation shell profile
RMS Forms	orpatch/config/rmsforms_profile	Forms compilation shell profile
RWMS Forms	orpatch/cofngi/rwsmforms_profile	Forms compilation shell profile

Exports of environment metadata are always done to the $RETAIL_HOME/support directory. When exporting metadata, you must specify the –expname argument and define the name that should be given to the export. The name is used for the directory within $RETAIL_HOME/support and for the name of the zip file.

To extract an environment's metadata, perform the following steps:

1. Log in as the UNIX user that owns the product installation.
2. Set the RETAIL_HOME environment variable to the top-level directory of your product installation.
   ```
   export RETAIL_HOME=/u00/oretail/15.0/tst
   ```
3. Set the PATH environment variable to include the orpatch/bin directory
   ```
   export PATH=$RETAIL_HOME/orpatch/bin:$PATH
   ```
4. Execute orpatch to export the metadata.
   ```
   orpatch exportmetadata –expname test_env
   ```

This example would export all metadata from the environment to the $RETAIL_HOME/support/test_env directory. A zip file of the metadata would be created in $RETAIL_HOME/support/test_env.zip.

> **Note:** The $RETAIL_HOME/support/<name> directory should be empty or not exist prior to running exportmetadata in order to ensure accurate results.

Comparing Environment Metadata

Once metadata has been exported from an environment, it can be used to compare the environment manifest metadata of two environments. ORPatch provides a capability to compare metadata of the current environment with the exported metadata of another environment. Note that even though there are many types of metadata exported by ORPatch, only environment manifest metadata is evaluated during comparisons. Metadata comparison happens in four phases: product comparison, patch comparison, ORPatch action comparison, and module-level comparison.

Product comparison compares the products installed in one environment with the products installed in another environment. Patch comparison compares the patches applied in one environment with the patches applied in another environment, for common products. This provides the most summarized view of how environments differ. Patches which only apply to products on one environment are not included in the comparison.

Since each patch may impact many files, the comparison then moves on to more detailed analysis. The third phase of comparison is to compare the enabled ORPatch actions between environments. These actions roughly correspond to the installed 'components' of a product. For example, one environment may have database and forms components installed while another has only forms. Action comparison identifies components that are different between environments. The final phase of comparison is at the module level for actions that are common between environments. Modules which exist only on one environment, or exist on both environments with different revisions, or which are flagged as customized are reported during the comparison.

Differences between environment metadata are reported in a summarized fashion during the ORPatch execution. Details of the comparison results are saved in $RETAIL_HOME/orpatch/logs/detail_logs/compare/details. One CSV file is created for each phase of comparison: product_details.csv, patch_details.csv, action_details.csv and module_details.csv.

In order to be compared by ORPatch, exported metadata must be placed in the $RETAIL_HOME/support directory. The metadata should exist in the same structure that it was originally exported in. For example, if the metadata was exported to $RETAIL_HOME/support/test_env on another system, it should be placed in $RETAIL_HOME/support/test_env on this system.

When reporting differences between two environments, ORPatch uses names to refer to the environments. These names are defined as part of the diffmetadata command. The –expname parameter, which defines the directory containing the metadata, is also used as the name when referring to the exported metadata. The –srcname parameter defines the name to use when referring to the current environment. As an example, if you had exported the 'test' environment's metadata and copied it to the 'dev' environment's $RETAIL_HOME/support/test_env directory, you could run "orpatch diffmetadata -expname test_env -srcname dev_env". The detail and summary output would then refer to things that exist on dev but not test, revisions in the test environment versus revisions in the dev environment, etc.

ORPatch will automatically export the environment's current metadata to $RETAIL_HOME/support/compare prior to starting the metadata comparison.

To compare two environment's metadata, perform the following steps:

1. Export the metadata from another environment using orpatch exportmetadata.
2. Transfer the metadata zip from the other system to $RETAIL_HOME/support.
3. Log in as the UNIX user that owns the product installation.
4. Set the RETAIL_HOME environment variable to the top-level directory of your product installation.

   ```
   export RETAIL_HOME=/u00/oretail/15.0/dev
   ```

5. Set the PATH environment variable to include the orpatch/bin directory

   ```
   export PATH=$RETAIL_HOME/orpatch/bin:$PATH
   ```

6. Unzip the metadata zip file.

   ```
   unzip test_env.zip
   ```

7. Execute orpatch to compare the metadata

   ```
   orpatch diffmetadata –expname test_env –srcname dev_env
   ```

This example would compare the current environment against the metadata extracted in $RETAIL_HOME/support/test_env directory.

> **Note:** The $RETAIL_HOME/support/compare directory will be automatically removed before environment metadata is exported at the start of the comparison.

Reverting a Patch

In general it is best to either completely apply a patch, or restore the entire environment from the backup taken before starting the patch. It is important to test patches in test or staging environments before applying to production. In the event of problems, Oracle Retail recommends restoring the environment from backup if a patch is not successful.

> **Note:** Reverting patches in an integrated environment can be extremely complex and there is no fully automated way to revert all changes made by a patch. Restoring the environment from a backup is the recommended method to remove patches.

It is, however, possible to revert small patches using the backups taken by ORPatch during a patch. This will restore only the files modified, and it is still necessary to restore the database if any changes were made to it.

> **Note:** Reverting a patch reverts only the files modified by the patch, and does not modify the database, or recompile forms or batch files after the change.

When multiple patches have been applied to an environment, reverting any patches other than the most recently applied patch is strongly discouraged as this will lead to incompatible or inconsistent versions of modules applied to the environment. If multiple patches are going to be applied sequentially it is recommended to first merge the patches into a single patch that can be applied or reverted in a single operation.

To revert a patch, perform the following steps:

1. Log in as the UNIX user that owns the product installation.
2. Set the RETAIL_HOME environment variable to the top-level directory of your product installation.
   ```
   export RETAIL_HOME=/u00/oretail/15.0/tst
   ```
3. Set the PATH environment variable to include the orpatch/bin directory
   ```
   export PATH=$RETAIL_HOME/orpatch/bin:$PATH
   ```
4. Identify the backup directory in $RETAIL_HOME/backups that contains the backup from the patch you want to restore.
   - The backup directory will contain a patch_info.cfg file which contains the name of the patch the backup is from.
   - It is possible to have two directories for the same patch, if ORPatch was updated during the patch. It is not possible to revert the updates to ORPatch. Select the backup directory that does not contain orpatch files.
   - If it is not clear which backup directory to use, restore the environment from backup
5. Execute orpatch to revert the environment using the contents of the backup directory
   ```
   orpatch revert –s $RETAIL_HOME/backups/backup-11232013-152059
   ```
6. Restore the database from backup if the patch made database changes
7. Use the orcompile script to recompile forms if the patch included RMS or RWMS forms files

```
orcompile –a RMS –t FORMS
orcompile –a RWMS –t FORMS
```

8. Use the orcompile script to recompile batch if the patch included RMS batch files

```
orcompile –a RMS –t BATCH
```

9. Use the ordeploy script to redeploy the appropriate Java applications if the patch included Java files

```
ordeploy –a RPM –t JAVA
ordeploy –a REIM –t JAVA
ordeploy –a ALLOC –t JAVA
ordeploy –a RESA –t JAVA
```

Merging Patches

When patches are applied individually some ORPatch tasks such as compiling forms and batch files or deploying Java archives are performed separately for each patch. This can be time-consuming. An alternative is to use the ORMerge utility to combine several patches into a single patch, reducing application downtime by eliminating tasks that would otherwise be performed multiple times. Patches merged with ORMerge are applied with ORPatch after the merge patch is created.

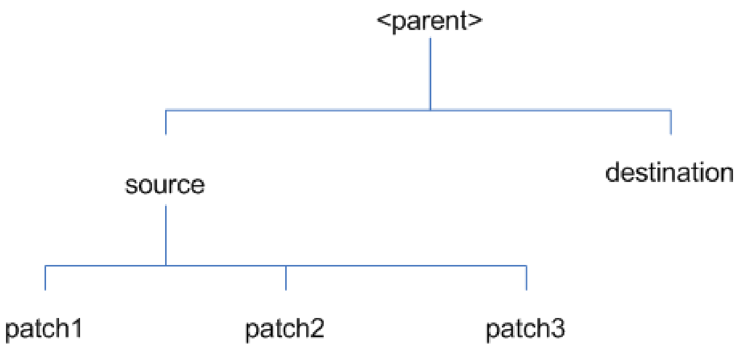
Source and Destination Directories

ORMerge uses source and destination areas in order to merge patch files. The source area is a single directory that contains the extracted patches to merge. The destination area is the location where the merged patch will be created. If a file exists in one or more source patches, only the highest revision will be copied to the merged patch.

The source and destination directories should exist under the same parent directory. That is, both the source and destination directories should be subdirectories of a single top-level directory.

The source directory must have all patches to be merged as immediate child directories. For example if three patches need to be merged the directory structure would look like this:

Source and Destination Directory Example



In the example above, the manifest.csv and patch_info.cfg files for each patch to be merged must exist in source/patch1, source/patch2, and source/patch3.

ORMerge Command-line Arguments

Argument	Required	Description
-s	Yes	Path to source directory containing patches to merge
-d	Yes	Path to destination directory that will contain merged patch
-name	No	The name to give the merged patch. If not specified, a name will be generated. When the merged patch is applied to a system, this name will appear in the Oracle Retail patch inventory.
-inplace	No	Used only when applying a patch to installation files prior to the first installation. See "Patching prior to the first install" in the Troubleshooting section later, for more information.

Running the ORMerge Utility

To merge patches, perform the following steps:

1. Log in as the UNIX user that owns the product installation.
2. Set the RETAIL_HOME environment variable to the top-level directory of your product installation.
   ```
   export RETAIL_HOME=/u00/oretail/15.0/tst
   ```
3. Set the PATH environment variable to include the orpatch/bin directory
   ```
   export PATH=$RETAIL_HOME/orpatch/bin:$PATH
   ```
4. Create a staging directory to contain the patches.
   ```
   mkdir –p $RETAIL_HOME/stage/merge/src
   ```
5. Download the patches to the staging directory and unzip them so that each patch is in a separate subdirectory.
6. Review the README.txt included with each patch to identify additional manual steps that may be required. If manual steps are specified in any patch, execute them at the appropriate time when applying the merged patch.
7. Create a destination directory to contain the merged patches.
   ```
   mkdir -p $RETAIL_HOME/stage/merge/dest
   ```
8. Execute ORMerge to merge the patches.
   ```
   ormerge -s $RETAIL_HOME/stage/merge/src –d $RETAIL_HOME/stage/merge/dest –name
   merged_patch
   ```

The merged patch can now be applied as a single patch to the product installation using ORPatch.

Compiling Application Components

In some cases it may be desirable to recompile RMS Forms, RWMS Forms or RMS Batch outside of a product patch. The ORCompile utility is designed to make this easy and remove the need to manually execute 'make' or 'frmcmp' commands which can be error-prone. ORCompile leverages ORPatch functions to ensure that it compiles forms and batch exactly the same way as ORPatch. In addition ORCompile offers an option to compile invalid database objects using ORPatch logic.

ORCompile takes two required command line arguments each of which take an option. Arguments and options can be specified in upper or lower case.

ORCompile Command Line Arguments

Argument	Description
-a <app>	The application to compile.
-t <type>	The type of application objects to compile

ORCompile Argument Options

Application	Type	Description
RMS	BATCH	Compile RMS Batch programs
RMS	FORMS	Compile RMS Forms
RWMS	FORMS	Compile RWMS Forms
RMS	DB	Compile invalid database objects in the primary RMS schema
RMS	DB-ASYNC	Compile invalid database objects in the RMS_ASYNC_USER schema
ALLOC	DB-ALC	Compile invalid database objects in the Allocations user schema
ALLOC	DB-RMS	Compile invalid database objects in the RMS schema
REIM	DB	Compile invalid database objects in the RMS schema
RME	DB	Compile invalid database objects in the RME schema
ASO	DB	Compile invalid database objects in the ASO schema
RI	DB-DM	Compile invalid database objects in the RI DM schema
RI	DB-RIBATCH	Compile invalid database objects in the RI batch schema
RI	DB-RMSBATCH	Compile invalid database objects in the RI RMS batch schema
RI	DB-FEDM	Compile invalid database objects in the RI front-end schema
RDE	DB-DM	Compile invalid database objects in the RDE DM schema
RDE	DB-RDEBATCH	Compile invalid database objects in the RDE batch schema
RDE	DB-RMSBATCH	Compile invalid database objects in the RDE RMS batch schema

Note: Compiling RMS type DB, ReIM type DB, and Allocation type DB-RMS, are all identical as they attempt to compile all invalid objects residing in the RMS schema.

Running the ORCompile utility

To compile files, perform the following steps:

1. Log in as the UNIX user that owns the product installation.
2. Set the RETAIL_HOME environment variable to the top-level directory of your product installation.

   ```
   export RETAIL_HOME=/u00/oretail/15.0/tst
   ```

3. Set the PATH environment variable to include the orpatch/bin directory

   ```
   export PATH=$RETAIL_HOME/orpatch/bin:$PATH
   ```

4. Execute orcompile to compile the desired type of files.

   ```
   orcompile –a <app> -t <type>
   ```

ORCompile Examples

Compile RMS Batch.

```
orcompile -a RMS -t BATCH
```

Compile RWMS Forms.

```
orcompile -a RWMS -t FORMS
```

Compile invalid objects in the RA DM schema.

```
orcompile -a RI -t DB-DM
```

Compile invalid objects in the RMS owning schema.

```
orcompile -a RMS -t DB
```

Deploying Application Components

In some cases it may be desirable to redeploy Java applications outside of a product patch. For example, when troubleshooting a problem, or verifying the operation of the application with different WebLogic settings. Another situation might include wanting to deploy the application using the same settings, but without customizations to isolate behavior that could be related to customized functionality.

The ordeploy utility is designed to make this easy and remove the need to re-execute the entire product installer when no configuration needs to change. ORDeploy leverages Oracle Retail Patch Assistant functions to ensure that it deploys applications exactly the same way as ORPatch. In addition ORDeploy offers an option to include or not include custom Java files, to ease troubleshooting.

ORDeploy takes two required command line arguments each of which take an option. Arguments and options can be specified in upper or lower case.

ORDeploy Command Line Arguments

Argument	Description
-a <app>	The application to deploy.
-t <type>	The type of application objects to deploy

ORDeploy Argument Options

Application	Type	Description
ALLOC	JAVA	Deploy the Allocations Java application and Java batch files, including any custom Java files.
ALLOC	JAVANOCUSTOM	Deploy the Allocations Java application and Java batch files, **NOT** including any custom Java files.
REIM	JAVA	Deploy the REIM Java application and Java batch files, including any custom Java files.
REIM	JAVANOCUSTOM	Deploy the REIM Java application and Java batch files, **NOT** including any custom Java files.

Application	Type	Description
RESA	JAVA	Deploy the RESA Java application, including any custom Java files.
RESA	JAVANOCUSTOM	Deploy the RESA Java application, **NOT** including any custom Java files.
RPM	JAVA	Deploy the RPM Java application and Java batch files, including any custom Java files.
RPM	JAVANOCUSTOM	Deploy the RPM Java application and Java batch files, **NOT** including any custom Java files.

Running the ORDeploy utility

To deploy Java applications, perform the following steps:

1. Log in as the UNIX user that owns the product installation.
2. Set the RETAIL_HOME environment variable to the top-level directory of your product installation.
   ```
   export RETAIL_HOME=/u00/oretail/15.0/tst
   ```
3. Set the PATH environment variable to include the orpatch/bin directory
   ```
   export PATH=$RETAIL_HOME/orpatch/bin:$PATH
   ```
4. Execute ORDeploy to deploy the desired Java application.
   ```
   ordeploy –a <app> -t <type>
   ```

ORDeploy Examples

Deploy RPM.

```
ordeploy -a RPM -t JAVA
```

Deploy ReIM without including Java customizations.

```
ordeploy -a REIM -t JAVANOCUSTOM
```

Maintenance Considerations

The additional information stored within the RETAIL_HOME and within database schemas adds some considerations when performing maintenance on your environment.

Database Password Changes

Oracle wallets are used to protect the password credentials for connecting to database schemas. This includes all database schemas used during an install. If the password for any of these users is changed the wallet's entry must be updated.

The wallet location is configurable but by default is in the following locations:

Location	Installation Type
$RETAIL_HOME/orpatch/rms_wallet	RMS Database RMS Batch
$RETAIL_HOME/orpatch/rms_wallet_app	RMS Forms
$RETAIL_HOME/orpatch/rwms_wallet	RWMS Database
$RETAIL_HOME/orpatch/rwms_wallet_app	RWMS Forms
$RETAIL_HOME/orpatch/oraso_wallet	ASO Database

Location	Installation Type
$RETAIL_HOME/orpatch/orme_wallet	RME Database
$RETAIL_HOME/orpatch/ra_wallet	RI (Previously RA) Database
$RETAIL_HOME/orpatch/rde_wallet	RDE Database

The wallet alias for each schema will be <username>_<dbname>. Standard mkstore commands can be used to update the password.

For example:

```
mkstore -wrl $RETAIL_HOME/orpatch/rms_wallet –modifyCredential rms_rmsdb rms01
rmspassword
```

This command will update the password for the RMS01 user to 'rmspassword' in the alias 'rms_rmsdb'.

The Oracle wallets are required to be present when executing ORPatch. Removing them will prevent you from being able to run ORPatch successfully. In addition the Oracle wallet location is referenced in the RMS batch.profile, and in the default RMS and RWMS Forms URL configuration, so removing them will require reconfiguration of batch and forms. If batch and forms were reconfigured after installation to use other wallet files, it is possible to backup and remove the wallets, then restore them when running ORPatch.

WebLogic Password Changes

Java wallets are used to protect the password credentials used when deploying Java products. This includes the WebLogic administrator credentials, LDAP connection credentials, batch user credentials and any other credentials used during an install. If the password for any of these users is changed the wallet's entry must be updated, or the Java product installation can be run again.

The wallet location is in the following locations:

Location	Installation Type
$RETAIL_HOME/orpatch/config/javapp_rpm	RPM Java
$RETAIL_HOME/orpatch/config/javapp_reim	ReIM Java
$RETAIL_HOME/orpatch/config/javapp_alloc	Allocation Java
$RETAIL_HOME/orpatch/config/javapp_resa	RESA Java
$RETAIL_HOME/orpatch/config/javaapp_rasrm	ORAAC (Previously RASRM) Java

The wallet aliases will be stored in the retail_installer partition. The names of the aliases will vary depending on what was entered during initial product installation.

The dump_credentials.sh script can be used to list the aliases in the wallet.

For example:

```
cd $RETAIL_HOME/orpatch/deploy/retail-public-security-api/bin
./dump_credentials.sh $RETAIL_HOME/orpatch/config/javapp_alloc

Apapplication level key partition name:retail_installer
User Name Alias:dsallocAlias User Name:rms01app
User Name Alias:BATCH-ALIAS User Name:SYSTEM_ADMINISTRATOR
User Name Alias:wlsAlias User Name:weblogic
```

The easiest way to update the credential information is to re-run the Java product installer. If you need to manually update the password for a credential, the save_credential.sh script can be used.

For example:

```
cd $RETAIL_HOME/orpatch/deploy/retail-public-security-api/bin
./save_credential.sh –l $RETAIL_HOME/orpatch/config/javapp_alloc –p
retail_installer –a wlsAlias –u weblogic
```

This command will prompt for the new password twice and update the aslias wlsAlias, username weblogic with the new password.

Infrastructure Directory Changes

The RETAIL_HOME/orpatch/config/env_info.cfg file contains the path to the database ORACLE_HOME on database or RMS Batch installations, to the WebLogic Forms and Reports ORACLE_HOME and ORACLE_INSTANCE on RMS or RWMS Forms installations, and to the WEBLOGIC_DOMAIN_HOME, WL_HOME and MW_HOME on Java product installations. If these paths change, the related configuration variables in the env_info.cfg file must be updated.

DBManifest Table

The table dbmanifest within Oracle Retail database schemas is used to track the database scripts which have been applied to the schema. It is critical not to drop or truncate this table. Without it, ORPatch will attempt to re-run scripts against the database which have already been applied which can destroy a working environment. Similarly, if copying a schema from one database to another database, ensure that the dbmanifest table is preserved during the copy.

RETAIL_HOME relationship to Database and Application Server

The RETAIL_HOME associated with an Oracle Retail product installation is critical due to the additional metadata and historical information contained within it. If a database or application installation is moved or copied, the RETAIL_HOME related to it should be copied or moved at the same time.

Jar Signing Configuration Maintenance

The RPM product installation includes an option to configure a code signing certificate so that jar files modified during installation or patching are automatically re-signed. This configuration is optional, but recommended. If it is configured, the code signing keystore is copied during installation to $RETAIL_HOME/orpatch/config/jarsign/orpkeystore.jks. The keystore password and private key password are stored in a Java wallet in the $RETAIL_HOME/orpatch/config/jarsign directory. The credentials are stored in a wallet partition called orpatch:

Alias	Username	Description
storepass	discard	Password for the keystore
keypass	discard	Password for the private key

The keystore file and passwords can be updated using the product installer. This is the recommended way to update the signing configuration.

If only the credentials need to be updated, the sign_jar.sh script can be used.

1. Log in as the UNIX user that owns the product installation.
2. Set the RETAIL_HOME environment variable to the top-level directory of your installation.

   ```
   export RETAIL_HOME=/u00/oretail/15.0/tst
   ```

3. Change directories to the location of sign_jar.sh

   ```
   cd $RETAIL_HOME/orpatch/deploy/bin
   ```

4. Execute sign_jar.sh

   ```
   sign_jar.sh changepwd
   ```

5. When prompted, enter the new keystore password
6. When prompted, enter the new private key password

Customization

Patching Considerations with Customized Files and Objects

In general, the additional capabilities provided by the ORPatch should make it easier to evaluate the potential impacts of patches to your customizations of Oracle Retail products. However, the additional metadata maintained by the Oracle Retail patching utilities does add some considerations when making customizations.

General Guidelines

It is always preferred to customize applications by extension rather than by direct modification. For example, adding new database objects and forms rather than modifying existing Oracle Retail objects and forms. You can also leverage built-in extension points such as User Defined Attributes, the Custom Flexible Attribute Solution, or seeded customization points in ADF Applications.

It is strongly discouraged to directly modify Oracle Retail database objects, especially tables, as your changes may be lost during patching or may conflict with future updates. When adding or modifying database objects, Oracle Retail recommends that all objects be added with scripts to ensure that they can be rebuilt if necessary after a patch.

Custom Database Objects

When you create new database objects, Oracle Retail recommends placing them in an Oracle database schema specifically for your customizations. You must use synonyms and grants to allow the Oracle Retail product schema owner and other users to access your objects, and use synonyms and grants to allow your customizations to access Oracle Retail objects. A separate schema will ensure that your customizations are segregated from base Oracle Retail code.

ORPatch expects that there will be no invalid objects in the database schemas it manages after a patch is applied. For this reason adding extra objects to the product schema could result in failures to apply patches as changes to base objects may cause custom objects to go invalid until they are updated. In this situation, manually update the custom objects so that they compile, and restart the patch.

Custom Forms

When creating new custom forms, Oracle Retail recommends placing them in a separate directory specifically for your customizations. This directory should be added to the FORMS_PATH of your RMS or RWMS Forms URL configuration to allow the forms to be found by the Forms Server. This will ensure that your customizations are segregated from base Oracle Retail code. If you choose to place customizations in the Forms bin directory, then your custom forms will need to be recopied each time Forms are fully recompiled.

ADF Application Customization

Oracle Retail ADF-based applications such as Allocation and ReSA can be customized using a process called 'seeded customization'. The customization process involves using JDeveloper in Customizer mode to create changes to product configurations, and then building a MAR archive containing the changes. The generated MAR is deployed to the MDS repository used by the application and applied to the application at runtime. These types of customizations are handled outside of ORPatch and are not reported during patch analysis or tracked by the custom file registration utility. More information can be found in the respective product customization guides.

Custom Compiled Java Code

When customizing Oracle Retail Java-based products such as RPM and ReIM via product source code, ORPatch supports automatically adding compiled customizations into the application ear file prior to deployment. This allows customizations to be applied to the application without directly modifying the base product ear, enabling customizations and defect hotfixes to co-exist when they do not change the same file or a dependent file. See the later "Custom Compiled Java Code" section for additional information and considerations.

Analyze Patches when Customizations are Present

Whenever you have customized a product by directly modifying Oracle Retail files or database objects, it is important to ensure you analyze each the files that will be updated by a patch before applying the patch. This will allow you to identify any customized files which may be overwritten by the patch and either merge your customization with the new version of the file, or re-apply the customization after applying the patch.

Manifest Updates

If you choose to customize Oracle Retail files directly, it is extremely important **not** to update the revision number contained in the env_manifest.csv. This could cause future updates to the file to be skipped, invalidating later patch applications as only a partial patch would be applied. The customized revision number for modified files will need to be tracked separately.

Registering Customized Files

The ORPatch contains utilities and functionality to allow tracking of files that have been customized through direct modification. This process is referred to as 'registering' a customized file. Registration only works for files which are shipped by Oracle Retail. It is not possible to register new files created in the environment as part of extensions or customizations.

When patches are analyzed with ORPatch, special reporting is provided if any registered files would be updated or deleted by the patch. Customized files impacted by the patch are listed at the end of the analysis report from ORPatch. The detail files generated during the analyze will contain a column called 'customized' which will have a Y for any files which were registered as customized. This allows easier identification of customizations which will be overwritten by a patch.

All files delivered by Oracle Retail are considered 'base' and so when they are applied to an environment any registrations of those files as customized will revert back to un-customized. **Each time a patch overwrites customized files, you must re-register the files as customized once you have applied customizations.**

To register customized files, use the $RETAIL_HOME/orpatch/bin/orcustomreg script.

The orcustomerg script operates in one of two modes: registration and list.

- Registration mode registers or unregisters one or more files as customized.
- List mode lists all files in the environment that are registered as customized.

Command Line Arguments for Registration Mode

Argument	Description
-f <file>	Adds <file> to the list of files that will be registered. Can be specified more than once.

Argument	Description
-bulk <file>	Specifies a file to read, containing one filename per line. All filenames listed inside <file> will be registered.
-register	Files specified with -f or -bulk will be registered as 'customized'
-unregister	Files specified with -f or -bulk will be registered as 'base'

Notes:

- At least one of -f or -bulk is required.
- If neither -register nor -unregister is specified, the default is '-register'.
- File names specified with -f must either be fully-qualified or be relative to RETAIL_HOME. The same is true for filenames specified within a -bulk file.

Command Line arguments for list mode

Argument	Description
-list	List all files in the environment registered as customized

Running the orcustomreg Script

Perform the following procedure to run the orcustomreg script:

1. Log in as the UNIX user that owns the product installation.
2. Set the RETAIL_HOME environment variable to the top-level directory of your product installation.
   ```
   export RETAIL_HOME=/u00/oretail/15.0/tst
   ```
3. Set the PATH environment variable to include the orpatch/bin directory
   ```
   export PATH=$RETAIL_HOME/orpatch/bin:$PATH
   ```
4. Execute orcustomreg script to register the desired file(s).
   ```
   orcustomreg –register –f <file>
   ```

Examples of using the orcustomreg Script

Register $RETAIL_HOME/dbsql_rms/Cross_Pillar/control_scripts/source/oga.sql as customized.

```
orcustomreg -f dbsql_rms/Cross_Pillar/control_scripts/source/oga.sql
```

Unregister customizations for $RETAIL_HOME/dbsql_rwms/Triggers/Source/TR_WAVE.trg

```
orcustomreg –unregister –f $RETAIL_HOME/dbsql_rwms/Triggers/Source/TR_WAVE.trg
```

Bulk register several files as customized.

```
echo “$RETAIL_HOME/oracle/proc/src/mrt.pc” > custom.txt
echo “$RETAIL_HOME/oracle/proc/src/saldly.pc” >> custom.txt
echo “$RETAIL_HOME/oracle/proc/src/ccprg.pc” >> custom.txt
orcustomreg –bulk custom.txt
```

List all files registered as customized.

```
orcustomreg –list
```

Custom Compiled Java Code

When customizing Oracle Retail Java-based products such as RPM and ReIM via product source code, ORPatch supports automatically adding compiled customizations into the application ear file prior to deployment. This allows customizations to be applied to the application without directly modifying the base product ear, enabling customizations and defect hotfixes to co-exist when they do not change the same file or a dependent file

This functionality is enabled by creating a directory called $RETAIL_HOME/javaapp_<app>/custom, where <app> is the application the customizations apply to. Files stored within this directory will be combined with the base product ear files before the application is deployed to WebLogic. ORPatch will attempt to consider customizations stored within the 'custom' directory during patch analysis by triggering more detailed ear file change analysis to assist with identifying which customizations might be impacted by changes in the patches.

> **Note:** It is not possible, nor necessary, to register compiled Java customizations with the orcustomreg tool.

As with other customization techniques for other technologies, Oracle Retail recommends making Java customizations in new files as much as possible, versus overwriting base product or configuration files. In the past it was necessary to build complete replacement product ear files, but this method of customization is no longer required nor recommended. Replacement ear and jar files will not contain the META-INF/env_manifest.csv files which are required in order to be able to apply incremental patches. Instead, compile the specific Java classes being customized and place them along with any custom configuration files in $RETAIL_HOME/javaapp_<app>/custom.

Building Deployable ear files

When constructing the product ear file to deploy to WebLogic, ORPatch applies changes to the ear file in a specific order, with files from later steps overwriting files in earlier steps. The resulting ear is stored in $RETAIL_HOME/javaapp_<app>/deploy, and then deployed to WebLogic.

Sequence for ORPatch Java Product ear file updates

Order	File Type	Location
1	Base product ear	$RETAIL_HOME/javaapp_<app>/base
2	Updated configuration files	$RETAIL_HOME/javaapp_<app>/config
3	Oracle Retail-supplied hotfixes	$RETAIL_HOME/javaapp_<app>/internal
4	Compiled customizations	$RETAIL_HOME/javaapp_<app>/custom

Merging Custom Files

When merging files from the custom directory with the product ear, ORPatch uses the directory path of the files within custom to calculate where the file should be stored within the ear. This allows arbitrary nesting of files, even when placing files within jars stored in jars, stored within the ear. The following examples below use RPM, but apply to adding compiled customizations to any Java-based product.

Custom directory location and product ear location Examples

File path within javaapp_<app>/custom/	Final Ear File Location
rpm.ear/company/ui/MyCustom.class	In rpm.ear: /company/ui/MyCustom.class
rpm.ear/rpm.jar/company/bc/MyCustom2.class	In rpm.ear: In rpm.jar: /company/bc/MyCustom2.class
rpm.ear/lib/ourcustomlibs.jar	In rpm.ear /lib/ourcustomlibs.jar
rpm.ear/WebLaunchServlet.war/lib/ rpm.jar/company/bc/MyCustom2.class	In rpm.ear: In WebLaunchServlet.war: In lib/rpm.jar: /company/bc/MyCustom2.class

Analyzing patches when customizations are present

When analyzing a patch which contains a base product ear and the custom directory contains files, ORPatch will automatically trigger a more detailed analysis of the changes coming in a patch. This includes calculating what files inside the product ear have been added, removed or updated and which files appear to be customized based on the contents of the 'custom' directory. The detailed results of the ear file comparison during patch analysis will be saved in javaapp_<app>_archive_compare_details.csv. Any custom files which appeared to be impacted by the patch are saved in javapp_<app>_archive_custom_impacts.csv. Both files will be in the $RETAIL_HOME/orpatch/logs/detail_logs/analyze/details directory.

Note: This detailed analysis is not available when analyzing individual hotfixes, so special care must be taken when applying hotfixes to a customized product installation, to ensure there are no conflicts between customizations and hotfix changes.

Customizations and cumulative patches

By default, when applying a cumulative patch, ORPatch will not include customizations in the deployed product ear, even if they are present in the appropriate directory. This allows verification that the application is functioning properly using base code, before applying customizations. After verifying the initial deployment, use ORDeploy with the "-t JAVA" option to construct and deploy the product ear including customizations.

If customizations need to be removed outside of a patch, use ORDeploy with the "-t JAVANOCUSTOM" option to create and deploy an ear containing only Oracle Retail code. To force ORPatch to include customizations in the deployed ear even when applying a cumulative patch, set JAVAAPP_<app>_INCLUDE_CUSTOM=Y in the $RETAIL_HOME/orpatch/config/env_info.cfg file.

Changing configuration files

It is possible to directly change product configuration files in $RETAIL_HOME/javaapp_<app>/config. These updates can be deployed to the environment using the ORDeploy utility. However, the 'config' directory is completely recreated each time the product installer is used. This means that modifications will be lost and must be manually reapplied after each installer run. It is recommended to make configuration changes via the installer where possible, and retain the ant.install.properties file for use in later installer sessions.

Extending Oracle Retail Patch Assistant with Custom Hooks

The default ORPatch actions and processing logic is sufficient to install and patch the base Oracle Retail product code. However there may be situations where custom processing is desired during patching activities such as executing a shell script prior to the start of patching, or running a SQL script at the end of the patch.

ORPatch supports extensions in the form of custom hooks. These hooks allow external scripts to be run at specific points during ORPatch processing.

ORPatch Processing

Action

ORPatch supports a variety of 'actions' which define the steps necessary to apply updates to a particular area of the Oracle Retail application. Each action is generally specific to updates to a single technology or logical component of the environment. For example, one action might handle making updates to the RMS database schema, while a separate action is responsible for compiling RWMS forms, and a different action deploys the RPM Java application. These actions are enabled and disabled within the environment configuration file, allowing ORPatch to determine what types of changes to apply to each product installation.

ORPatch Actions

Order	Action Name	Description
1	DBSQL_RMS	Loads RMS and RPM database objects into the primary RMS schema
2	DBSQL_RMSASYNC	Loads database objects into the RMS_ASYNC_USER schema
3	DBSQL_RAF	Loads Retail Application Framework database objects into the RMS schema
4	DBSQL_REIM	Loads ReIM database objects into the RMS schema
5	DBSQL_ALCRMS	Loads Allocation database objects into the RMS schema
6	DBSQL_ALLOC	Loads Allocation database objects into the Allocation user schema
7	DBSQL_RMSDEMO	Used to create demo data in the RMS schema if demo data was selected during initial installation
8	DBSQL_RMSDAS	Loads database objects into the RMS Data Access Schema
9	RMSBATCH	Compiles RMS Batch
10	ORAFORMS_RMS	Compiles RMS Forms, copies RMS reports to $RETAIL_HOME
11	RMSRETLSCRIPTS	Copies Oracle Retail Extract and Load scripts for RMS
12	RMSDCSCRIPTS	Copies Oracle Retail Merchandising System data conversion scripts

Order	Action Name	Description
13	DBSQL_RWMS	Loads database objects into the primary RWMS schema
14	DBSQL_RWMSADF	Loads database objects into the RWMS ADF user schema
15	DBSQL_RWMSUSER	Loads database objects into the RWMS user schema
16	ORAFORMS_RWMS	Compiles RWMS Forms, copies RWMS batch scripts and reports to $RETAIL_HOME
17	JAVAAPP_RPM	Deploys the RPM Java application and batch scripts
18	JAVAAPP_REIM	Deploys the REIM Java application and batch scripts
19	JAVAAPP_ALLOC	Deploys the Allocation Java application and batch scripts
20	JAVAAPP_RESA	Deploys the ReSA Java application
21	JAVAAPP_RASRM	Deploys the ORAAC (previously called RASRM) Java application
22	DBSQL_RARMSBATCH	Loads database objects into the RMS Batch schema for RI (previously called RA)
23	DBSQL_RADM	Loads database objects into the RI (previously called RA) Data Mart schema
24	DBSQL_RAFEDM	Loads database objects into the RI (previously called RA) Front-end schema
25	DBSQL_RABATCH	Loads database objects into the RI (previously called RA) Batch schema
26	DBSQL_RDERMSBATCH	Loads database objects into the RMS Batch schema for RDE
27	DBSQL_RDEDM	Loads database objects into the RDE Data Mart schema
28	DBSQL_RDEBATCH	Loads database objects into the RDE Batch schema
29	DBSQL_RASECORE	Loads core database objects into the ORASE schema
30	DBSQL_RASEASO	Loads ASO database objects into the ORASE schema
31	DBSQL_RASECDT	Loads CDT database objects into the ORASE schema
32	DBSQL_RASECIS	Loads CIS database objects into the ORASE schema
33	DBSQL_RASEDT	Loads DT database objects into the ORASE schema
34	DBSQL_RASEMBA	Loads MBA database objects into the ORASE schema
35	RASECOREBATCH	Copies ORASE core batch scripts and libraries
36	RASEASOBATCH	Copies ORASE ASO batch scripts and libraries
37	RASECDTBATCH	Copies ORASE CDT batch scripts and libraries
38	RASECISBATCH	Copies ORASE CIS batch scripts and libraries
39	RASEDTBATCH	Copies ORASE DT batch scripts and libraries
40	RASEMBABATCH	Copies ORASE MBA batch scripts and libraries

Phase

ORPatch processes patches in phases. Each action relevant to a patch and host is provided an opportunity to process the patch for each phase. The standard phases which allow hooks are:

Restart Phase Number	Phase Name	Description
N/A	PRECHECK	Actions verify that their configuration appears complete and correct. This phase and the associated hooks will be run every time orpatch is executed, even if processing will be restarted in a later phase.
10	PREACTION	Actions do processing prior to when files are copied to the environment. Files are deleted during this phase.
20	COPYPATCH	Actions copy files included in a patch into the destination environment and the environment manifest is updated.
30	PATCHACTION	Actions take the more detailed steps necessary to apply the new files to the environment. For database actions in particular, this is the phase when new and updated sql files are loaded into the database.
40	POSTACTION	Actions do processing after files have been copied and PatchActions are completed. The Forms actions, for example, use this phase to compile the forms files as this must happen after database packages are loaded.
50	CLEANUP	Actions do any additional processing. Currently no actions implement activities in this phase.

Configuring Custom Hooks

Custom hooks are configured in a configuration file RETAIL_HOME/orpatch/config/custom_hooks.cfg. The configuration file is a simple text file where blank lines and lines starting with # are ignored and all other lines should define a custom hook.

To define a custom hook, a line is added to the file in the form:

```
<hook name>=<fully qualified script>
```

The hook name must be in upper case and is in the form:

```
<action name>_<phase name>_<sequence>
```

The action name is any action name understood by ORPatch. The phase name is one of the five phase names from the table above. The sequence is either 'START' or 'END'. Hooks defined with a sequence of 'START' are run before the action's phase is invoked. Hooks defined with a sequence of 'END' are run after the action's phase is invoked.

Multiple scripts can be associated with a single hook by separating the script names with a comma. If a hook name appears in the configuration file multiple times only the last entry will be used.

The script defined as a custom hook must be an executable shell script that does not take any arguments or inputs. The only environment variable that is guaranteed to be passed to the custom hook is RETAIL_HOME. The script must return 0 on success and non-zero on failure.

If an action is a DBSQL action (i.e. has a name like DBSQL_), the custom hook can optionally be a .sql file. In this case the SQL script will be run against the database schema that the DBSQL action normally executes against. The SQL script must not generate any ORA- or SP2- errors on success. In order to be treated as a database script, the extension of the file defined as the custom hook must be .sql in lower-case. Any other extension will be treated as if it is a shell script. If you have database scripts with different extensions, they must be renamed or wrapped in a .sql script.

When using the PRECHECK phase and START sequence, please note that the custom hook will be executed prior to any verification of the configuration. Invalid configuration, such as invalid database username/password or a non-existent ORACLE_HOME, may cause the custom hook to fail depending on the actions it tries to take. However in these cases, the normal orpatch PRECHECK activities would likely have failed as well. All that is lost is the additional context that orpatch would have provided about what was incorrect about the configuration.

Restarting with Custom Hooks

If a custom hook fails, for example a shell script hook returns non-zero or a sql script generates an ORA- error in its output, the custom hook will be treated as failing. A failing custom hook causes ORPatch to immediately stop the patching session.

When ORPatch is restarted it always restarts with the same phase and action, including any START sequence custom hooks. If the START sequence custom hook fails, the action's phase is never executed. With an END sequence custom hook, the action's phase is re-executed when ORPatch is restarted and then the custom hook is re-executed. When an action's phase is costly, for example the DBSQL_RMS action which does a lot of work, this can mean a lot of duplicate processing.

For this reason it is preferred to use START sequence custom hooks whenever possible. If necessary, use a START sequence hook on a later phase or a later action, rather than an END sequence custom hook.

Patch-level Custom Hooks

In addition to action-specific hooks, there are two patch-level hook points available. These hooks allow scripts to be run before any patching activities start and after all patching activities are completed. The hooks are defined in the same configuration file, with a special hook name.

To run a script before patching, define:

```
ORPATCH_PATCH_START=<fully qualified script>
```

To run a script after patching, define:

```
ORPATCH_PATCH_END=<fully qualified script>
```

These hooks only support executing shell scripts, database scripts must be wrapped in a shell script. It is also important to note that these hooks are run on every execution of ORPatch to apply a patch, even when restarting a patch application. If the START sequence patch-level hook returns a failure, patching is aborted. If the END sequence patch-level hook returns a failure, it is logged but ignored as all patching activities have already completed.

Please note that the ORPATCH_PATCH_START hook is executed prior to any verification of the configuration. Invalid configuration may cause the custom hook to fail depending on the actions it tries to take. However in these cases, the normal ORPatchactivities would likely fail as well.

Example Custom Hook Definitions

A shell script that is executed prior to the Pre-Action phase of RMS Batch:

```
RMSBATCH_PREACTION_START=/u00/oretail/prepare_custom_header.sh
```

A shell script that is executed after RETL script files are copied into the RETAIL_HOME:

```
RETLSCRIPTS_COPYPATCH_END=/u00/oretail/copy_custom_files.sh
```

A SQL script that is executed against the RWMS owning schema at the start of the Cleanup Phase:

```
DBSQL_RWMS_CLEANUP_START=/dba/sql/recompile_synonyms.sql
```

Troubleshooting Patching

There is not a general method for determining the cause of a patching failure. It is important to ensure that patches are thoroughly tested in a test or staging system several times prior to attempting to apply the patch to a production system, particularly if the patch is a large cumulative patch. After the test application is successful, apply the patch to the production system.

ORPatch Log Files

ORPatch records extensive information about the activities during a patch to the log files in RETAIL_HOME/orpatch/logs. This includes a summary of the actions that are planned for a patch, information about all files that were updated by the patch, and detailed information about subsequent processing of those files. The ORPatch log files also contain timestamps to assist in correlating log entries with other logs.

Even more detailed logs are available in RETAIL_HOME/orpatch/logs/detail_logs for some activities such as forms compilation, invalid database object errors, and output from custom hooks. If the standard ORPatch log information is not sufficient, it might be helpful to check the detailed log if it exists.

Restarting ORPatch

The restart mechanism in ORPatch is designed to be safe in nearly any situation. In some cases to ensure this, a portion of work may be redone. If the failure was caused by an intermittent issue that has been resolved, restarting ORPatch may be sufficient to allow the patch to proceed.

Manual DBManifest Updates

A possible cause for database change script failures is that a database change was already made manually to the database. In this event, you may need to update the dbmanifest table to record that a specific script does not need to be run. Before doing this, it is extremely important to ensure that all statements contained in the script have been completed.

Use the $RETAIL_HOME/orpatch/bin/ordbmreg script to register database scripts in the dbmanifest table.

Command Line Arguments for ordbmreg

Argument	Description
-f <file>	Adds <file> to the list of files that will be registered. Can be specified more than once.
-bulk <file>	Specifies a file to read, containing one filename per line. All filenames listed inside <file> will be registered.
-register	Files specified with -f or -bulk will be registered in the dbmanifest table
-unregister	Files specified with -f or -bulk will be removed from the dbmanifest table

Notes:

- At least one of -f or -bulk is required.
- If neither -register nor -unregister is specified, the default is '-register'.
- File names specified with -f must either be fully-qualified or be relative to RETAIL_HOME. The same is true for filenames specified within a -bulk file.
- Registering a file in the dbmanifest table will cause it to be completely skipped. Before doing so, ensure that all commands contained in it have been completed.
- Removing a file from the dbmanifest table will cause it to be run again. This will fail if the commands in the script cannot be re-run. For example if they create a table that already exists.

Running the ordbmreg Script

Perform the following procedure to run the ordbmreg script:

1. Log in as the UNIX user that owns the product installation.
2. Set the RETAIL_HOME environment variable to the top-level directory of your product installation.
   ```
   export RETAIL_HOME=/u00/oretail/15.0/tst
   ```
3. Set the PATH environment variable to include the orpatch/bin directory
   ```
   export PATH=$RETAIL_HOME/orpatch/bin:$PATH
   ```
4. Execute ordbmreg script to register the desired file(s).
   ```
   ordbmreg –register –f <file>
   ```

Examples of using the ordbmreg Script

Register $RETAIL_HOME/dbsql_rms/Cross_Pillar/db_change_scripts/source/000593_system_options.sql with the dbmanifest table.

```
ordbmreg -f
dbsql_rms/Cross_Pillar/db_change_scripts/source/000593_system_options.sql
```

Remove the dbmanifest row for $RETAIL_HOME/dbsql_radm/ra_db/radm/database_change_scripts/000035_s12733240_w_party_per_d.sql.

```
ordbmreg –unregister –f
$RETAIL_HOME/dbsql_radm/ra_db/radm/database_change_scripts/000035_s12733240_w_part
y_per_d.sql
```

Bulk register several files in the dbmanifest table.

```
echo “$RETAIL_HOME/dbsql_rwms/DBCs/Source/000294_container.sql” > dbcs.txt
echo “$RETAIL_HOME/dbsql_rwms/DBCs/Source/000457_drop_object.sql” >> dbcs.txt
ordbmreg –bulk dbcs.txt
```

Restarting after registration

Once the row has been added to the dbmanifest table, restart ORPatch and the script will be skipped. If the file is not skipped there are several possibilities:

- The script registered is not the failing script.
- The file type is not a type that is filtered by the dbmanifest. The only file types that skip files listed in the dbmanifest are:
  – Initial install DDL Files
  – Installation scripts that cannot be rerun
  – Database Change Scripts

Manual Restart State File Updates

Oracle Retail strongly discourages manually updating the ORPatch restart state files. Updating the file improperly could cause necessary steps in the patching process to be skipped or patches to be incorrectly recorded as applied.

DISPLAY Settings When Compiling Forms

When compiling RMS or RWMS forms, it is necessary to have a valid X-Windows Display. ORPatch allows this setting to come from one of two places:

- DISPLAY environment variable set before executing ORPatch

  or

- DISPLAY setting in RETAIL_HOME/orpatch/config/env_info.cfg

The DISPLAY variable in the environment overrides the env_info.cfg, if both are set. The destination X-Windows display must be accessible to the user running ORPatch, and for best compilation performance it should be on the network 'close' to the server where RMS Forms are installed and compiled. Using a local display or VNC display is preferred. Compiling forms across a Wide-Area Network will greatly increase the time required to apply patches to environments.

JAVA_HOME Setting

When working with Java application jar, ear or war files, it is necessary to have a valid JAVA_HOME setting. ORPatch allows this setting to come from one of two places:

- JAVA_HOME environment variable set before executing ORPatch

  or

- JAVA_HOME setting in RETAIL_HOME/orpatch/config/env_info.cfg

The JAVA_HOME variable in the environment overrides the env_info.cfg, if both are set. The specified Java home location must be accessible to the user running ORPatch and be a full Java Development Kit (JDK) installation. The JAVA_HOME must contain the jar utility and if automatic Jar file signing is configured, must also contain the keytool and jarsigner utilities.

Patching Prior to First Install

In some situations, it may be necessary to apply a patch to product installation files before the initial install. For example, if there is a defect with a script that would be run during the install and prevent proper installation. In this rare situation, it may be necessary to apply a patch to the installation files prior to starting installation.

> **Note:** These steps should only be undertaken at the direction of Oracle Support.

Perform the following steps to patch installation files prior to starting an installation. The steps assume an RMS installation, but apply to any product supported by ORPatch:

1. Unzip the installation files to a staging area.

   > **Note:** The following steps assume the files are in /media/oretail15.0

2. Locate the patch_info.cfg within the product media. The directory it resides in will be used for later steps.

   ```
   find /media/oretail15.0/rms/installer –name patch_info.cfg
   ```

   Output Example:

   /media/oretail15.0/rms/installer/mom15/patch_info.cfg

3. Get the PATCH_NAME for the standard product installation. The patch name to use in subsequent steps will be the portion following the "=" sign.

   ```
   grep "PATCH_NAME=" /media/oretail15.0/rms/installer/mom15/patch_info.cfg
   ```

   Output Example:

   PATCH_NAME=**MOM_15_0_0_0**

4. Create a directory that will contain the patch that must be applied, next to the directory with the product installation files.

   > **Note:** The following steps assume this directory is in /media/patch.

5. Unzip the patch into the directory created in step 2.

   > **Note:** This should place the patch contents in /media/patch/<patch num>.

6. Export RETAIL_HOME to point within the installation staging area.

   ```
   export RETAIL_HOME=/media/oretail15.0/rms/installer/mom15/Build
   ```

7. Create a logs directory within the installation staging area

   ```
   mkdir $RETAIL_HOME/orpatch/logs
   ```

8. Ensure the ORMerge shell script is executable.

   ```
   chmod u+x $RETAIL_HOME/orpatch/bin/ormerge
   ```

9. Run ORMerge to apply the patch to the installation media, using a –name argument that is the same as what was found in step 3.

   ```
   $RETAIL_HOME/orpatch/bin/ormerge -s /media/patch -d
   /media/oretail15.0/rms/installer/mom15 –name MOM_15_0_0_0 –inplace
   ```

   > **Note:** The –inplace argument is critical to ensure that the patching replaces files in the mom15 directory.

10. Unset the RETAIL_HOME environment variable.

    ```
    unset RETAIL_HOME
    ```

At this point, the installation files will have been updated with the newer versions of files contained within the patch. Log files for the merge will be in /media/oretail15.0/rms/installer/mom15/Build/orpatch/logs.

Providing Metadata to Oracle Support

In some situations, it may be necessary to provide details of the metadata from an environment to Oracle support in order to assist with investigating a patching or application problem. ORPatch provides built-in functionality through the 'exportmetadata' action to extract and consolidate metadata information for uploading to

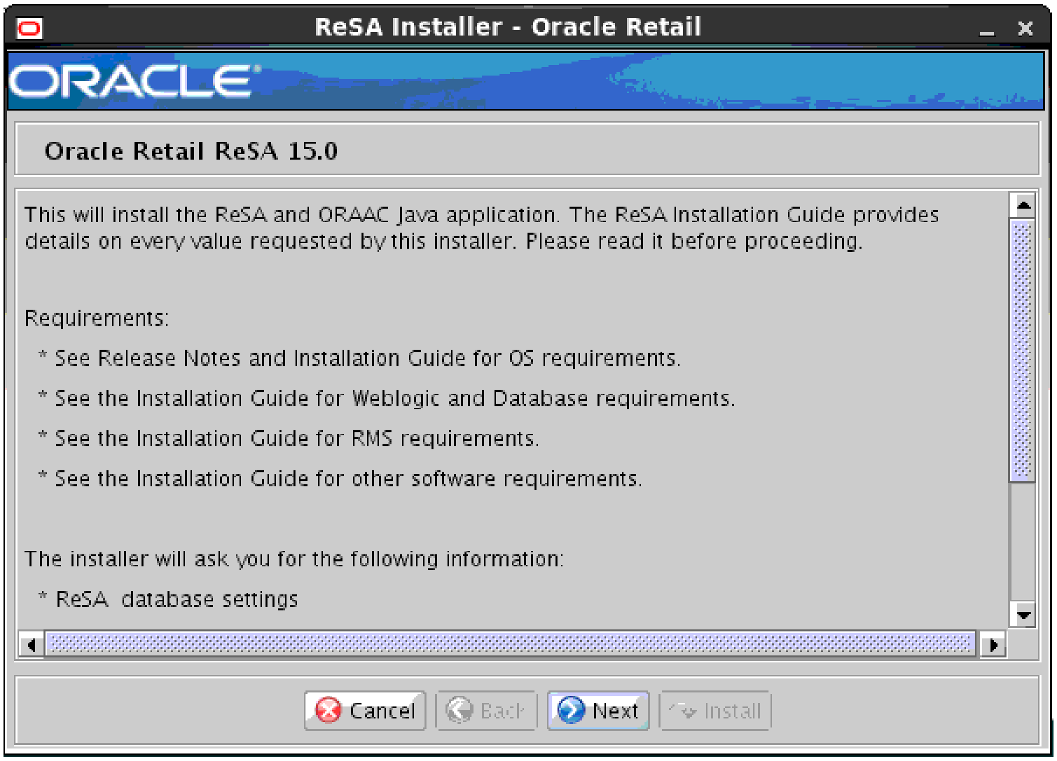
Oracle Support or for external analysis. For more information, see the ORPatch 'Exporting Environment Metadata' section.

A

Appendix: Oracle Retail Sales Audit Application Installer Screens

You need the following details about your environment for the installer to successfully deploy the ReSA application. Depending on the options you select, you may not see some screens or fields.

Screen: Start up



This will install the ReSA and ORAAC Java application. The ReSA Installation Guide provides details on every value requested by this installer. Please read it before proceeding.

Requirements:

* See Release Notes and Installation Guide for OS requirements.

* See the Installation Guide for Weblogic and Database requirements.

* See the Installation Guide for RMS requirements.

* See the Installation Guide for other software requirements.

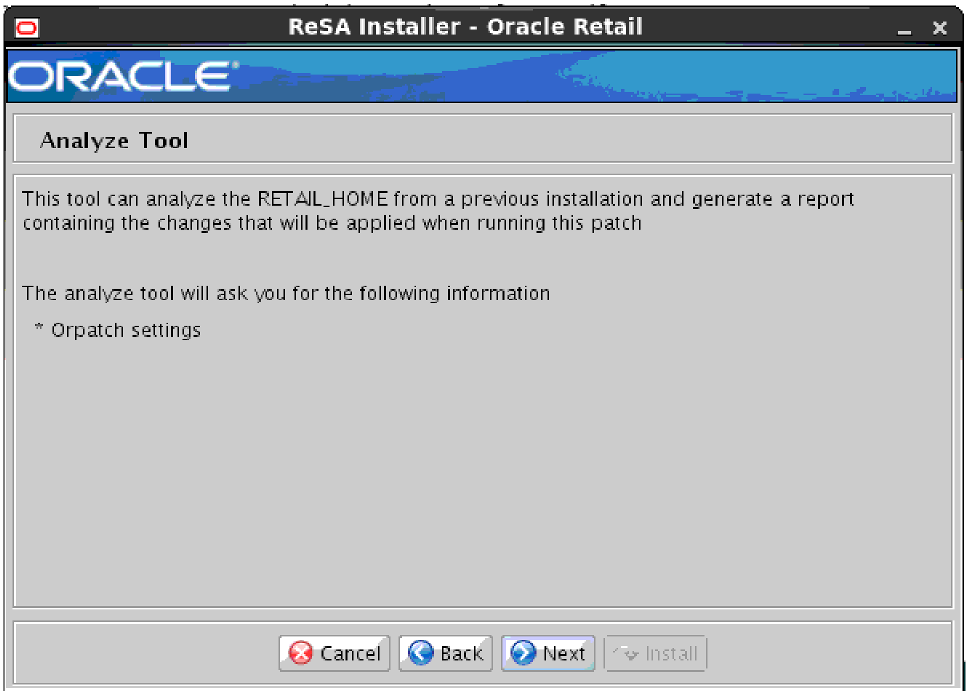
The installer will ask you for the following information:

* ReSA database settings

Analyze Tool

The following screens will only appear if the variable ORPATCH_ANALYZE has been set to true in the environment.

Screen: Analyze Tool

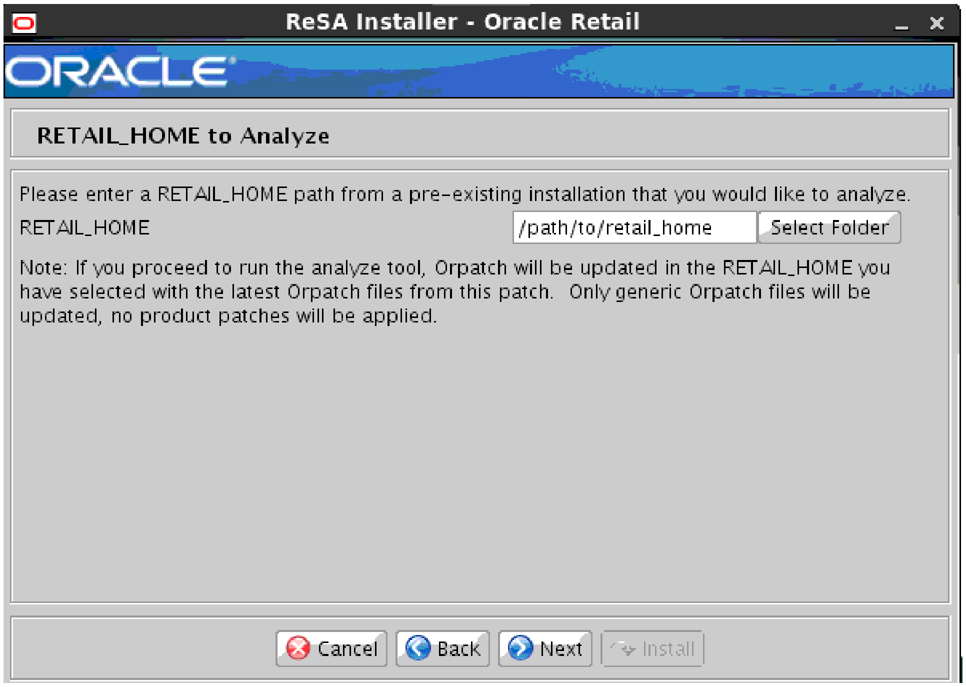


This tool can analyze the RETAIL_HOME from a previous installation and generate a report containing the changes that will be applied when running this patch

The analyze tool will ask you for the following information

* Orpatch settings

Screen: RETAIL_HOME to Analyze



Please enter a RETAIL_HOME path from a pre-existing installation that you would like to analyze.

RETAIL_HOME /path/to/retail_home

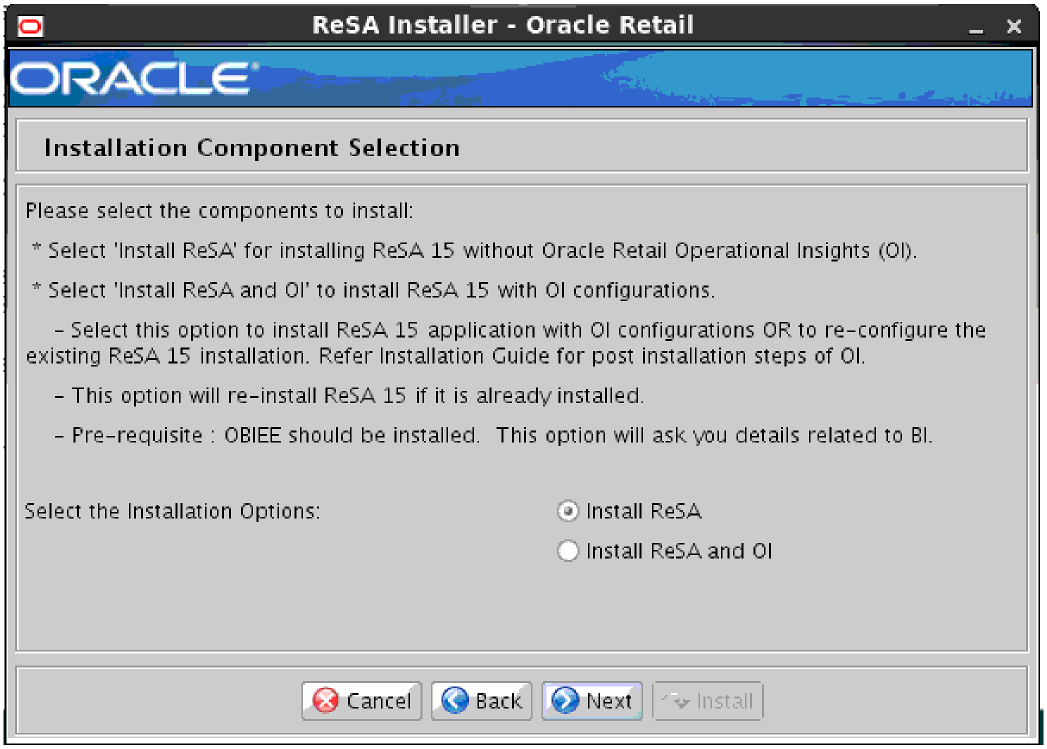
Note: If you proceed to run the analyze tool, Orpatch will be updated in the RETAIL_HOME you have selected with the latest Orpatch files from this patch. Only generic Orpatch files will be updated, no product patches will be applied.

Field Title	RETAIL_HOME to Analyze
Field Description	The pre-existing RETAIL_HOME location created and used during ReSA installation. This location should contain directories with your installed files as well as the “orpatch” directory.
Example	/path/to/retail_home
Note	The Orpatch files in this RETAIL_HOME may need to be updated in order to be able to run the analysis. The Analyze tool will take care of this automatically.

Application Installer

The following screens will only appear if the variable ORPATCH_ANALYZE has not been set in the environment.

Screen: Installation Component Selection



Installation Component Selection

Please select the components to install:

* Select 'Install ReSA' for installing ReSA 15 without Oracle Retail Operational Insights (OI).

* Select 'Install ReSA and OI' to install ReSA 15 with OI configurations.

- Select this option to install ReSA 15 application with OI configurations OR to re-configure the existing ReSA 15 installation. Refer Installation Guide for post installation steps of OI.

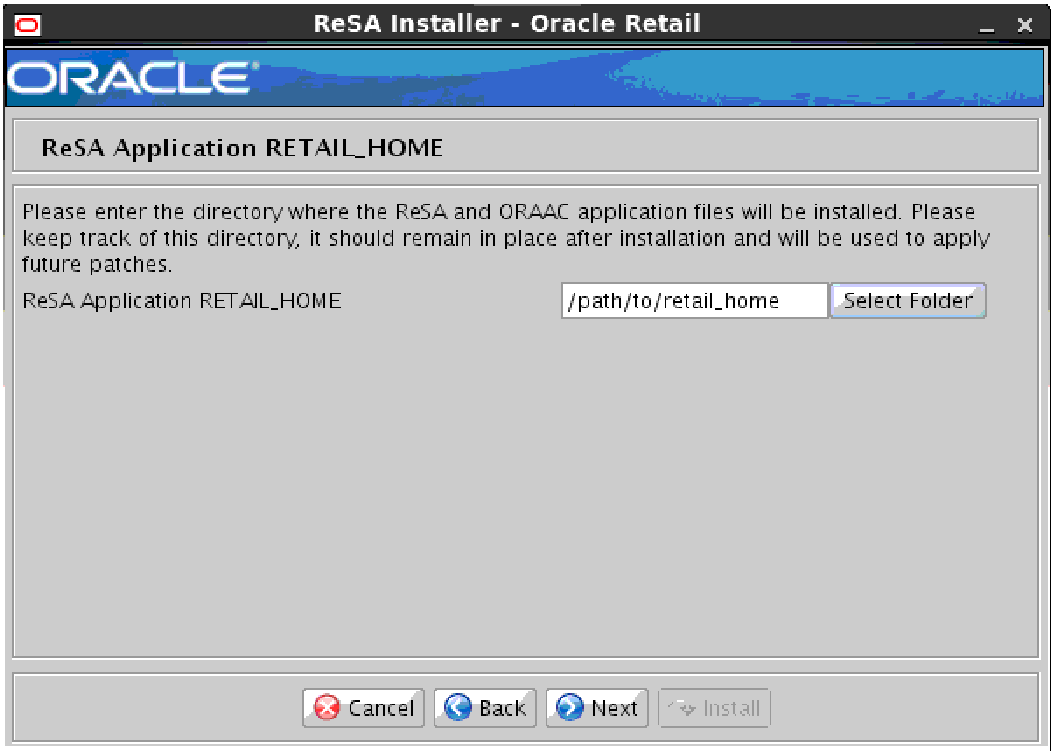
- This option will re-install ReSA 15 if it is already installed.

- Pre-requisite : OBIEE should be installed. This option will ask you details related to BI.

Select the Installation Options: ● Install ReSA ○ Install ReSA and OI

Field Title	Installation Component Selection
Field Description	Selecting 'Install ReSA' will install ReSA 15.0.1 without Operational Insights (OI). 'Install ReSA and OI' will install ReSA along with OI configurations or reconfigure the existing ReSA 15.0.1 installation. Note that selecting the second option will require OBIEE details to be entered in the further stages of the installation.

Screen: ReSA Application RETAIL_HOME



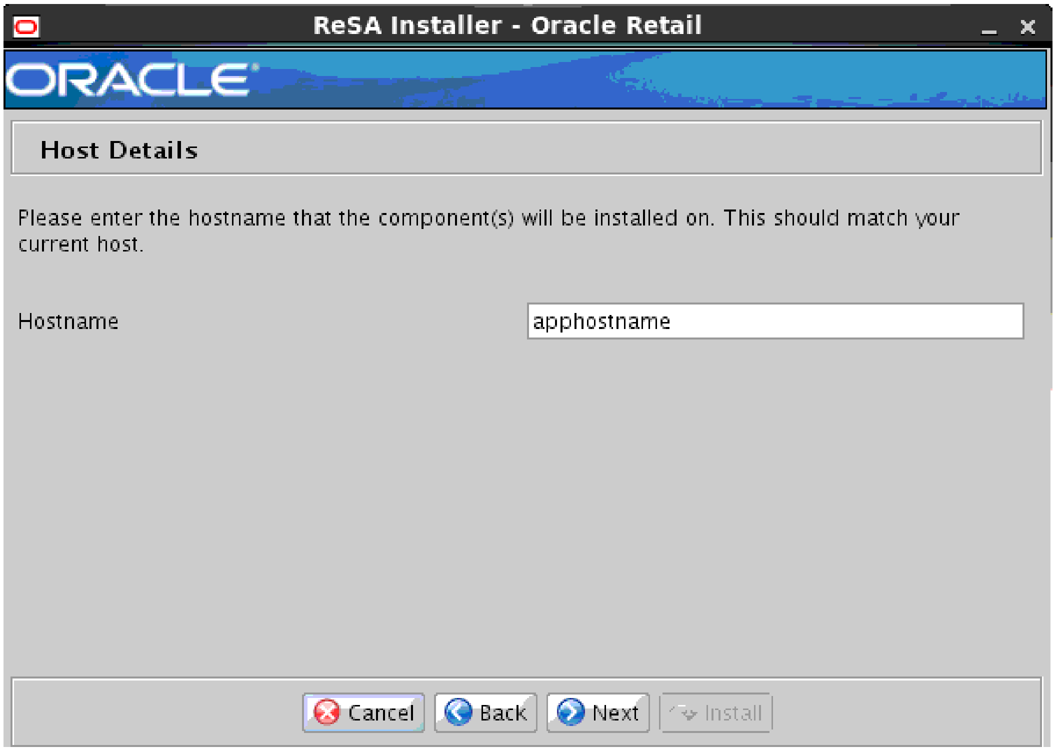
ReSA Application RETAIL_HOME

Please enter the directory where the ReSA and ORAAC application files will be installed. Please keep track of this directory, it should remain in place after installation and will be used to apply future patches.

ReSA Application RETAIL_HOME /path/to/retail_home

Field Title	ReSA Application RETAIL_HOME
Field Description	Retail Home is used to keep Orpatch related files by default. Please keep track of this directory, it should remain in place after installation and will be used to apply future patches.
Examples	/path/to/retail_home

Screen: Host Details



ReSA Installer - Oracle Retail

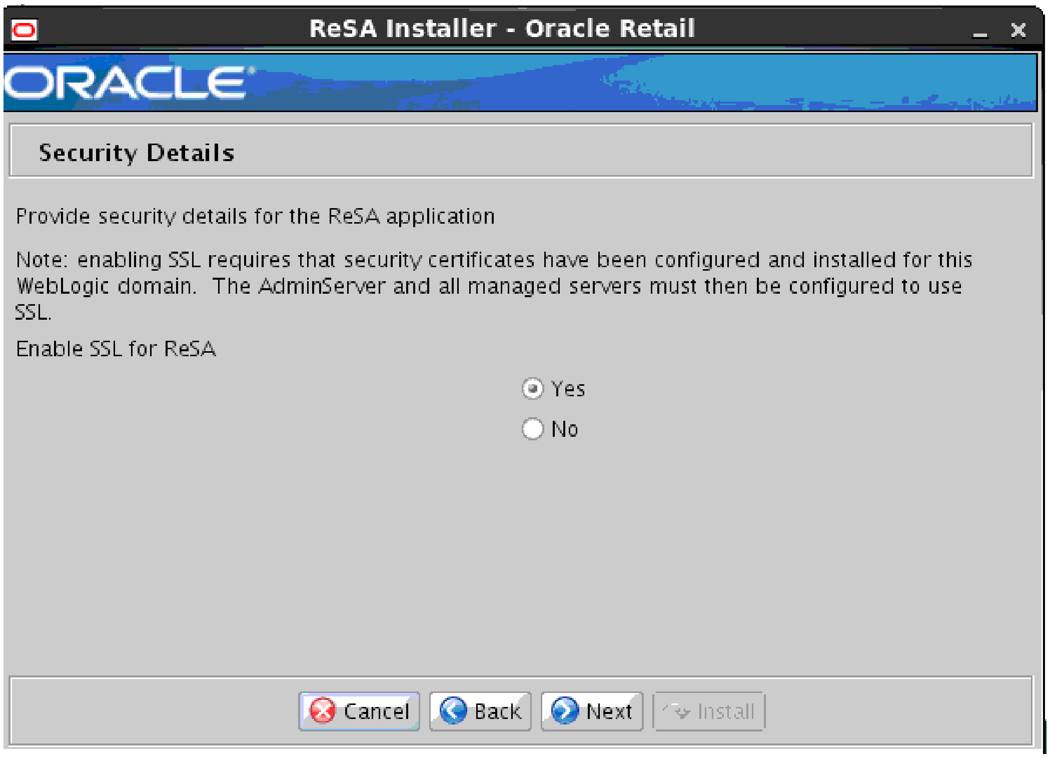
Host Details

Please enter the hostname that the component(s) will be installed on. This should match your current host.

Hostname: apphostname

Field Title	Hostname
Field Description	Provide the hostname where the Retail Home will be installed. This shall match your current host.
Examples	Apphostname

Screen: Security Details



Security Details

Provide security details for the ReSA application

Note: enabling SSL requires that security certificates have been configured and installed for this WebLogic domain. The AdminServer and all managed servers must then be configured to use SSL.

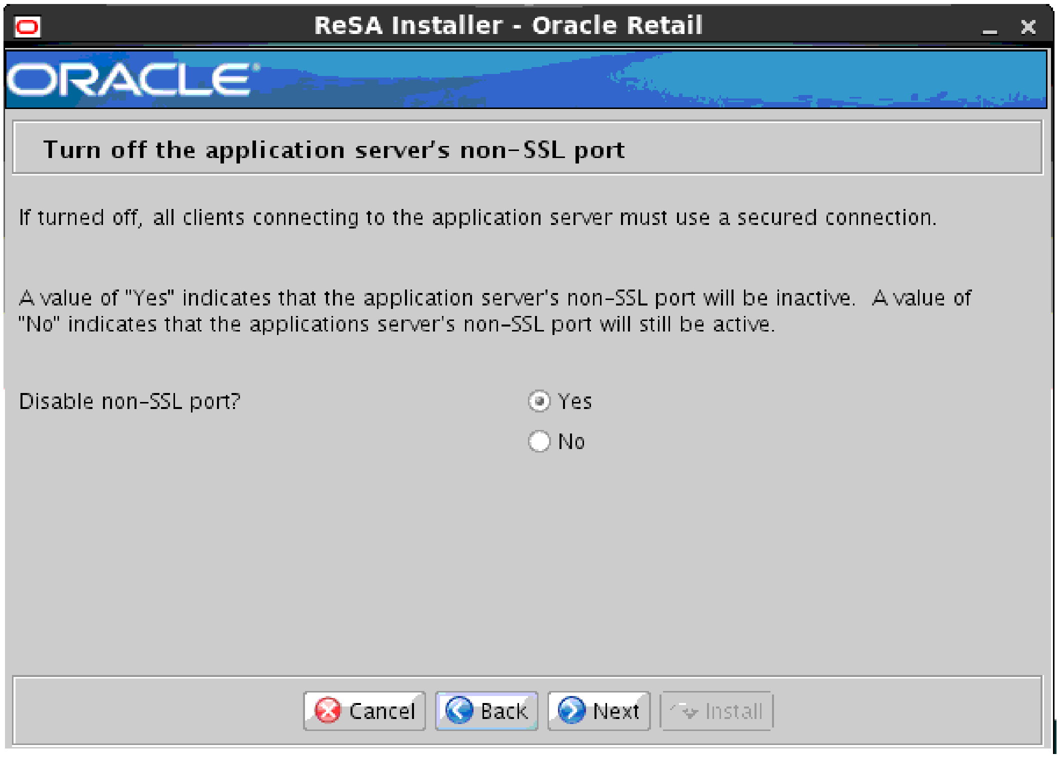
Enable SSL for ReSA

● Yes

○ No

Field Title	Enable SSL for WLS AppDomain Admin server
Field Description	Chose “Yes” only if you are using SSL. The following screen will appear only if you chose ‘Yes’ in this screen.

Screen: Turn off the application server's non-SSL port (shown if 'SSL is enabled')



Turn off the application server's non-SSL port

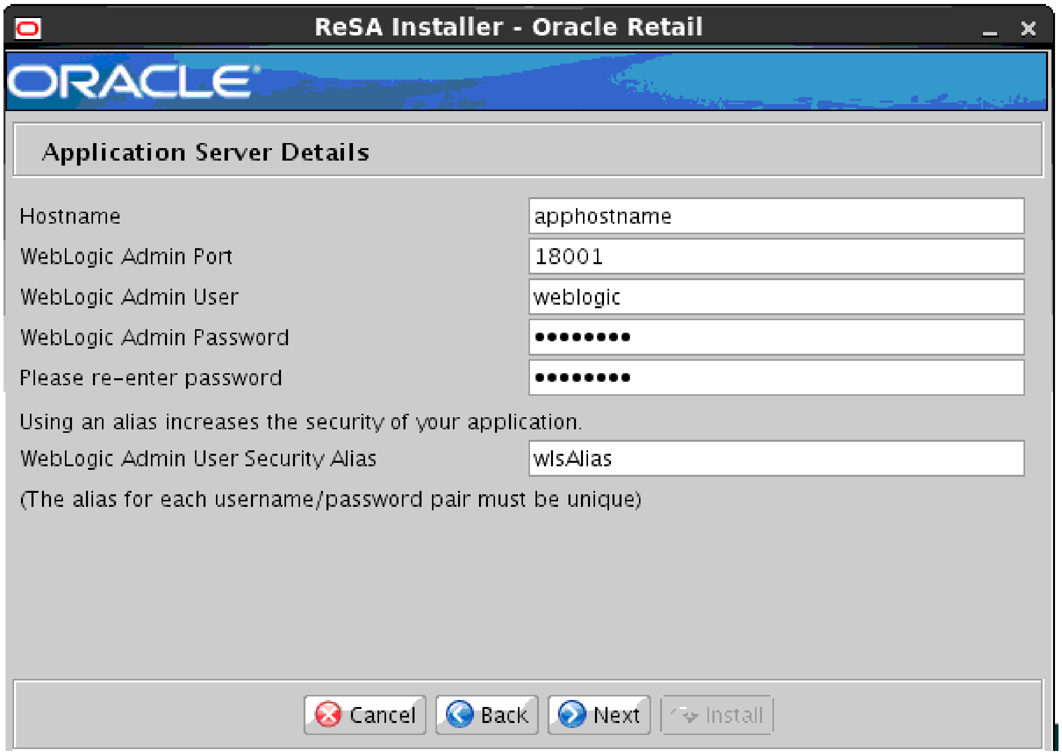
If turned off, all clients connecting to the application server must use a secured connection.

A value of "Yes" indicates that the application server's non-SSL port will be inactive. A value of "No" indicates that the applications server's non-SSL port will still be active.

Disable non-SSL port? ● Yes ○ No

Field Title	Disable non-SSL port?
Field Description	This screen will only appear if you have selected 'Yes' for SSL in the previous screen. Chose 'Yes' if you want the installer to disable the Non-SSL port.

Screen: Application Server Details



Hostname: apphostname
WebLogic Admin Port: 18001
WebLogic Admin User: weblogic
WebLogic Admin Password: ●●●●●●●●
Please re-enter password: ●●●●●●●●

Using an alias increases the security of your application.

WebLogic Admin User Security Alias: wlsAlias

(The alias for each username/password pair must be unique)

Field Title	Hostname
Field Description	The hostname of the application server.
Example	apphostname

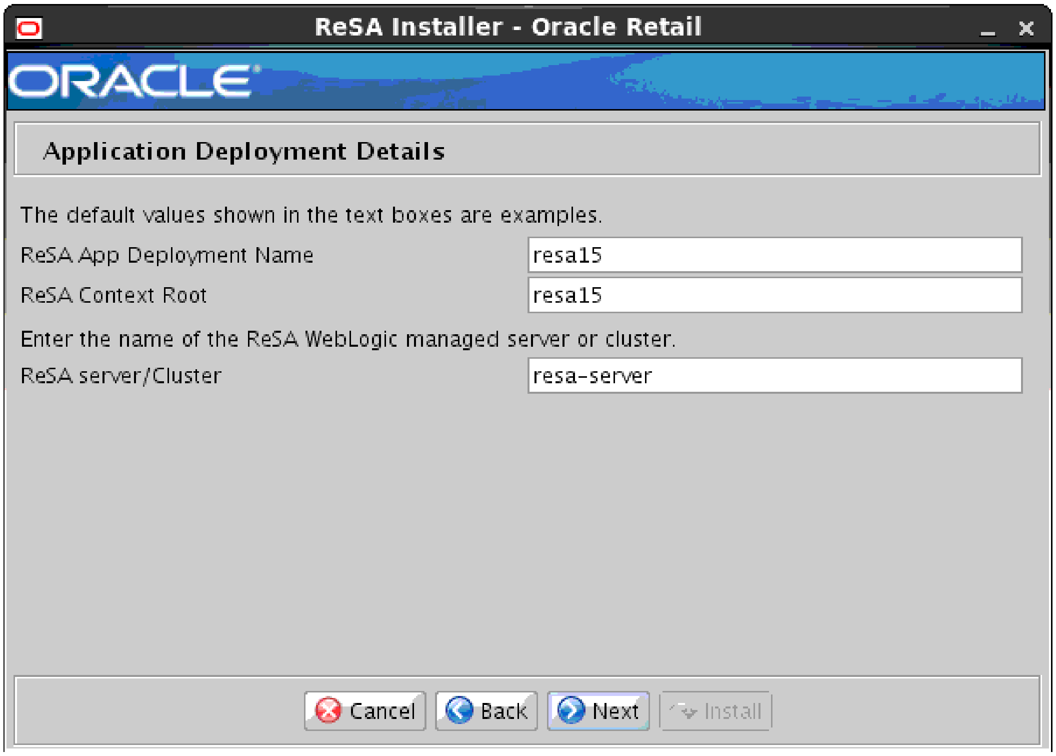
Field Title	WebLogic Admin Port
Field Description	Port number of the WebLogic AdminServer.
Example	18001

Field Title	WebLogic Admin User
Field Description	Username of the admin user for the WebLogic instance to which the ReSA application is being deployed.
Example	weblogic

Field Title	WebLogic Admin Password
Field Description	Password for the WebLogic admin user. You chose this password when you created the WebLogic instance or when you started the instance for the first time.

Field Title	WebLogic Admin User Security Alias
Field Description	An alias for the WebLogic admin user.
Example	wlsAlias
Note	This alias must be unique. Do not use the same value for any other alias fields in the installer. If the same alias is used, entries in the wallet can override each other and cause problems with the application.

Screen: Application Deployment Details


ReSA Installer - Oracle Retail
ORACLE
Application Deployment Details

The default values shown in the text boxes are examples.

ReSA App Deployment Name: resa15

ReSA Context Root: resa15

Enter the name of the ReSA WebLogic managed server or cluster.

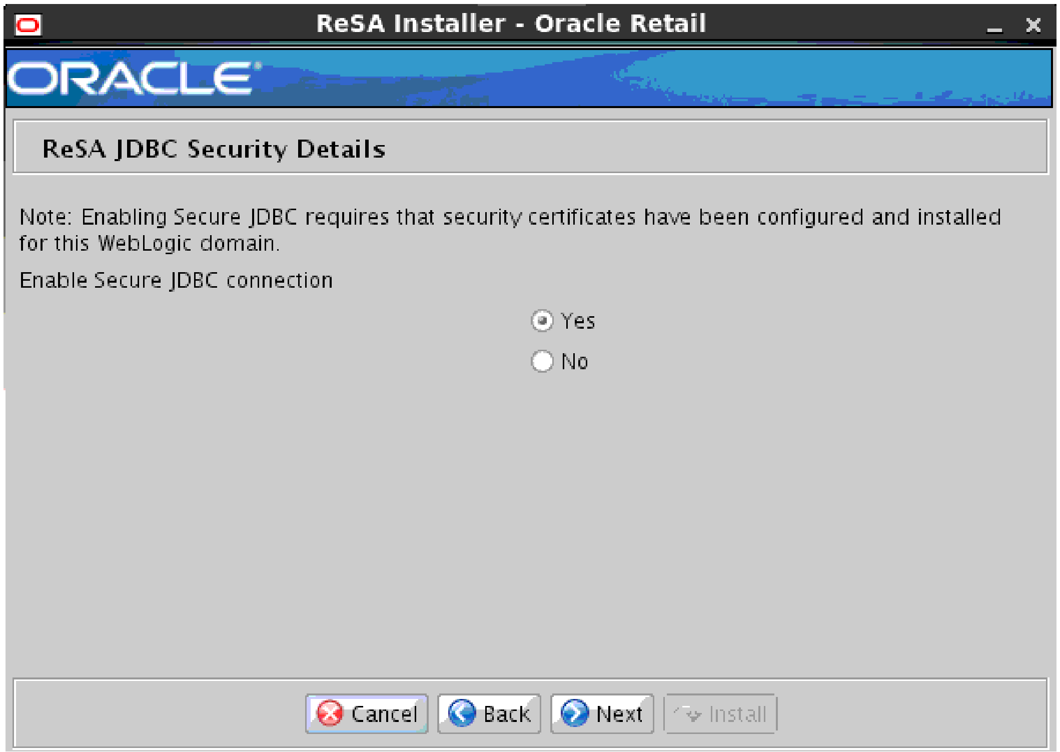
ReSA server/Cluster: resa-server

Field Title	ReSA App Deployment Name
Field Description	Name by which this ReSA application is identified in the application server.
Example	resa15

Field Title	ReSA Context Root
Field Description	Path under the HTTP URL that is used to access the ReSA application. For example, a context root of ReSA results in the application being accessed at http://host:port/ ResaPortal /
Example	resa15

Field Title	ReSA Server/Cluster
Field Description	The name of the ReSA 15 WebLogic managed server or cluster.
Example	resa-server

Screen: ReSA JDBC Security Details



Note: Enabling Secure JDBC requires that security certificates have been configured and installed for this WebLogic domain.

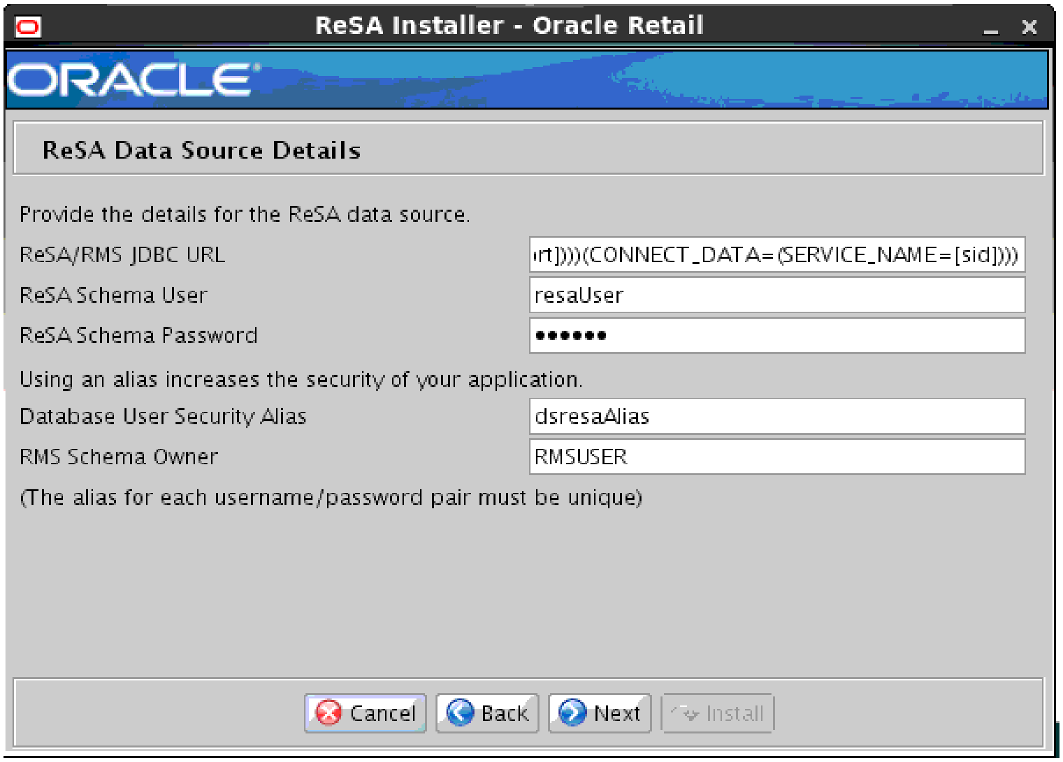
Enable Secure JDBC connection

● Yes

○ No

Field Title	Enable Secure JDBC connection
Field Description	Select Yes if the database being used for ReSA App installation is using secure configuration.

Screen: Data Source Details



ReSA Data Source Details

Provide the details for the ReSA data source.

ReSA/RMS JDBC URL	rt])))(CONNECT_DATA=(SERVICE_NAME=[sid])))
ReSA Schema User	resaUser
ReSA Schema Password	••••••

Using an alias increases the security of your application.

Database User Security Alias	dsresaAlias
RMS Schema Owner	RMSUSER

(The alias for each username/password pair must be unique)

Field Title	ReSA/RMS JDBC URL
Field Description	URL used by the ReSA application to access the ReSA database schema. See Appendix: URL Reference for expected syntax. When deploying in SSL mode, JDBC URL format should include complete description as shown below.
Example	jdbc:oracle:thin:@myhost:1521/mydatabase OR jdbc:oracle:thin:@(DESCRIPTION=(ADDRESS_LIST=(ADDRESS=(PROTOCOL=tcps)(HOST=myhost)(PORT=2484)))(CONNECT_DATA=(SERVICE_NAME=mydatabase)))

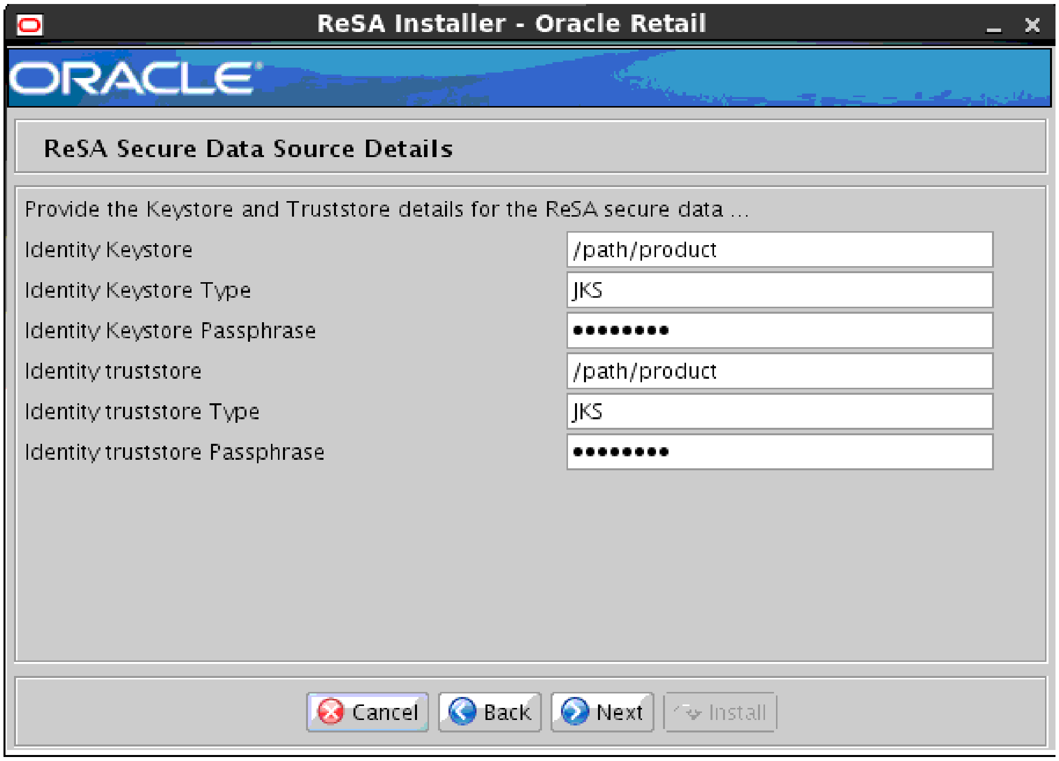
Field Title	ReSA Schema User
Field Description	Database schema user of the ReSA application. This value should match what was given in the ReSA database schema field of the ReSA database installer. This is where the ReSA temporary tables and temporary views reside, with synonyms to other ReSA objects that are in the RMS main schema.
Example	resaUser

Field Title	ReSA Schema Password
Field Description	Password for the ReSA schema user. This should match what was given in the ReSA 15 schema to create field of the ReSA database installer.

Field Title	Database User Security Alias
Field Description	An alias for the Database user.
Example	dsAlias

Field Title	RMS Schema Owner
Field Description	RMS schema user into which the ReSA schema user has synonyms. This should match the RMS schema that was given during execution of the ReSA database schema installer. This is the RMS main schema, where the ReSA non temporary tables and objects are stored.
Example	RMSUSER
Note	This alias must be unique. Do not use the same value for any other alias fields in the installer. If the same alias is used, entries in the wallet can override each other and cause problems with the application.

Screen: Secure Data Source Details (shown if 'Secure JDBC connection enabled')



ReSA Secure Data Source Details

Provide the Keystore and Truststore details for the ReSA secure data ...

Identity Keystore	/path/product
Identity Keystore Type	JKS
Identity Keystore Passphrase	●●●●●●●●
Identity truststore	/path/product
Identity truststore Type	JKS
Identity truststore Passphrase	●●●●●●●●

Field Title	Identity Keystore
Field Description	Path to the identity keystore, i.e.: /path/product/identity.keystore

Field Title	Identity Keystore Type
Field Description	i.e. JKS

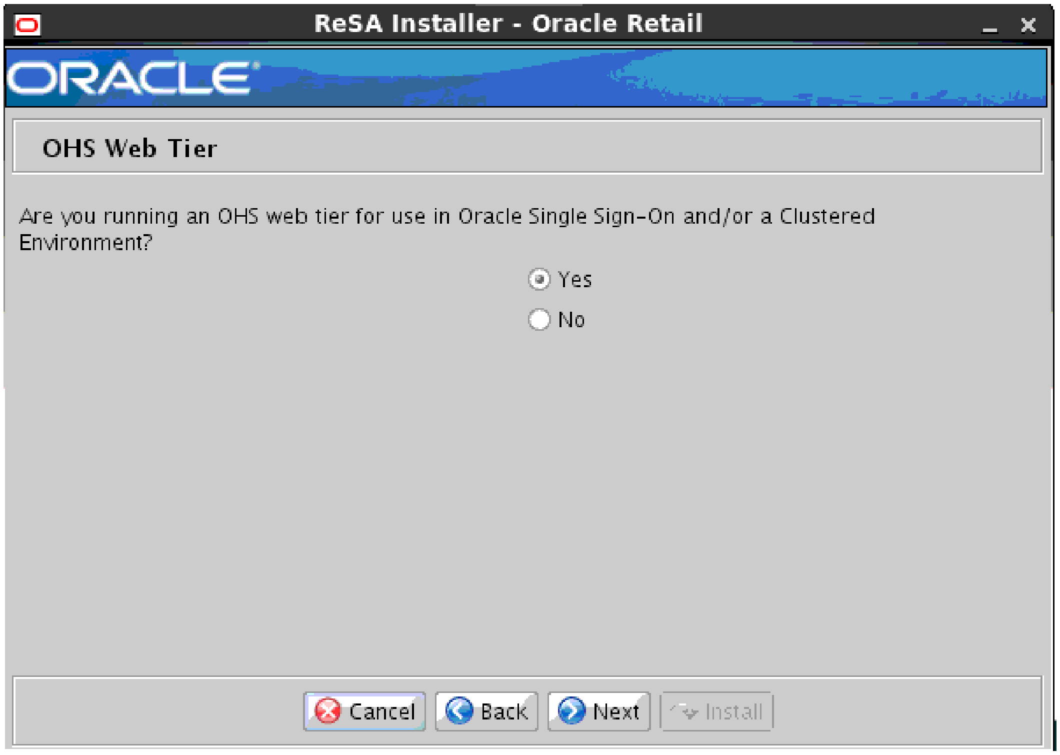
Field Title	Identity Keystore Password
Field Description	Password used to access the identity keystore defined above.

Field Title	Identity Trustore
Field Description	Path to the identity truststore, i.e.: /path/product/identity.truststore

Field Title	Identity Truststore Type
Field Description	i.e. JKS

Field Title	Identity Truststore Password
Field Description	Password used to access the identity truststore defined above.

Screen: OHS Web Tier

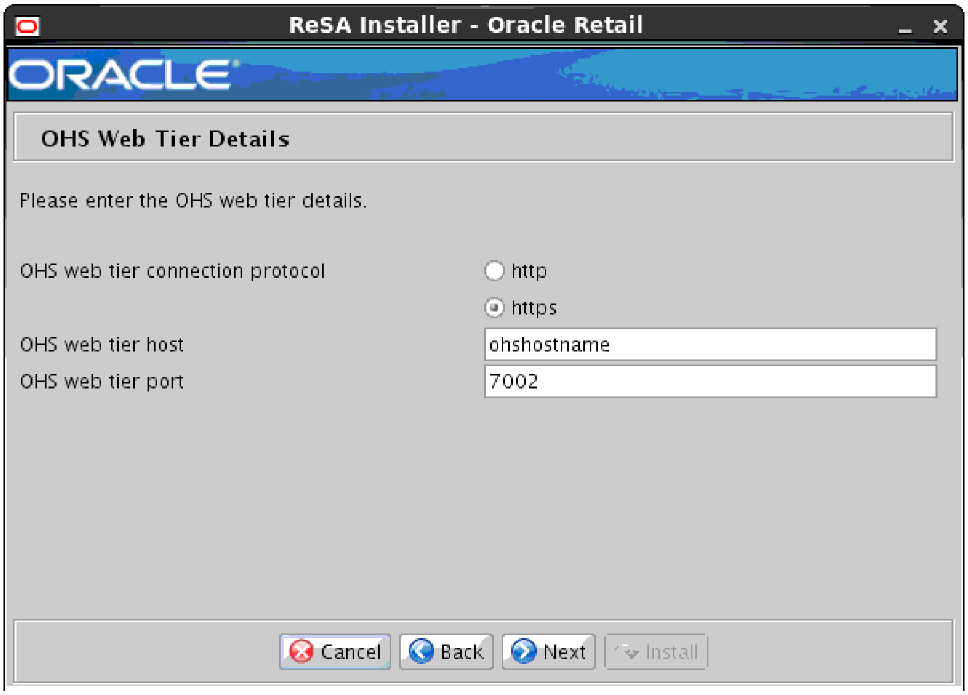


Are you running an OHS web tier for use in Oracle Single Sign-On and/or a Clustered Environment?

● Yes
○ No

Field Title	Are you running OHS Web Tier for use in Oracle Single Sign-on?
Field Description	Selecting the option 'Yes' will configure all the application URLs delivered by this installer with the OHS webtier hostname and port that will be entered in the next screen. Selecting option 'No' will result in application URLs having default ports.

Screen: OHS Web Tier Details (This screen appears only if you have selected 'Yes' in the previous screen)



OHS Web Tier Details

Please enter the OHS web tier details.

OHS web tier connection protocol ○ http ● https

OHS web tier host: ohshostname

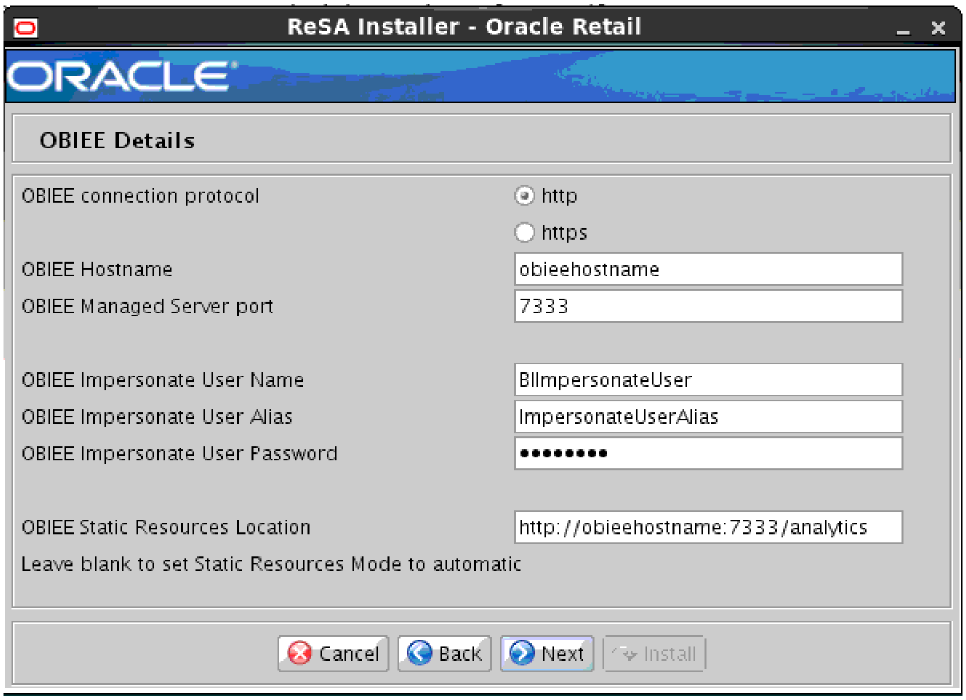
OHS web tier port: 7002

Field Title	OHS web Tier connection protocol
Field Description	Connection protocol for OHS web tier – http or https

Field Title	OHS web tier host
Field Description	Host name for OHS web tier
Example	ohshostname

Field Title	OHS web tier port
Field Description	Port number for OHS web tier
Example	7002

Screen: OBIEE Details (This screen will appear only if you have selected the option ‘Install ReSA and OI’ in the ‘Installation Component Selection’ screen)



OBIEE connection protocol ● http ○ https

OBIEE Hostname: obieehostname

OBIEE Managed Server port: 7333

OBIEE Impersonate User Name: BIImpersonateUser

OBIEE Impersonate User Alias: ImpersonateUserAlias

OBIEE Impersonate User Password: ●●●●●●●●●

OBIEE Static Resources Location: http://obieehostname:7333/analytics

Leave blank to set Static Resources Mode to automatic

Field Title	OBIEE connection protocol
Field Description	Connection protocol used while connecting to OBIEE – http or https

Field Title	OBIEE Hostname
Field Description	OBIEE Hostname where you have installed/planning to install the Operational Insights Dashboards.
Example	obieehostname

Field Title	OBIEE Managed Server Port
Field Description	The port of the Oracle BI EE installation
Example	7333

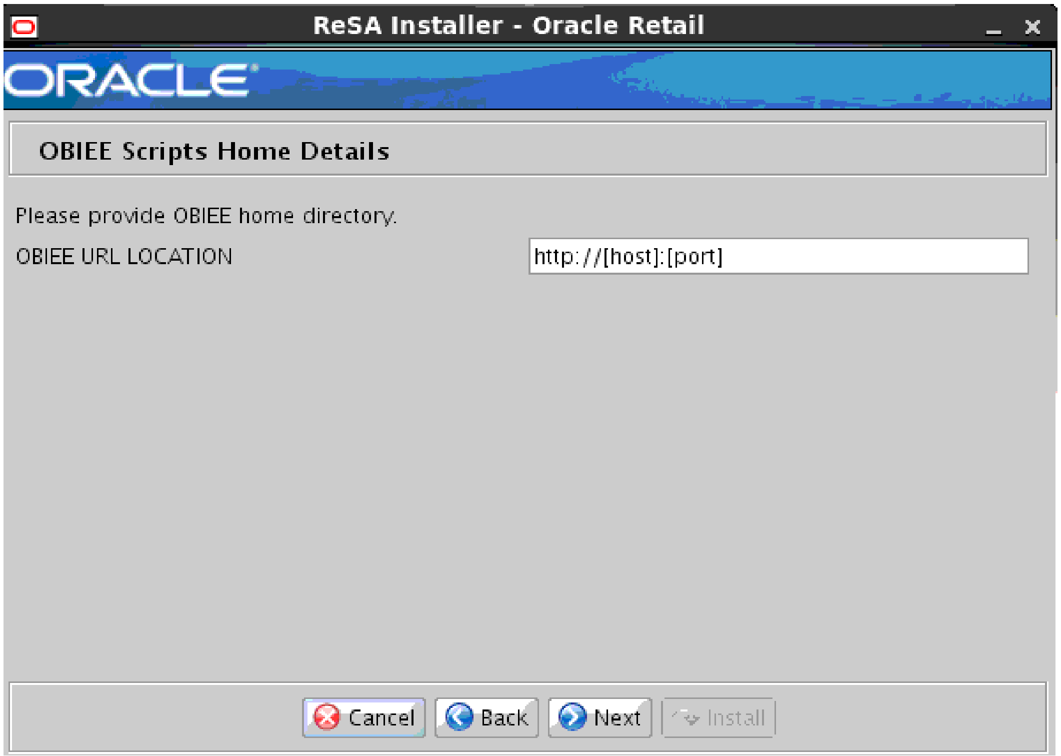
Field Title	OBIEE Impersonate User Name
Field Description	The username that has been configured on the Oracle BI EE with the impersonate permissions.
Example	BIImpersonateUser

Field Title	OBIEE Impersonate User Alias
Field Description	An alias for the OBIEE Impersonate User
Example	ImpersonateUserAlias

Field Title	OBIEE Impersonate User Password
Field Description	The password associated with the username that has been configured on the Oracle BI EE with the impersonate permissions.

Field Title	OBIEE Static Resources Location
Field Description	The path of the location where the static resources are available. For non-SSO environments use the following URL. http://<obiee_host>:<obiee_port>/analytics For SSO environments, use the host and port of the Oracle Web Tier. http://<web_tier_host>:<web_tier_port>
Example	http://obieehostname:7333/analytics

Screen: OBIEE Scripts Home Details (This screen will appear only if you have selected the option 'Install ReSA and OI' in the 'Installation Component Selection' screen)

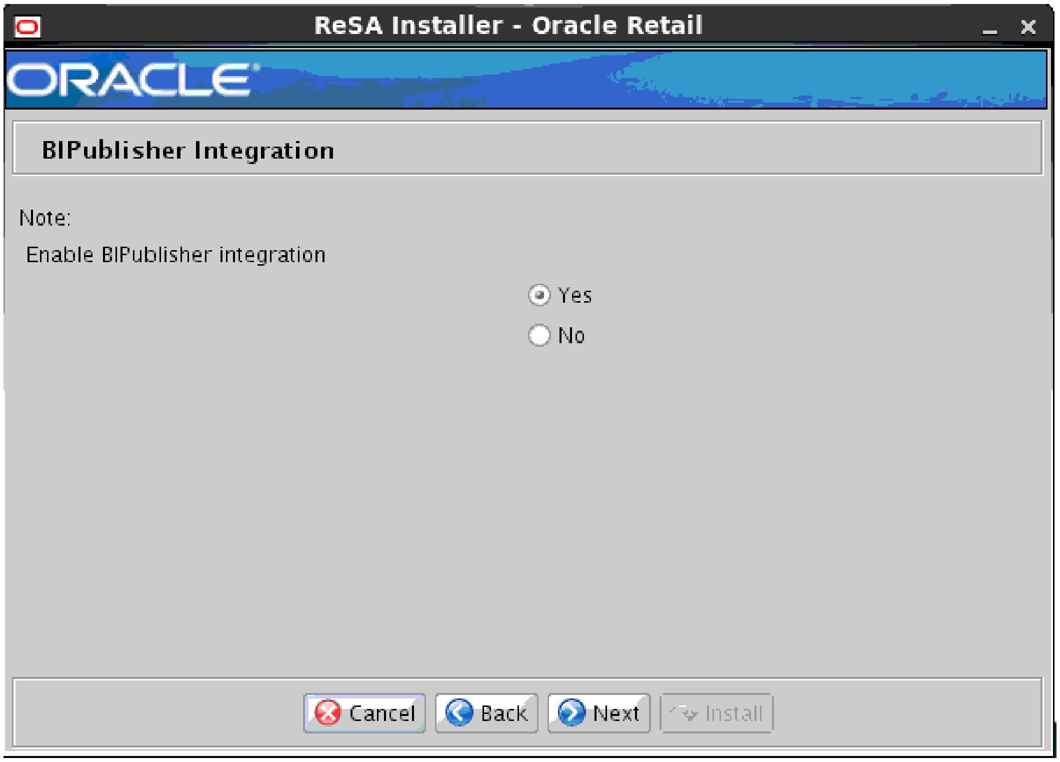


Please provide OBIEE home directory.

OBIEE URL LOCATION: http://[host]:[port]

Field Title	OBIEE URL LOCATION
Field Description	Please provide the URL of OBIEE where you have installed / planning to install the Operational Insights Dashboards. You need to give the single sign on port if you have SSO configured for OBIEE

Screen: BIPublisher Integration



BIPublisher Integration

Note:

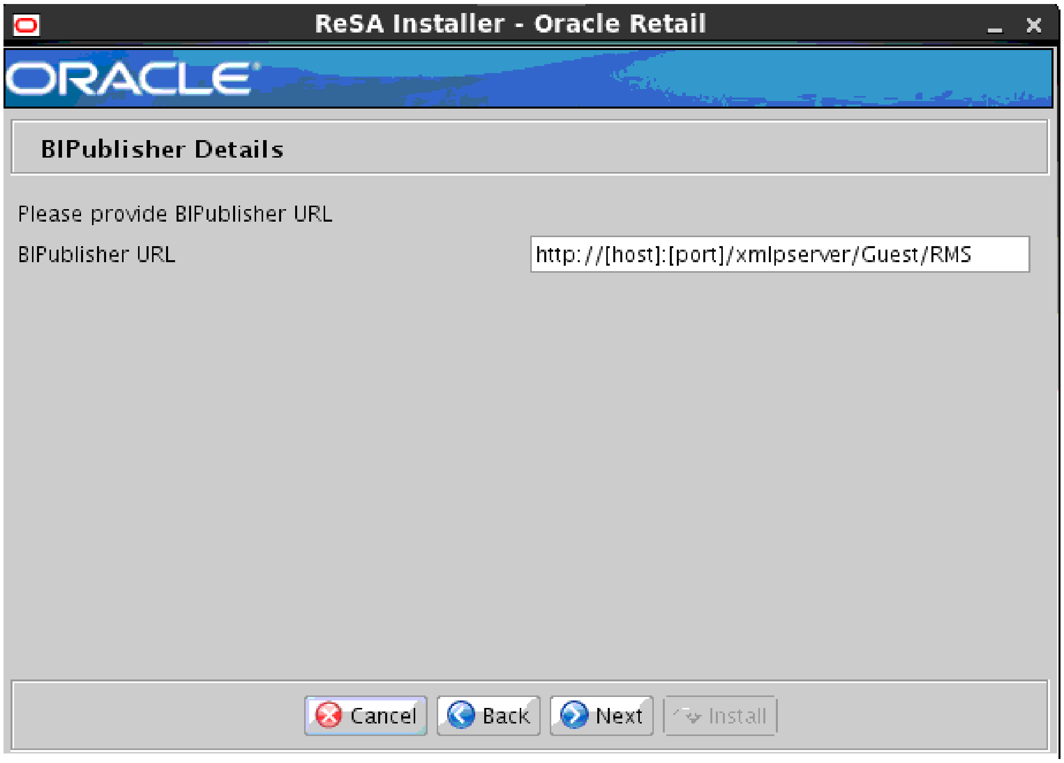
Enable BIPublisher integration

● Yes

○ No

Field Title	Enable BIPubliser Integration
Field Description	Select Yes to integrate ReSA application with BIPublisher reports. Select No if you do not want the integration.

Screen: BIPublisher Details



BIPublisher Details

Please provide BIPublisher URL

BIPublisher URL: http://[host]:[port]/xmlpserver/Guest/RMS

Field Title	BIPublisher URL
Field Description	Update the BI Publisher URL where you have the RMS reports set up.

B

Appendix: Installer Silent Mode

Once you have a managed server that is configured and started, you can run the ReSA application installer. This installer configures and deploys the ReSA application.

> **Note:** It is recommended that the installer be run as the same UNIX account which owns the application server ORACLE_HOME files.

1. Change directories to INSTALL_DIR/resa/application.
2. Set the ORACLE_HOME, JAVA_HOME, and WEBLOGIC_DOMAIN_HOME environment variables. ORACLE_HOME should point to your WebLogic installation. . JAVA_HOME should point to the Java JDK 1.7+. This is typically the same JDK which is being used by the WebLogic domain where Application is getting installed. WEBLOGIC_DOMAIN_HOME should point to the full path of the domain into which ReSA will be installed.
3. If a secured datasource is going to be configured you also need to set “ANT_OPTS” so the installer can access the key and trust store that is used for the datasource security:

   ```
   export ANT_OPTS="-Djavax.net.ssl.keyStore=<PATH TO KEY STORE> -
   Djavax.net.ssl.keyStoreType=jks -Djavax.net.ssl.keyStorePassword=<KEYSTORE
   PASSWORD> -Djavax.net.ssl.trustStore=<PATH TO TRUST STORE> -
   Djavax.net.ssl.trustStoreType=jks -
   Djavax.net.ssl.trustStorePassword=<TRUSTSTORE PASSWORD>"
   ```

   An example of this would be:

   ```
   export ANT_OPTS="-
   Djavax.net.ssl.keyStore/u00/webadmin/product/identity.keystore -
   Djavax.net.ssl.keyStoreType=jks -Djavax.net.ssl.keyStorePassword=retail123 -
   Djavax.net.ssl.trustStore/u00/webadmin/product/identity.truststore -
   Djavax.net.ssl.trustStoreType=jks -
   Djavax.net.ssl.trustStorePassword=retail123"
   ```

4. If you are using an X server such as Exceed, set the DISPLAY environment variable so that you can run the installer in GUI mode (recommended). If you are not using an X server, or the GUI is too slow over your network, unset DISPLAY for text mode.
5. Copy the ant.install.properties.sample to ant.install.properties. Provide values for each property including the passwords.

   Run the installation command “./install.sh silent”. This launches the installer in silent mode. A detailed installation log file is created (ReSAinstall.<timestamp>.log).

C

Appendix: URL Reference

The database schema and application installer for the ReSA product asks for several different URLs. These include the following.

JDBC URL for a Database

Used by the Java application and by the installer to connect to the database.

Thick Client Syntax: jdbc:oracle:oci:@<sid>

<sid>: system identifier for the database

Example: jdbc:oracle:oci:@mysid

Thin Client Syntax: jdbc:oracle:thin:@<host>:<port>/<sid>

<host>: hostname of the database server

<port>: database listener port

<sid>: system identifier for the database

Example: jdbc:oracle:thin:@myhost:1521/mysid

C

Appendix: Common Installation Errors

This section provides some common errors encountered during installation of ReSA.

Warning: Could not create system preferences directory

Symptom

The following text appears in the installer Errors tab:

```
May 22, 2006 11:16:39 AM java.util.prefs.FileSystemPreferences$3 run
WARNING: Could not create system preferences directory. System preferences are
unusable.
May 22, 2006 11:17:09 AM java.util.prefs.FileSystemPreferences
checkLockFile0ErrorCode
WARNING: Could not lock System prefs. Unix error code -264946424.
```

Solution

This is related to Java bug 4838770. The /etc/.java/.systemPrefs directory may not have been created on your system. See http://bugs.sun.com for details.

This is an issue with your installation of Java and does not affect the Oracle Retail product installation.

ConcurrentModificationException in Installer GUI

Symptom

In GUI mode, the errors tab shows the following error:

```
java.util.ConcurrentModificationException
            at
java.util.AbstractList$Itr.checkForComodification(AbstractList.java:448)
            at java.util.AbstractList$Itr.next(AbstractList.java:419)
… etc
```

Solution

You can ignore this error. It is related to third-party Java Swing code for rendering of the installer GUI and does not affect the retail product installation.

Warning: Could not find X Input Context

Symptom

The following text appears in the console window during execution of the installer in GUI mode:

```
Couldn't find X Input Context
```

Solution

This message is harmless and can be ignored.

GUI screens fail to open when running Installer

Symptom

When running the installer in GUI mode, the screens fail to open and the installer ends, returning to the console without an error message. The ant.install.log file contains this error:

```
Fatal exception: Width (0) and height (0) cannot be <= 0
java.lang.IllegalArgumentException: Width (0) and height (0) cannot be <= 0
```

Solution

This error is encountered when Antinstaller is used in GUI mode with certain X Servers. To work around this issue, copy ant.install.properties.sample to ant.install.properties and rerun the installer.

D

Appendix: Setting Up Password Stores with wallets/credential stores

As part of an application installation, administrators must set up password stores for user accounts using wallets/credential stores. Some password stores must be installed on the application database side. While the installer handles much of this process, the administrators must perform some additional steps.

Password stores for the application and application server user accounts must also be installed; however, the installer takes care of this entire process.

ORACLE Retail Merchandising applications now have 3 different types of password stores. They are database wallets, java wallets, and database credential stores. Background and how to administer them below are explained in this appendix

About Database Password Stores and Oracle Wallet

Oracle databases have allowed other users on the server to see passwords in case database connect strings (username/password@db) were passed to programs. In the past, users could navigate to `ps –ef|grep <username>` to see the password if the password was supplied in the command line when calling a program.

To make passwords more secure, Oracle Retail has implemented the Oracle Software Security Assurance (OSSA) program. Sensitive information such as user credentials now must be encrypted and stored in a secure location. This location is called password stores or wallets. These password stores are secure software containers that store the encrypted user credentials.

Users can retrieve the credentials using aliases that were set up when encrypting and storing the user credentials in the password store. For example, if `username/password@db` is entered in the command line argument and the alias is called `db_username`, the argument to a program is as follows:

```
sqlplus /@db_username
```

This would connect to the database as it did previously, but it would hide the password from any system user.

After this is configured, as in the example above, the application installation and the other relevant scripts are no longer needed to use embedded usernames and passwords. This reduces any security risks that may exist because usernames and passwords are no longer exposed.

When the installation starts, all the necessary user credentials are retrieved from the Oracle Wallet based on the alias name associated with the user credentials.

There are three different types of password stores. One type explain in the next section is for database connect strings used in program arguments (such as `sqlplus /@db_username`). The others are for Java application installation and application use.

Setting Up Password Stores for Database User Accounts

After the database is installed and the default database user accounts are set up, administrators must set up a password store using the Oracle wallet. This involves assigning an alias for the username and associated password for each database user account. The alias is used later during the application installation. This password store must be created on the system where the application server and database client are installed.

This section describes the steps you must take to set up a wallet and the aliases for the database user accounts. For more information on configuring authentication and password stores, see the *Oracle Database Security Guide*.

> **Note:** In this section, `<wallet_location>` is a placeholder text for illustration purposes. Before running the command, ensure that you specify the path to the location where you want to create and store the wallet.

To set up a password store for the database user accounts, perform the following steps:

1. Create a wallet using the following command:

   ```
   mkstore -wrl <wallet_location> -create
   ```

   After you run the command, a prompt appears. Enter a password for the Oracle Wallet in the prompt.

   > **Note:** The `mkstore` utility is included in the Oracle Database Client installation.

   The wallet is created with the auto-login feature enabled. This feature enables the database client to access the wallet contents without using the password. For more information, refer to the *Oracle Database Advanced Security Administrator's Guide.*

2. Create the database connection credentials in the wallet using the following command:

   ```
   mkstore -wrl <wallet_location> -createCredential <alias-name> <database-user-
   name>
   ```

   After you run the command, a prompt appears. Enter the password associated with the database user account in the prompt.

3. Repeat Step 2 for all the database user accounts.

4. Update the sqlnet.ora file to include the following statements:

   ```
   WALLET_LOCATION = (SOURCE = (METHOD = FILE) (METHOD_DATA = (DIRECTORY =
   <wallet_location>)))
   SQLNET.WALLET_OVERRIDE = TRUE
   SSL_CLIENT_AUTHENTICATION = FALSE
   ```

5. Update the tnsnames.ora file to include the following entry for each alias name to be set up.

   ```
   <alias-name> =
       (DESCRIPTION =
        (ADDRESS_LIST =
               (ADDRESS = (PROTOCOL = TCP) (HOST = <host>) (PORT = <port>))
           )
           (CONNECT_DATA =
               (SERVICE_NAME = <service>)
            )
        )
   ```

In the previous example, `<alias-name>`, `<host>`, `<port>`, and `<service>` are placeholder text for illustration purposes. Ensure that you replace these with the relevant values.

Setting up Wallets for Database User Accounts

The following examples show how to set up wallets for database user accounts for the following applications:

- For RMS, RWMS, RPM Batch using sqlplus or sqlldr, RETL, RMS, RWMS, and ARI

For RMS, RWMS, RPM Batch using sqlplus or sqlldr, RETL, RMS, RWMS, and ARI

To set up wallets for database user accounts, do the following.

1. Create a new directory called wallet under your folder structure.

```
cd /projects/rms15/dev/
mkdir .wallet
```

> **Note:** The default permissions of the wallet allow only the owner to use it, ensuring the connection information is protected. If you want other users to be able to use the connection, you must adjust permissions appropriately to ensure only authorized users have access to the wallet.

2. Create a sqlnet.ora in the wallet directory with the following content.

```
WALLET_LOCATION =   (SOURCE =     (METHOD = FILE)     (METHOD_DATA =
(DIRECTORY =  /projects/rms15/dev/.wallet)) )
SQLNET.WALLET_OVERRIDE=TRUE
SSL_CLIENT_AUTHENTICATION=FALSE
```

> **Note**: WALLET_LOCATION must be on line 1 in the file.

3. Setup a tnsnames.ora in the wallet directory. This tnsnames.ora includes the standard tnsnames.ora file. Then, add two custom tns_alias entries that are only for use with the wallet. For example, `sqlplus /@dvols29_rms01user`.

```
ifile = /u00/oracle/product/12.1.0.2/network/admin/tnsnames.ora

Examples for a NON pluggable db:
dvols29_rms01user =
  (DESCRIPTION = (ADDRESS_LIST = (ADDRESS = (PROTOCOL = tcp)
  (host = xxxxxx.us.oracle.com) (Port = 1521)))
    (CONNECT_DATA = (SID = <sid_name> (GLOBAL_NAME = <sid_name>)))

dvols29_rms01user.world =
  (DESCRIPTION = (ADDRESS_LIST = (ADDRESS = (PROTOCOL = tcp)
  (host = xxxxxx.us.oracle.com) (Port = 1521)))
    (CONNECT_DATA = (SID = <sid_name>) (GLOBAL_NAME = <sid_name>)))

Examples for a pluggable db:
dvols29_rms01user =
  (DESCRIPTION = (ADDRESS_LIST = (ADDRESS = (PROTOCOL = tcp)
  (host = xxxxxx.us.oracle.com) (Port = 1521)))
    (CONNECT_DATA = (SERVICE_NAME = <pluggable db name>)))

dvols29_rms01user.world =
  (DESCRIPTION = (ADDRESS_LIST = (ADDRESS = (PROTOCOL = tcp)
  (host = xxxxxx.us.oracle.com) (Port = 1521)))
    (CONNECT_DATA = (SERVICE_NAME = <pluggable db name>)))
```

> **Note**: It is important to not just copy the tnsnames.ora file because it can quickly become out of date. The ifile clause (shown above) is key.

4. Create the wallet files. These are empty initially.

   a. Ensure you are in the intended location.

   ```
   $ pwd
   /projects/rms15/dev/.wallet
   ```

   b. Create the wallet files.

   ```
   $ mkstore -wrl . –create
   ```

   c. Enter the wallet password you want to use. It is recommended that you use the same password as the UNIX user you are creating the wallet on.

   d. Enter the password again.

   Two wallet files are created from the above command:

   – ewallet.p12

   – cwallet.sso

5. Create the wallet entry that associates the user name and password to the custom tns alias that was setup in the wallet's tnsnames.ora file.

   ```
   mkstore –wrl . –createCredential <tns_alias> <username> <password>
   ```

Example: `mkstore –wrl . –createCredential dvols29_rms01user rms01user passwd`

6. Test the connectivity. The ORACLE_HOME used with the wallet must be the same version or higher than what the wallet was created with.

   ```
   $ export TNS_ADMIN=/projects/rms15/dev/.wallet /* This is very import to use
   wallet to point at the alternate tnsnames.ora created in this example */

   $ sqlplus /@dvols29_rms01user

   SQL*Plus: Release 12

   Connected to:
   Oracle Database 12g

   SQL> show user
   USER is “rms01user”
   ```

   Running batch programs or shell scripts would be similar:

   ```
   Ex: dtesys /@dvols29_rms01user
   script.sh /@dvols29_rms01user

   Set the UP unix variable to help with some compiles :

   export UP=/@dvols29_rms01user
   for use in RMS batch compiles, and RMS, RWMS, and ARI forms compiles.
   ```

As shown in the example above, users can ensure that passwords remain invisible.

Additional Database Wallet Commands

The following is a list of additional database wallet commands.

- Delete a credential on wallet

```
mkstore –wrl . –deleteCredential dvols29_rms01user
```

- Change the password for a credential on wallet

  ```
  mkstore –wrl . –modifyCredential dvols29_rms01user rms01user passwd
  ```

- List the wallet credential entries

  ```
  mkstore –wrl . –list
  ```

  This command returns values such as the following.

  ```
  oracle.security.client.connect_string1
  oracle.security.client.user1
  oracle.security.client.password1
  ```

- View the details of a wallet entry

  ```
  mkstore –wrl . –viewEntry oracle.security.client.connect_string1
  ```

  Returns the value of the entry:

  ```
  dvols29_rms01user
  mkstore –wrl . –viewEntry oracle.security.client.user1
  ```

  Returns the value of the entry:

  ```
  rms01user
  ```

  ```
  mkstore –wrl . –viewEntry oracle.security.client.password1
  ```

  Returns the value of the entry:

  ```
  Passwd
  ```

Setting up RETL Wallets

RETL creates a wallet under $RFX_HOME/etc/security, with the following files:

- cwallet.sso
- jazn-data.xml
- jps-config.xml
- README.txt

To set up RETL wallets, perform the following steps:

1. Set the following environment variables:
   - `ORACLE_SID=<retaildb>`
   - `RFX_HOME=/u00/rfx/rfx-13`
   - `RFX_TMP=/u00/rfx/rfx-13/tmp`
   - `JAVA_HOME=/usr/jdk1.6.0_12.64bit`
   - `LD_LIBRARY_PATH=$ORACLE_HOME`
   - `PATH=$RFX_HOME/bin:$JAVA_HOME/bin:$PATH`
2. Change directory to $RFX_HOME/bin.
3. Run setup-security-credential.sh.
   - Enter 1 to add a new database credential.
   - Enter the dbuseralias. For example, `retl_java_rms01user`.
   - Enter the database user name. For example, `rms01user.`
   - Enter the database password.
   - Re-enter the database password.
   - Enter D to exit the setup script.

4. Update your RETL environment variable script to reflect the names of both the Oracle Networking wallet and the Java wallet.

   For example, to configure RETLforRPAS, modify the following entries in `$RETAIL_HOME/RETLforRPAS/rfx/etc/rmse_rpas_config.env.`

   - The RETL_WALLET_ALIAS should point to the Java wallet entry:
     - `export RETL_WALLET_ALIAS="retl_java_rms01user"`
   - The ORACLE_WALLET_ALIAS should point to the Oracle network wallet entry:
     - `export ORACLE_WALLET_ALIAS="dvols29_rms01user"`
   - The SQLPLUS_LOGON should use the ORACLE_WALLET_ALIAS:
     - `export SQLPLUS_LOGON="/@${ORACLE_WALLET_ALIAS}"`

5. To change a password later, run `setup-security-credential.sh`.

   - Enter 2 to update a database credential.
   - Select the credential to update.
   - Enter the database user to update or change.
   - Enter the password of the database user.
   - Re-enter the password.

For Java Applications (SIM, ReIM, RPM, RIB, AIP, Alloc, ReSA, RETL)

For Java applications, consider the following:

- For database user accounts, ensure that you set up the same alias names between the password stores (database wallet and Java wallet). You can provide the alias name during the installer process.
- Document all aliases that you have set up. During the application installation, you must enter the alias names for the application installer to connect to the database and application server.
- Passwords are not used to update entries in Java wallets. Entries in Java wallets are stored in partitions, or application-level keys. In each retail application that has been installed, the wallet is located in <WEBLOGIC_DOMAIN_HOME>/retail/<appname>/config Example: /u00/webadmin/config/domains/wls_retail/REIMDomain/retail/reim15/config
- Application installers should create the Java wallets for you, but it is good to know how this works for future use and understanding.
- Scripts are located in <WEBLOGIC_DOMAIN_HOME>/retail/<appname>/retail-public-security-api/bin for administering wallet entries.
- Example:
- /u00/webadmin/config/domains/wls_retail/REIMDomain/retail/retail-public-security-api/bin
- In this directory is a script to help you update each alias entry without having to remember the wallet details. For example, if you set the RPM database alias to rms01user, you will find a script called update-RMS01USER.sh.

  > **Note:** These scripts are available only with applications installed by way of an installer.

- Two main scripts are related to this script in the folder for more generic wallet operations: dump_credentials.sh and save_credential.sh.
- If you have not installed the application yet, you can unzip the application zip file and view these scripts in <app>/application/retail-public-security-api/bin.

- Example:
- /u00/webadmin/reim15/application/retail-public-security-api/bin

update-<ALIAS>.sh

update-<ALIAS>.sh updates the wallet entry for this alias. You can use this script to change the user name and password for this alias. Because the application refers only to the alias, no changes are needed in application properties files.

Usage:

```
update-<username>.sh <myuser>
```

Example:

```
/u00/webadmin/config/domains/wls_retail/REIMDomain/retail/reim15/retail-public-
security-api/bin> ./update-RMS01USER.sh
usage: update-RMS01USER.sh <username>
<username>: the username to update into this alias.
Example: update-RMS01USER.sh myuser
Note: this script will ask you for the password for the username that you pass in.
/u00/webadmin/config/domains/wls_retail/REIMDomain/retail/reim15/retail-public-
security-api/bin>
```

dump_credentials.sh

dump_credentials.sh is used to retrieve information from wallet. For each entry found in the wallet, the wallet partition, the alias, and the user name are displayed. Note that the password is not displayed. If the value of an entry is uncertain, run save_credential.sh to resave the entry with a known password.

```
dump_credentials.sh <wallet location>
```

Example:

```
dump_credentials.sh location:
/u00/webadmin/config/domains/wls_retail/REIMDomain/retail/reim15/config

Retail Public Security API Utility
=============================================
```

Below are the credentials found in the wallet at the location/u00/webadmin/config/domains/wls_retail/REIMDomain/retail/reim15config

```
=============================================

Application level key partition name:reim15
User Name Alias:WLS-ALIAS User Name:weblogic
User Name Alias:RETAIL-ALIAS User Name:retail.user
User Name Alias:LDAP-ALIAS User Name:RETAIL.USER
User Name Alias:RMS-ALIAS User Name:rms15mock
User Name Alias:REIMBAT-ALIAS User Name:reimbat
```

save_credential.sh

save_credential.sh is used to update the information in wallet. If you are unsure about the information that is currently in the wallet, use dump_credentials.sh as indicated above.

```
save_credential.sh -a <alias> -u <user> -p <partition name>  –l <path of the
wallet file location where credentials are stored>
```

Example:

```
/u00/webadmin/mock15_testing/reim15/application/retail-public-security-api/bin>
save_credential.sh -l wallet_test -a myalias -p mypartition -u myuser

=============================================
Retail Public Security API Utility
=============================================

Enter password:
Verify password:
```

Note: `-p` in the above command is for partition name. You must specify the proper partition name used in application code for each Java application.

save_credential.sh and dump_credentials.sh scripts are the same for all applications. If using save_credential.sh to add a wallet entry or to update a wallet entry, bounce the application/managed server so that your changes are visible to the application. Also, save a backup copy of your cwallet.sso file in a location outside of the deployment path, because redeployment or reinstallation of the application will wipe the wallet entries you made after installation of the application. To restore your wallet entries after a redeployment/reinstallation, copy the backed up cwallet.sso file over the cwallet.sso file. Then bounce the application/managed server.

Usage

```
=============================================
Retail Public Security API Utility
=============================================
usage: save_credential.sh -au[plh]
E.g. save_credential.sh -a rms-alias -u rms_user -p rib-rms -l ./
 -a,--userNameAlias <arg>              alias for which the credentials
needs to be stored
 -h,--help                             usage information
 -l,--locationofWalletDir <arg>        location where the wallet file is
created.If not specified, it creates the wallet under secure-credential-wallet
directory which is already present under the retail-public-security-api/
directory.
 -p,--appLevelKeyPartitionName <arg>   application level key partition name
 -u,--userName <arg>                   username to be stored in secure
credential wallet for specified alias*
```

How does the Wallet Relate to the Application?

The ORACLE Retail Java applications have the wallet alias information you create in an <app-name>.properties file. Below is the reim.properties file. Note the database information and the user are presented as well. The property called datasource.credential.alias=RMS-ALIAS uses the ORACLE wallet with the argument of RMS-ALIAS at the csm.wallet.path and csm.wallet.partition.name = reim14 to retrieve the password for application use.

Reim.properties code sample:

```
datasource.url=jdbc:oracle:thin:@xxxxxxx.us.oracle.com:1521:pkols07
datasource.schema.owner=rms15mock
datasource.credential.alias=RMS-ALIAS
# =================================================================
# ossa related Configuration
#
# These settings are for ossa configuration to store credentials.
# =================================================================

csm.wallet.path=/u00/webadmin/config/domains/wls_retail/REIMDomain/retail/reim15co
nfig
csm.wallet.partition.name=reim15
```

How does the Wallet Relate to Java Batch Program use?

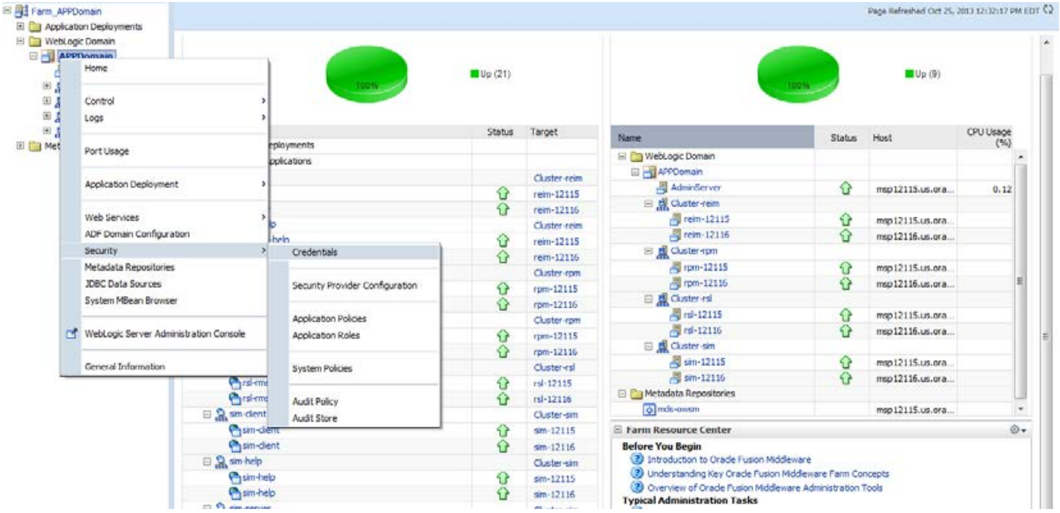
Some of the ORACLE Retail Java batch applications have an alias to use when running Java batch programs. For example, alias REIMBAT-ALIAS maps through the wallet to dbuser RMS01APP, already on the database. To run a ReIM batch program the format would be: reimbatchpgmname REIMBAT-ALIAS <other arguments as needed by the program in question>

Database Credential Store Administration

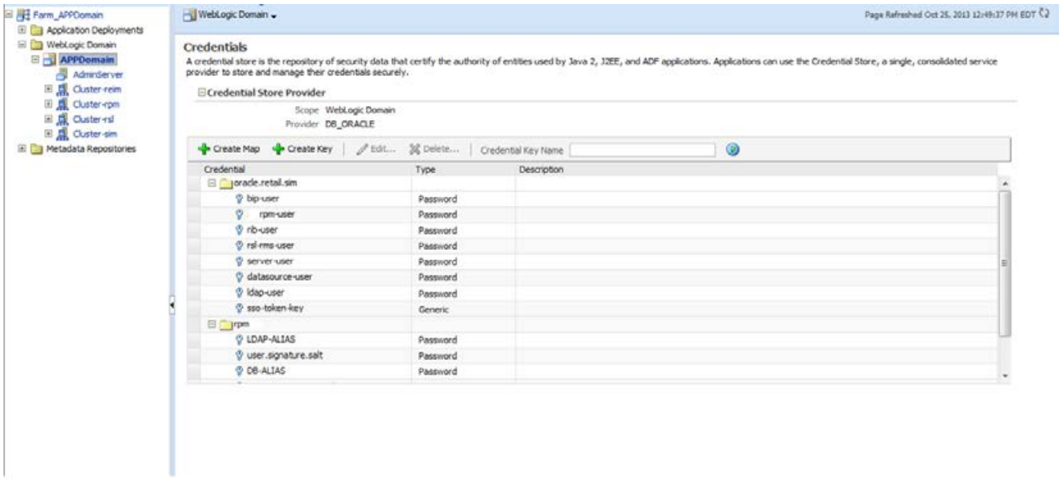
The following section describes a domain level database credential store. This is used in RPM login processing, SIM login processing, RWMS login processing, RESA login processing and Allocation login processing and policy information for application permission. Setting up the database credential store is addressed in the RPM, SIM, RESA, RWMS, and Alloc 15.0 install guides.

The following sections show an example of how to administer the password stores thru ORACLE Enterprise Manger Fusion Middleware Control, a later section will show how to do this thru WLST scripts.

1. The first step is to use your link to Oracle Enterprise Manager Fusion Middleware Control for the domain in question. Locate your domain on the left side of the screen and do a right mouse click on the domain and select **Security** > **Credentials**



2. Click on Credentials and you will get a screen similar to the following. The following screen is expanded to make it make more sense. From here you can administer credentials.



Credentials

A credential store is the repository of security data that certify the authority of entities used by Java 2, J2EE, and ADF applications. Applications can use the Credential Store, a single, consolidated service provider to store and manage their credentials securely.

Credential Store Provider

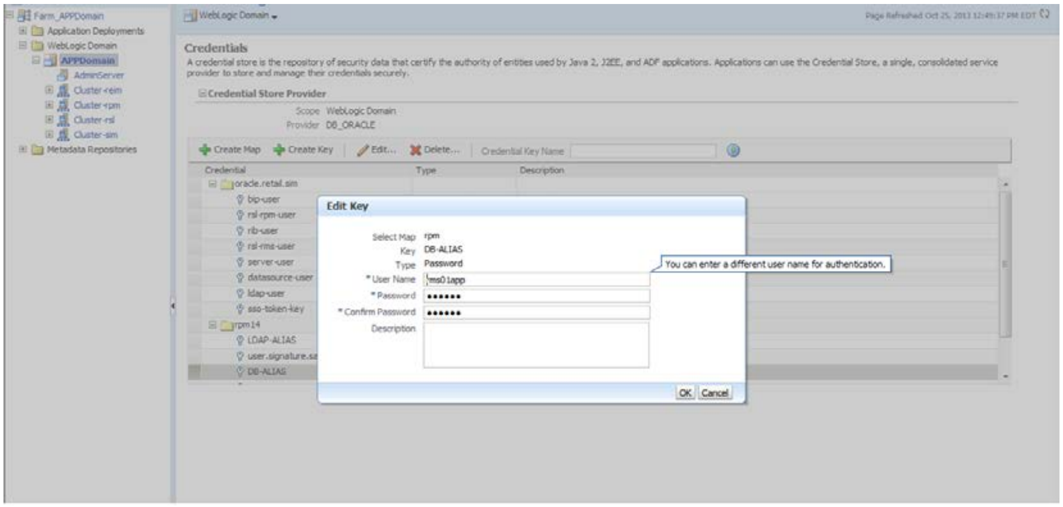
Scope WebLogic Domain

Provider DB_ORACLE

Credential	Type	Description
oracle.retail.sim		
bip-user	Password	
rpm-user	Password	
rib-user	Password	
rsl-rms-user	Password	
server-user	Password	
datasource-user	Password	
ldap-user	Password	
sso-token-key	Generic	
rpm		
LDAP-ALIAS	Password	
user.signature.salt	Password	
DB-ALIAS	Password	

The Create Map add above is to create a new map with keys under it. A map would usually be an application such as rpm15. The keys will usually represent alias to various users (database user, WebLogic user, LDAP user, etc). The application installer should add the maps so you should not often have to add a map.

Creation of the main keys for an application will also be built by the application installer. You will not be adding keys often as the installer puts the keys out and the keys talk to the application. You may be using EDIT on a key to see what user the key/alias points to and possibly change/reset its password. To edit a key/alias, highlight the key/alias in question and push the edit icon nearer the top of the page. You will then get a screen as follows:



Credentials

A credential store is the repository of security data that certify the authority of entities used by Java 2, J2EE, and ADF applications. Applications can use the Credential Store, a single, consolidated service provider to store and manage their credentials securely.

Credential Store Provider

Scope WebLogic Domain
Provider DB_ORACLE

Edit Key

Select Map rpm
Key DB-ALIAS
Type Password
* User Name rms01app
* Password ●●●●●●
* Confirm Password ●●●●●●
Description

You can enter a different user name for authentication.

The screen above shows the map (rpm) that came from the application installer, the key (DB-ALIAS) that came from the application installer (some of the keys/alias are selected by the person who did the application install, some are hard coded by the application installer in question), the type (in this case password), and the user name and password. This is where you would check to see that the user name is correct and reset the password if needed. REMEMBER, a change to an item like a database password WILL make you come into this and also change the password. Otherwise your application will NOT work correctly.

Managing Credentials with WSLT/OPSS Scripts

This procedure is optional as you can administer the credential store through the Oracle enterprise manager associated with the domain of your application install for ReIM, RPM, SIM, RESA, or Allocation.

An Oracle Platform Security Scripts (OPSS) script is a WLST script, in the context of the Oracle WebLogic Server. An online script is a script that requires a connection to a running server. Unless otherwise stated, scripts listed in this section are online scripts and operate on a database credential store. There are a few scripts that are offline, that is, they do not require a server to be running to operate.

Read-only scripts can be performed only by users in the following WebLogic groups: Monitor, Operator, Configurator, or Admin. Read-write scripts can be performed only by users in the following WebLogic groups: Admin or Configurator. All WLST scripts are available out-of-the-box with the installation of the Oracle WebLogic Server.

WLST scripts can be run in interactive mode or in script mode. In interactive mode, you enter the script at a command-line prompt and view the response immediately after. In script mode, you write scripts in a text file (with a py file name extension) and run it without requiring input, much like the directives in a shell script.

The weakness with the WLST/OPSS scripts is that you have to already know your map name and key name. In many cases, you do not know or remember that. The database credential store way through enterprise manager is a better way to find your map and key names easily when you do not already know them. A way in a command line mode to find the map name and alias is to run orapki. An example of orapki is as follows:

/u00/webadmin/product/wls_apps/oracle_common/bin> ./orapki wallet display –wallet /u00/webadmin/product/wls_apps/user_projects/domains/APPDomain/config/fmwconfig

(where the path above is the domain location of the wallet)

Output of orapki is below. This shows map name of rpm and each alias in the wallet:

Requested Certificates:

User Certificates:

Oracle Secret Store entries:

rpm@#3#@DB-ALIAS

rpm@#3#@LDAP-ALIAS

rpm@#3#@RETAIL.USER

rpm@#3#@user.signature.salt

rpm@#3#@user.signature.secretkey

rpm@#3#@WEBLOGIC-ALIAS

rpm@#3#@WLS-ALIAS

Trusted Certificates:

Subject: OU=Class 1 Public Primary Certification Authority,O=VeriSign\, Inc.,C=US

OPSS provides the following scripts on all supported platforms to administer credentials (all scripts are online, unless otherwise stated. You need the map name and the key name to run the scripts below

- listCred
- updateCred
- createCred
- deleteCred
- modifyBootStrapCredential
- addBootStrapCredential

listCred

The script `listCred` returns the list of attribute values of a credential in the credential store with given map name and key name. This script lists the data encapsulated in credentials of type password only.

Script Mode Syntax

```
listCred.py -map mapName -key keyName
```

Interactive Mode Syntax

```
listCred(map="mapName", key="keyName")
```

The meanings of the arguments (all required) are as follows:

- map specifies a map name (folder).
- key specifies a key name.

Examples of Use:

The following invocation returns all the information (such as user name, password, and description) in the credential with map name myMap and key name myKey:

```
listCred.py -map myMap -key myKey
```

The following example shows how to run this command and similar credential commands with WLST:

```
/u00/webadmin/product/wls_apps/oracle_common/common/bin>
sh wlst.sh

Initializing WebLogic Scripting Tool (WLST)...

Welcome to WebLogic Server Administration Scripting Shell


wls:/offline> connect('weblogic','password123','xxxxxx.us.oracle.com:17001')
Connecting to t3://xxxxxx.us.oracle.com:17001 with userid weblogic ...
Successfully connected to Admin Server 'AdminServer' that belongs to domain
'APPDomain'.

wls:/APPDomain/serverConfig> listCred(map="rpm",key="DB-ALIAS")
Already in Domain Runtime Tree

[Name : rms01app, Description : null, expiry Date : null]
PASSWORD:retail
*The above means for map rpm15 in APPDomain, alias DB-ALIAS points to database
user rms01app with a password of retail
```

updateCred

The script updateCred modifies the type, user name, and password of a credential in the credential store with given map name and key name. This script updates the data encapsulated in credentials of type password only. Only the interactive mode is supported.

Interactive Mode Syntax

```
updateCred(map="mapName", key="keyName", user="userName", password="passW",
[desc="description"])
```

The meanings of the arguments (optional arguments are enclosed by square brackets) are as follows:

- map specifies a map name (folder) in the credential store.
- key specifies a key name.
- user specifies the credential user name.
- password specifies the credential password.
- desc specifies a string describing the credential.

Example of Use:

The following invocation updates the user name, password, and description of the password credential with map name `myMap` and key name `myKey`:

```
updateCred(map="myMap", key="myKey", user="myUsr", password="myPassw")
```

createCred

The script `createCred` creates a credential in the credential store with a given map name, key name, user name and password. This script can create a credential of type password only. Only the interactive mode is supported.

Interactive Mode Syntax

```
createCred(map="mapName", key="keyName", user="userName", password="passW",
[desc="description"])
```

The meanings of the arguments (optional arguments are enclosed by square brackets) are as follows:

- `map` specifies the map name (folder) of the credential.
- `key` specifies the key name of the credential.
- `user` specifies the credential user name.
- `password` specifies the credential password.
- `desc` specifies a string describing the credential.

Example of Use:

The following invocation creates a password credential with the specified data:

```
createCred(map="myMap", key="myKey", user="myUsr", password="myPassw")
```

deleteCred

The script `deleteCred` removes a credential with given map name and key name from the credential store.

Script Mode Syntax

```
deleteCred.py -map mapName -key keyName
```

Interactive Mode Syntax

```
deleteCred(map="mapName",key="keyName")
```

The meanings of the arguments (all required) are as follows:

- `map` specifies a map name (folder).
- `key` specifies a key name.

Example of Use:

The following invocation removes the credential with map name `myMap` and key name `myKey`:

```
deleteCred.py -map myMap -key myKey
```

modifyBootStrapCredential

The offline script `modifyBootStrapCredential` modifies the bootstrap credentials configured in the default jps context, and it is typically used in the following scenario: suppose that the policy and credential stores are LDAP-based, and the credentials to access the LDAP store (stored in the LDAP server) are changed. Then this script can be used to seed those changes into the bootstrap credential store.

This script is available in interactive mode only.

Interactive Mode Syntax

```
modifyBootStrapCredential(jpsConfigFile="pathName", username="usrName",
password="usrPass")
```

The meanings of the arguments (all required) are as follows:

- `jpsConfigFile` specifies the location of the file `jps-config.xml` relative to the location where the script is run. Example location: /u00/webadmin/product/wls_apps/user_projects/domains/APPDomain/config/fmwconfig. Example location of the bootstrap wallet is /u00/webadmin/product/wls_apps/user_projects/domains/APPDomain/config/fmwconfig/bootstrap
- `username` specifies the distinguished name of the user in the LDAP store.
- `password` specifies the password of the user.

Example of Use:

Suppose that in the LDAP store, the password of the user with distinguished name `cn=orcladmin` has been changed to `welcome1`, and that the configuration file `jps-config.xml` is located in the current directory.Then the following invocation changes the password in the bootstrap credential store to `welcome1`:

```
modifyBootStrapCredential(jpsConfigFile='./jps-config.xml',
username='cn=orcladmin', password='welcome1')
```

Any output regarding the audit service can be disregarded.

addBootStrapCredential

The offline script `addBootStrapCredential` adds a password credential with given map, key, user name, and user password to the bootstrap credentials configured in the default jps context of a jps configuration file.

Classloaders contain a hierarchy with parent classloaders and child classloaders. The relationship between parent and child classloaders is analogous to the object relationship of super classes and subclasses. The bootstrap classloader is the root of the Java classloader hierarchy. The Java virtual machine (JVM) creates the bootstrap classloader, which loads the Java development kit (JDK) internal classes and `java.*` packages included in the JVM. (For example, the bootstrap classloader loads `java.lang.String`.)

This script is available in interactive mode only.

Interactive Mode Syntax

```
addBootStrapCredential(jpsConfigFile="pathName", map="mapName", key="keyName",
username="usrName", password="usrPass")
```

The meanings of the arguments (all required) are as follows:

- `jpsConfigFile` specifies the location of the file `jps-config.xml` relative to the location where the script is run. Example location: /u00/webadmin/product/wls_apps/user_projects/domains/APPDomain/config/fmwconfig
- `map` specifies the map of the credential to add.
- `key` specifies the key of the credential to add.
- `username` specifies the name of the user in the credential to add.
- `password` specifies the password of the user in the credential to add.

Example of Use:

The following invocation adds a credential to the bootstrap credential store:

```
addBootStrapCredential(jpsConfigFile='./jps-config.xml', map='myMapName',
key='myKeyName', username='myUser', password =’myPass’)
```

Quick Guide for Retail Password Stores (db wallet, java wallet, DB credential stores)

Retail app	Wallet type	Wallet loc	Wallet partition	Alias name	User name	Use	Create by	Alias Example	Notes
RMS batch	DB	<RMS batch install dir (RETAIL_HOME)>/.wallet	n/a	<Database SID>_<Database schema owner>	<rms schema owner>	Compile, execution	Installer	n/a	Alias hard-coded by installer
RMS forms	DB	<forms install dir>/base/.wallet	n/a	<Database SID>_<Database schema owner>	<rms schema owner>	Compile	Installer	n/a	Alias hard-coded by installer
ARI forms	DB	<forms install dir>/base/.wallet	n/a	<Db_Ari01>	<ari schema owner>	Compile	Manual	ari-alias	
RMWS forms	DB	<forms install dir>/base/.wallet	n/a	<Database SID>_<Database schema owner>	<rwms schema owner>	Compile forms, execute batch	Installer	n/a	Alias hard-coded by installer
RPM batch plsql and sqlldr	DB	<RPM batch install dir>/.wallet	n/a	<rms schema owner alias>	<rms schema owner>	Execute batch	Manual	rms-alias	RPM plsql and sqlldr batches
RWMS auto-login	JAVA	<forms install dir>/base/.javawallet							
			<RWMS Installation name>	<RWMS database user alias>	<RWMS schema owner>	RWMS forms app to avoid dblogin screen	Installer	rwms15inst	
			<RWMS Installation name>	BI_ALIAS	<BI Publisher administrative user>	RWMS forms app to connect to BI Publisher	Installer	n/a	Alias hard-coded by installer

Retail app	Wallet type	Wallet loc	Wallet partition	Alias name	User name	Use	Create by	Alias Example	Notes
AIP app	JAVA	<weblogic domain home>/retail/<deployed aip app name>/config							Each alias must be unique
			aip	<AIP weblogic user alias>	<AIP weblogic user name>	App use	Installer	aip-weblogic-alias	
			aip	<AIP database schema user alias>	<AIP database schema user name>	App use	Installer	aip01user-alias	
			aip	<rib-aip weblogic user alias>	<rib-aip weblogic user name>	App use	Installer	rib-aip-weblogic-alias	
RPM app	DB credential store		Map=rpm or what you called the app at install time.	Many for app use					<weblogic domain home>/config/fmwconfig/jps-config.xml has info on the credential store. This directory also has the domain cwallet.sso file.
RPM app	JAVA	<weblogic domain home>/retail/<deployed rpm app name>/config							Each alias must be unique
			rpm	<rpm weblogic user alias>	<rpm weblogic user name>	App use	Installer	rpm-weblogic-alias	

Retail app	Wallet type	Wallet loc	Wallet partition	Alias name	User name	Use	Create by	Alias Example	Notes
			rpm	<rpm batch user name> is the alias. Yes, here alias name = user name	<rpm batch user name>	App, batch use	Installer	RETAIL.USER	
	JAVA	<retail_home>/orpatch/config/javaapp_rpm							Each alias must be unique
			retail_installer	<rpm weblogic user alias>	<rpm weblogic user name>	App use	Installer	weblogic-alias	
			retail_installer	<rms shema user alias>	<rms shema user name>	App, batch use	Installer	rms01user-alias	
			retail_installer	<reim batch user alias>	<reim batch user name>	App, batch use	Installer	reimbat-alias	
			retail_installer	<LDAP-ALIAS>	cn=rpm.admin,cn=Users,dc=us,dc=oracle,dc=com	LDAP user use	Installer	LDAP_ALIAS	
ReIM app	JAVA	<weblogic domain home>/retail/<deployed reim app name>/config							Each alias must be unique
			<installed app name, ex: reim>	<reim weblogic user alias>	<reim weblogic user name>	App use	Installer	weblogic-alias	
			<installed app name, ex: reim>	<rms shema user alias>	<rms shema user name>	App, batch use	Installer	rms01user-alias	

Retail app	Wallet type	Wallet loc	Wallet partition	Alias name	User name	Use	Create by	Alias Example	Notes
			<installed app name, ex: reim>	<reim webservice validation user alias>	<reim webservice validation user name>	App use	Installer	reimwebservice-alias	
			<installed app name, ex: reim>	<reim batch user alias>	<reim batch user name>	App, batch use	Installer	reimbat-alias	
			<installed app name, ex: reim>	<LDAP-ALIAS>	cn=REIM.ADMIN,cn=Users,dc=us,dc=oracle,dc=com	LDAP user use	Installer	LDAP_ALIAS	
	JAVA	<retail_home>/orpatch/config/javaapp_reim							Each alias must be unique
			retail_installer	<reim weblogic user alias>	<reim weblogic user name>	App use	Installer	weblogic-alias	
			retail_installer	<rms shema user alias>	<rms shema user name>	App, batch use	Installer	rms01user-alias	
			retail_installer	<reim webservice validation user alias>	<reim webservice validation user name>	App use	Installer	reimwebservice-alias	
			retail_installer	<reim batch user alias>	<reim batch user name>	App, batch use	Installer	reimbat-alias	
			retail_installer	<LDAP-ALIAS>	cn=REIM.ADMIN,cn=Users,dc=us,dc=oracle,dc=com	LDAP user use	Installer	LDAP_ALIAS	

Retail app	Wallet type	Wallet loc	Wallet partition	Alias name	User name	Use	Create by	Alias Example	Notes
RESA app	DB credential store		Map=resaor what you called the app at install time	Many for login and policies					<weblogic domain home>/config/fmwconfig/jps-config.xml has info on the credential store. This directory also has the domain cwallet.sso file. The bootstrap directory under this directory has bootstrap cwallet.sso file.
RESA app	JAVA	<weblogic domain home>/retail/<deployed resa app name>/config							Each alias must be unique
			<installed app name>	<resa weblogic user alias>	<resa weblogic user name>	App use	Installer	wlsalias	
			<installed app name>	<resa schema db user alias>	<rmsdb shema user name>	App use	Installer	Resadb-alias	
			<installed app name>	<resa schema user alias>	<rmsdb shema user name>>	App use	Installer	resa-alias	
	JAVA	<retail_home>/orpatch/config/javaapp_resa							Each alias must be unique

Retail app	Wallet type	Wallet loc	Wallet partition	Alias name	User name	Use	Create by	Alias Example	Notes
			retail_installer	<resa weblogic user alias>	<resa weblogic user name>	App use	Installer	wlsalias	
			retail_installer	<resa schema db user alias>	<rmsdb shema user name>	App use	Installer	Resadb-alias	
	JAVA	<retail_home>/orpatch/config/javaapp_rasrm							Each alias must be unique
			retail_installer	<alloc weblogic user alias>	<alloc weblogic user name>	App use	Installer	weblogic-alias	
Alloc app	DB credential store		Map=alloc or what you called the app at install time	Many for login and policies					<weblogic domain home>/config/fmwconfig/jps-config.xml has info on the credential store. This directory also has the domain cwallet.sso file. The bootstrap directory under this directory has bootstrap cwallet.sso file.
Alloc app	JAVA	<weblogic domain home>/retail/config							Each alias must be unique

Retail app	Wallet type	Wallet loc	Wallet partition	Alias name	User name	Use	Create by	Alias Example	Notes
			<installed app name>	<alloc weblogic user alias>	<alloc weblogic user name>	App use	Installer	weblogic-alias	
			<installed app name>	<rms schema user alias>	<rms schema user name>	App use	Installer	dsallocAlias	
			<installed app name>	<alloc batch user alias>	<SYSTEM_ADMINISTRATOR>	Batch use	Installer	alloc14	
	JAVA	<retail_home>/orpatch/config/javaapp_alloc							Each alias must be unique
			retail_installer	<alloc weblogic user alias>	<alloc weblogic user name>	App use	Installer	weblogic-alias	
			retail_installer	<rms schema user alias>	<rms schema user name>	App use	Installer	dsallocAlias	
			retail_installer	<alloc batch user alias>	<SYSTEM_ADMINISTRATOR>	Batch use	Installer	alloc14	
	JAVA	<retail_home>/orpatch/config/javaapp_rasrm							Each alias must be unique
			retail_installer	<alloc weblogic user alias>	<alloc weblogic user name>	App use	Installer	weblogic-alias	

Retail app	Wallet type	Wallet loc	Wallet partition	Alias name	User name	Use	Create by	Alias Example	Notes
SIM app	DB credential store		Map=oracle.retail.sim	Aliases required for SIM app use					<weblogic domain home>/config/fmwconfig/jps-config.xml has info on the credential store. This directory also has the domain cwallet.sso file.
	JAVA	<weblogic domain home>/retail/<deployed sim app name>/batch/resources/conf	oracle.retail.sim	<sim batch user alias>	<sim batch user name>	App use	Installer	BATCH-ALIAS	
	JAVA	<weblogic domain home>/retail/<deployed sim app name>/wireless/resources/conf	oracle.retail.sim	<sim wireless user alias>	<sim wireless user name>	App use	Installer	WIRELESS-ALIAS	
RETL	JAVA	<RETL home>/etc/security	n/a	<target application user alias>	<target application db userid>	App use	Manual	retl_java_rms01user	User may vary depending on RETL flow's target application
RETL	DB	<RETL home>/.wallet	n/a	<target application user alias>	<target application db userid>	App use	Manual	<db>_<user>	User may vary depending on RETL flow's target application
RIB	JAVA	<RIBHOME DIR>/deployment-home/conf/security							<app> is one of aip, rfm, rms, rpm, sim, rwms, tafr
JMS			jms<1-5>	<jms user alias> for jms<1-5>	<jms user name> for jms<1-5>	Integration use	Installer	jms-alias	

Retail app	Wallet type	Wallet loc	Wallet partition	Alias name	User name	Use	Create by	Alias Example	Notes
WebLogic			rib-<app>-app-server-instance	<rib-app weblogic user alias>	<rib-app weblogic user name>	Integration use	Installer	weblogic-alias	
Admin GUI			rib-<app>#web-app-user-alias	<rib-app admin gui user alias>	<rib-app admin gui user name>	Integration use	Installer	admin-gui-alias	
Application			rib-<app>#user-alias	<app weblogic user alias>	<app weblogic user name>	Integration use	Installer	app-user-alias	Valid only for aip, rpm, sim
DB			rib-<app>#app-db-user-alias	<rib-app database schema user alias>	<rib-app database schema user name>	Integration use	Installer	db-user-alias	Valid only for rfm, rms, rwms, tafr
Error Hospital			rib-<app>#hosp-user-alias	<rib-app error hospital database schema user alias>	<rib-app error hospital database schema user name>	Integration use	Installer	hosp-user-alias	
RFI	Java	<RFI-HOME>/retail-financial-integration-solution/service-based-integration/conf/security							
			<installed app name>	rfiAppServerAdminServerUserAlias	<rfi weblogic user name>	App use	Installer	rfiAppServerAdminServerUserAlias	
			<installed app name>	rfiAdminUiUserAlias	<ORFI admin user>	App use	Installer	rfiAdminUiUserAlias	
			<installed app name>	rfiDataSourceUserAlias	<ORFI schema user name>	App use	Installer	rfiDataSourceUserAlias	

Retail app	Wallet type	Wallet loc	Wallet partition	Alias name	User name	Use	Create by	Alias Example	Notes
			<installed app name>	ebsDataSourceUserAlias	<EBS schema user name>	App use	Installer	ebsDataSourceUserAlias	
			<installed app name>	smtpMailFromAddressAlias	<From email address>	App use	Installer	smtpMailFromAddressAlias	

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Appendix: Single Sign-On for WebLogic

Single Sign-On (SSO) is a term for the ability to sign onto multiple Web applications via a single user ID/Password. There are many implementations of SSO. Oracle provides an implementation with Oracle Access Manager.

Most, if not all, SSO technologies use a session cookie to hold encrypted data passed to each application. The SSO infrastructure has the responsibility to validate these cookies and, possibly, update this information. The user is directed to log on only if the cookie is not present or has become invalid. These session cookies are restricted to a single browser session and are never written to a file.

Another facet of SSO is how these technologies redirect a user’s Web browser to various servlets. The SSO implementation determines when and where these redirects occur and what the final screen shown to the user is.

Most SSO implementations are performed in an application’s infrastructure and not in the application logic itself. Applications that leverage infrastructure managed authentication (such as deployment specifying Basic or Form authentication) typically have little or no code changes when adapted to work in an SSO environment.

What Do I Need for Single Sign-On?

A Single Sign-On system involves the integration of several components, including Oracle Identity Management and Oracle Access Management. This includes the following components:

- An Oracle Internet Directory (OID) LDAP server, used to store user, role, security, and other information. OID uses an Oracle database as the back-end storage of this information.
- An Oracle Access Manager (OAM) 11g Release 2 server and administrative console for implementing and configuring policies for single sign-on.
- A Policy Enforcement Agent such as Oracle Access Manager 11g Agent (WebGate), used to authenticate the user and create the Single Sign-On cookies.
- Oracle Directory Services Manager (ODSM) application in OIM11g, used to administer users and group information. This information may also be loaded or modified via standard LDAP Data Interchange Format (LDIF) scripts.
- Additional administrative scripts for configuring the OAM system and registering HTTP servers.

Additional WebLogic managed servers will be needed to deploy the business applications leveraging the Single Sign-On technology.

Can Oracle Access Manager Work with Other SSO Implementations?

Yes, Oracle Access Manager has the ability to interoperate with many other SSO implementations, but some restrictions exist.

Oracle Single Sign-on Terms and Definitions

The following terms apply to single sign-on.

Authentication

Authentication is the process of establishing a user's identity. There are many types of authentication. The most common authentication process involves a user ID and password.

Dynamically Protected URLs

A Dynamically Protected URL is a URL whose implementing application is aware of the Oracle Access Manager environment. The application may allow a user limited access when the user has not been authenticated. Applications that implement dynamic protection typically display a Login link to provide user authentication and gain greater access to the application's resources.

Oracle Identity Management (OIM) and Oracle Access Manager (OAM) for 11g

Oracle Identity Management (OIM) 11g includes Oracle Internet Directory and ODSM. Oracle Access Manager (OAM) 11g R2 should be used for SSO using WebGate. Oracle Forms 11g contains Oracle HTTP server and other Retail Applications will use Oracle WebTier11g for HTTP Server.

MOD_WEBLOGIC

mod_WebLogic operates as a module within the HTTP server that allows requests to be proxied from the OracleHTTP server to the Oracle WebLogic server.

Oracle Access Manager 11g Agent (WebGate)

Oracle WebGates are policy enforcement agents which reside with relying parties and delegate authentication and authorization tasks to OAM servers.

Oracle Internet Directory

Oracle Internet Directory (OID) is an LDAP-compliant directory service. It contains user ids, passwords, group membership, privileges, and other attributes for users who are authenticated using Oracle Access Manager.

Partner Application

A partner application is an application that delegates authentication to the Oracle Identity Management Infrastructure. One such partner application is the Oracle HTTP Server (OHS) supplied with Oracle Forms Server or WebTier11g Server if using other Retail Applications other than Oracle Forms Applications.

All partner applications must be registered with Oracle Access Manager (OAM) 11g. An output product of this registration is a configuration file the partner application uses to verify a user has been previously authenticated.

Statically Protected URLs

A URL is considered to be Statically Protected when an Oracle HTTP server is configured to limit access to this URL to only SSO authenticated users. Any unauthenticated attempt to access a Statically Protected URL results in the display of a login page or an error page to the user.

Servlets, static HTML pages, and JSP pages may be statically protected.

What Single Sign-On is not

Single Sign-On is NOT a user ID/password mapping technology.

However, some applications can store and retrieve user IDs and passwords for non-SSO applications within an OID LDAP server. An example of this is the Oracle Forms Web Application framework, which maps Single Sign-On user IDs to a database logins on a per-application basis.

How Oracle Single Sign-On Works

Oracle Access Manager involves several different components. These are:

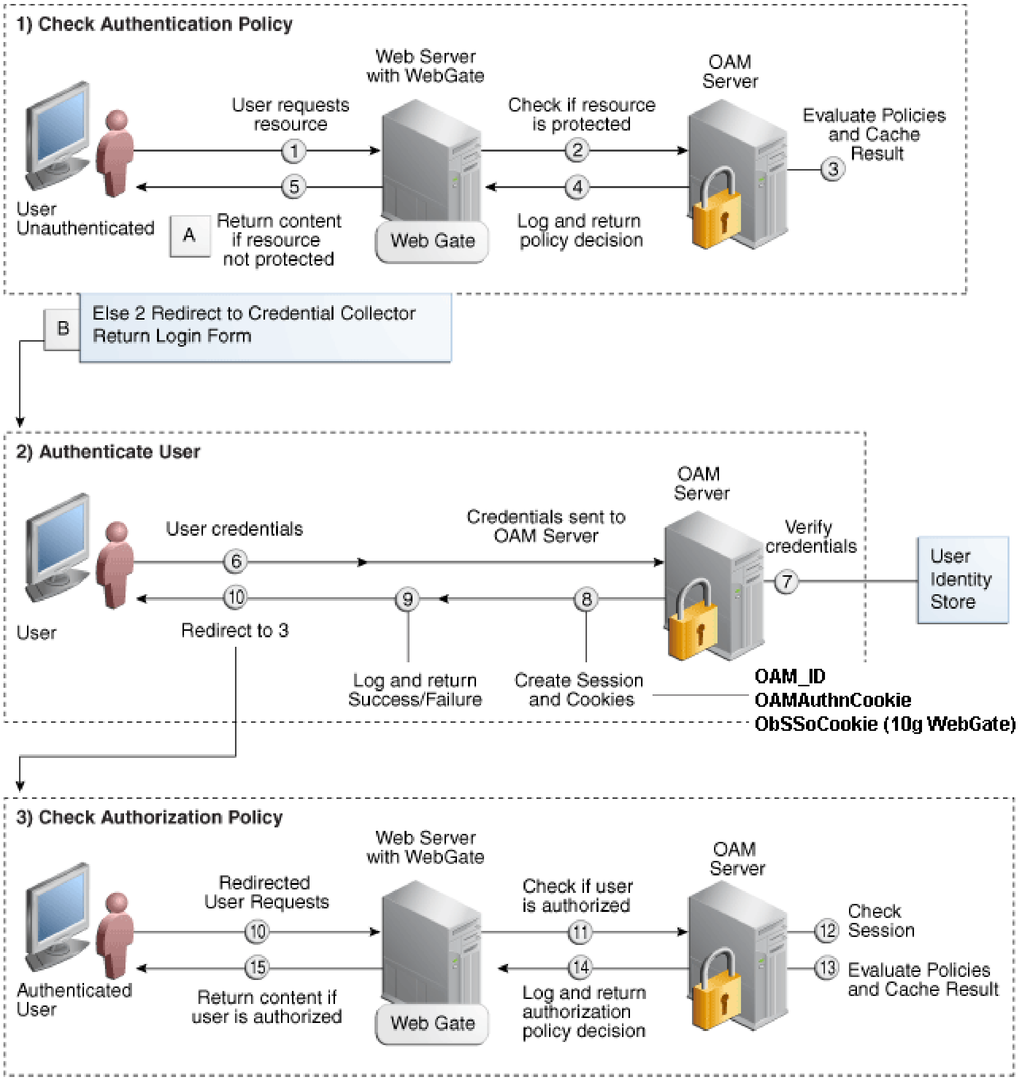
- The Oracle Access Manager (OAM) server, which is responsible for the back-end authentication of the user.
- The Oracle Internet Directory LDAP server, which stores user IDs, passwords, and group (role) membership.
- The Oracle Access Manager Agent associated with the Web application, which verifies and controls browser redirection to the Oracle Access Manager server.
- If the Web application implements dynamic protection, then the Web application itself is involved with the OAM system.

About SSO Login Processing with OAM Agents

1. The user requests a resource.
2. Webgate forwards the request to OAM for policy evaluation
3. OAM:
    a. Checks for the existence of an SSO cookie.
    b. Checks policies to determine if the resource is protected and if so, how?
4. OAM Server logs and returns the decision
5. Webgate responds as follows:
    - **Unprotected Resource:** Resource is served to the user
    - **Protected Resource:**
      Resource is redirected to the credential collector.
      The login form is served based on the authentication policy.
      Authentication processing begins
6. User sends credentials
7. OAM verifies credentials
8. OAM starts the session and creates the following host-based cookies:
    - **One per partner:** OAMAuthnCookie set by 11g WebGates using authentication token received from the OAM Server after successful authentication.
      Note: A valid cookie is required for a session.
    - **One for OAM Server:** OAM_ID
9. OAM logs Success of Failure.
10. Credential collector redirects to WebGate and authorization processing begins.
11. WebGate prompts OAM to look up policies, compare them to the user's identity, and determine the user's level of authorization.
12. OAM logs policy decision and checks the session cookie.
13. OAM Server evaluates authorization policies and cache the result.
14. OAM Server logs and returns decisions

15. WebGate responds as follows:
    - If the authorization policy allows access, the desired content or applications are served to the user.
    - If the authorization policy denies access, the user is redirected to another URL determined by the administrator.

SSO Login Processing with OAM Agents


1) Check Authentication Policy
Web Server with WebGate
OAM Server
User requests resource
Check if resource is protected
Evaluate Policies and Cache Result
1
2
3
4
5
User Unauthenticated
A
Return content if resource not protected
Web Gate
Log and return policy decision
B
Else 2 Redirect to Credential Collector Return Login Form
2) Authenticate User
OAM Server
User credentials
Credentials sent to OAM Server
Verify credentials
User Identity Store
6
7
8
9
10
User
Redirect to 3
Log and return Success/Failure
Create Session and Cookies
OAM_ID
OAMAuthnCookie
ObSSoCookie (10g WebGate)
3) Check Authorization Policy
Web Server with WebGate
OAM Server
Redirected User Requests
Check if user is authorized
Check Session
Evaluate Policies and Cache Result
10
11
12
13
14
15
Authenticated User
Return content if user is authorized
Web Gate
Log and return authorization policy decision

Installation Overview

Installing an Oracle Retail supported Single Sign-On installation using OAM11g requires installation of the following:

1. Oracle Internet Directory (OID) LDAP server and the Oracle Directory Services Manager. They are typically installed using the Installer of Oracle Identity Management . The ODSM application can be used for user and realm management within OID.
2. Oracle Access Manager 11gR2   has to be installed and configured.
3. Additional midtier instances (such as Oracle Forms 11gr2) for Oracle Retail applications based on Oracle Forms technologies (such as RMS). These instances must be registered with the OAM installed in step 2.
4. Additional application servers to deploy other Oracle Retail applications and performing application specific initialization and deployment activities must be registered with OAM installed in step 2.

Infrastructure Installation and Configuration

The Infrastructure installation for Oracle Access Manager (OAM) is dependent on the environment and requirements for its use. Deploying Oracle Access Manager (OAM) to be used in a test environment does not have the same availability requirements as for a production environment. Similarly, the Oracle Internet Directory (OID) LDAP server can be deployed in a variety of different configurations. See the *Oracle Identity Management Installation Guide11g.*

OID User Data

Oracle Internet Directory is an LDAP v3 compliant directory server. It provides standards-based user definitions out of the box.

Customers with existing corporate LDAP implementations may need to synchronize user information between their existing LDAP directory servers and OID. OID supports standard LDIF file formats and provides a JNDI compliant set of Java classes as well. Moreover, OID provides additional synchronization and replication facilities to integrate with other corporate LDAP implementations.

Each user ID stored in OID has a specific record containing user specific information. For role-based access, groups of users can be defined and managed within OID. Applications can thus grant access based on group (role) membership saving administration time and providing a more secure implementation.

User Management

User Management consists of displaying, creating, updating or removing user information. There are many methods of managing an LDAP directory including LDIF scripts or Oracle Directory Services Manager (ODSM) available for OID11g.

ODSM

Oracle Directory Services Manager (ODSM) is a Web-based application used in OID11g is designed for both administrators and users which enables you to configure the structure of the directory, define objects in the directory, add and configure users, groups, and other entries. ODSM is the interface you use to manage entries, schema, security, adapters, extensions, and other directory features.

LDIF Scripts

Script based user management can be used to synchronize data between multiple LDAP servers. The standard format for these scripts is the LDAP Data Interchange Format (LDIF). OID supports LDIF script for importing and exporting user information. LDIF scripts may also be used for bulk user load operations.

User Data Synchronization

The user store for Oracle Access Manager resides within the Oracle Internet Directory (OID) LDAP server. Oracle Retail applications may require additional information attached to a user name for application-specific purposes and may be stored in an application-specific database. Currently, there are no Oracle Retail tools for synchronizing changes in OID stored information with application-specific user stores. Implementers should plan appropriate time and resources for this process. Oracle Retail strongly suggests that you configure any Oracle Retail application using an LDAP for its user store to point to the same OID server used with Oracle Access Manager.

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Appendix: BI User and Group LDIF Entries

BI_User.ldif Entries

```
dn: cn=BISystemUser,cn=Users,dc=us,dc=oracle,dc=com
orclsamaccountname: BUYER
givenname: BISystemUser
sn: BISystemUser
userpassword: welcome1
mail: BISystemUser@rgbu.generated.oracle.com
displayname: BISystemUser
uid: BISystemUser
objectclass: inetOrgPerson
objectclass: organizationalPerson
objectclass: person
objectclass: top
objectclass: orclUser
objectclass: orclUserV2
objectclass: orclIDXPerson
orclpassword: <your password here>
orclactivestartdate: 20140821000000z
cn: BISystemUser
description: A user for the 'Buyer' role.

dn: cn=BIImpersonateUser,cn=Users,dc=us,dc=oracle,dc=com
orclsamaccountname: BUYER
givenname: BIImpersonateUser
sn: BIImpersonateUser
userpassword: welcome1
mail: BIImpersonateUser@rgbu.generated.oracle.com
displayname: BIImpersonateUser
uid: BIImpersonateUser
objectclass: inetOrgPerson
objectclass: organizationalPerson
objectclass: person
objectclass: top
objectclass: orclUser
objectclass: orclUserV2
objectclass: orclIDXPerson
orclpassword: <your password here>
orclactivestartdate: 20140821000000z
cn: BIImpersonateUser
description: A user for the 'Buyer' role.
```

Note: Change the userpassword with your password before loading the ldif into the LDAP.

BI_Group.ldifs Entries

```
dn: cn=BIAdministrators,cn=groups,dc=us,dc=oracle,dc=com
displayname: OBIEE Users
description: OBIEE Users
objectclass: top
objectclass: groupOfUniqueNames
objectclass: orclGroup
uniquemember: cn=bisystemuser,cn=users,dc=us,dc=oracle,dc=com
uniquemember: cn=orcladmin
uniquemember: cn=resa_su,cn=users,dc=us,dc=oracle,dc=com
uniquemember: cn=retail.user,cn=users,dc=us,dc=oracle,dc=com
cn: BIAdministrators

dn: cn=BISystemUsers,cn=groups,dc=us,dc=oracle,dc=com
displayname: OBIEE Users
description: OBIEE Users
objectclass: top
objectclass: groupOfUniqueNames
objectclass: orclGroup
uniquemember: cn=bisystemuser,cn=users,dc=us,dc=oracle,dc=com
uniquemember: cn=orcladmin
uniquemember: cn=resa_su,cn=users,dc=us,dc=oracle,dc=com
uniquemember: cn=retail.user,cn=users,dc=us,dc=oracle,dc=com
cn: BISystemUsers

dn: cn=BIAuthors,cn=groups,dc=us,dc=oracle,dc=com
displayname: OBIEE Users
description: OBIEE Users
objectclass: top
objectclass: groupOfUniqueNames
objectclass: orclGroup
uniquemember: cn=bisystemuser,cn=users,dc=us,dc=oracle,dc=com
uniquemember: cn=orcladmin
uniquemember: cn=resa_su,cn=users,dc=us,dc=oracle,dc=com
uniquemember: cn=retail.user,cn=users,dc=us,dc=oracle,dc=com
cn: BIAuthors

dn: cn=BIConsumers,cn=groups,dc=us,dc=oracle,dc=com
uniquemember: cn=bisystemuser,cn=users,dc=us,dc=oracle,dc=com
uniquemember: cn=orcladmin
uniquemember: cn=resa_su,cn=users,dc=us,dc=oracle,dc=com
uniquemember: cn=retail.user,cn=users,dc=us,dc=oracle,dc=com
orclnormdn: cn=biconsumers,cn=groups,dc=us,dc=oracle,dc=com
displayname: OBIEE Users
objectclass: top
objectclass: groupOfUniqueNames
objectclass: orclGroup
modifytimestamp: 20140925090248z
modifiersname: cn=orcladmin
cn: BIConsumers
creatorsname: cn=orcladmin
createtimestamp: 20140822142024z
description: OBIEE Users
```

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Appendix: Installation Order

This section provides a guideline as to the order in which the Oracle Retail applications should be installed. If a retailer has chosen to use some, but not all, of the applications the order is still valid less the applications not being installed.

> **Note:** The installation order is not meant to imply integration between products.

Enterprise Installation Order

1. Oracle Retail Merchandising System (RMS), Oracle Retail Trade Management (RTM)
2. Oracle Retail Sales Audit (ReSA)
3. Oracle Retail Extract, Transform, Load (RETL)
4. Oracle Retail Active Retail Intelligence (ARI)
5. Oracle Retail Warehouse Management System (RWMS)
6. Oracle Retail Invoice Matching (ReIM)
7. Oracle Retail Price Management (RPM)
8. Oracle Retail Allocation
9. Oracle Retail Mobile Merchandising (ORMM)
10. Oracle Retail Xstore Office
11. Oracle Retail Xstore Point-of-Service, including Xstore Point-of-Service for Grocery, and including Xstore Mobile
12. Oracle Retail Xstore Environment
13. Oracle Retail EFTLink
14. Oracle Retail Store Inventory Management (SIM), including Mobile SIM
15. Oracle Retail Predictive Application Server (RPAS)
16. Oracle Retail Batch Script Architecture (BSA)
17. Oracle Retail Demand Forecasting (RDF)
18. Oracle Retail Category Management Planning and Optimization/Macro Space Optimization (CMPO/MSO)
19. Oracle Retail Replenishment Optimization (RO)
20. Oracle Retail Analytic Parameter Calculator Replenishment Optimization (APC RO)
21. Oracle Retail Regular Price Optimization (RPO)
22. Oracle Retail Merchandise Financial Planning (MFP)
23. Oracle Retail Size Profile Optimization (SPO)
24. Oracle Retail Assortment Planning (AP)
25. Oracle Retail Item Planning (IP)
26. Oracle Retail Item Planning Configured for COE (IP COE)
27. Oracle Retail Advanced Inventory Planning (AIP)
28. Oracle Retail Integration Bus (RIB)
29. Oracle Retail Services Backbone (RSB)

30. Oracle Retail Financial Integration (ORFI)
31. Oracle Retail Data Extractor for Merchandising
32. Oracle Retail Clearance Optimization Engine (COE)
33. Oracle Retail Analytic Parameter Calculator for Regular Price Optimization (APC-RPO)
34. Oracle Retail Insights, including Retail Merchandising Insights (previously Retail Merchandising Analytics) and Retail Customer Insights (previously Retail Customer Analytics)